

**The 14th India-Japan
International Conference**



BICON-2019
SEPTEMBER 23-25, 2019

**SUSTAINABLE
DEVELOPMENT GOALS**

**Economic & Industrial Growth through
Recent Innovations and Advancement**



**Department of Commerce & Management
and Information Technology**

Organised & Sponsored by :



BIYANI GROUP OF COLLEGES

Approved by AICTE & Affiliated to RTU, UOR, RUHS
Sector No. 3, Vidhyadhar Nagar, Jaipur, Rajasthan (India)

In collaboration with our partner institutes in Japan



www.biyanicongference.com

The 14th Anniversary India-Japan Fest



BICON-2019



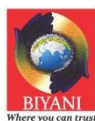
**The Proceedings of Conference
Volume-II**

SUSTAINABLE DEVELOPMENT GOALS Economic & Industrial Growth through Recent Innovations & Advancement

September 24, 2019

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Organized by:



Biyani Group of Colleges

**Department of Commerce & Management and Information Technology
Jaipur, India**

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All papers of the present proceeding were peer reviewed by no less than two independent reviewers. Acceptance was granted when both reviewers's recommendation were positive.

Reviewers:

- Dr. B.N. Gaur
- Dr. Poonam Sharma
- Dr. Sakshi Arora
- Dr. Lokesh Agarwal
- Er. Vivek Sharma
- Dr. Pawan Patodiya
- Dr. Swati Agarwal

Editors:

- Dr. Shweta Mishra
- Dr. Lokesh Agarwal
- Ms. Harshita Bhati

Designed by:

- Mr. Nilesh Sharma

Welcome to India-Japan Fest-2019 and Pink City Jaipur, India!

This year we are celebrating the 14th Anniversary of India-Japan Fest at Biyani Group of Colleges, Jaipur. Since, the first conference in 2006, it has become an annual feature of our institution and has continued to grow. The institution is leaving no stone unturned in encouraging the spirit of research and innovations and strengthening the bilateral academic relationship between India and Japan. Every year, this event receives increasing number of participants from both the countries, India and Japan, and we continue to evolve, adapt and develop new collaborative programs between various institutions in India and Japan.

Biyani Group of Colleges is organizing this mega event in collaboration with partner institutes from Japan **Japan Advanced Institute of Science and Technology, Akita Prefectural University, Saitama University, Kyushu University and Well Group.**

The theme of **BICON-2019** is **Sustainable Development Goals** guided by different departments including Science, Commerce & Management, Information Technology, Social Science, Nursing and Law based on ‘multidisciplinary-to-interdisciplinary’ approach. This is an initiative to introduce and promote sustainable development among nations and identify the challenges hindering the same.

We are proud to announce that Biyani Shikshan Samiti has been empanelled as a **SENDING ORGANIZATION** by NSDC, MSDE, New Delhi. This program will provide opportunity to our technically qualified youth in enhancing their skills as well as getting placed in the top organizations of JAPAN. We are welcoming “WELL GROUP” as the placement partner for Technical Internship Training Program (TITP).

BICON-2019 has decided to call for Abstract of the paper to be published in the conference proceedings with ISBN numbers. The Technical Program Committee is charged with reviewing all abstracts to accommodate the growing number of paper submissions. In a rigorous and time-consuming review process, the committee members worked hard to ensure the continued high quality of accepted papers. There are 23 invited talks (11 Japan + 12 India) in BICON-2019.

The months of planning, hard work and team effort by dedicated staff has culminated into the success of this event for which we would like to thank the management committee who trusted us to organize this conference and contributed significant funds to support the event. We would also like to thank the Technical Program Committee and the reviewers for their excellent work in reviewing the abstracts as well as their valuable input and advice. We would also like to express our sincere thanks to all the dedicated BICON-Team members for their active role and support in all aspects of this conference from collecting abstracts, assisting in coordination, helping to plan the agenda, recruiting sponsors and assisting in organizing the conference. I want to thank all the conveners of each symposium : Dr. Priyanka Dadupanthi (Science), Ms. Tarawati Chaudhary (Nursing), Dr. B.N. Gaur (Commerce & Management), Er. Vivek Sharma (Information Technology), Ms. Malti Saxena (Social Science) and Dr. N L Gurjar (Law) and Graphic designer Mr. Nilesh Sharma and team for editing the conference proceeding in the last running moments and beautifully designing the brochure and other conference materials.

Finally, we want to express our sincere thanks to all the invited speakers, offline and online, who have joined us from India, Japan and other countries, for taking out time from their busy schedule to participate in this conference. It has been a great pleasure to interact with them and receiving their interest in collaborating in the future.

The venue of this conference is located in Pink City Jaipur and we have tried to promote a sense of the local culture and North-Indian cuisine to the attendees during this conference. We hope that this conference is intellectually stimulating, enjoyable, professionally satisfying and memorable for all the attendees.

With warmest regards,



Dr. Manish Biyani
Organizing Chair

- Res. Director,
Biyani Group of Colleges, India
- Res. Asso. Professor, JAIST, Japan



Dr. Neha Pandey
Convener

Vice Principal & Registrar
Biyani Group of Colleges



**CHIEF MINISTER
RAJASTHAN**

MESSAGE

I am pleased to know that the Biyani Girls College, Jaipur is organizing the 14th India–Japan Bilateral Conference (BICON–2019) from September 23rd to 25th, 2019 in Jaipur.

Rajasthan maintains special relation with Japan in terms of investment. This relationship has strengthened during the past years as investment made by the Japanese companies in the state has brought prosperity to the region.

I hope that this event will further strengthen bonds between the people of India and Japan

I wish the conference a great success.

(Ashok Gehlot)

Master Bhanwarlal Meghwal

Minister

Social Justice and Empowerment Department

Disaster Management & Relief Department

Govt. of Rajasthan



Office :
Room No. 6016,
Ministerial Building,
Secretariat, Jaipur - 302005
Phone. (O) : 0141-2227328



Date : 17-09-2019

Message

I am Pleased to know that Biyani Girls College is organizing 14th India-Japan Bilateral Conference (BICON-2019) on Sustainable Development Goals from 23 September to 25 September 2019.

Rajasthan maintains strong relationship with Japan in terms of Academic and Research Activities.

Your Organization is also publishing a souvenir on this occasion. I hope this souvenir will be inspiring for the young generation and promote further stronger relationship between India and Japan.

I wish all the best for the success to the conference.


(Master Bhanwarlal Meghwal)

Minister

Dr. Rajeev Biyani

Chairman

Biyani Girls College

Sector-3, Vidhyadhar Nagar, Jaipur

Residence : 382, Civil Lines, Jaipur (Raj.)

लालचन्द कटारिया

मंत्री



राजस्थान सरकार
कृषि, पशुपालन एवं मत्स्य विभाग
6116, मंत्रालय भवन, शासन सचिवालय
जयपुर-302005 (राजस्थान)
दूरभाष: 2227125(का.)

Serial -

Date-

Biyani Group of Colleges, Jaipur

I am very happy to hear that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September 23rd to 25th, 2019.

I am confident that this conference will attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes. Participation of the accomplished girls from Biyani College in this event shall Foster Women empowerment in our state.

I wish great success to the conference

Lalchand Kataria
Minister

Director

Biyani Group of Colleges, Jaipur

निवास :- कटारिया कृषि फार्म, सिरसी रोड, विशनावाला, जयपुर-302034

हरीश चौधरी
मंत्री

राजस्व, उपनियेशन, कृषि सिंचित
क्षेत्रीय विकास एवं जल उपयोगिता विभाग,
राजस्थान सरकार



कमरा नं. 6003, मंत्रालय भवन,
शासन सचिवालय, जयपुर - 302005
दूरभाष : 0141-2227672
Email : rmrajaasthan2018@gmail.com

अ.शा.पत्र क्रमांक

जयपुर, दिनांक 18.09.2019



संदेश

मुझे यह जानकर अत्यन्त प्रसन्नता हुई है कि बियानी ग्रुप ऑफ कॉलेज, जयपुर द्वारा "14 India - Japan International Conference on Sustainable Development Goals" का आयोजन किया जा रहा है।

मुझे आशा है इस सेमिनार में दोनों देशों के मध्य विकास की संभावनाओं पर व्यापक स्तर पर चर्चा होगी जो भविष्य में दोनों देशों के बीच संबंधों को ओर मजबूती देने के साथ ही हर क्षेत्र में उपयोगी होगी।

मैं इस सेमिनार के सफल आयोजन एवं इस अवसर पर प्रकाशित होने वाली स्मारिका के प्रकाशन पर हार्दिक शुभकामनाएं प्रेषित करता हूँ।

Chaudhary
(हरीश चौधरी)

भंवर सिंह भाटी
राज्य मंत्री



उच्च शिक्षा (स्वतंत्र प्रभार),
राजस्व, उपनिवेशन एवं कृषि सिंचित क्षेत्रीय विकास
एवं जल उपयोगिता विभाग
राजस्थान सरकार, जयपुर - 302005



Message

I am very happy to learn that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September 23rd to 25th 2018.

I hope that this conference will attract bilateral academic / research agreements and promote further stronger relationship between Japan and India especially Rajasthan.

This event is organized to celebrate the bilateral research agreements and promote strong relationship between JAIST and Indian Institutes.

I wish Biyani Group of Colleges a great success for the conference.

(Bhanwar Singh Bhati)

डॉ. सुभाष गर्ग
राज्य मंत्री
राजस्थान सरकार



तकनीकी शिक्षा एवं संस्कृत शिक्षा (स्वतंत्र प्रभार),
विकिर्सा एवं स्वास्थ्य, आयुर्वेद और विकिर्सा,
विकिर्सा एवं स्वास्थ्य सेवाएं (ई.एस.आई.)
एवं सूचना एवं जनसम्पर्क विभाग

Message

I am happy to know that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON-2019) between 23rd-25th September, 2019.

I am confident that the outcomes of the brainstorming sessions will be most fruitful, resulting in educating the masses and transforming common men into responsible citizens.

I extend my wishes to the organizers of the Conference for great success.



(Dr Subhash Garg)

कार्यालय : 6316, मंत्रालय भवन, शासन सचिवालय, जयपुर-302005 • फ़ोन : +91-141-2227925
ईमेल : mostechedu@gmail.com



जगरूप सिंह यादव, आई.ए.एस.
Jagroop Singh Yadav, I.A.S.



MESSAGE

राजस्थान सरकार
GOVERNMENT OF RAJASTHAN
जिला कलेक्टर एवं जिला मजिस्ट्रेट

DISTRICT COLLECTOR & DISTRICT MAGISTRATE
कलेक्ट्रेट, जयपुर-302016
Collectorate, Jaipur-302016

I am extremely delighted to know that Biyani Group of Colleges, Jaipur is organizing 14th International Conference on "Sustainable Development Goals" from September 23rd to 25th, 2019. It is indeed the need of the hour to focus on such issues of sustainable development.

This conference will certainly attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes.

The prospects of such activities have much more scope for the younger generation to uncap their talents and touch greater heights of achievement.

I wish to convey Biyani Group of Colleges a great success in the event.

Best Wishes.


(Jagroop Singh Yadav)



Rajasthan ILD Skills University (RISU)

(Established under the Act No. 6 of 2017)

Dr. Lalit K. Panwar

IAS (R)

Vice Chancellor

Former Secretary, Tourism, GoI

Tel. No. +91-141-2361120

Mob. No. +91-9650687888



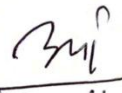
Message

It is a matter of great pleasure to know that Biyani Group of Colleges is organizing the 14th India-Japan Bilateral Conference (BICON 2019) during September 23-25, 2019.

Kindly accept my compliments and heartiest congratulations to Biyani Group of Colleges for organizing the 14th India-Japan Bilateral Conference (BICON 2019).

I am sure that this would definitely help in enhancing the bilateral relations between India and Japan particularly in the areas of academic and research activities and would certainly contribute tremendously in promoting Sustainable Development Goals between the two countries.

I wish the 14th India-Japan Bilateral Conference on Sustainable Development Goals a grand success.


(Dr. Lalit K. Panwar)
17.9.19

Khasa Kothi Campus, M.I. Road, Jaipur-302001, Rajasthan
E-mail : risujaipur@gmail.com, Website:- www.rajskills.edu.in

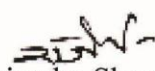


MESSAGE

I am glad to convey my warm congratulations to Biyani Group of Colleges on occasion of the 14th India-Japan Bilateral Conference (BICON-2019) on sustainable development, going to be organised from 23-25 September, 2019. It is remarkable that JAIST and other Institutes from Japan has been working with Indian Universities to enhance collaborative endeavour between India and Japan.

I am pleased to note that this event will promote India-Japan activities on sustainable development and hence mark out the hindering challenges. The launch of joint India-Japan activities for Technical Intern Training Program will provide immense opportunities for student's skill development.

I wish great success to Biyani Group of Colleges for their efforts to organize such prestigious event.


(Rajendra Sharma)
Registrar
Rajasthan Nursing Council,
Jaipur

JUSTICE JAINENDRA KUMAR RANKA

Former Judge
Rajasthan High Court



RANKA CHAMBERS, C-12A
SURYA PATH, NEW COLONY
NEAR PANCH BATTI, M.I. ROAD
JAIPUR-302001
(M) 9829010593 / 0141-2379203
rankajk@gmail.com

MESSAGE

I am happy and delighted to note that 14th Indo-Japan Bilateral Conference on "Sustainable Development Goals", BICON-2019 is being organized by Biyani Shikshan Samiti, Jaipur. The theme chosen for the bilateral conference is most apt and would go a long way in the process of further strengthening the relationship between India and Japan, as it is both countries are playing very important role in various sectors. Japan being world leader in majority of sectors has done laudable good work in creating infrastructure in our country and providing technology in various sectors.

I appreciate that a session has been specifically planned on "Health Care" with in depth discussions on HIV, HIV related infections, Drug, Discovery Research, Development and Vaccines etc. etc. which is very important in present scenario when, very many diseases are surfacing.

I am sure, the conference and its outcome would provide much needed impetus to take both the countries to higher level and achieving great heights.

I appreciate the efforts of the organizers for thinking in this direction which would play an important positive role in the right direction of "Sustainable Development".

I wish the conference a grand success.

A handwritten signature in black ink, appearing to read 'J. K. Ranka'.

(Justice J. K. Ranka)

Dr.Sanjula Thanvi

Associate Professor of Law
University Of Rajasthan
Jaipur
e-Mail : drsanjulathanvi@gmail.com



MESSAGE

**"Development that meets the needs of the present without compromising
the ability of the future generation to meet their own needs"**

Ms.G.H. Brundland, Norway Prime Minister

It is a remarkable endeavor on the part of Biyani Shikshan Samiti, to bring out "BICON-2019"
The 14th anniversary India-Japan Fest, on the theme "SUSTAINABLE DEVELOPMENT".

Progress means the process of becoming something bigger, stronger, better or advance of
some other process, development comes through industrialization, which in turn brings
degradation of environment. To resolve the problem, the specialists worldwide have come
back up with a school of thought known as 'Sustainable Development', i.e. there should be
balance between development and ecology. In preserving development of society -Judiciary,
legislatures, executives and Academicians plays an important role. Academicians are meant to
create some change in society, sense the issues creating problems, respond to society and
influence the society.

I am sure this 14th India-Japan Bilateral Conference on "Sustainable Development" would be an
occasion for judiciary, lawyers, academicians, researchers, students and other professionals in
India & Japan to discuss the issue at hand and suggest the solutions to the sustain the
development in the various field . I wish all the best to organising team for their unique
approach towards the great issue.

Dr. Sanjula Thanvi

Prof (Dr) Madhu Shastri

Amity Law School,
Amity University Rajasthan, Jaipur



Message

It gives me immense pleasure to know that the Biyani Shikshan Samiti Jaipur, Rajasthan has organized 14th India- Japan Fest in collaboration with its partner institute JAIST in Japan, BICON-2019, on September 23-25 on “SUSTAINABLE DEVELOPMENT GOALS”. The theme of the fest requires utmost importance and priority in the present National and International scenario. Preservation and protection of the environment and keeping the ecological balance unaffected is a mission for all of us. The preservation and protection of environment and natural sources is necessary for our future generation. A lot has been done legally and judicially to protect it, but still we are lacking far behind from our goal. It is an opportunity to come together and achieve the goal of “Sustainable Development” as envisaged by the U.N. Millennium Goals of 2000 and declared by the Rio de Janeiro- Summit on Sustainable Development (1992, 2012), the Johannesburg Conference on Sustainable Development (2002). The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. This is a pious, moral, social and legal obligation on every human being to protect our natural resources and it is an opportunity to come together and achieve the “Goals of Sustainable Development” as envisaged by UN..

I congratulate the organisers of the Fest for choosing such a burning and significant theme and also wish all the very best for it.

Professor (Dr.) Madhu Shastri

FROM THE CONVENER'S DESK

It gives me great pleasure to extend to you all a very warm welcome on behalf of Department of Commerce & Management & Information Technology, Biyani Group of Colleges. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the BICON 2019.

It is an opportune time to renew contacts and discuss opportunities of mutual interest with delegates from both Japan and India bilaterally.

It is gratifying to note that the agenda of the Seminar covers a wide range of very interesting items relating to higher education frontiers in India and Japan, and resulting opportunities for both countries.

No matter how much we can do by ourselves on the national level, whether it be research or development, it is never enough. In a spirit of true cooperation, we in Asia, and particularly in Japan and India, are proud of nurturing past and present civilizations and cultures. We must join in an action-oriented effort to recognize Sustainable Development in Computing Technologies for Business World.

The utter sincerity and dedication of the management, the teaching faculty, non-teaching staff and the students at Biyani Group of Colleges has brought this event to fruition. It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.



Dr. B.N. Gaur

(Dept. of Commerce & Mgmt.)
Convener



Er. Vivek Sharma

(Dept. of IT)
Convener



Ms. Sujata Biyani

(Dept. of Commerce & Mgmt.)
Convener



Dr. Poonam Sharma

(Dept. of IT)
Co-Convener



Dr. Lokesh Agarwal

(Dept. of Commerce & Mgmt.)
Co-Convener

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- Dr. B.N. Gaur (HOD, Commerce & Management)
- Er. Vivek Sharma (HOD, IT)

ORGANIZING COMMITTEE :

- | | |
|--------------------------|------------------------------|
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| • Mr. Desh Deepak Tiwari | • Mr. Mohd. Parvez |

PROGRAMME AT A GLANCE

08:30-09:00	Registration
09:00-11:10	Inaugural Session
09:00-09:30	Welcome remarks- Prof. Manish Biyani, Chair, BICON-2019
09:30-09:35	Chief Guest: Mr. Ashok Chandana (Skill and Sports Minister – Govt. of Rajasthan)
09:35-09:40	Guest of Honor: <ul style="list-style-type: none">• Mr. Jagroop Singh Yadav, District Collector – Jaipur• Prof. A.K. Dwivedi, Controller of Examination –Rajasthan Technical University• Dr. Vivek Pandey, Dean – Rajasthan Technical University
09:40-10:10	Talk-1: Prof. Yasunobu Nohara, Kyushu University, Japan
10:10-10:40	Talk-2: Ms. Aneta Loj, R&D Coordinator at India One Solar Thermal Power Plant in Abu Road, Rajasthan
10:40-11:00	Vote of Thanks- Prof. Sanjay Biyani, Director Acad., Biyani Group of Colleges, Jaipur
11:00-11:10	Memento Distribution & Group Photo
11:10-11:40	Tea Break
11:40-13:05	Invited Session
11:40-12:10	Talk 3 (Invited): Prof. Atsuo Yoshitaka, Jaist, Japan.
12:10-12:35	Talk-4 (Invited): Dr. Divesh Kumar, MNIT, Jaipur
12:35-13:00	Talk-5 (Invited): Dr. Santosh Kumar Vipparthi, MNIT, Jaipur
13:00-13:05	Memento Distribution & Group Photo
13:05-14:15	Lunch break
14:15-15:15	Technical Session-TS1: Artificial Intelligence, Data Science & Engineering, Network, Distributed System & Security Chair: Dr. Manvindra Singh Pawaha, Associate Professor, Manipal University, Jaipur. Co-Chair: Dr. Santosh Kumar Vipparthi, MNIT, Jaipur
	6-8 talks (selected): Hall 1
15:15-16:15	Technical Session-TS2: Industry, Innovation & Infrastructure Chair: Prof. Anil Mehata, Retired Professor University of Rajasthan, Jaipur) Co-Chair:
	6-8 talks (Selected) Hall 1
16:15-17:15	Technical Session-TS3 : Economic Growth in India & Environmental Accounting and its impact on Business Growth Chair: CA Rajeev Sogani Co-Chair:
	6-8 talks (Selected) Hall 1
17:15-17:45	Award Ceremony and Closing& Group Photograph
17:45-18:00	Tea Break
18:00-19:30	Banquet (Speakers and Guests)

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Invited Lecture 1

Data Analysis for Improving Patients' Prognosis in Hospitals



Yasunobu Nohara

Affiliation & Contact:

Medical Information Center
Kyushu University Hospital
3-1-1 Maidashi, Higashi-ku, Fukuoka-city, Fukuoka, 812-8582, JAPAN.
Phone +81-92-642-5881; Fax +81-92-642-5889
Email: y-nohara@info.med.kyushu-u.ac.jp

Research Interest: Medical Informatics, Data Science, Machine Learning

Education & Professional Career:

2003-2008 M.S. and Ph.D. in Kyushu University (Information Science)
2008-2010 Post-doctoral Fellow in Kyushu University (Information Science)
2010-present Assistant Professor in Kyushu University Hospital

Major Publications:

1. Yasunobu Nohara, and Sozo Inoue, "A Secure and Scalable Identification for Hash-based RFID Systems Using Updatable Pre-computation", Proc. of 3rd ACM Conference on Wireless Network Security (WiSec2010), pp.65-74, Mar. 2010.
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Abstract

Data Analysis for Improving Patients’ Prognosis in Hospitals

Yasunobu Nohara*, Naoki Nakashima*

**Medical Information Center, Kyushu University Hospital*

We present two types of data analysis in hospitals.

A learning health system (LHS) is a system for continuous improvements in hospital care and generates clinical knowledge in daily practice. A medical research facility and an acute hospital have been constructing LHS based on electronic clinical pathway systems. We report a LHS activity for preventing stroke-associated pneumonia (SAP). Firstly, we collected patients’ data from electronic clinical pathway of cerebral hemorrhage and extracted risk factors of pneumonia. A team of clinicians, nurses and researcher discussed clinical criterion for high risk SAP patients which is accurate and easy for adopting in daily care. We introduced preventive interventions of SAP for high risk patients. Finally, we verified the preventive effects of pneumonia after introducing interventions. As a result of LHS activity, SAP and mortality rate are decreased significantly.

The other analysis uses sensors for improving daily activities of nurses. We collected nurse activity data, location data, and medical data from all nurses and all patients on a hospital ward around-the-clock for 40 days*2. All 35-nurses wear a nameplate-type infrared ray (IR) sensor and input their activities using a mobile terminal. IR sensors receive ID signal from IR beacons that are installed on all 51-beds and each area to identify nurses' positions and cared patients. We analyzed total 6724-hours nursing activities information and 118-patients' information. The first round results show that nurses spent more time for assisting patients' daily care and could not secure sufficient time for cares such as postural change. We drove business improvement such as transferring jobs to assistant nurse and recollect data for verifying improvement effects. The second round results show that executing rate of cares for improving patients' QoL and the number of patients who can walk at the time of discharge increases 20%.

Keywords: Learning Health System; Machine Learning; Sensor Data; Data Science



Invited Lecture 2

Climate Change and Consciousness Transition to Sustainable Technologies



Aneta Loj

Affiliation & Contact:

Brahma Kumaris World Spiritual University
India One Solar Thermal Power Plant
Shantivan Campus, Taleti
Abu Road – 307510 Rajasthan, India
Phone +91 8890051145
Email: aneta.loj@pl.brahmakumaris.org

Research Interest:

Consciousness and climate change; sustainable life style, renewable energy and yogic agriculture.

Education & Professional Career:

1990-1996 M.S. University of Gdansk, Poland (Economics, Foreign Trade)
2006 onwards Brahma Kumaris World Spiritual University

Profile:

Aneta Loj, born in Poland, is the current Director of Brahma Kumaris World Spiritual University in Poland and R&D Coordinator at “India One” Solar Thermal Power Plant at Abu Road, India. She has a broad corporate experience in strategic and operational marketing. She has led international teams on cross regional assignments within 29 countries across Central

and Eastern Europe and 15 main territories within the Asia Pacific while living in Hong Kong, Japan and China. Her genuine interest in spiritual truth and benevolence led to her involvement in projects that benefit communities through sustainable development and capacity building. Since 2011, she has been Research and Development Coordinator at “India One” Solar Thermal Power Plant that features indigenous and innovative energy storage technology for round the clock power generation for campus accommodating 25,000 people. She managed the Awareness Cum Training Center on Concentrated Solar Thermal Technologies under the program of UNDP - GEF - MNRE, Government of India. She was an accredited member of Brahma Kumaris delegation to UNFCCC COP 19 in Warsaw (2013) and COP 24 in Katowice, Poland (2018). She conducts lectures and workshops focusing on the connection between the human consciousness and climate change. Aneta was the Head of Brahma Kumaris delegation to the UNCCD COP14 that took place in New Delhi, India in September 2019.

Abstract

Climate Change and Consciousness Transition to Sustainable Technologies

Aneta Loj

Brahma Kumaris World Spiritual University

Human activity has fundamentally changed our planet. We live on every continent and have directly affected at least 83% of the planet’s viable land surface. Our influence has impacted everything from the makeup of ecosystems to the geochemistry of Earth, from the atmosphere to the ocean. Many scientists define this time in the planet’s history by the scale of human influence, and label it as a new geological epoch called the Anthropocene.

On first sight, there is a question mark about how spirituality or consciousness is connected with all these subjects, but when we begin to reflect a little, we see that as is our consciousness, so will be our choices, and we then move either in a direction in which we support nature or we go in the other direction in which we exploit nature. Unfortunately for millennia, we have simply been using from nature, and taking from nature rather than understanding how to have a relationship of respect with nature, so that she is able to share with us her abundance, but we also take good care of nature. As Albert Einstein said, science without religion is lame, religion

without science is blind; for any technology to be sustainable and beneficial for humanity, it needs to be based on solid foundation of values, such as compassion, unlimitedness and respect.

India One Solar Thermal Power Plant is an example of a very innovative and unique concentrated solar power technology, a fusion between science and spirituality. India One is a research, development and demonstration project by WRST and Brahma Kumaris featuring 24 solar power generation. It is a 1 MW el. solar thermal power plant with 16 hrs energy storage for the night operation. This captive power plant supplies electricity to Brahma Kumaris headquarters in Abu Road, Rajasthan with total capacity of 25,000 people.

Key Features of “India One” Solar Thermal Power Plant include:

- 770 numbers of in-house developed 60. sq. meter paraboloid reflectors with fully automatic dual axis tracking system and static focus.
- 770 numbers of indigenously designed, decentralized, thermal storage for round the clock operation.

Some of the main R&D achievements at "India One" Solar Plant are:

- Indigenous paraboloid concentrators with static focus
- Constant direct steam generation
- Cost effective and reliable storage mechanism
- Robust, simple process control mechanism
- Easy operation / maintenance, readily available indigenous spares
- Reliability in long term operations
- Easy to replicate systems to higher capacities and other applications

Project was partly funded by MNRE, Gov't of India and Government of Germany via GIZ; it also significantly contributed to local capacity building.

Another example of technology of consciousness that proves to be efficient for sustainable agriculture and land restoration is yogic farming. It is a method that integrates a positive thought based processes with organic farming and results in higher crop resilience to climate change, increased size and quality of crops, land restoration and various social benefits.

www.brahmakumaris.org; www.eco.brahmakumaris.org; www.india-one.net

Keywords: sustainability, consciousness, innovation, solar power, yogic agriculture.



Invited Lecture 3

Analysis of Electrophoretic Migration for Genome Profiling



Atsuo Yoshitaka

Affiliation & Contact:

Japan Advanced Institute of Science and Technology
1-1 Asahidai, Nomi, Ishikawa, 923-1292 JAPAN
Phone +81-761-51-1230; Fax +81-761-51-1149
Email: ayoshi@jaist.ac.jp

Research Interest:

Image/Video analysis, Image/Video retrieval, User interfaces

Education & Professional Career:

1994-2008 Asst. Prof., Hiroshima University
1997 Dr. Eng. Hiroshima Univ.
2008- Asso. Prof., Japan Advanced Institute of Sci. and Tech.

Major Publications:

1. Anh Minh Truong and Atsuo Yoshitaka, "Structured RNN for Human Interaction", IET Computer Vision, Vol. 12, No. 6, pp.817-825, 2018.
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Abstract

Analysis of Electrophoretic Migration for Genome Profiling

Atsuo Yoshitaka*, Pho Ngoc Dang Khoa*

**School of Information Science, Japan Advanced Institute of Science and Technology (Ishikawa, Japan)*

Detecting inflection points in electrophoretic migration is one of the key technologies for genome profiling in order to realize automated analysis. An image obtained by electrophoretic migration contains several trajectories, where brightness and width are different. A trajectory may have flexion points which correspond to the profile of a sample to be analyzed.

Toward the automated analysis of sample, tracking each trajectory and detecting flexion points are mandatory. In order to detect and track trajectories appeared in a GPMA (genome profiling-based mutation assay) image with more stability, luminance of the input image is enhanced. After that, line tracking will be performed taking gradient of a point into account. There are several possible methods to detect and track trajectories. We are going to discuss strategies for the solution of this problem.

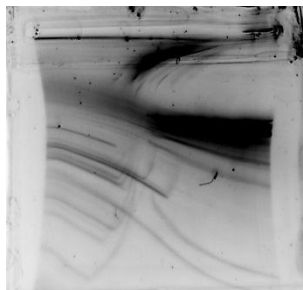


Fig. An example of GPMA image

Keywords: Image analysis, Genome profiling, Local/Global feature.



Invited Lecture 4

Sustainable Development Goals and Business Responsibilities



Dr. Divesh Kumar

Assistant Professor, Department of Management Studies, Malviya National Institute of Technology,
Jaipur, India - 302017

Sustainability or no development? Which side you are on? This is the unique challenge in front of Industries across globe. Either fulfill the current demand of billions of people by producing products and services, or leave resources for the future generation by not developing at all. Answer to this challenge lies in sustainable development. A development where you are successfully meeting the need of current generation and also leaving enough resources for future generation so that future generation do not sacrifice their need. Here generally, people talk about the natural resources. Then questions come, what is the role of companies/ industries in sustainable development?

Several dimensions of possible role of companies are discussed by practitioners and academicians such as material development and management, procurement of sustainable material, pro-environment technology adoption, educating customer about sustainable use of product and service, to name a few. There is big responsibility on the companies to help this planet in achieving sustainable development objectives including social sustainability. This century will decide the future of mankind on this planet. It will depend on how we as a company will use natural resource for developing product and services, fulfill our social responsibilities, and make product available to all at an affordable price.

□□□

Invited Lecture 5

Advancement of Deep learning in Industrial Application



Dr. Santosh Kumar Vipparthi

Affiliation & Contact:

Dept. of Computer Science & Engineering, MNIT, Jaipur-302017

E-mail: skvipparthi@mnit.ac.in

Phone: 0141-2713435

Research Interest:

Image Processing, Pattern Recognition, Machine Learning

Education & Professional Career:

Ph.D. (Systems Engineering (IIT-BHU)) from IIT-BHU

M.Tech. (Systems Engineering (IIT-BHU)) from IIT-BHU

B.E. (Andhra University) from ANDHRA UNIVERSITY

Major Publications:

1. Murari Mandal, Manal Shah, Prashant Meena, Sanhita Devi, Santosh Kumar Vipparthi, "AVDNet: A SmallSized Vehicle Detection Network for Aerial Visual Data", **IEEE Geoscience and Remote Sensing Letters** Volume :0 / 00-01 / 2019
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Abstract

Advancement of Deep learning in Industrial Application

Dr. Santosh Kumar Vipparthi

Asst. Professor, MNIT

Abstract

Artificial Intelligence (AI) is poised to disrupt our world. With intelligent machines enabling high-level cognitive processes like thinking, perceiving, learning, problem solving and decision making, coupled with advances in data collection and aggregation, analytics and computer processing power, AI presents opportunities to complement and supplement human intelligence and enrich the way people live and work. Acknowledging that India is some distance away from consistently delivering home grown pioneering technology solutions in AI, adapting and innovating the technology for India's unique needs and opportunities would help it in leapfrogging, while simultaneously building the foundational R&D capability aimed at ensuring competitiveness in the long run [1, 2]. The goal is also to enable students to become leaders in the industry and academia nationally and internationally. Finally, the mission is to meet the pressing demands of the nation in the areas of Artificial Intelligence and Machine Learning.

AI for education stressed upon the urgent need for implementation of AI based projects, courses, training, infrastructures and any other support necessary for making India an AI powerhouse. It is certainly needed of the hour to keep up with other countries which are making rapid strides in this field (specifically USA and CHINA). In order to mobilize the importance of AI across India,

In the fast-paced world that we live today, most of the vision-based applications are expected to take real-time decisions. Induction of High-Definition (HD) video cameras in video surveillance has triggered an extraordinary surge in the amount of video/image data being generated every day. According to the survey [1], video surveillance cameras installed worldwide in 2013 were generating 413 Petabytes (PB) of video data every day. With the development of even better-quality cameras such as 720p, 1080p, 4K, etc. the amount of data collected through vision-based sensors are bound to increase. For example, the surveillance system installed at the Indian borders are gathering video data 24x7 across the year. The present video surveillance systems are used only after the fact as a forensic tool, thus losing its primary benefit as an active real-time agent. However, analyzing/processing such big data itself is a challenging task due to the limited computational and storage resources. In order to

process/analyze real-time data and take rapid actions, a high-performance computing system (HPC) is required to prevent/control damages in various applications. Huge video/image data is not only being generated from surveillance but also from medical diagnosis, social media, entertainment industries and advertisement industries etc. There are hundreds of applications which are based on the collection of such big data. The archived big data has to be labeled and organized for its efficient usage by various computer vision approaches. In recent times, machine learning techniques (Deep Learning) have achieved substantially better results when trained on labeled large scale datasets.

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CONTRIBUTED PAPERS

To Identify the Predictors of Stress and their Impact on the employee Performance: Study of an Organization in Higher Education with special reference to Jaipur

Dr. Neha Pandey¹, Dr. Rajeev Biyani²

¹Professor, Biyani Institute of Science & Management, Jaipur

²Chairman, Biyani Group of Colleges, Jaipur

Introduction

This research mainly focuses to find out the relationship between performance of employees and how it contributes factors leading to work stress and its impact on employee performance. Employees' performance directly impacts on quality education.

Symptoms of more widespread problems among groups of employees may be arguments and disputes between staff, General absenteeism, an increase in grievances and complaints and high staff turnover.

Objective of the Study

1. To identify the predictors of stress in the workplace
2. To examine the impact of stress on employee performance.
3. To find out the remedial measures to overcome stress in the work environment.

Scope of the study

The scope of this study was to identify the stress the employees at different levels of the organization and learn the ways how the organization deals with them. This study also emphasis on the impact of stress on employee's performance

Data Analysis

Employees showed the agreement that they were given unrealistic targets. They had stress due to negative evaluation of their performance. It was revealed from the study that employee's relationship has major impact on employee's performance level. Another important factor of stress was that the employees did not have clarity in job role. The symptom of stress is directly related to the number of leaves taken by the employee. More stress, more absenteeism from work.

Conclusion

The organization should try to find out the causes of problem which creates stress rather than the effect of stress at workplace. To improve the quality in higher education institutes it is necessary to provide the employees right training to manage and increase their emotional intelligence so that they can delete stress from their lives.

In science the basic formula for stress is that, $\text{Stress} = \text{Pressure} / \text{Resilience}$. Pressure includes targets, exams, relationships, situations, deadlines etc. Resilience is ones inner strength to face that pressure. But in general people perceive stress = pressure. To be more effective the inner strength of the employees need to be increased. This inner strength can be increased by meditation. It is said that “A healthy employee is a productive employee”

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The Effectiveness of Long form Audit Report and Internal Control System in Banking Sector

Bhawana Kumari¹, Richa Khunteta², Dr. Sanjay Biyani³

^{1,2} *Research Scholar, Biyani Institute of Science & Management, Rajasthan Technical University, Kota*

² *Director, Biyani Institute of Science & Management, Jaipur*

Abstract

Statutory audit report is one of the most important parts in bank audit, which is required to be submitted by the auditor as per the requirement of the banking regulation Act 1949, which is a detailed questionnaire prepared by RBI. This report is known as "Long Form Audit Report". Thus this statutory audit report gives true and fair financial statement and internal control system of the banking industries. The report is an excellent audit planning tool, based on questionnaire form about the assets, liabilities, profit and loss, general records, internal control and capital adequacy. The paper mainly focuses to work out the facts regarding the framework and role of audit report in the bank audit.

Keyword: Bank Audit, Internal Control, Audit Report, Statutory Report

Introduction

Long form audit report is decided by RBI and was introduced in 1985. This format has also been revised in 1992-93 and 2003. The various reports like Statutory Branch Auditor's report (Form 3CA and 3CD), MOC, LFAR, Ghosh/Jilani Report and various certificates (ATM Form Audit Report), Ghosh & Jilani Committee Report & Basel Committee Report.

Conclusion Regarding the Audit

The objective and scope of the audit and the responsibility for the financial reporting are outlined in our long-form audit report. Our audit of the financial statements has been performed accordingly and in accordance with International Standards on Auditing, generally accepted public auditing standards. Our audit of the financial statements and our reading of the Management's review, performance reporting and financial highlights have not given rise to any comments of such significance or nature that it leads us to modify our auditors' report on the financial statements and our statement on the Management's review, performance reporting and financial highlights. If the Board of Directors approves the annual report in its present form, and provided no new material information is brought to our attention during the Board of Directors' discussion and approval of the annual report, we will issue an unqualified auditors'

report with no emphasis of matter on the financial statements and a statement with no comments on the Management's review, performance reporting and financial highlights. It is concluded that IFAR is one of the important audit reports or techniques for measuring the lacunae, shortcoming and failure the system of internal control adopted by the management of bank. Lastly we can say that the good quality audit serving as the backbone of the strong banking system.

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Upcoming Innovations and Marketing Strategies to enhance Quality in Higher Education

Sujata Biyani¹, Dr. Pawan Patodiya

¹*Research Scholar, Biyani Institute of Science & Management, Rajasthan Technical University, Kota*

²*Asso. Professor, Biyani Institute of Science & Management, Jaipur*

The Indian education system got its base from the gurukul format which was followed in the ancient times. During those days, higher education system was very well established. Higher education was available in diverse formats and it was continuously developed in order to include the current changes and the ongoing trends. The systematic version of higher education, which was incorporated by the Rishis and Sages in the Vedic age, was taken forward by the

Britishers in the form of affiliated universities. Their content majorly included literature, history, philosophy, political science and natural science components. However, due to lack of awareness, a large part of the Indian society was unaware of the fact and couldn't relate to the significance of higher education. This study is important from the viewpoint of stakeholders in the education industry and aims at identifying the significant differences between the perceptions of gender, grade, stream, quality parameters and innovation in teaching methods and marketing strategies available in the present era for private universities. Therefore, in conclusion, the curriculum aspects, innovative teaching and evaluation techniques, continuous research as well as a healthy learning environment are the major aspects considered for selection by students and parents while choosing a university.

Keywords: Education system, Innovation, Marketing Strategy, Quality in education, Higher Education.



Recent Economic and industrial growth in corporate social responsibility in context of Indian banking sector

Deepa Mathur¹, Dr. Neeta Maheshwari²

¹*Research Scholar, Biyani Institute of Science and Management, Rajasthan Technical University, Kota*

²*Professor, Biyani Institute of Science & Management, Jaipur*

Corporate social responsibility (CSR) is a self regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. By practicing CSR, also called corporate citizenship, companies can be conscious of the kind of impact they are having on all aspects of society including economic, social and environmental. To engage in CSR means that, in the normal course of business, a company is operating in ways that enhances society and the environment, instead of contributing negatively to it.

It is well said that wealth creation is a national service; they should be honored not pilloried. Recently our honorable prime minister said a statement that with this absurd new law making it a criminal offence, punishable with three years in jail, for big companies which fail to spend 2% of their profits on what the government defines as corporate social development.

Creating wealth through high quality accountability to customers, shareholders, staff and suppliers is the highest form of social responsibility. Many companies fail in all

these respects. The answer is not forced donation to NGOs in prescribed areas like education, gender, environment and poverty. A recent investigation exposed corporate promoters who gave CSR donations to their own NGOs and then recycled the cash back to themselves.

Business man guilty of gross irresponsibility to consumers, shareholders, staff and the environment can nevertheless fulfill their CSR quota and win awards.

The focus is now on how much money you give to what cause and the whole question of how you make that money is totally ignored.



Financial inclusion through Recent Innovations and Technological Advancements

Dr. Reeta Mathur¹, Dr. B.N. Gaur² and Ms. Anupam Gupta³

¹University of Rajasthan, Jaipur

²Associate Professor, Biyani Institute of Science & Management, Jaipur

³Assistant Professor, Biyani Institute of Science & Management, Jaipur

Abstract

Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantages and low income group. The various financial services include credit, saving, subsidies, insurance and payment and remittance facilities

Recent innovations and technological advancement: This Paper studies the impact of information and communication technologies on financial inclusion. We use a wide range of ICT indicators.

Keywords: financial inclusion, information technology, jam, digital transformation.

Introduction

Financial inclusion by introducing information and technology is one of the solutions to reach the masses. Information and communication technologies (ICTs) are important sources of innovativeness in the financial sector. The advancement of communication and computer technology and the availability of the Internet have made it possible that a common man can do most banking transactions from a remote location even without stepping into a physical

financial structure. Automated teller machines (ATMs), Internet banking and point of sale (POS) devices being the most common examples of how technology can foster geographical expansion of banking services.

Technology Based Initiatives

JAM Trinity-JAM stands for Jan Dhan Yojana, Aadhar and mobile. These three will be used to transfer of subsidies and the benefit of the other social welfare schemes. This will help plug leakages and ensure that the benefits reach to the targeted people. Aadhar, along with government's financial inclusion program Jan Dhan Yojana and a Smartphone will change the face of Indian economy. The objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its bound people with low incomes.

Direct transfer of Government benefits

As we are witnessing LPG subsidies now getting credited directly to our accounts, on similar lines through Pahal scheme GOI is keen to transfer grants and funds directly to beneficiaries' accounts, removing the middle layer.

Pradhan Mantri Jan Dhan Yojana

PMJDY is a national mission on financial inclusion encompassing an integrated approach to bring about comprehensive financial inclusion of the entire household in the country. The plan envisages universal access to banking facilities with at least one basic banking account for every household, financial literacy, access to credit, insurance and pension facilities. In addition, the beneficiaries would get RuPay debit card having inbuilt accident insurance covers of ₹ 1 lakh. The plan also envisages channelling all government benefits (from centre /state /local body) to the beneficiaries' accounts and pushing the direct benefit transfer (DBT) scheme of the union government. The technological issues like poor connectivity, online transactions will be addressed. Mobile transactions through telecom operators and their established centres as cash out points are also planned to be used for financial inclusion under the scheme. Also an effort is being made to reach out to the youth of this country to participate in the mission mode programme.

Internet Banking/Online Banking/Net Banking: As an integral part of the e-business, the e-banking has been growing at a rapid pace. It is believed that the e-banking will help banks to cut costs, increase revenue and become more convenient for customers. While larger banks are leading in the e-banking forefront, the same cannot be said about smaller and community banks. This has been attributed to the fact that those smaller community banks were in general lacking in both financial and technological resources in their e-banking efforts. These banks

have adopted a business strategy of using the e-banking to target business customers and more wealthy consumers for not only loans but other fee based services. Most small banks were motivated to develop e-banking services for potential future cost savings and gaining a competitive edge in the competition.

Mobile Banking: The statistic shows the number of mobile phone users in India in 2017 is 73crore and in the same year the no of Smartphone users in India is predicted to reach 34 crore and could reach almost 47 crore by 2021. Due to greater affordability of mobile services in India especially with the launch of Reliance jio the total monthly mobile bill has decreased over time. The coverage of mobile phones and the use of such instruments by all section of the population can be exploited for extending financial services to the excluded populations.

GST/Goods and Service Tax:

GST also brings in the benefits of enabling financial inclusion by simplifying the tax .in long run, GST will enable financial inclusion in the economy. With the start-up community migrating towards digital book-keeping and optimizing existing processes, they would be better predisposed towards fulfilling the eligibility criteria for credit facilities by banks and investors in India and abroad.

UPI/Unified Payment Interface

Unified payment interface enables all bank account holders to send and receive money from their Smartphone's without the need to enter bank account information or net banking password. UPI is a great step in right direction and it is set to become an efficient alternative to mobile wallets and make cashless payment faster, easier and smoother for millions of people in India. It has potential to make micro payments which will benefit both buyers and sellers.

GSTN and UPI will give user the ability to create digital transaction trails and monetize their data by accessing cheaper credit.

ATM: An automated teller machine is a computerized device that provides the clients of a financial institution with access to financial transactions in a public space without the need for a cashier or a human clerk. The main facilities provided under ATM are round-the-clock (24*7) cash withdrawals, cash and cheque deposits, balance enquiry & statement of account, a mini statement comprising last few transactions can also be obtained from the ATM.

Biometric ATMs and Mobile ATM: In biometric technology, the identity of user will be identified by biological phenomena of human body. Biological structures and actions of different body parts of human body ranges from iris of eye, finger print and face recognition to voice recognition can be used in biometric ATMs. ATMs with biometric devices are the latest

solution in the ongoing effort to offer banking services to the rural masses. Establishing the identity of a rural depositor through biometrics makes it possible for illiterate or barely literate people to become part of the banking user community.

Unique Identification Authority of India (UIDAI) with an objective to issue a unique identification number known as Aadhar to all Indian residents with intent to eliminate duplicate/ fake identities and to put hassle-free, cost effective verification/ authentication system in place thereby to save considerable resources of various User Departments as well as beneficiaries at large. UID project gives a big push to the government's financial inclusion agenda and also provides the strong foundation to deliver better services and paves the way to improve the operational efficiency of the system. All Public Sector Banks are acting as Registrars to undertake enrolment and authenticated services to their clientele and also other residents using technology embedded outsourced model.

Tie-Up with Post Offices: Modernization of Post Offices is in full swing and now they are well connected. Banks may make use of the presence of the post offices to extend banking services to the persons of unbanked areas. Smart Cards with bio-metric features will be delivered to them. The customer has to produce the Smart Card at post office for remitting cash or for withdrawal.

E-Server Centers: Banks may enter agreement with the respective state governments for sharing of resources, so that our rural/semi-urban customers can undertake financial transactions (Cash Deposit/Withdrawals) at these centres, which will be updated at Banks' server every day.

T-Banking: The presence of Television in all households is the order of the day and now it has become one of the most cost effective modes to disseminate information across the country. Banks may explore the possibility of making use of cable network to extend banking services to remote rural areas and this can be used as non-branch service delivery channel.

Conclusion

Financial Inclusion has been presently is in the centre of an Information Technology insurgency. Combinations of regulatory and competitive reasons have led to increasing importance of total banking automation in the Indian banking sector. Information Technology has basically been used under the different avenues in banking. IT is involved in communication, connectivity Aadhar, GST, JAM Trinity, UPI, Business Correspondents, Business Facilitators, National Payment Corporation of India (NPCI), Unique Identification Authority of India (UIDAI), Mobile Banking, Model E-Server Centres, and T-Banking. Information Technology enables sophisticated financial development and implementation to

reach the banking sector activities. The Indian banking sector has been an important driving force behind the nation's economic development. It develops industrialization, agriculture, real estate through the public and private sector and cooperative banks especially for the development of rural India required more banking facilities. It can be concluded that the financial reforms have had a moderately positive impact on reducing the concentration of the banking sector and improving performance Information Technology. It has been adopted in banking system and made them more efficient and effective

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Compositional Performance of WiMAX over WiFi

Mr. Vivek Sharma¹, Ms. Poonam Soni²

¹*HOD & Associate Professor, Biyani Institute of Science & Management, Jaipur*

²*Assistant Professor, Biyani Institute of Science & Management, Jaipur*

ABSTRACT

Remote systems are commonly less proficient and sporadic contrasted with wired systems, which make nature of administration (QoS) arrangement a greater test for remote interchanges. The remote medium has restricted data transmission, higher bundle blunder rate, and higher parcel overheads that altogether to restrain the limit of the system to offer ensured QoS. In light of the expanding QoS challenge in remote systems, specialists have made noteworthy alterations in Wireless Fidelity (WiFi) in the heritage IEEE 802.11 norms to make conceivable QoS to end clients. The plan imperatives at a few layers of the IEEE 802.11 limit its ability to convey ensured QoS. As of late, the IEEE 802.16 standard, otherwise called overall interoperability for microwave get to (WiMAX), has developed as the most grounded contender for broadband remote innovation with vows to give ensured QoS to remote application end clients over WiFi remote innovation. This paper attempts to clarify the engineering execution issues of WiMax over WiFi remote correspondence in the term of remote system structure and the executives which redesigning the up-coming remote correspondence innovation over a wide district.

Keywords: WiMAX, WiFi, WLAN, Wireless Networks, QoS

INTRODUCTION

Remote access methods are constantly extending their transmission transfer speed, inclusion, and Quality of Service (QoS) support lately. With the colossal market accomplishment of Wireless Local Area Networks (WLANs) (IEEE 802.11), the new-age remote system, WiMAX (IEEE 802.16) has now been institutionalized and sent. WiMAX represents Worldwide Interoperability for Microwave Access. WiMAX innovation empowers ever-present correspondence of remote broadband administration for fixed and additionally portable clients, and turned into a fact in 2006 when Korea Telecom began the utilization of a 2.3 GHz rendition of versatile WiMAX administration called WiBro in the Seoul metropolitan region to offer high execution correspondence for information and video over remote correspondence. The WiMAX Forum is an industry-drove non-benefit association which has in excess of 570 part organizations including specialist co-ops, hardware sellers, chip merchants and substance

suppliers. WiMAX is like the remote standard known as Wi-Fi, yet on an a lot bigger scale and at quicker speeds. 802.11 Wi-Fi is the IEEE standard for remote system correspondence to give remote neighborhood (WLAN) administrations. It normally works in the 2.4 GHz or 5.8 GHz range and allows information transmission speeds from 1 Mbps to 54 Mbps. Wi-Fi commonly gives nearby system access to around a couple of hundred feet (up to 100 meter) yet WiMAX receiving wire is relied upon to have a scope of up to 50 kms with paces of 70 Mbps or more. WiMAX can bring the essential Internet association expected to support neighborhood Wi-Fi networks [2].

Characteristics	WiMax (802.16a)	Wi-Fi (802.11b)	Wi-Fi (802.11a/g)
Primary Application	Broadband Wireless Access	Wireless LAN	Wireless LAN
Frequency Band	Licensed/Unlicensed 2 G to 11 GHz	2.4 GHz ISM	2.4 GHz ISM (g) 5 GHz U-NII (a)
Channel Bandwidth	Adjustable 1.25 M to 20 MHz	25 MHz	20 MHz
Half/Full Duplex	Full	Half	Half
Radio Technology	OFDM (256-channels)	Direct Sequence Spread Spectrum	OFDM (64-channels)
Bandwidth Efficiency	≤ 5 bps/Hz	≤ 0.44 bps/Hz	≤ 2.7 bps/Hz
Modulation	BPSK, QPSK, 16-, 64-, 256-QAM	QPSK	BPSK, QPSK, 16-, 64-QAM
Access Protocol	Request/Grant	CSMA/CA	CSMA/CA
Quality of Service(QoS)	Coordinated QoS control	Decentralized QoS control	

Performance comparison between WiMAX and WiFi on various standards

CONCLUSION

Portable WiMAX (802.16e) gives the main measures based OFDMA WAN innovation. WiMAX and future remote systems that seek to offer 4G administrations will endeavor to end up bound together interchanges frameworks that fit different markets and have altogether different arrangements of clients and prerequisites. WiMAX is expected to take significance in around three years (2013).The qualities of WiMAX lie in its capacity to address the prerequisites of present day broadcast communications systems and the dedication that has been appeared to its improvement and wide acknowledgment by various driving hardware sellers and specialist organizations. In future, Develop the proposed a brought together association situated engineering to help the coordination of WiFi and WiMAX innovations in broadband remote systems. This normal engineering should bring about a general development in innovation and a decrease in expenses

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Sustainable Development and Technological Progress

Aayushi Gupta¹, Dr. Pawan Kumar Patodiya²

¹Research Scholar, Biyani Institute of Science & Management, Rajasthan Technical University, Kota

²Associate Professor, Biyani Institute of Science and Management, Jaipur

Abstract

This paper presented that how sustainable development results in technological progress. Sustainable development is an integrative way to finding solutions and providing pathways for technological progress sustainability.

This paper also tries to keep in mind all the facts that changes in resource use or energy use are just the side-effects of other forms of technological progress.

Environmentally sound technologies are unlikely to emerge from a sustainable development approach that seek to incorporate the environment as part of the economic system and therefore to subordinate it to economic needs.

This paper results that for any constant results to scale technology, optimal paths can be sustainable only if the social discount rate does not exceed the sum of the rates of resources generation and augmentation net of population growth. The development of resources-saving technologies is crucial for sustaining consumption per capita in the long run.

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A study of Artificial Intelligence with Cloud-based IoT

Dr. Poonam Sharma

Associate Professor, Biyani Institute of Science & Management, Jaipur, India

ABSTRACT:

The cloud-based IoT is used to connect a wide range of things such as vehicles, mobile devices, sensors, industrial equipment's and manufacturing machines to develop a various smart systems, smart city, smart home, smart industry etc. IoT based smart systems generate huge amount of data called big data that cannot be processed by traditional data processing algorithms and applications. Hence in the IoT, cloud computing environment has made the task of handling the large volume of data generated by connecting devices easy and provides the IoT devices with resources on-demand.

KEYWORDS: IOT, Cloud Computing, Smart systems, Big data

INTRODUCTION:

There is a difficulty in storing, processing and visualizing the huge data generated from IoT based system. So in this paper Artificial intelligence methods are studies and analyzed which can play a significant role in various smart environments monitoring like business monitoring, healthcare applications, research and development, weather analysis etc. So there are lots of opportunities and benefits of using both AI and IoT together. They can combine at the devices end as well as at server.

RESULT AND DISCUSSION:

AI methods with IoT can be used to analyze the human behavior via facial-recognition technology, Bluetooth signals and motion sensors to make the corresponding changes in lighting and room temperatures. IoT devices gather data and placing the data that is obtained from physical devices through machine learning and artificial intelligence. It allows us to expand upon those processes. The Internet of Intelligent Things (IoIT) uses artificial intelligence to bring more value to the IoT domain by better interpreting the data obtained from connected devices.

The devices connected in an IoT networks are linked via sensors and actuators, wrapped with software and hardware to provide humans with logical inputs. Machine learning and artificial intelligence are the foundation of IoT because it allows these devices to make sense of the data collected through them. When the raw data is collect by a group of connected devices and

combined, then the software programs enabled with machine intelligence capabilities take this data and analyze it. After the systematic analysis, we get the output that contains valuable information.

CONCLUSION:

The era of the IoT and AI will bring a change to existing processes for betterment. The use of Artificial Intelligence makes IoT applications realize their full potential by Improving Accuracy Rate, Improved Customer Satisfaction, Increased Operational Efficiency, Predictive Analysis and Maintenance.

But now there is a need to create better methods for utilizing IoT and artificial intelligence for a better future

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Economic Scenario in India

Ms. Shikha Dugar & Ms. Simran Sharma

Asst. Professor, Biyani Institute of Science & Management, Jaipur

Abstract

This paper provides an outlook for the Indian Economy in the light of the extra-ordinary global financial crisis, that started in the US, but which has now transformed into the worst economic downturn since the great depression was started.

In the context of a growing population, this condition for sustainable development is restated as (non- declining comprehensive wealth per capita) for the period 1993-94 to 2012-13. Various components of comprehensive wealth which are explicitly estimated by the paper are Physical Capital, Human & Natural Capital.

The analysis undertaken shows the global crisis is likely to bring the Indian GDP Growth rate down considerably.

This will pose a big challenge requiring urgent & subsequent policy attention to prevent this downturn from becoming unnecessarily prolonged.

The paper provides a short- term forecast for GDP growth based on a model of leading economic indicators.

We present three scenarios/ overview in the paper assuming differentiated impact of the external crisis.

Finally, the paper suggests a set of policy measures to get the Indian Economy back on the path of sustained rapid & inclusive growth of an Indian Economy.

Keywords: Forecasting Indian Economic Growth, Economic Outlook & conditions, Financial crisis, sustainable development, comprehensive wealth.

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Enhanced Intelligent Water Drops Algorithm for Sinkhole Attack Detection in Wireless Sensor Networks

Ms. Anju Bhatt¹, Dr. Purnima Sharma²

¹*Assistant Professor, Biyani Institute of Science & Management, Jaipur*

²*Assistant Professor, Shri Bhawani Niketan Mahila P. G. College, Jaipur*

Abstract

A Wireless Sensor Network (WSN) is a network of cheap and simple processing devices (sensor nodes) that are equipped with environmental sensors for temperature, clamminess, etc. and can converse with each other using a wireless radio device. They are composed by a large amount of tiny sensing devices which are very limited in energy, computation, and communication capabilities. The need for administration and utilization of wireless sensor nodes arise because of the unattended operation of many sensor nodes in many applications. Encryption and authentication mechanisms provide reasonable defense only for remote-class outsider attacks. This is because an insider can participate in the network and have complete access to any messages routed through the network and is free to modify, repress, or overhear something on the contents.

Keywords: Wireless, Sensor Network, Sinkhole Attack

Introduction

To overcome this, intrusion detection techniques are used to detect third party break in attempts. Wireless sensor networks are susceptible to sinkhole attacks as they have special communication pattern. All sensor nodes send packets to the base station. Sensor nodes in the same area are affected even if only one compromised node is providing a high-quality route to the base station. A sinkhole attack is a severe attack that prevents the base station from obtaining complete and correct sensing data, thus forming a serious threat to higher layer applications. Sinkhole attack is difficult to detect because simply using user authentication and signed routing information cannot prevent compromised nodes from generating signed routing packet with wrong information. To launch a sinkhole attack, an adversary lures nearly all traffic from an area through a compromised node. The adversary usually attracts network traffic by advertising itself as having the shortest path to the base station and can then tamper packets originated from any nodes in the area.

Result and discussion

- To Design and Develop an Enhanced Intelligent Water Drops Algorithm with selection mechanism for addressing Sinkhole attacks in WSN.
- To model the Enhanced Intelligent Water Drops Algorithm as an efficient rule matching algorithm for effective sinkhole attack detection in Wireless Sensor Networks
- To design the Enhanced Intelligent Water Drops Algorithm for minimizing the Boolean Expression for distributing the auxiliary keys to the alerted nodes in WSN.
- To design and develop a tested to evaluate the performance of proposed approach.
- To compare the performance of the proposed approach with other existing approaches with appropriate performance metrics.

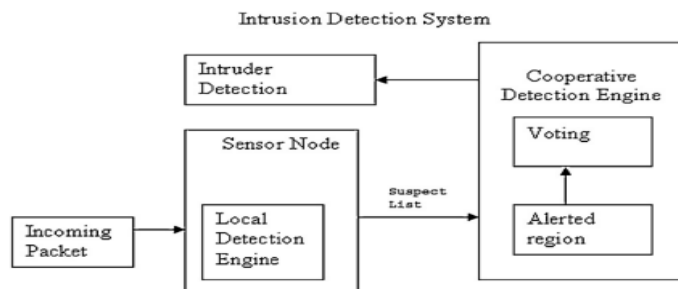


Fig. 1. Intrusion detection model.

Tools: MATLAB V.12.

Conclusion

The research gap lies in representation of solution of Boolean expression for solving it using evolutionary algorithms. When it comes to Intelligent Water Drops algorithm the algorithm calculates the probability of an entire solution instead of considering every node in the solution. Hence our research has an intension to solve this addressed issue by proposing enhanced selection mechanism.

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Innovation Management in Small Business

Dr. Anita Rathore¹, Dr. Sakshi Arora²

^{1,2}Assistamt Professor, Biyani Institute of Science & Management, Jaipur

Abstract

“Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service.”

- Peter Drucker “Innovation and Entrepreneurship”

Innovation in business can be done with willingness to develop organize and manage a business venture along with any of its risks in order to make a profit. Innovation and business is the right

combination to boost economy as a whole. The aim of this paper is to find out the role of innovation in small business units with management concepts. The data was collected from various small business units from Rajasthan. This research paper explores particular part of the innovation, the content of innovation management and the influence which can change the leadership style. Large and Small business units have various pros and cons where innovation takes place, but small businesses provide the most contributory environment for entrepreneurship and innovation that are not necessarily sustained and resources characteristic of large-scale production, but require commitment and close cooperation between company objectives. The data was analyzed through SPSS. Results of this study indicate that big business houses are successfully implementing various innovation strategies successfully but small business units are not able to cope up with it. Government intimates and programs can be used for further studies.

Keywords: Innovation, Small business, Corporation

Conclusion

Due to recession country's industrial structure has been affected. It must be transferred from labor-intensive industries to knowledge-intensive industries. Therefore, there is need to encourage the growth of small, innovative firms, that could accomplish the task. So in this manner we can conclude that Small businesses react quickly to changing economic conditions and their owners have a can-do attitude, enduring and even creating opportunity out of adversity. Despite the tough times, the vast majority of small business owners remain upbeat about their long-term business prospects.

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Importance and Applications of Fuzzy logic in Artificial Intelligence

Dr. Dharmveer Yadav¹, Rahul Agarwal²

¹Assistant Professor, St. Xavier's College, Jaipur

²Assistant Professor, Biyani Institute of Science & Management, Jaipur

ABSTRACT:

Fuzzy set or fuzzy logic is used when concepts or things are not well defined means we can't specify the result in true or false form. In our real day to day life, we face many situations in

which we can't decide whether the statement is true (1) or false(0) like in traditional set theory. In these situations, fuzzy logic provides important and effective solution for reasoning. By using fuzzy logic we can handle the uncertainties or vagueness of any conditions.

Fuzzy relation is a way to deal with figuring dependent on "degrees of truth" as opposed to the standard thing "genuine or false" (1 or 0) Boolean rationale on which the advanced PC is based.

Fuzzy logic includes 0 and 1 as extreme cases of truth but also includes the various states of truth in between 0 and 1 so that, these kind of situations can be handled. Like the result of a comparison between two things could be not old or young, tall or short, poor or rich.

Fuzzy models or sets are mathematical means of representing vagueness and imprecise information. These models have the capability of recognizing, representing, manipulating, interpreting, and utilizing data and information that are vague and lack certainty.

Fuzzy logic is used in multiple applications like facial pattern recognition, vacuum cleaners, air conditioners, antiskid braking systems, washing machines, transmission systems, knowledge-based systems for multi objective optimization of power systems, control of subway systems etc.

Keywords: Fuzzy logic, Fuzzy set, pattern matching



Gaining Momentum-Sustainable Development Goals

Dr. Shweta Mishra¹, Yashu Shrivastava²

^{1,2} Assistant Professor, Biyani Institute of Science & Management, Jaipur

In September 2015, nearly 200 nations adopted the 17 sustainable development goals (SDGs) as a transformative, universal framework to address three interwoven dimensions of our global existence—people, planet, and prosperity. They are predicated on the notion that sustainability is not just an aspiration but a necessity. However, by substantially expanding on the scope and targets of their predecessors (the millennium development goals), the SDGs have set a high bar. To achieve them, we will need collective action to create new knowledge, share and broker knowledge, and implement insights through working with many sectors and diverse global health policy stakeholders.

Keywords: Transformative, Sustainability, Innovation, Knowledge Sharing

Introduction:

Although only SDG3 focuses primarily on health, many other development goals, including those that relate to the environment, nutrition, hunger, sustainable production and consumption, agriculture, and education, also have a big effect on health. To achieve progress on human health, countries will therefore need to commit to a broad agenda of sustainable development that acknowledges and exploits the links between different goals and targets. This provides an opportunity for systems thinking: applying an ecological perspective and implementing an ambitious agenda in which health is included in all government policies.

The most obvious challenge is ensuring the political will to identify and commit adequate financial resources. But to ensure those commitments lead to better health, three important issues will need to be addressed: global knowledge sharing, capacity building, and innovation. Civil society agencies such as think tanks and academic institutions can be critical catalysts to accelerate the SDG agenda at all levels of governance.

Capacity building: Even with greater sharing of knowledge, substantial challenges to implementing the SDGs remain. Many countries lack the technical capacity to implement programmes despite knowledge of what to do. Governments will need to enter into partnerships with other key actors to develop and implement policy and track the progress along the way. ⁷Reliable data to ensure political accountability will be critical.

Knowledge sharing: New knowledge about determinants of health, responses to diseases, mitigation of environmental problems, and successful policies and programme implementation is generated rapidly. Yet, knowledge often diffuses too slowly. For example, even affordable, lifesaving therapies can take over a decade to become widely used ⁵ ensuring that knowledge is treated as a global public good and disseminated quickly, effectively, and widely should be a priority.

Innovation: Even with existing knowledge and technical expertise, many countries will find it difficult to meet SDG targets without innovation and adaptation to their specific needs. Challenges include reconceptualising how universal health coverage can work in resource limited settings; exploring how to best create intersectoral policies to tackle the causes of non-communicable diseases; and harnessing the power of technology to ensure better community accountability. There is no limit to the number of innovations that could help nations accelerate implementation of SDGs.

Result and discussion

Think tanks and academic institutions have a natural domain of expertise: knowledge. They help generate, translate, and disseminate knowledge. Thus, they have a responsibility to help accelerate the SDG process through a focus on the political and policy dimensions: engaging in broader policy development, measuring the outcomes of policies and identifying determinants

of success, acting as a knowledge broker, and giving a voice to civil society. Their work can provide direct input to high level processes, support a more effective implementation of the goals and actions, and contribute to ensuring the political accountability needed to achieve SDGs.

SDGs have the potential to be a game changer in global health—a platform and mechanism to greatly improve the health and wellbeing of the world’s population. But if the millennium development goals and other global goals are any indication, initial progress will be slow. The cost of this slow action is likely to be measurable in lives lost. Achieving the SDGs will not be easy. Think tanks and academic institutions can catalyse action by beginning to address the “North-South” divide that often plagues these discussions by enabling more “South-South” partnerships and by coming together beyond such divides to take the agenda forward. They can ensure that the best ideas are disseminated widely, no matter where they originate. And by holding governments and multilateral entities accountable, they can contribute to the voice of civil society.

Conclusion:

Finally, these bodies can catalyse innovation in global and national healthcare systems. Some think tanks and academic institutions will have a central role in creating the innovations while others will focus more on measurement, evaluation, and dissemination. New ideas and solutions to longstanding problems can take years to filter through society and people, and the poorest and most disenfranchised are often the last to benefit. Think tanks and relevant academic institutions can help bridge this gap and ensure that innovations get to those who need them more quickly.

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Impact of Quantum Computing

Mr. Sanjit Bhagat¹, Ms. Harshita Bhati²

^{1,2} *Assistant Professor, Biyani Institute of Science & Management, Jaipur*

ABSTRACT

Quantum computing is new revolution in the area of computer science. The term quantum computing is based on the laws of quantum mechanics to process information. Traditional till now uses the bits to store information or to process information that is in 0 or 1 format. Whereas a quantum computer uses quantum bits to store information that are qubits. The qubits let the system stay into multiple states at the same time that is known as superposition. The quantum computing will change the scenario of current computing and cryptography. This system will be able to solve extremely large problems into the minutes of time because of its multiple states. They will also be able to resolve NP problems which seems impossible to solve with traditional computers.

Keywords: Quantum, computing, cryptography, qubits

INTRODUCTION

The key terminology behind the quantum computing is that it works on all three axes. This is called superposition (Being all the possible states at the same time).

Quantum computer starts with 0 and they are usually changed into I-state using H-Gate (Hadamard Gate) which gives output in a qubit that will read out as half the time 0 and half of the time 1. Other gates are available to flip the state of the qubit.

Quantum algorithms will change the whole theory of the modern cryptography. Traditional cryptography will be breakable through quantum computers. The term quantum cryptography and post quantum cryptography will be the next gen cryptographic system.

CONCLUSION

Although these type of computers are in development stage, but in coming years we will be able to see these type of computer. All the tech giants are making efforts to make it possible in reality.

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Pros and Cons of Artificial Intelligence in Banking Sector of India

Dr. Shivraj Singh¹, Dr. Lokesh Agarwal²

^{1,2} *Assistant Professor, Biyani Institute of Science & Managment, Jaipur*

Abstract

Artificial Intelligence (AI) is fast evolving as the go-to technology for industries across the world to personalize experience for individuals. The technology itself is getting better and smarter day by day, allowing more and newer industries to adopt the AI for various applications. Banking sector is becoming one of the first adopters of AI and just like other segments; banks are exploring and implementing the technology in various ways.

Several Indian banks have begun deploying artificial intelligence in to order to improve efficiency and predict customer behavior.

The main objects of study of the banking sector from AI include seeking operational efficiency; means to detect and predict human behavior; and for lowering operational costs. This also signals further progress with the digital transformation of the Indian Banking Sector.

The banks is instituting an ‘Innovation Centre’ built to explore how emerging technologies such as Robotic Process Automation can assist with making internal banking processes more efficient.

Under this research, explain what is the role of AI in banking sector and how useful for customers, employees and banking growth in Indian perspective.

Also point out challenges of Implementation of Artificial Intelligence in India and how to provide instant solutions on banking queries.

Introduction

In concept, Artificial Intelligence (AI) has been around for decades, ever since John McCarthy defined it as “the science and engineering of making intelligent machines”. But it is only lately that AI technology has undergone rapid evolution and consequently sparked significant interest among enterprises in virtually every industry. Today, there is widespread agreement that AI is one of the hottest trends for 2019.

However, there is less agreement on what AI actually means. This is because AI is not one, but a group of related technologies, which includes among others, big data analytics, machine learning, deep learning, predictive/prescriptive analytics, virtual agents, and avatars (which

understand natural language). The fact that everything from robotic process automation to actual robotics falls under that umbrella only complicates the understanding of AI even further.

Banking has become increasingly dependent on information systems and the use of most modern technology has also become increasingly significant. The banks need to use Artificial Intelligence based technological applications to provide customized services and products to its customers as well as in Transaction Monitoring.

The Indian banking sector's adoption of artificial intelligence, though in its nascence, has seen a steep increase. In the past year, global investment in AI applications touched \$5.1 billion, up from \$4.0 billion in 2015. While large commercial and investment banks globally are incorporating AI and block chain for both back-office and customer facing purposes, in India, widespread adoption of these technologies has not yet come to fruition.

Though the deployment of AI technologies is still nascent in the banking sector, the competitive advantage that the technologies bring has been recognized by banks with some developing 'innovation centers'.

The adoption of AI in the banking and finance sector is a part of the larger digital wave occurring within the sector. The use and deployment of AI in consumer banking, financial products and back-end operations is varied and across different stages of operations. Though it is not always clear from publicly available information the exact type of AI technology that is being used, some technologies that we did find in our research include: Natural Language Processing, Natural Language Generation, Machine Learning (such as Neural networks/deep learning), and Computer Vision.

Objectives of the study

1. To study the usefulness of the artificial intelligence is being used by the banks.
2. To study the systematic approaches and application of Artificial intelligence in Indian banking sector.
3. To study of the opportunities and challenges of AI in use in the banks of India.

Data Collection

The Data is collected from secondary sources only.

Opportunities

Fraud Detection: Anomaly detection can be used to increase the accuracy of credit card fraud detection and anti-money laundering.

Customer Support and Helpdesk: Humanoid Chatbot interfaces can be used to increase efficiency and reduce cost for customer interactions.

Risk Management: Tailored products can be offered to clients by looking at historical data, doing risk analysis, and eliminating human errors from hand-crafted models.

Security: Suspicious behaviour, logs analysis, and spurious emails can be tracked down to prevent and possibly predict security breaches.

Digitization and automation in back-office processing: Capturing documents data using OCR and then using machine learning/AI to generate insights from the text data can greatly cut down back-office processing times.

Wealth management for masses: Personalized portfolios can be managed by Bot Advisors for clients by taking into account lifestyle, appetite for risk, expected returns on investment, etc.

ATMs: Image/face recognition using real-time camera images and advanced AI techniques such as deep learning can be used at ATMs to detect and prevent frauds/crimes.

Not without challenges

A wide implementation of a high-end technology like AI in India is not going to be without challenges. From the lack of a credible and quality data to India's diverse language set, experts believe a number of challenges exist for the Indian banking sector using AI.

According to Accenture's Rishi Aurora, "A key challenge is the availability of the right data. Data is the lifeblood of AI, and any vulnerability arising from unverified information is a serious concern for businesses. Imagine for example, the risks that could arise from KYC compliance AI systems if the data sources are incorrect. Or consider the efficacy of a fraud detection AI system without the right kind of data. Structured mechanisms for collecting, validating, standardizing, correlating, archiving and distributing AI relevant data is crucial."

Conclusion

A digital boom is certainly taking place across all segments of industry especially banking, especially after demonetization. The traditional banking has evolved and more and more banks are adopting new technologies like AI, Cloud, block chain to cut down their operating expenses and improve efficiency. Though it is still in its nascent stage, banks are still at cusp of an artificial intelligence revolution. Improvement and development in the AI industry will increase productivity at a reduced cost. Managers across industries will have to raise their ante on skill-set up gradation.. There is no doubt that recent push towards digitalization is rapidly influencing the traditional banking models. However, it has also exposed the institutions to

increasing cyber security threats and vulnerabilities. The banks are increasingly looking at emerging technologies such as block chain and analytics in creating an active defense mechanism against cybercrimes.

The research clearly suggests that banks also use artificial intelligence mainly for petty purposes like automatic cheque book re-order facility. Banks also uses artificial intelligence for Employees performance evaluation, Credit evaluation and portfolio analysis

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Optimal Learning of Hopfield Neural Network using Object Oriented Metrics

Dr. Swati Agrawal¹, Ms. Anjali Sharma²

¹ Assistant Professor, Biyani Institute of Science & Management, Jaipur

² Student, KVGIT, Jaipur

Abstract:

This paper examined the application of ANN for software quality prediction with object-oriented metrics. Quality estimation includes estimating maintainability of softwares. In this paper maintenance effort was selected as dependent variable and the principal components of object-oriented metrics as dependent variables. We are predicting the number of lines changed per class. We have used two neural network models including ward neural network and Hopfield neural network. The ANN possesses the advantages of predicting software quality precisely and identifies the defects by efficient discovery mechanisms.

Keywords- Software quality metrics, maintainability, object- oriented, neural network, PC analysis

Introduction

ANN is used as a predictive model because of it is optimize computation and complex modeling feature. The neural network aims to predict object-oriented software quality by estimating the number of lines changed per class. We have used object-oriented metrics for quality estimation. The relationship between object-oriented metrics and software maintenance effort is complex and nonlinear [2]. We have also introduced ward neural network and Hopfield neural network to improve prediction result for estimating software quality. Hopfield model uses a single layer of processing elements where each unit is connected to every other unit in the network and Hopfield model computes its output iteratively in time until the system becomes stable. The capacity of the Hopfield network model is determined by no. of neuron and connections in the network.

CONCLUSION

This paper presents the prediction of maintenance effort using ANN technique. This paper dedicated to the efforts in improving the quality of software products. This paper used combination of ward neural network and Hopfield neural network of the UIMS (user interface management system), predicting the number of lines changed per class. This result shows that

this independent variable appear to be useful in predicting the maintenance effort. PC analysis plays an important role in object oriented metrics. It reduces the multidimensional problem of the huge data by converting it to a small datasets. This method is more cost effective of storing the data and saving the memory space. PC analysis predicting the software quality using ANN models. This research aims to estimate software defect and minimize the error in software maintainability through object oriented metrics and neural network models.

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Importance of Economic Infrastructure in Achievement of Sustainable Development Goals set by United Nations

Dr Shiv Jhalani

Assistant Professor, Biyani Institute of Science & Management, Jaipur

Abstract

According to Dr V. K. R. V. Rao, “The link between infrastructure and development is not a once for all affair. It is a continuous process and progress in development has to be preceded, accompanied and followed by progress in infrastructure; if we are to fulfill our declared objectives of a self-accelerating process of economic development”. Economic infrastructure

refers to the facilities, activities and services which support operation and development of other sectors of the economy. There are classified as Social infrastructure & Physical infrastructure. The importance of the infrastructure in achievement of the sustainable development goals are:-

- The development of agriculture, to a considerable extent, depends on the development and adequate expansion of irrigation, credit, transport, power, marketing, training and education.
- Agriculture Development also depends on the improvement of research and development and other such facilities.
- Infrastructure definitely a pre-condition got increasing economic investments. Those areas with the sound infrastructural base may succeed in attracting all the more capital for investment.
- Industrial production requires not only machinery and equipment but also requires the basic Infrastructure, Energy, skilled manpower, management, banking, insurance and transportation services are crucial.
- These activities and facilities will directly lead to the development of the industrial sector of the economy.
- Infrastructural facilities are very necessary and vital for the smooth functioning of the economy. They are like wheels of development without which the economy will not be able to function properly.
- Infrastructural development such as transportation facilities and education increase the productivity. Development of science and technology is also important in improving the economic productivity. Moreover, research and development also play a critical role in economic improvement.
- Infrastructural facilities will also act as an instrument of social changes. Development of industries, transport facilities and education will change the outlook of people. Apart from these, even science, technology and growth of towns and cities will lead to a changed economic outlook.
- Infrastructures play a crucial role in the generation of employment opportunities. They improve mobility, efficiency and productivity of labour.
- It also facilitates large-scale production for the purpose of smooth functioning of the economy.
- Foreign direct investment as well as portfolio investment will flow to those countries where adequate infrastructure facilities are available.
- Infrastructure result in the territorial division of labour which is great.

- They also ensure price stability in the market.
- Economic infrastructure definitely ensures the mobility of labour and capital within/from the economy.
- Infrastructure results in the overall growth of cities. and towns
- Enhancing the quality of growth and thereby life of the people has been the main focus of development planning in developing countries like India.
- Creation of infrastructure helps to reduce poverty.
- Infrastructures provide for a lot of employment generation and employment opportunities.
- Infrastructure development will change the total outlook of the society and will lead to social development.
- Infrastructures in the economy directly result in the unity of various economic components.
- Infrastructure creates a place and time utility.
- Infrastructure development is a must for the defense of the nation.
- Infrastructure like transportation, communication and telecommunication breaks any economic isolation that prevails in the country.
- They are a great and rich source of revenue to the Government
- For proper development of tourism industry, infrastructure development is very much required.

Keywords: Infrastructure, Development, Goals, United Nations, Communication, etc.



A Review of Challenges in Software Defined Networks

Dr. Kulvinder Singh¹, Mr. Kamlesh Kumar²

¹Assistant Professor, Khandelwal College, Jaipur

²Assistant Professor Biyani Institute of Science & Management

Abstract

Emerging trends like Internet of things, cloud and big data) in information and communication technologies (ICT) are posing new challenges to future Internet, for the same ubiquitous

accessibility, high bandwidth, and dynamic management are crucial. Now a days, software-defined networking (SDN) can be seen as one of the most promising solutions for future Internet. SDN is characterized by its two unique features which includes decoupling the control plane from the data plane and providing the facility to program for network application development. Further, SDN is positioned to provide us with more efficient configuration and, better performance of networks along with higher flexibility to accommodate new and innovative network designs. This paper reviews challenges and opportunities in this active research area of SDN.

Keywords: SDN, Control Plane, Networks

Introduction

In response to the various requirements for future computer networks, one solution is to make additional investment in the network infrastructure to increase the capability and performance of existing networks, as practiced in reality. It is reported that around the globe the network infrastructure will accommodate nearly three million networked devices and 15 gigabytes data per capita in 2016, up from over one networked device and 4 GB data per capita in 2011. [1] Software-Defined Networking (SDN) is an emerging network architecture where network control is decoupled from forwarding and is directly programmable [2]. As per the definition of SDN, It is defined by two important characteristics, namely decoupling of control and data planes, and programmability on the control plane.

Challenges in SDN

SDN supports both centralized and distributed controller models and both of them have different infrastructure elements and requirements to consider. This section briefly describes each SDN model along with a discussion on the advantages and drawbacks. Finally, we introduce the hybrid SDN model which combines the benefits of both approaches. Since in centralized control only one centralized controller is used to program the entire network, it must have a global vision about the load on each switch across the routing path and along with it must also keep track of bottleneck on certain links between the remote SDN nodes. Secondly, the simple architecture of the centralized model may come at the cost of control plane scalability. That is, grouping all the functionalities in a single node requires more computation power, data storage and throughput to deliver the traffic causing its response time to be degraded. Also, with respect to the hardware limitations, the switches may impose greater scalability bottlenecks and quickly hit real life limits. Third, in the centralized model, the first packet of every new flow that is introduced in the system must first be forwarded to a centralized SDN controller for inspection. The consequence is extra latency and the possibility

of network failure as the number of new flows programmed increases. The centralized controller may represent a single point of failure thus making the network highly vulnerable to disruptions and attacks. Also, the time required by the controller to setup all the properties for the flow will add to the latency. Failure at any step might result in instability and network convergence problems in the network.

Conclusion

Major issues which are being faced by network engineers and designers are increasing requirements from user side, availability of bandwidth, hardware requirements technical resources are required at remote site for configurations and scalability issues along with high level processing power at each device, traffic engineering, resiliency of networks against failures, decentralize of hardware visibility etc. SDN will help networks to improve centralized visibility and control as all the open flow switches are connected to controller, any number of switches can be configured via SDN controller without even accessing individual switches.

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Stature of Emotional Intelligence before & after Professional Exposure: With Special Reference to Nursing Services

Arpita Roy¹, Dr. Medha Gupta²

Assistant Professor, Biyani Institute of Science & Managmeent, Jaipur

Abstract

Emotional turbulence has been widely accepted as part of our daily lives as human beings. But, when we talk in the context of healthcare professionals, the contribution of Emotional Intelligence (EI) multiplies. Furthermore, nurses are the backbone of the healthcare industry, and, as such, the contribution of their emotional intelligence in the role of caregiver is

substantial. This paper is aimed at exploring Goleman's concept of emotional intelligence (1995) in relation to the nursing services in healthcare setting. The paper establishes the emotional aptitude of budding nurses and consequently, professionals. During college, the nursing students have certain 'expectations' from their future job, and when they go out and spend a considerable amount of time in their role as staff nurse, they have a 'changed/ matured mindset' and attitude towards their job responsibilities. Thereby, this paper intends to explore the nature of the said 'expectations' and 'changed/ matured mindset' of our nurses in the present scenario.

Data was collected during and after professional training. Major results of this study underline the relationship between EI and burnout, by means of EI scales and various statistical analyses.

Keywords: Emotional Intelligence, Healthcare, Burnout

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Use of Data Mining in Big Data Technology

Mr. Sachin Bagoria¹, Dr. Puran Mal Mali²

¹Assistant Professor, Biyani Institute of Science & Management, Jaipur

²Principal Govt. Sr. Sec. School, Jaipur

ABSTRACT:

Big Data contain huge amount, simple or complex, increasing data groups from multiple, various sources. With the rapid development of data storage, and the data collection capacity, Big Data are now growing expanding in all streams specially in science and advance tools and technologies. It is used in social networking applications like facebook, Instagram, Whatsapp etc. This paper presents a method that why big data is important and how we can use these data. To use these large amounts of data we need data mining technologies.

Data mining is an approach to find patterns in huge data sets using tools and algorithms, using machine learning, using statistical procedures, and database systems to discover future patterns. Data mining is an important step in Knowledge Discovery process where intelligent methods are applied to huge amount of historical data to extract data patterns.

Big data is very effective with respect to data mining. Big data is very useful in present situations. It reduces the unstructured data into structured data and can discover important results by data mining for policy making and business growth.

Keywords: Big data, data mining, data science

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Artificial Intelligence: The Impact on Society

A.S. Abhinand

Student, Poornima University, Jaipur

Abstract

This branch of computer science is concerned with making computer behave like humans. Artificial intelligence include game playing, expert systems, neural networks, natural language and robotics. Today no computer exhibit full artificial intelligence. The greatest advances have occurred within the field of games enjoying. The best laptop chess programs square measure currently capable of beating humans. Today, the hottest area of artificial intelligence is neural network, which are proving successful in number of discipline such as voice recognition and natural language processing. There are many programming languages that are recognise as artificial intelligence languages because they are used almost primarily for AI applications. The 2 most common are prolog and LISP. Artificial intelligence is working a lot in reducing human but with less growth.

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Delivering Smart Education using Internet of things based Cloud Application

Mr. Shivam Dixit

Assistant Professor, Biyani Institute of Science & Management, Jaipur

Abstract

Things are going smarter day by day due to the innovations in technology. But, education sector has not been in the forefront of adopting these innovations and smart technologies. The

Internet of Things (IOT), the new technological paradigm is rapidly connecting various things like cars, Home appliances etc. around us and making our life better. But, as said earlier, education sector is falling back in leveraging IOT. But, now a days, this started changing slowly as numerous educational institutions are now realizing the importance of introducing technology, especially IOT, in their teaching methodology. Very soon, many schools and colleges will have IOT embedded into their day-to-day activities due to various factors like cost, ease of use etc.

Keywords: IOT, Smart Education, Cloud, Security

Introduction

The Internet of Things is a network of physical objects – vehicles, machines, home appliances, and more – that use sensors and APIs to connect and exchange data over the Internet.[1] There are numerous fields where IOT can be used in educational institutions like Security, Interactive apps and Increasing Efficiency. Talking about security, the use of technologies like 3D positioning, students can be monitored round the clock and their presence can be reported at any point of time. The option of SOS buttons can also be provided by these technologies for raising an alarm if in case the need arises. In many institutions, a plenty of time is spent on activities that do not add any value to the core objective of their very existence. For example, the attendance of the students is required to be taken several times a day and this information has to be sent to the higher authorities for different purposes. The IOT can put an end to this inefficient system. With the help of IOT end-devices, this data can be collected and sent to the central office server automatically eliminating the need for any human intervention.

Conclusion

The Internet of Things will be further integrated into the every domain of education system in future. Many schools can use it to prepare their students to become highly tech-literate while some may use it to harness data that can be used for analysis, save money on administration cost, and for other specific needs. Our understanding of quality education must shift if we want to integrate IOT into our education system.

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DTH Services in India: An Analysis of Consumer Behavior in Jaipur Region

Aishwarya Singh¹, Jitendra Singh²

^{1,2} Research Scholar, Department of Business Administration, University of Rajasthan, Jaipur

Abstract

Mass communication is a key to the success of India's economic reforms. As India pursues the liberalization and globalization of its economy, the need for the benefits of a world class communication infrastructure continues to grow. The advent of DTH technology has opened up possibilities of making available a number of quality programmes and variety of channels directly as per the choice of the viewers. The present study is intended to analyze the consumer's buying behavior, role of various services and marketing related factors in moulding the consumers' decision and the improvements to be brought in marketing strategies to increase customer base.

Introduction

The direct-to-home satellite television market services have transformed the mass electronic communication industry quite dramatically. It has surpassed all expectations by growing at unprecedented pace in recent times. According to the **"Indian DTH market Outlook 2020"** report (*released by RNCOS, a business consulting service*), rising competition amongst various players in Indian DTH market has led to a fall in installation prices and availability of a wide range of channel subscription options for users. The decline in Set-Top Box (STB) prices has also made DTH services more viable for the Indian users. All such factors have contributed towards unprecedented growth of the Direct-to-home (DTH) industry growth in India surpassing all expectations.

The global direct-to-home (DTH) satellite TV services market has seen explosive growth on account of its benefits over the traditional cable TV. As the name suggests, in a DTH satellite TV, a broadcaster directly connects to the user. It entails the reception of satellite programs through a personal dish that can be installed in homes or in the premises of a building. A DTH network comprises of a broadcasting center, satellites, multiplexers, encoders, modulators and DTH receivers.

Besides, robust marketing efforts by the broadcasting powerhouses in each region have also contributed to its extensive growth. With the help of DTH broadcasters can uncover the exact number of viewers for a particular channel to calculate its TRP.

According to *Media Partners Asia (MPA)*, an independent provider of information services focusing on media, communications and entertainment industries, the active DTH subscriber base is estimated to grow to 76.6 million by 2020 from the current 69.37 million in the June quarter of 2018.

As per an article in *Business Standard*, titled “10 years of DTH in India : The other electronics revolution”, DTH services were first provided by Dish TV company, which considered that it was an arduous task to train the technicians to put dish antennas and convince consumers that they had to pay a huge premium to get quality viewing.

Following players are prominent in DTH sector:

Dish TV, TATA Sky, Videocon D2H, Airtel, Reliance

Review of Literature

Chakrabarty (2019) stated that the new rules by TRAI shall be a bit confusing; however, they might lead to reduction in the cost of viewing channels for the subscribers. As per the latest guidelines, the distributors need to inform the customers about the Network Capacity Fees to be charged as monthly rentals amounting to maximum Rs.130 (excluding taxes) from the subscriber, subscribing a network capacity of 100 SD channel.

Sharma (2019) stated that the broadcasting regulator- TRAI has empowered the customer and brought transparency as well as free and fair competition into the market with its latest decisions. According to him, till date, the remote to the set top box was held by the customers.

Gupta (2019) stated about the new rules rolled out by TRAI, giving consumers more power to pay for and subscribe to individual channels. A Network capacity fees shall be levied by the service providers that would include the carrier charges for the channels provided to the customers.

Research methodology

- **Population of study:** householders from Jaipur urban
- **Sample size:** 100 respondents
- **Data collection tool:** self-structured questionnaire
- **Null hypothesis:** there exists no significant difference among consumers in respect of effect of selected factors on consumer buying decision.
- **Selected Demographic bases:** Age, Education and Time spent on DTH experiences
- **Selected factors:** effect of endorsement, pricing, quality of services

Findings

- It was found that the buying decision of 70% respondents was unaffected by the endorsement variance. Only 6% were found to have considered as to which actor was endorsing the DTH service.
- It was seen that 51% of the respondents considered the pricing factor before arriving at the buying decision. They finalized the service provider who offered more channels at cheaper rate.
- It was found that 34% respondents strongly agreed that the quality of signals affected their buying decision. Whereas only 8% respondents ignored this variance while arriving at their buying decision.

Data analysis and interpretation (hypothesis testing)

S. No.	Demographic Bases of ANOVA	Endorsement	Pricing	Quality
1.	AGE	No Significant Difference	No Significant Difference	No Significant Difference
2.	Education	Significant Difference	No Significant Difference	Significant Difference
3.	Experience/Time Spent	No Significant Difference	No Significant Difference	No Significant Difference

Suggestions

A significant number of respondents complained about after-sale services. Either these services are not properly provided to the viewers or very high charges are levied which must be regulated.

- The value added services segment is emerging as potential revenue generator. Adequate focus must be paid over this sector and provisions must be made for services such as movie on demand, interactive games, etc to attract viewers
- Assistance services must be provided to the senior citizens who are not technologically smart and cannot select their preferences online.
- Proper awareness and clarity about the packages and add on channels must be provided to the customers.

Many service providers often do not follow the TRAI recommendations of paying only for those channels that customers wish to view. Customers are made to pay for unnecessary

channels as well that are aligned along with the preferred channels. Steps should be taken to resolve such issues.

Conclusion (scope for further study)

In the years to come the country is predicted to witness a communication revolution, which would increase the DTH service to match that of the developed world. The need of the time is a new revolution in DTH and it is imperative that service providers work towards the same and make it a reality.

Due to the dynamic marketing environment and plethora of options available to consumers, the service providers need to continuously upgrade their services to hold the existing market base and increase their potential to expand further. The online services should be made more customers friendly. Hence, the study concludes that the service providers must work upon their service quality and sincerely consider the factors impacting the consumer's buying decision.

The researcher feels that any number of micro-level studies can be undertaken to study the performance of DTH sectors. As the DTH sector is progressing and attracting new customers at a fast pace, various issues may further evolve that would require more elaborative studies. The objectives covered in this research work aim to provide foundation for greater insights into these problems and suggest more effective and result-oriented action programme.

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Artificial Intelligence in Decision Support System

Ms. Kamini Pareek

Assistant Professor, Biyani Institute of Science & Management, Jaipur

ABSTRACT

This paper reviews research in decision making and the decision support systems (DSS) that are based on that understanding, along with the concomitant application of artificial intelligence (AI) techniques to create more powerful intelligent decision support systems (IDSS). The paper presents the primary research on this important and often neglected area. The aim of AI techniques embedded in an intelligent DSS is to enable these tasks to be performed by system. This combines knowledge of a particular application domain with an inference capability to enable the system to propose decision or diagnoses.

Keywords: Decision Support System, Artificial Intelligence, Intelligent decision Support System.

INTRODUCTION

Decision making is a fundamental process at the center of our interaction with the world.

Decision support system refers to a broad range of interactive computer system that assist decision makers to utilize data, models and knowledge to solve semi-structured, ill- structured or unstructured problems. An IDSS is a wise information gadget that reduces the time wherein decisions are made in an environmental area, and improves the consistency and pleasant of those choices. Intelligent Decision Support System utilize artificial intelligence techniques to beautify and enhance assist for the decision makers. AI gear together with Fuzzy logic, Cash-based reasoning, Evolutionary Computing, Artificial Neural Networks and Intelligent Agents when integrate with DSS, offer effective aids in solving tough implemented problems that are frequently real time, contain large quantity of dispensed records and gain from complicated reasoning. The use of Artificial Intelligence equipment and fashions provides direct get admission to understanding, and their flexibility makes them capable of helping getting to know and choice making procedures. There integration with numerical and/or statistical models in a single machine gives higher accuracy, reliability and software.

CONCLUSION

IDSS allow human retailers to consciousness extra on their tender capabilities and high-quality of the interaction, and much less on scripts and manuals. IDSS represent a powerful solution that

removes the dependency on human input, and allows human agents to focus on the big picture, using their soft skills to deliver an enhanced customer experience.

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Merger and Acquisition in Banking Industry

Anita Poonia

Research Scholar, University of Kota, Kota

Abstract

Mergers and acquisitions are the important process in the banking industry to make financial gains enormously. Main aim of merger and acquisition in the banking sectors is to improve the economies of scale. A merger means combination of two companies into one company. During the merging process one company survives and the other company loses their corporate existence. On the other hand acquisition means takeover. Mergers and acquisitions are these days common choices for business survival and development. They imply the difference of enterprises to new conditions being one in every of them, the mixing of the enterprises concerned within the deal. That integration is achieved through strategic actions in structure processes and structures, in addition as through the management of the subjective conditions that support human performance. One in every of these conditions is that the individual and team identities. The identity plays a vital mediating role within the adaptation and integration as a result of the mutual acknowledgment of the self and therefore the different in any social interaction has the facility to influence the social interaction. Mergers and acquisition bank not only gets new brand name, new structures, product offerings but additionally give opportunities to cross sell the new accounts acquired. The process of mergers and acquisition is not new in

the banking industry. This paper deals with the mergers and acquisitions, types of merger, legal framework, approval of Reserve Bank of India and historical perspectives of banks M&A, impact of mergers and acquisition in banking industry.

Keywords: Acquisition, banking, economic, merger and takeover.

Introduction

Merger can be defined as a method of unification of two players into single entity. Merger is also a way of mixing two business entities below the common possession. Bank merger is a happening once previously distinct banks are consolidated into one institution. A merger happens once an independent bank loses its charter and becomes a neighborhood of an existing bank with one headquarter and a unified branch network. The word acquisition, conjointly called a takeover or a acquisition, is that the shopping for of one company (the 'target') by another. a sale is also friendly or hostile. The method of mergers and acquisitions was importance in today's world. In India, the idea of mergers and acquisitions was first initiated by the government bodies and few accepted financial firms, organizations conjointly took the specified initiatives to restructure the company sector of India by process of the mergers and acquisitions policies. The industry could be a vital space throughout that merger and acquisitions do build immense monetary gains. As a result of changes within the expectation of the company customer, banks are currently forced to rethink their business and devise new ways.

Aim of the Study

- To study about the purpose and procedures in merger and acquisition.
- To know about the merger between HDFC and Centurion Bank of Punjab.

Materials and Methods

The present research is conclusive, descriptive. The study was conducted on secondary source of data books, articles, journals, e-sources and the relevant case laws.

Review of Literature

Conceptual Frameworks of Merger and Acquisition

This framework contains a framework contains a introduction about merger and acquisition, its concept, definition of merger and acquisition , what are merger and acquisition, history of merger and acquisition, reason for merging of firms, theories of merger, varieties of merger, its process, its different aspects, legal and regulatory framework, its impacts, its managing risk, failure of merger and acquisition.

This paper is broadly classified into chapters including the introduction and conclusion. Introductory chapter contains overview of the merger and acquisition market, conceptual overviews such as merger and amalgamation which are of horizontal, vertical, conglomeric, conglomerate, cash and triangular, further it also says about acquisition and joint ventures. Second chapter is about merger and amalgamations: key corporate and securities laws considerations which deals with company law based on procedure under the merger provisions, applicability of merger provisions to foreign companies, security law combines with takeover code.

This paper analysis has substantiated the fact that Indian companies have adopted M&As as a strategic choice for growth and expansion in general and particularly more prominently during the difficult period of 1996-97 and 1997-98.

The analysis of M&As trends for the entire period gives two distinct phases of M&As for the different sectors of the Indian industry, that is the period from 1990-91 to 1995-96 and 1996-97 to 2000-01. From this paper it is known that during the first period, there have been 68 M&As where as in the second phase 1318 M&As have been found. That is why the second phase can safely be called as the first M&A wave in India. M&As have been found to be beneficial in the sense that Indian companies grew in size, and attain better market share.

The process of mergers and acquisitions has gained substantial importance in today's corporate world. This process is extensively used for restructuring the business organizations. In India, the concept of mergers and acquisitions was initiated by the government bodies. Some well known financial organizations also took the necessary initiatives to restructure the corporate sector of India by adopting the mergers and acquisitions policies. The Indian economic reform since 1991 has opened up a whole lot of challenges both in the domestic and international spheres.

M&A turned out to be significant form of corporate restructuring in post globalization period in Indian industries. The phenomenon is considered to be the most important strategy for gaining competitive advantage for firms. This study attempts to find out the determinants of M&A in Indian pharmaceutical industry. We use the PROWESS database provided by the Center for Monitoring Indian Economy for the period of 2001-2010. The results of the Logit analysis suggests that large and multinational affiliated firms are investing more in M&A activities.

Conclusion

The concept of merger and acquisition between two or more companies can turn out to be a successful merger and acquisition. The merging and the acquisition process is accepted in India by the Companies Act, 2013 and for the company to get merge with another company, it is

important, for the company to follow the procedure explained in the same Companies Act, 2013. When the company acquire merger and acquisition it depends upon its planning and strategies whether they will profitable or in losses. India has many cases through which they proved its not lagging in this aspect of merger and acquisition from worldwide. The concept of merger and acquisition can also be a risky process which has to be adopted, as it may bring various problems to the company in terms of the management, it working, etc.

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Use of BIG DATA in Sustainable Development

Ms. Swami Nisha Bhagirath

Assistant Professor, Biyani Institute of Science & Management, Jaipur

ABSTRACT:

Big data represses the capacity to altogether affect a wide scope of fields in an economy, from the administration part to business segments like retail and human services. Not just has it modified the manner in which organizations survey their item's interest and supply designs yet has additionally sensationally helped in making the earth more advantageous lately. It conveys the capacity to recognize significant information from a colossal dataset with excellent parallel handling. This investigation displays the general presentation of enormous information delivering its different highlights and points of interest alongside the difficulties which associations face while utilizing concerning ecological maintainability. Perceptions have likewise been made on the discoveries of different explores, and studies and overviews performed by some worldwide associations in the ongoing years on the dire need of taking important measures and activities to avoid further exhaustion of common assets in this way making nature practical. Making the issue the examination point, future investigations must plan to investigate how global organizations can improve ecological maintainability through Big Data examination. Finally, suggestions have been made to associations private and open in employing sufficient mastery and set-up, in this manner making Big Data investigation increasingly proficient and solid.

Keywords: Big Data, ecological supportability, creating nations, innovation, mastery

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Developing Future Leaders-Five factors of EI (A Focus on Ajmer Vidhut Vitran Nigam Ltd (Ajmer discom) Rajasthan, India

Dr. Anita Sukhwal¹, Nand Kishore Koli²

¹Associate Professor & Head-Dept. of Commerce & Management, University of Kota, Kota (Raj.)

²Research Scholar, Dept. of Business Administration, University of Kota, Kota (Rajasthan)

Abstract:

Emotional intelligence (EI) can be described as a skill to perceive emotion, integrate emotion to facilitate thought, value emotion and to maintain emotions to encourage personal growth. For

developing future leaders, five basic components of EI have been identified (Goleman 1998): 1) self-awareness, 2) self-regulation, 3) motivation, 4) empathy and 5) social skills. Study was performed to assess emotional intelligence of Ajmer Vidyut Vitran Nigam Ltd (discom) employees and develop leadership skill in every employee. The primary data was collected from 80 respondents by structured questionnaire three districts i.e., Ajmer, Bhilwara and Chittorgarh of Rajasthan state, India. The questionnaire was based on five components i.e., self awareness, self regulation, self motivation, social skills, and empathy. Each component was further classified in five categories as strongly disagree, disagree, neutral, agree and strongly agree. The highest number of respondents were up to 40 years (n=62) and according to gender, 67 (83.75%) respondent were male, 12 (15%) were female and 1 (1.25%) did not reveal its identity. Different components of emotional intelligence showed different responses in employees. As per mean values, the EI components were ranked as follow: Self regulation, social skills, self awareness, empathy and self motivation subsequently. Suggestions were made after the results for improvement of EI in employees.

Keywords: Emotional intelligence, Leadership, AVVNL, Rajasthan, self regulation, employees

Introduction

Emotional intelligence (EI) is usually described as a skill to perceive emotion, integrate emotion to facilitate thought, value emotion and to maintain emotions to encourage personal growth (Bapna et al. 2011). This information about the emotions will assist the leaders to guide the actions and behaviors of one-self and that of the others (Miao et al. 2018). Possessing emotional intelligence single-handedly cannot facilitate in getting higher performance until it is not known that how people use their own emotions effectively to achieve their targets and destiny (Lee 2018, Ingram et al. 2019). It is also relevant in people development as well as organizational development, since it provides a new pathway to assess people's behavior, attitude, skills, management style and potential (Bapna et al. 2011, Quang et al. 2015, Mattingly and Kraiger 2019).

Five basic components of EI have been identified (Goleman 1998): 1) self-awareness, 2) self-regulation, 3) motivation, 4) empathy and 5) social skills. If a person identifies its emotions and able to handle them appropriately than it be defined as self-awareness. It helps person to aware about its own positive strengths, attributes, negative parts and weaknesses. It helps to develop leadership skill. Thus it is important to assess that how it affects individual performance during working timing by handling emotional handling and self assessment. Self-regulation in a person called when it can handle and regulate its own feeling in a better way. It makes person more responsible and help to develop positive attitude, disciplines, flexibility and honesty. It also acts as a strong tool when person facing job stress, manage anger and depression at work place for better performance (Rahim et al. 2002). Motivation helps person to be positive and equipped to face failures and shortcoming rather blaming others, while empathy helps to aware and

understand others which leads to more strong relationships with companions and customers. Social skills require maintaining relationships at a sound level (Thorndike 1936). Thus, making and maintaining relations acquire managerial ability, leadership quality, and team work (Shahzad et al. 2002).

Ajmer Vidyut Vitran Nigam Ltd, (AVVNL, AJMER DISCOM) is a government body, has been established under the Companies Act, 1956 by the Government of Rajasthan with the primary object of engaging in the business of allocation and supply of electricity in the major part of the state include 11 districts, namely Ajmer, Bhilwara, Sikar, Nagaur, Jhunjhunu, Udaipur, Chittorgarh, Banswara, Doongarpur, Rajsamand, and Pratapgarh. The Ajmer Discom is covered an area of about 87256 km² for its functioning, which hold the population 198 lacs as per 2001 census. The electric power supply in this Ajmer Discom is supervised by 12 distribution circles namely Ajmer City, Ajmer District, Nagaur, Bhilwara, Sikar, Jhunjhunu, Udaipur, Banswara, Rajsamand, Chittorgarh, Doongarpur and Pratapgarh. Numerous employees are working in this company at different hierarchy levels. Thus, our objectives of the study were: 1) to study the Developing Future Leaders-Five factors of EI of employees in AVVNL and 2) to assess different component level of EI in employees.

Methodology

A structured questionnaire was used to collect primary data to answer research objectives. Study was done mostly in three districts namely Ajmer, Bhilwara and Chittorgarh of Rajasthan. Questionnaires were sent to 80 respondents (sample size) in hard copies or in electronic version. The layout was respondent friendly and questions of closed ended nature were included in last 14th number section based on their own view. The questionnaire was based on five components i.e., self awareness, self regulation, self motivation, social skills, and empathy. Each component was further classified in five categories as strongly disagree, disagree, neutral, agree and strongly agree.

The data is represented as percentage (%) and mean (\pm SD). Student t-test was applied to check the level of emotional intelligence and its components against threshold level or average level to check the hypothesis that emotional intelligence of employee is high above the average level or not. All statistical analysis was done by using IBM SPSS software (ver. 20)

Results

The data was collected from 80 respondents in different age groups. The highest number of respondents were up to 40 years (n=62) (Figure 2). According to gender, 67 (83.75%) respondent were male, 12 (15%) were female and 1 (1.25%) did not reveal its identity. The 28

(35%) respondent had up to 10 year job experience, 23 (28.75%) had 10-20 years, two had 20-30 years and 27 (33.75%) did not give their response upon experience.

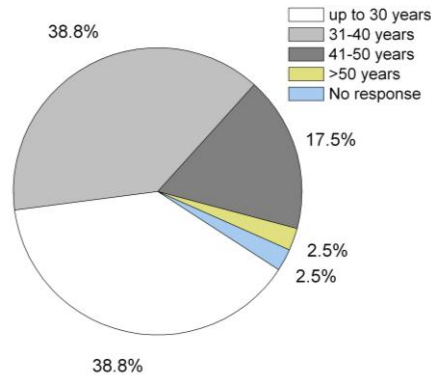


Figure 1: Age wise categorization of respondents of AVVNL employees.

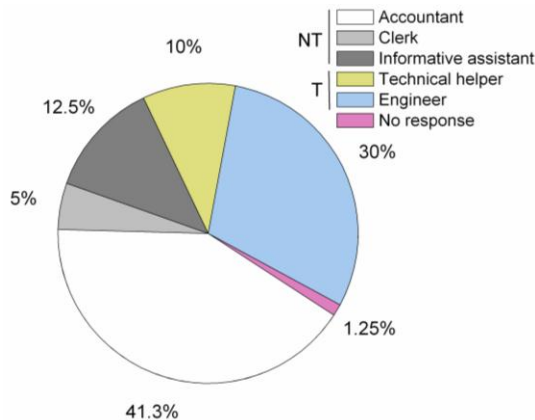


Figure 2: Distribution of respondents according to designation (NT= non-technical, T=technical).

Different components of emotional intelligence showed different responses in employees. Most of employees (n=51, 63.75%) was found adequate in self awareness, 12.50% (n=10) need improvement, while in self regulation category, all were above adequate category and most of them (n=57, 71.25%) were in good category (Table 1). Adequate was most accounted category in self motivation and good category in Social skill and Empathy (Figure 3). As per mean value score, self regulation is ranked first, social skills is ranked second, self awareness third, empathy forth and self motivation ranked fifth (Table 2).

Table 1. Different categories of respondents in self awareness, self regulation and self motivation, social skills and empathy of Ajmer Vidyut Vitran Nigam Ltd employers (Highest account made in bold text).

Category	Self Awareness	Self regulation	Self motivation	Social skills	Empathy
	N(%)	N(%)	N(%)	N(%)	N(%)
Underdeveloped	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Need improvement	10(12.5)	0(0.0)	1(1.25)	0(0.0)	0(0.0)
Adequate	51(63.75)	20(25)	42(52.5)	30(37.5)	3(3.75)
Good	16(20)	57(71.25)	36(45)	48(60)	48(60)
Excellent	3(3.75)	3(3.75)	1(1.25)	2(2.5)	29(36.25)
Total	80(100)	80(100)	80(100)	80(100)	80(100)

Table 2: Result of different components of emotional intelligence with their rank and overall emotional intelligence of AVVNL employees (n=80).

EI Component	Mean	SD	t	P-value	Rank
Self Awareness	3.87	0.37	20.74	***	3
Self Regulation	4.01	0.33	27.24	***	1
Self Motivation	3.59	0.46	11.43	***	5
Social Skills	3.97	0.25	34.42	***	2
Empathy	3.74	0.31	21.25	***	4
Emotional Intelligence	3.86	0.19	39.32	***	-

(*** = $P < 0.001$)

On applying t-test, it was found that for all the component of emotional intelligence and overall intelligence level the figures were significantly high above ($p < 0.001$) the threshold level or threshold test value of emotional intelligence (Table 1), which shows that the emotional intelligence of AVVNL employees is significantly high above average level of emotional intelligence and the assumed hypothesis is rejected in favour of alternative hypothesis.

Discussion

Emotional intelligence is an important factor in service sector and should consider at priority in promotion, performance and selecting an individual (Goleman 1998). More emotionally balanced people have better understanding of conditions and they perform excellent in adverse conditions like having stress, happiness, love, anger and many more (Carmel 2003).

This paper explored various components of emotional intelligence of AVVNL employees at different levels. As per ranking, self regulation has been revealed as a primary factor in the study (Table 2). It is an ability to identify own feelings and affect self performance. These persons have ability to work calmly in stressful situations to minimize defensiveness and restoring rationality with explosive party. By using self regulation, managers have more engagement that expose their employees more (Quang et al. 2015). Social skill is identified as second important factor (Table 2) of employees. Social skills includes set of competences includes relation management, analyzing and influencing others and also manage responses of others. Effective social skills help in other development and satisfaction of customers at time of delay (Lee 2018). Self awareness appeared to be third factor in the study, which helps managers to take decision and help to find lacunas in their management skills, which encourage skill development. It also helps to find condition wherein they work more effectively, take spontaneous decision, can stress management and motivate oneself and others also (Grover 2003, Ingram et al. 2019). Empathy has come at fourth rank in the study period and is a state of social awareness. Individuals have more capability to relating with others members in the organization, which have high empathy (Williams and Sternberg 1988, Miao et al. 2018). Person with this ability relate with others feeling, play important role in making superior goals, strategies and plans, consequently proceeds for certain proper action (Salovey and Mayer 1990). At last, self motivation is come at last on fifth rank and important in improving employee performance. Employee should be motivated by a strong inner drive and satisfaction, not just simply by money and titles. They should elastic and positive in the disappointments, which boosts their spirit and improve confidence.

Based on the study results, the following suggestions are made to improve the effectiveness of the emotional intelligence of the AVVNL employees:

- It is recommended that AVVNL should organize workshops and counseling activities to evaluate and improve emotional intelligence of the DISCOM employees.
- Managers are requested to employ prayer, yoga, meditation, or traditional rituals to improve mental as well as physical health of the employees to build good working environment.
- Company should encourage persons with good self-regulation, self-motivated, social-skilled and relationship managed for improvement of the company.

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Improve Business Intelligence Solutions Using Predictive Analytics

Ms. Ranu Sewada

Assistant professor, Biyani Institute of Science & Management, Jaipur

ABSTRACT

The fields of business and technology are producing data at an exponential rate leading to Exabyte(s) or Petabyte (s) of data every day. Predictive Analytics is the technique to find out the pattern and make prediction for future event from large amount of data. All these techniques and algorithms might suggest the productive behavior for business intelligent solution. The

purpose of analytics data in business is to help us understand our world better in order to make more informed decisions. This paper provides productive view for decision making process to maximize the success ratio for handling large dataset.

Keywords: Data Mining, Regression, Cloud Computing, Machine Learning.

INTRODUCTION:

Statistics and Modeling techniques of Predictive analytics are used to determine future performance.

It is used as a decision-making tool in a variety of industries and disciplines, such as insurance and marketing.

There are three fundamental components of predictive analytics:

- **Data:** The fruitfulness of every predictive model strongly depends on the quality of the historical data it processes.
- **Statistical modeling:** Basic to complex functions of various statistical techniques used for the derivation of insight, meaning and inference. Most commonly used statistical technique is Regression.
- **Assumptions:** The solutions drawn from collected and analyzed data usually assume the future will follow a pattern related to the past events.

Day by day different technologies like cloud computing, Data Mining, Hadoop techniques are transforming information technology but in turn, are embedding new features as well as complexities to data computation. Due to the advantages of these techniques, it requires rapid and dynamic data analysis for making improved decisions of businesses.

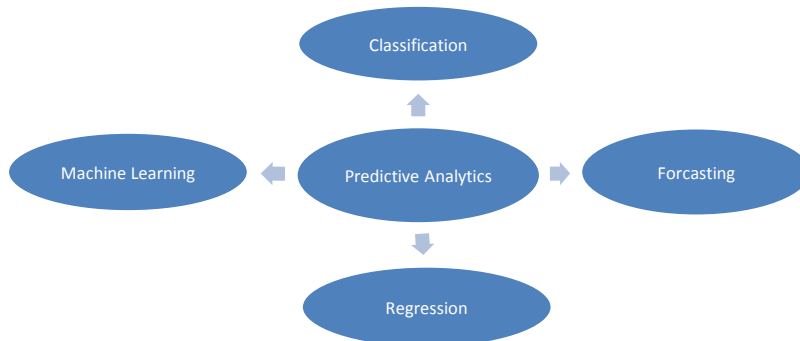


Figure1: Techniques Included In Predictive Analytics

CONCLUSION:

Different Techniques of Predictive Analytics including Classification, Regression, Forecasting and Machine Learning can be used to provide improved decisions for different businesses based on large amount of Dataset.

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Industry, Innovation & Infrastructure

Ankit Verma

Student, Rajasthan University, jaipur

Abstract

In India, quick development of populace, destitution, urbanization, industrialization and a few related elements are in charge of the fast corruption of nature. Natural issues have turned out to be not kidding in numerous pieces of the nation, and subsequently can't be disregarded. The principle ecological issues in India identify with air and water contamination especially in metropolitan urban communities and mechanical zones, debasement of basic property assets which influence the poor antagonistically as they relies upon them for their employment, risk to biodiversity and deficient arrangement of strong waste transfer and sanitation with ensuing unfavorable effect on wellbeing, newborn child mortality and birth rate. In India, endeavors are being made on for the ecological administration in a feasible way. At all degrees of training arrangements have been made for the information of condition and its protection. In the nation

numerous focuses are giving unique preparing to ecological administration. The projects of ecological mindfulness have been propelled through media. India is a functioning individual from International Organizations concerning condition. A few projects are going on under UNEP. The Government has as of late begun underscoring the consolidated utilization of administrative and monetary instruments for improving natural quality. There is a requirement for coordination between government organizations, NGOs and the general population for the best possible administration of condition quality and to accomplish supportable improvement in the nation

Keywords: Ecological, Environmental, Sustainliblity



Review of Game Refinement Theory in Aspects of Cricket

Ms. Supriya Bhutani¹, Hiroyuki Iida²

¹Studet, Biyani Institute of Science and Management, Jaipur, India

²Professor, Japan Advanced Institute of Technology and Management, Japan

ABSTRACT:

Today, Game is on highest priority compare to other entertainment. Game refinement theory is used to apply to make some modifications or to add some new refinements to make games more popular as well as more interesting. In aspects of Cricket the research is to analyze its important factors. However, it is very much popular in Asian countries. To analyze its popularity and gaming approach some game refinement techniques were used. To get best effect of game refinement, two teams were selected for the game of ten over's. To do so game refinement equations for Score limit games is analyzed and new elements were added to produce new proposed model for cricket. Match data is synthesized and draw the graphical result output. As the result achieved after implying new proposed model of score limit games, it proves that popularity of cricket depends on high score games. The conclusion of this research is that game refinement theory can be applied on cricket to make it more popular.

Keywords: Gaming Theory, Game Refinement, Cricket, Score Limit Games.

INTRODUCTION:

Cricket is a bat and ball game played between two teams of eleven players on a field at the centre of which is a 20-metre (22-yard) pitch with a wicket at each end, each comprising two

bails balanced on three stumps. The batting side scores runs by striking the ball bowled at the wicket with the bat, while the bowling and fielding side tries to prevent this and dismiss each player (so they are "out"). Means of dismissal include being bowled, when the ball hits the stumps and dislodges the bails, and by the fielding side catching the ball after it is hit by the bat, but before it hits the ground. [1]

Game theory is basically the strategic information between the players. Game refinement theory is another game theory focusing on the attractiveness and sophistication of games. The foundation of this was given by Iida. A measure of game refinement was proposed on the concept of information of game outcome uncertainty. [2][3]

METHODOLOGY

"Game Progress" contains two things in Cricket:

- One is game speed or we can say the scoring rate (in terms of runs per ball) of first team who starts batting.
- The second is game information progress with bowling (in terms of Wickets and runs per over) focuses on the game outcome.
- Game information progress presents the degree of uncertainty of game's results in time or in steps. The Game information progress will be deciding runs per over basis. Yet we don't know about the physics of information in the brain, but that the acceleration of information progress is likely be the subject to the forces and laws of physics.

Table1: Cricket Match Analysis for 10 over match:

Target Score= 110		Average Run Rate Required =110/10=11Runs per over		
Over	Runs	Difference	Run Rate Required (RRR)	Risk of Failure (ROF)
1	5	(11-5=6)	(105/9=11.6)	(0.6*100/11= 5.4%)
2	10	(11.6-10=1.6)	(95/8=11.8)	(0.2*100/11.6=8.2%)
3	2	(11.8-2=9.8)	(93/7=13.28)	(1.48*100/11.8=12.5%)
4	15	(13.28-15= -1.72)	(78/6=13)	(-0.28*100/13.28= -2.10%)
5	10	(13-10=3)	(68/5=13.6)	(0.6*100/13= 4.61%)

RESULT AND DISCUSSION:

The game is played for 10 overs where Team-A decided to bats first and made score of 110. This score is a Target Score for Team-B. Now Team-B will do batting and Team-A will do fielding. This process get records for analysis. Here, in the given table, we have take 5 overs of for growth and run-rate representation. Before starting of the batting Team- B calculates the Average Required Run Rate to win the match i.e. Target Score divided by Total given overs to play.

- ✓ In the given table, we have $110/10=11$, i.e. at least 11 runs per over is require to win the match. Similarly, we have taken the analysis of each over, where in the 1st over Team-B made 5 runs. But we have the target to make 11 runs in every over, so, we will calculate the difference i.e. $11-5=6$. Now, for 2nd over point of view we have extra load of 6 runs to cover that's why we have again calculated the RRR for 2nd over i.e. $105/6=11.6$. Similarly, all the 5 overs were analyzed.
- ✓ The fifth column of the table represents the Risk of Failure (ROF) which is calculated to on the basis of Score per over compare to Target Score in terms of difference of $RRR - RRR$ whereas percentage is calculated like for 1st over percentage of ROF is $11.6-11=0.6$ and $0.6*100/11=5.4\%$.

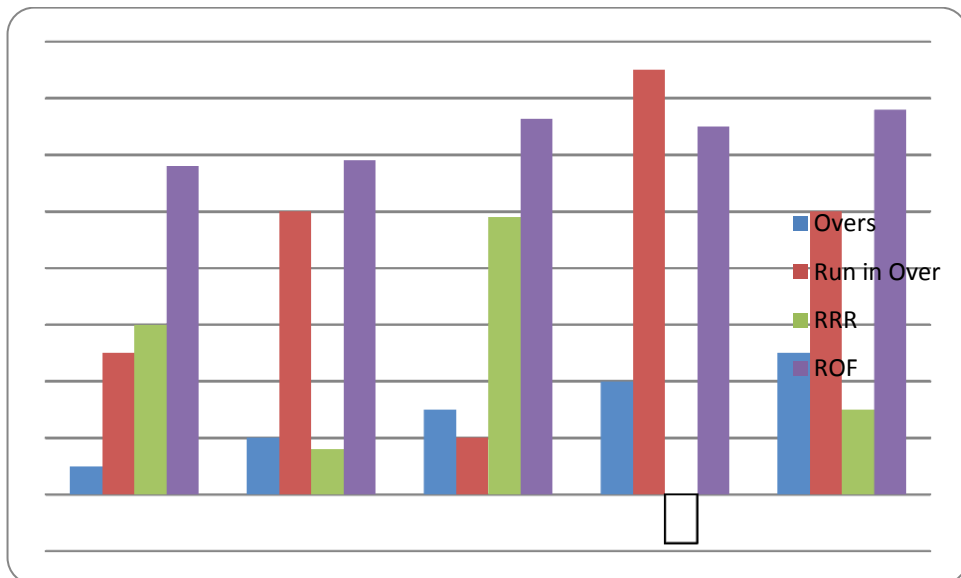


Figure1: Representation of 4 Factors of Cricket in the Bar Chart.

CONCLUSION:

The purpose of Game Refinement Analysis to get meaningful outcome where as one can measure the Game Interest. On the basis of the Game Interest rate the new refinement can be propose to make it more interesting. Cricket is very interesting game because of dynamic Target Score, it has maximum number of possibilities of winning or losing the game. Different factors are need to analyzed to make possible refinement in the cricket. In this research paper, we have targeted to RRR i.e. Run Rate Required to win the make, on the basis of that is ROF i.e. Risk of Failure were calculated for different over's. This ROF help batting team to take dynamic decisions on the real time which depends on the availability of over's as well as batsman to play. The overall conclusion of the research is that Cricket really very interesting game because of its dynamic diversity. RRR and ROF are really very helpful to predict winning and losing condition at any instance of the match. Further many other factors are need be analyzed.

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Factors Influencing Re-Purchase Intention of Customers in E-Commerce

Dr. Anita Sukhwai¹, Mr. Anshul Mathur²

¹*Head Department of Commerce & Management, University of Kota, Kota, Rajasthan*

²*Research Scholar, University of Kota, Kota, Rajasthan*

Abstract

Online customer retention has been a big challenge for e-commerce industry. There have been number of ways to measure the customer retention on an e-commerce website. One of them is measuring customer re-purchase intention. The aim of this study is to identify the structural relationships between various factors of an online store, trust and purchase intention. The study identifies factors that contribute to build trust for an e-commerce website that leads to a positive re-purchase intention of customers. Factors leading to trust were identified on the basis of primary interviews of online shoppers and hypothesis were formed. Responses from 251 online shoppers were analyzed using structural questionnaire to examine the research hypotheses. The results demonstrated that website design, shopping assistance, privacy of financial data and responsiveness of the e-commerce portal are predictors of trust factor that invite customer to re-visit the e-commerce website. The results also provide some suggestions for online store operators to help them arrange priorities for website design and overall shopping experience.

Keywords: shopping-commerce online, customer

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A Present Status of Vocational Education, Skill Development and Labour Force in India

Chanchal Jain

Research Scholar, MLS University, Udaipur(Raj.)

Abstract

India is the youngest and largest country among the world population. The country aims to be a world economic power centre and skill hub for entire world. But the major task is to equip

workforce with employable skills, vocational education and knowledge to make India a developed economy. The country has 54% of the total population below 25 years of age and more over 62% of the population in the working age group (15-59 years), it strongly indicates that India is one of the youngest country in world. Human capital is a major key of any countries' economic growth. It includes of different factor like vocational training, health, education, migration and IT development. Vocational training and skill development is among one of them. In India, skill development and vocational education plays a important role for economic growth of country. So, The objective of the study is to the present status of vocational education, skill development and labour force in india. The present paper attempt to study about the skilled labour force (male and female) in india and skill capacity has assessed in the form of vocational training level of the indian skilled workforce in the age of 15 year and above which was found very few i.e. only 5.4% population acquired and were acquiring vocational training. In this study secondary data were used which is obtained form govt. report, research papers, books and articles. This study answers these question where are we on skills? The huge challenge is not only an expansion of infrastructure and required facilities for skill development and training, but also in improving their quality. To address this issue Government is putting very serious efforts to encounter such problems through various advanced skill development policies, frameworks and schemes.

Keywords: Skill Development, Education, Labour Force, Vocational Training, India, skill development policies, etc.



Artificial Intelligence

Chirag Choudhary

C.A. Student, Institute of Chartered Accountants of India

Abstract

Welcome to the virtual reality world. This study shows how artificial intelligence will replace or enhance human capabilities in many areas. In this paper, we will explain the modern AI basics and various representatives' applications of AI. Moreover, we critically analyse what the state of art AI of today is capable of doing, why it still can not reach human level intelligence.

Keywords: Artificial Intelligence, Human Intelligence, etc.

Introduction

John McCarthy (“father of AI”) organised DARTMOUTH CONFERENCE (1956) and came to be known as the BIRTH OF AI. AI is the study of computer systems that attempt to model and apply the intelligence of the human mind. Machine learning is a scientific discipline concerned with the design and development of algorithms that allow machines to mimic human intelligence. There are three ways by which A.I. learns: Failure Driven Learning, Learning by being Told, Learning by Exploration. Artificial intelligence works with the help of: Artificial Neurons (Artificial **Neural Network**) and scientific theorem (IF-Then Statements, Logics). Artificial neural networks are composed of interconnecting artificial neurons. Examples of AI include Google Now, Siri and Cortana are all intelligent digital personal assistants on various platforms (iOS, Android, and Windows Mobile). In short, they help find useful information when we ask for it using our voice. In the beginning, Computer Chess was called the **Drosophila of Artificial Intelligence**. Computer Chess uses the likely most human intelligence in its gaming programming. In disagreement in the 80s, Peter W. Frey concluded, that the AI community should follow computer chess methods rather than the other way round. AI System Beats Human Chess master, REALLY AMAZING.

Review of Literature: According to S.A. OKE, UNIVERSITY OF LAGOS, NIGERIA, on a very broad account the areas of AI are classified into 16 categories (Becker et al. (2000), Singer et al. (2000), Chen and Van Beek (2001), Hong and Stone et al. (2001)). These are reasoning, programming, artificial life, belief revision, data mining, distributed AI, ES, genetic algorithms, systems, knowledge representation, machine learning, natural language understanding, neural networks, theorem proving, constraint satisfaction, and theory of computation.

Result and discussion: From the given figure, we can notice an exponential rise in AI systems being developed by startups.

Startups Developing AI Systems

YEAR	2014	2015	2016	2017	2018	2019
ACTIVE STARTUPS	315	380	430	500	670	850

Figure 1: Boom in AI related active Startups (Fact Figures Observed)

Experimental: Research done through various secondary sources to know the increased demand of AI.

Conclusion: We can conclude that demand for ACTIVE STARTUPS IN AI is increasing at an effective rate i.e., 850 startups in 2019.

References: All secondary sources: www.forbes.com, www.study.com



Sustainable development study in Image Pattern Recognition through “Fuzzy logic and soft computing approach”

Ms. Bhavana Sangamnerkar

Asst. Professor, St. Paul Institute of Professional Studies, Indore

ABSTRACT:

Soft Computing is a developing field that involves complementary elements of fuzzy logic, neural computing and evolutionary computation. There are various possibilities for development of fuzzy logic-based image pattern recognition. One method is to describe a membership function demonstrating the degree of edginess in each neighborhood. This membership function is determined heuristically, which is fast in nature. Another approach used here is soft computing approach.

Keywords: Soft Computing, Fuzzy-logic, Image-recognition, Pattern recognition.

INTRODUCTION: Image Pattern Recognition is a challenging task in computer vision systems. Human wares can distinguish a multitude of an objects in images with little effort, in spite of the image of the objects may differ somewhat in unlike viewpoints, in many sizes / scales or they may look dissimilar even when they are interpreted or rotated. In order to recognize objects in images, in computer vision, a digital image is divided into multiple segments (sets of pixels). Image segmentation is mostly used to trace objects and boundaries in images. Precisely, image segmentation is a procedure of naming a label to every pixel in an image such that pixels with the same label share certain special (may be visual) characteristics. Segmentation streamlines and/or changes the representation of an image into something that is more eloquent and easier to analyze. Segmentation subdivides an image into its constituent areas or objects. Special or say, considerable care needs to be taken to improve the probability of accurate segmentation as it eventually determines the success or failure of the computerized analysis procedures.

The fuzzy sets used for homogeneity inference.

PROPOSED SYSTEM: Several image segmentation techniques have been defined so far. Edge detection is one of the image pattern recognition techniques. It itself is a key research work in image processing, image analysis, Object detection and recognition, and computer vision techniques. In the present technological development time, the application of edge detection is widely used in different fields. It is also widely used in the area of biomedical image segmentation. Edge detection is a segmentation method based on detecting sharp, local changes in intensity of an image. Edge is one of the most indispensable features of an image.

These are the pixels at which the intensity of an image function changes in abrupt manner and also edges are sets of connected edge pixels. According to three edge profiles exist -step, ramp and roof edge. There are different edge detection methods. In this paper we have proposed a fuzzy rule based soft computing approach for edge detection.

PROPOSED ALGORITHM

We have proposed an efficient algorithm for edge detection using simple mathematical approach. This proposed method depends on masking operation. A 5×5 mask centered at pixel $f(i, j)$ is defined as shown in given below:

$f(i-2, j-2)$	$f(i-2, j-1)$	$f(i-2, j)$	$f(i-2, j+1)$	$f(i-2, j+2)$
$f(i-1, j-2)$	$f(i-1, j-1)$	$f(i-1, j)$	$f(i-1, j+1)$	$f(i-1, j+2)$
$f(i, j-2)$	$f(i, j-1)$	$f(i, j)$	$f(i, j+1)$	$f(i, j+2)$
$f(i+1, j-2)$	$f(i+1, j-1)$	$f(i+1, j)$	$f(i+1, j+1)$	$f(i+1, j+2)$
$f(i+2, j-2)$	$f(i+2, j-1)$	$f(i+2, j)$	$f(i+2, j+1)$	$f(i+2, j+2)$

In this process, using neighboring boundary pixel determines the all edge pixels for edge detection of the image. We considered only 8 bit gray scale image in any arbitrary dimension.

Algorithm:

- Step1. Consider a gray scale image $f(M, N)$.
- Step2. For each pixel $f(i, j)$ of the image $f(M, N)$, let us do some findings
 - Step2.1 Find the 5×5 mask centering $f(i, j)$
 - Step2.2 Find $s = \text{sum of intensities of all the pixels of the mask except } f(i, j)$
 - Step2.3 Calculate $\text{avg} = s/24$
 - Step2.4 Set $p=0$ and for each pixel in that 5×5 mask except the center pixel Increase p by 1 if the pixel has a difference of intensity with (i, j) th pixel less than or equal to 15.
 - Step2.5 if $\text{abs}(f(i, j) - \text{avg}) \leq 120$ & $p \geq 9$ then $f(i, j) = 255$; $f(i, j) = 0$; Otherwise $(j+2)$

Various evaluation techniques of edge map have been established. Comparison of an edge map, obtained by a detector of edges, with its ground truth can be achieved through a set of direct measurements, such as the number of correctly detected edge pixels, called true positive (TP), the number of pixels erroneously classified as edge pixels, called false positive (FP), the amount of edge pixels that were not classified as edge pixel, called false negative (FN). From these measures, the various statistical indices have been proposed.

RESULT AND DISCUSSION:

In this paper the proposed method for detecting edges of digital images using fuzzy logic is developed. Fuzzy logic is a form of Artificial intelligence and widely used means in image processing since it gives very competent result. In the present work a Fuzzy Inference System (FIS) is designed in MATLAB. A fuzzy rule-based technique is established for detection of edges without using a threshold value. A smallest possible window of pixels, is used as a scanning mask. The mask slides over the whole image on each and every picture and highlights the edge pixels. The fuzzy rule base comprising of 10 rules that are capable of detecting the edges in whole image. The rule base identifiers recognize those pixels, which are belonging to “Edge” set. The results obtained by applying this method are equated with that of the Sobel algorithm, the standard edge detection method. The results are found to be very significant, accurate and correct. The projected algorithm has been applied to well-known natural images such as Lena, MRI and peppers etc.

CONCLUSIONS: A innovative approach to image processing utilizing edge detection and reduced the noise within images has been introduced within this paper. This approach gives an improved result than the traditional edge detection techniques. In the upcoming era, this technique will be applied in colour images.

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Teacher's Quality of Work Life and Job Commitment in Higher Education

Damyanti Sodha and Supriya Singhal

Assistant Professor at Kanodia PG College, Jaipur

Abstract

Committed teachers instill in students the required values, attitudes and behaviours and prepare the future citizens of any nation. Students learn more rapidly from the “invisible” curriculum i.e. the lives of teachers, principals and institutions than from the “visible” curriculum. Teachers are the main determinants of quality education and if they are apathetic, unmotivated, non-committed, immoral and antisocial then expected positive learning outcomes may not be achieved. This paper seeks to find the relationship between teacher’s quality of work life and job commitment.

Keywords: Committed, teachers, work life, commitment

Introduction

Committed teachers serve as a model of values, attitudes and behaviours to students and others. More dependable and psychologically participative behaviour on the part of teachers on one hand, and educational outcomes and the students’ intellectual and personality development on the other depend largely on the commitment of the teachers (Mohan Raju & Srivastava, 1994) (14). Students learn more rapidly from the “invisible” curriculum – the lives of teachers, principals and institutions – than from the “visible” curriculum (Adishesaih, 1988) (1). Research has found a strong relationship between teacher commitment & motivation and students’ achievements. Teachers are the main determinants of quality education and if they are apathetic, unmotivated, non-committed, immoral and antisocial then expected positive learning outcomes may not be achieved. Non-committed and de-motivated teachers are general unprofessional in their behavior and are characterized absenteeism, underutilization of class time, professional misconduct, reliance on traditional teaching practices, poor preparation and involvement in secondary income-generating activities that distract them from teaching duties (Bernell, 2004; Guajardo, 2011) (2,8).

This explores quality of work life as a research construct that may point to the characteristics of teachers' work that contribute most to their commitment to work. Measures of quality of work life are examined, along with the relationship between the quality of work life variables and measures of teachers' commitment.

Results and Discussion:

Quality of Work Life Aspects/ Components/ Dimensions:

S. No.	Author	Quality of Work Life Components
1.	Huang, Lawler and Lei (2007) (9)	<ul style="list-style-type: none">• Work-life balance;• Job characteristics;• Supervisory behavior; and• Compensation and benefits
2.	Lewis et al. (2007) (12)	<ul style="list-style-type: none">• Pay• Benefits• Supervisory Style
3.	Saklani (2004) (17)	<ul style="list-style-type: none">• Job Security• Job Stress
4.	Gilbert, Jacqueline A., and John M. Ivancevich (2001) (6)	<ul style="list-style-type: none">• Management and supervisory style,• Satisfactory physical surroundings,• Job safety,• Satisfactory working hours, and• Meaningful tasks
5.	Wyatt & Wah (2001) (20)	Nature of the job, Stimulating opportunities and Co-workers
6.	Gnanayudam and Dharmasiri (2007) (7)	<ul style="list-style-type: none">• Worker's point of belongingness to a group,• A sense of becoming oneself, and• A feeling of being worthy and respectable.
7.	Padala and Suryanarayana (2010) (16)	<ul style="list-style-type: none">• Physical working conditions,• Employees' welfare,• Employee assistance,• Job factors, and• Financial factors
8.	Straw and Heckscher (1983) (18)	<ul style="list-style-type: none">• Job security,• Better reward systems,• Higher pay,

		<ul style="list-style-type: none"> • Opportunity for growth, and • Participative groups
9.	Walton (1974) (19)	Adequate and fair compensation; Safe and healthy environment; Development of human capacities; Growth Security; Social integrative constitutionalism; The entire life space and Social relevance
10.	Brooks and Anderson (2005) (3)	<ul style="list-style-type: none"> • Work life/home life dimension, • Work design dimension, • Work context dimension and • Work world dimension

Teacher's Commitment and Impact:

S. No.	Author	Impact of Teacher Commitment
1.	Mohan Raju & Srivastava (1994) (14)	Committed teachers serve as a model of values, attitudes and behaviours to students and others.
2.	Bennell, P. (2004) (2)	If teachers are apathetic, unmotivated, non-committed, immoral and antisocial then expected positive learning outcomes may not be achieved.
3.	Guajardo (2011) (8)	Non-committed and de-motivated teachers are general unprofessional in their behavior and are characterized absenteeism, underutilization of class time, professional misconduct, reliance on traditional teaching practices, poor preparation and involvement in secondary income-generating activities that distract them from teaching duties.
4.	Adiseshaih, M. S. (1988) (1)	Students learn more rapidly from the “invisible” curriculum – the lives of teachers, principals and institutions – than from the “visible” curriculum.
5.	Kushman (1992) (10)	Commitment is important for teachers because it reflects

		a personal interpretation of work experience as absorbing and meaningful.
6.	Leithwood, K., Menzies, T., Jantzi, D., & Leithwood, J. (1996) (11)	Commitment is: "a psychological state identifying the objects a person identifies with or desires to be involved with".
7.	Lodahl & Kejner (1965) (13)	Professional Commitment is "the degree to which a person's work performance affects his self-esteem".
8.	Evers (1990) (4)	Teachers' successful participation in decision-making could be explained by the feeling of ownership that comes from initiating ideas rather than responding to others' proposals.
9.	Gaziel and Weiss (1990) (5)	Teachers' participation, based on establishing a strong voice in decisions and policies, was a characteristic of "professional orientation", and fostered better working relations among staff members
10.	Mowday, Steers and Porter (1979) (15)	Organizational commitment, "the relative strength of an individual's identification with and involvement in a particular organization".

Conclusion

The management needs to ensure more congruence between educational agendas set by the college and teachers' teaching and provide more opportunities to develop teaching skills.

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A Study of Object based Image Analysis on Digital Ground

Dr. Madhu Sharma¹, Ms. Cmaune Sharma²

¹*Assistant Professor, St. Xavier's College, Jaipur*

²*Student, ECE Branch, SKIT Engineering College, Jaipur*

Abstract:

Today's world is rapidly filling with the data in digital format, where the images too are spilling out from the gadgets and systems. Now, things can't be imagined without the existence of images. Images are the prime entities in the concept of Big data, which is buzzing out the entire world. In this paper, an improved method of image analysis, i.e. an Object based Image Analysis and the algorithms involved on digital platform are explored. The application of the techniques is studied on different platforms and compared with the traditional pixel based methods.

Keywords: Image, Big Data, Analysis, Object based image analysis, pixel based method.

Introduction:

Objective of analyzing an image is to extract the meaningful and concerned data embedded within it. A schematic and systematic approach is followed to analyze an image as per the type of information needed. There are numerous ways and application software available for it, but the suitability of the method depends upon various parameters like the type of information needed, level of accuracy, cost, time etc. Almost all image analysis techniques are influenced and inspired by the human visual system, as there is no comparison of human eyes in recognizing the elements of an image, but still at some places, automated analysis methods are needed to perform some specialized tasks without any human intervention. Tasks like - 2D and 3D object recognition, image segmentation, motion detection e.g. Single particle tracking, video tracking, optical flow, medical scan analysis, automatic number plate recognition are done through automated image analysis tools. Numerous applications have been developed for automated image analysis, but they may differ by their range and their specialization [1][2].

In this paper, an Object-based image analysis (OBIA) approach has been studied and compared with pixel based methods on the basis of few applications in different areas. OBIA approach involves the extraction of the thematic classes in an image on the basis of recognition of contiguous cluster of pixels known as objects. In OBIA, firstly, segmentation of the image into homogenous clusters or objects is done. Then, these objects are then classified on the basis of one or more statistical properties of the contained pixels [2][3][4].

Results and Discussion:

It has been found through study, that in case of traditional pixel-based image classification, the image is classified on the basis of individual pixel property, which may sometimes takes away from its cluster and hence provides less accuracy in the output. Also, all pixels are of same size, same shape and no correlation with the neighbors is measured. Whereas, OBIA segments an image grouping small pixels together into vector objects. Instead of a per-pixel basis, segmentation automatically digitizes the image and provides output [2][5][6].

Conclusion: During study, it has been identified that, few of the parameters are dependent on resolution of the image and the type of information to be extracted. But, due to more accuracy in output, the usage of OBIA, i.e., image segmentation algorithm for data extraction is increased in current scenario.

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Economic Slowdown in Indian Economy– Challenges and Measures

Dr. Rajkumar Thathera

Head, Deptt. of Commerce, Govt. Dungar College, Bikaner (Raj.)

Abstract

The Indian economy was in distress at the brink of the country's independence. Being a colony, she was fulfilling the development needs not of herself, but of a foreign land. The state, that should have been responsible for breakthroughs in agricultural and industry, refused to play even a minor role in the regard. On the other hand, during the half century before Indian's independence, the world was seeking accelerated development and expansion in agriculture and industry on the behest of an active role being played by the states. Therefore once India become independent, systematic organization of the economy was a real challenge for the government of that time. Many important and strategic decisions were taken by 1956, which are still shaping India's economic journey. Although the Indian economy still exhibits some features of an under developed economy, it has registered a not too in significant increase in the national income and per capita income during the period of economic planning. In fact, as noted earlier, it was the second fastest growing economy in the world after China during some of the recent years. Today India is ranked the seventh largest economy, and third largest in term of Purchasing Power Parity (PPP). The Indian economy's GDP is pegged at 2.9 Trillion Dollar. At a press conference, Finance Minister **Arun Jaitley** commented, "We keep oscillating between the fifth and sixth largest economy, depending on the dollar rate, as we look at the years ahead we will be 5 trillion dollar by 2024 and 10 trillion dollar by 2030 or 2031.

Last some months Indian Economy is facing economic slowdown. Official GDP data released on August 30, 2019. April-June quarter slumped to a low of 5 percent on weak consumer demand. State Bank of India (SBI) Chairman Rajnish Kumar told several business dailies that the next two month will be critical in term of reviving the economy.

The Union Information and Broadcasting Minister **Prakash Javadekar** said, "The world economy has been facing slowdown and India is behaving accordingly, He also told economic slowdown "temporary" Modi Govt. taking key steps to create jobs, boost investment.

Many economists feels that strong policy reforms are needed to tackle the slowdown. Govt. should immediately focus on boosting investments. Govt. is likely to closely monitor sales during the festive seasons.

Thus the main aim of present this paper to analyze the causes of economic slowdown, big economic challenges for Modi Govt. and what steps should to be taken for revival of economy.

Keywords: Economic slowdown, GDP, Challenges, Revival



Cloud Computing Based E-Learning: An Overview

Jayanti Goyal¹, Prof. (Dr.) Ripu Ranjan Sinha²

¹Research Scholar, RTU Kota

²Professor, S.S. Jain Subodh PG College Jaipur

Abstract

In the present day situation of the education system, it's troublesome for academic establishments to supply quality education to the scholars. The quantity of accelerating infrastructure & facilities area unit still not creating abundant progress thanks to the centralized approach however with the utilization of data technology, the issues two-faced by the scholars and also the academic institutes may be resolved. E-Learning may be a topic associated with virtualized distance learning victimization transmission mechanisms, specifically by the web.

They are supported the utilization of approaches with various practicality (e-mail, Web pages, forums, learning platforms, so on) as a support of the method of teaching-learning. The Cloud Computing surroundings rises as a natural platform to supply support to e-Learning systems. Cloud computing technologies though in their early stages, have managed to alter the manner applications area unit attending to be developed and accessed. These technologies area unit geared toward running applications as services.

In this contribution, we have a tendency to provide an outline of this state of the structure of Cloud Computing for applications on e-learning. We offer details of the foremost common infrastructures that are developed for such a system Cloud computing is wide utilized in several fields thanks to its additional blessings the services provided by cloud computing will add sensible impact to academic institutes by reducing the value of infrastructure compared to the current operating system. This paper will focus on and overview about cloud computing and can be used for construction a computer-generated environment both for teaching and learning. The environment and the design proposed can also be used as a platform for exploring and sharing new ideas as well as for designing, modifying and monitoring educational or course

contents. It also provides integration of different pedagogical approaches to both learning and teaching.

Keywords: Cloud Computing, VLE's, Web 2.0, E-learning, distributed system

Introduction:

Cloud computing refers to applications and services that run on a distributed network use virtualized resources and accessed by common web protocols and networking standards. It is distinguished by the notion that resources area unit virtual and limitless which details of the physical systems on that package runs area unit abstracted from the user. Cloud computing takes the technology, services, and applications that area unit just like those on the web and turns them into a self-service utility. Cloud computing abstracts the small print of system implementation from users and developers. Systems and storage may be provisioned as required from a centralized infrastructure, prices area unit assessed on a metered basis, multi-tenancy is enabled and resources area unit scalable with agility.

Several resource suppliers (Amazon, Google, IBM, Microsoft, and Sun Microsystems) have started establishing new information Centre's to host cloud computing applications.

Cloud computing technologies permit the tutorial establishments to induce access to computing on demand, particularly people who don't have the technical experience to support their infrastructure. Cloud computing makes it attainable for nearly anyone to deploy tools that may scale on-demand to function several users as desired. Customers will access the service anytime, anywhere, share information and collaborate additional simply and keep their information hold on safely within the infrastructure. To the end-users the cloud is invisible therefore the technology that supports the applications doesn't come to them.

Cloud Models

Deployment models: A Deployment model defines the aim of the cloud and also the nature of however the cloud is found, the authority definition for the deployment models is as follows

- **Public cloud:** the general public cloud infrastructure is accessible for public use instead for an outsized business cluster and is closely-held by a corporation mercantilism cloud services.
- **Personal cloud:** The personal cloud infrastructure is operated for the exclusive use of a corporation.
- **Hybrid cloud:** A hybrid cloud combines multiple clouds (private, a community of public) wherever those clouds retain their distinctive identities however area unit certain along as a unit.

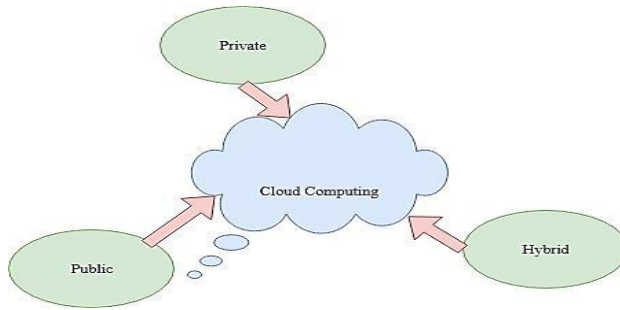


Fig. 1

Service models: 3 service sorts are universally accepted.

- Infrastructure as a Service: IaaS provides virtual machines, computer memory, virtual infrastructure, and alternative hardware assets as resources that purchasers will provision.
- Platform as a Service: PaaS provides virtual machines, operational systems, applications, services, development frameworks, transactions, and management structures. The consumer will deploy its applications within the cloud infrastructure or use an application that were programmed languages and tools that area unit supported by the PaaS service supplier.
- Software as a Service: SaaS may be some complete operational surroundings with applications, management, and also the interface. Within the SaaS model, the appliance is provided to the consumer through a skinny consumer interface (a browser, usually), and also the customer's responsibility begins and ends with coming into and managing its information and user interaction.

E-learning and its Various Platforms:

There area numerous units e-learning solutions from open supply to business. Usually, e-learning systems area unit developed as distributed applications, however this is often not essentially thus the design of a distributed e-learning system includes package parts, just like the consumer application. The consumer hardware can be a mobile device or a PC. The consumer application may be an easy application program or an obsessive application. Even with this hardware and package limitations, mobile devices area unit supporting multimedia-based applications. Compared with desktop applications, these days mobile applications, particularly multimedia-based applications, have serious limitations thanks to the process power and memory constraints.

Area unit the specialists within the field for the particular course that they're developing. These tools additionally facilitate instructors to speak and manage students within the category. Web 2.0 technologies offer a learning surroundings that has the potential to alter the character and scope of learning and teaching, through the creation of learner controlled learning net.

Cloud Computing for E-Learning Tasks:

As we have a tendency to explicit within the introduction of this work, with the large growth of the quantity of scholars, education contents, services that may be offered and resources created offered, e-Learning system dimensions grow with exponential rate. The challenges relating to this subject regarding optimizing resource computation storage and communication needs and coping with dynamic concurrency requests highlight the requirement of the utilization of a platform that meets scalable demands and price management. These surroundings are Cloud Computing.

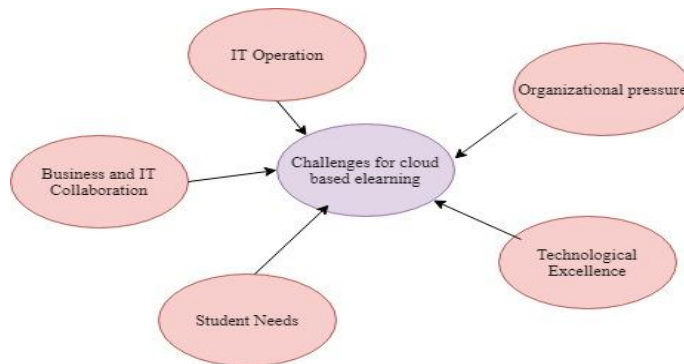


Fig. 3

The main players within the field of cloud computing area unit Google, Microsoft, Amazon, Yahoo and a few hardware vendors like IBM and Intel.

Conclusions: As cloud computing is rising technology which might be used by a standard hand-held device it's helpful to lower the value of the infrastructure. AMAZON, GOOGLE, Microsoft, ORACLE all giants' area unit getting ready to supply the approach with the rationale for choosing the cloud. In spite of storing the digital contents into one place, cloud supports the storage in an exceedingly distributed manner therefore the access becomes synchronal. Cloud computing helps to build future generation of platform-independent tools. It can also support scalable information storage e-learning systems for providing good formal further as informal learning. This technique combines a variety of services, in cloud computing, to make an easy and interactive tool for education. In this work we've exposed the most parts of

e-Learning, specializing in the flexibleness, convenience, simple accessibility, consistency and repeatability of this type of systems. Finally, we've enumerated many approaches that are already planned for addressing e-Learning on Cloud Computing, describing these models and the way they profit of this surroundings to reinforce the options of the tutorial system. However, we can say that these area units simply initial steps towards open line for analysis of e-learning and cloud computing platforms.

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Environmental Accounting Disclosures and Financial Performance in India

Dr. Ankita Chaturvedi¹ and Dr Aditi R Khandelwal²

¹Associate Professor, Dept of Accounting and Taxation, IIS (deemed to be University), Jaipur

²Sr. Assistant Professor, Dept of Business Studies, IIS (deemed to be University), Jaipur

Abstract

Environmental accounting involves the identification, measurement and allocation of environmental costs, and the integration of these costs into business and comprehends the way of communicating such information to the companies' stakeholders. It aims at achieving sustainable development, upholding a favourable relationship with the community, and following effective and efficient environmental conservation activities. The present study aims to investigate the effect of environmental accounting on financial performance among top 50 companies as per the market capitalization in year 2018-19. The required information was examined by content analysing the companies' annual report. The environmental index for environmental disclosure had been used as the measurement of independent variables of this study. Four indicators that act as the measurement of financial performance viz. Return on Assets (ROA), Earnings per Share (EPS), Return on Equity (ROE) and profit margin are being used for the dependent variable of the study.

Keywords: Environmental Accounting, Financial Performance, Return on Asset, Return on Equity, Earnings per Share (EPS), Net Profit Margin



Scope of Cloud Computing to Handle Big Data: Opportunities and Challenges

Dr. Sonal Bordia Jain¹, Ms. Vandana Nigam²

^{1,2} Assistant Professor, S.S. Jain Subodh P.G College, Jaipur, India

ABSTRACT:

In today's scenario two main technologies are the center of concern in the field of IT – Big Data and Cloud Computing. Cloud computing has very convenient for users and it has even

helped many business organizations in the real saving of the money. It is a preferred choice to go for Big Data as it provides virtual services which are considered as safe and reliable than other available techniques. Big data and Cloud Computing are collectively used for business growth, decision making, data processing and virtual environment. Basically, Big data is all about dealing with the huge amount of data whereas Cloud computing is about infrastructure. Now days, the simplification offered by Big data and Cloud technology is the main reason for their huge adoption in the enterprises. This paper puts light on benefits and challenges of Cloud computing used in handling of big data.

Keywords: Big Data, Cloud Computing, Cloud Model, Security

INTRODUCTION:

Cloud Computing and Big data are two most popular and emerging techniques that enters in the mainstream of IT world in recent years. These two technologies are coming together to deliver powerful results and benefits for businesses. Cloud computing is already revolutionizing the way IT services are provided by so called cloud companies and how businesses and users interact with IT resources. Big Data is a data analysis methodology that facilitates by recent advances in information and communications technology. However, data analysis requires a huge amount of computing resources making adoption costs of big data technology is not affordable for many small to medium enterprises.

RESULT AND DISCUSSION:

Cloud computing is a recent trend in IT used for internet-based computing. Cloud computing is a term that generally used for anything that involves delivering hosted services over the Internet. In present scenario, abundant data is produced by different devices and applications. It is very necessary to store and process this data at a faster rate in minimum time. Hence there are various techniques and methods that can be used to handle such data out is the specific domain. Such data is so large and complex that none of the traditional data management tools are able to store it or process it efficiently and data are no longer restricted to structured database records. Hence Big data analysis is very important as it helps in improving decision making, managing resources in an efficient way. Data from various sources shows that it is very necessary to manage such giant data because it would capture a very big market share in near future.

There are multiple benefits of Big data analysis in Cloud like Improved Analysis, Simplified Infrastructure, Lowering the Cost, Security and Privacy, Virtualization. Combination of cloud and big data techniques provide several benefits but despite all of the advantages, there are some challenges and risks like Security, Proper Integration, and Location of Big Data. These

are also challenges that should be taken into consideration while deploying the Big Data to a cloud system environment.

CONCLUSION:

Cloud Computing and Big Data are two recent IT techniques that in combination provide a number of opportunities for business and IT environment. Apart from benefits it is not free from limitations. If it is possible to overcome various challenges, integration of cloud and big data integration provides more practical answer instead of investing countless money in creating an environment suitable to operate the large amount of processing required as well as accommodate terabytes of data. Proper planning is needed to exploit the benefits of cloud with big data.

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Innovation and Economic Growth of India

Dr. Anupama Goyal

Assistant Professor Botany, School of Life and Basic Sciences, SIILAS Campus, Jaipur National University, Jaipur

Abstract

Innovation is often seen as one of a driving force for a sustainable long term economic growth of any country. Indian economy is one of the fastest growing economies in this modern globalization world. Economy is one of the fastest growing economies in this modern globalization world. Indian economy is enjoying the average economic growth of 7% from last two decades, but is this economic growth sustainable or only some short-term phenomena

because of increasing consumer market, and increasing information sector phenomena because of increasing consumer market, and increasing information sector. To achieve long-or. To achieve long-term growth Innovation is very important. The purpose of this paper is to discover the role of innovation in the economic growth of India.

Keywords: Innovation sustainable, economic growth. Consumer market

Introduction

Innovation of new products or production processes is critical to a country's long-term economic growth and higher standard of living. Today developed countries spending on research and development is higher than the developing and underdeveloped countries. That's the one of the main driving force that makes developed countries more developed and leader countries, compare to the other countries those are the follower countries. To become a leader country, long term sustainable economic growth is one of the most desired goal for any country. A country can achieve this goal by increasing the output of the country. GDP is the measurement of a countries output in a given period of time usually it is one year. There is some controversy about GDP as a measurement of economic growth but still this paper recognizes that GDP is a measurement of the economic growth. In order to increase the GDP there are two ways: (1) by increasing the no. of inputs that we use into the production process. (2) By increasing the productivity of inputs. Productivity can be increased by innovating new products or by innovating new production processes.

Literature Review

The literature review highlights the importance and necessity of innovation for economic growth of a country. The Organization for Economic Cooperation and Development (OECD) emphasizes that long run economic growth depends on the creationand fostering of an environment that encourages innovation and application of new technologies. Innovative activity underpins economic productivity and growth. Countries that generate innovation, create new technologies, and encourage adoption of these new technologies grow faster than those that do not. (ATUN, R. A., HARVEY, I., & WILD, J., 2007). In modern thinking on economic growth, a central tenet is that growth is endogenously sustained by technological change unlike private goods; however, the use of innovation is non-rival and possibly nonexcludable, rendering it inherently susceptible to misappropriation. Thus, the incentive to innovate, and hence the rate of economic growth, depends on the extent to which innovators can reap the benefits from their creative efforts. An important institution that regulates the incentive to innovate is intellectual property (IP) rights. (Hu, A. G., & Png, I., 2013).

Results

According to the result as Indian economy will grow economic it will decrease the R&D Exp, it will decrease the education spending, it will decrease the FDI, and it will also decrease the no

of patent applications filed in India. This negative correlation raises the questions to the policy maker. These questions also open the door of future research in this field.

Experimental

This paper defines innovation that includes both production of innovative goods and services, and the innovative process .to study the variables in this study to understand the economic growth, GDP growth Rate, GDP per capita growth Rate, and for Innovation R&D Expenditure, Education Spending rate, and Patent applications variables have been used

Conclusion

Innovation is a key of a countries economic growth and allocating funds towards research and development and education can enhance long term sustainable economic growth of India. India can be a leader county instead of a follower country by increasing the innovation. To achieve this goal primary focus should be more education spending and R&D spending that will increase the productivity of India in future.

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A Parallel Approach for Join Query Optimization Problem in Distributed Database System

Ms. Anjali Soni

Research Scholar, Rajasthan Technical University, Kota

Abstract:

In the present scenario, distributed database systems are being employed in a broad range of applications. Almost every application dependent on data dispersed on various sites. For the response of any query generated by any application, efficient query optimization techniques are desirable. In query optimization, a cost is associated with each query execution plan. In distributed

environment, cost refers to the local cost (I/O Cost and CPU Cost) and the cost for transferring the data between remote sites. Many factors affect the performance of query optimizers. Researchers are still implementing methods to retrieve the data in minimal time. As the cost is dependent on transferring of data on various sites, minimizing the amount of data transmission is also important. In this paper an efficient parallel implementation of query optimization algorithm is proposed. The method can quickly and efficiently find an effective way to greatly improve the speed of query and reduce the overall cost of the query. This algorithm involve database processing and querying over distributed systems in parallel. This approach proposes to apply Ant Colony optimization method at sites that have the participating relations, in parallel. Various Ant colonies works on individual sites produces local best result, which later on merged with the solution of other sites. As this algorithm works in parallel, result is calculated on each site simultaneously. Result produces all various site are combined to achieve the final result. The objective of this paper is to define an efficient approach to achieve parallelism on data dispersed on various sites in distributed database. This technique offers a solution to the problem of minimizing the response time of input queries.

Keywords: data transmission, cost reduction, parallelism

Introduction

Data is an important factor and a key entity to make important decisions concerned with any query in any organization or even in a small business concern. Database is maintained by the use of database management system for an easier and efficient availability and effective security of data. Now a days, sharing of data has become an essential requirement so the concept of distributed database is widely adopted over centralized database. The distributed database acts as an intermediate between various database sites (server) and the computers in the network. It plays an important role in storage and retrieval of data distributed over the network. Queries are the key for accessing the data dispersed over various sites. Whenever a query is submitted to the server, query optimizers always give the result of query in minimum time. A lot of research work is being going on for finding out the major factors affecting cost to enhance the performance of distributed database. The most noticeable query in query optimization are SPJ queries. The systems, which are already working on distributed databases, are sufficient for lesser number of joins in a query i.e. for the join ranges below fifteen. Current optimizers are giving the best optimal solution for lesser number of joins but as the queries are getting more complex, number of joins in specific queries is also increasing. For the increased number of joins in a single query, an efficient method is required for finding out the join order, which will result in an optimal solution. Many Researchers are working on this problem for finding out the optimal solution. Swarm optimization techniques such as ACO, ABC etc are among those algorithms that are widely used to minimize the cost. Even though these algorithms are giving better solutions but these algorithms work in sequential manner i.e. all the options for join order being tested one by one. If the same algorithm works in parallel by working on all the options simultaneously by the same algorithm, the result may be achieved in

comparatively lesser time. So after reviewing papers, a new method of multi colony ant optimization algorithm is being suggested for optimizing join queries in distributed environment which is expected to give the result in minimum time. A method Multi Colony Ant Optimization is a variation of ACO where several colonies try to simultaneously solve the problem. This algorithm applies ACO on a set of sub-problems in parallel. So it may be used for finding out the best join order from all available options by the use of multiple ant colonies, thus gives out the solution in considerably lesser time.

Previous Work

In the continuation of previous work, papers relevant to the current problem are reviewed. In MACS-VRPTW, an Ant Colony Optimization based approach is used to solve vehicle routing problems in which the first colony minimizes the number of vehicles while the second colony minimizes the travelled distances. Cooperation between colonies is performed by exchanging information through pheromone updating. [1] A dynamic data reallocation model for replicated and non-replicated DDBS is proposed for given fragments. The cost is reevaluated first for re-allocating fragment to the network site. Migration decision is made by selecting the site that has the highest query update cost for concerned fragment. [2]. In this paper, hybrid ant colony optimization (HAntCO) approach is used in solving multi-skill resource-constrained project scheduling problem (MS-RCPSP). A hybrid approach links classical heuristic priority rules for project scheduling with ant colony optimization (ACO)[3]. The transmission of data increases the communication cost. Therefore, the optimizer must consider efficient order in which tables are joined in such a way that communication overhead has cut down. There is a problem of finding an efficient join order for a query because query Optimizer has to examine number of existing substitutions queries. One tries to optimize the ordering of join directly whereas another replaces join by combinations of semi joins in order to minimize communication cost [4] in which challenges with distributed database environment has been discussed and its basic steps has been studied. A review of some proposed system has been done to analyze the query optimization in distributed database system.

As the dynamic programming and greedy approach could not provide efficient query execution plan, the latest approach for query optimization has been proposed for relational database based on ant colony algorithm. An ant colony algorithm is an efficient algorithm to find out the shortest path. A better execution time has been achieved through this approach. The same idea of ant colony can also be applied to distributed database system to achieve a better execution plan [5]

Proposed Parallel Algorithm

To implement parallelism in ACO, the Multi Colony ant Optimization algorithm is proposed, which works on sub-problems in parallel. In Multi Colony Ant Optimization Algorithm, several colonies are created at first and find out the optimal solutions locally at each site. Successful colonies transfer the information to the other colonies and update pheromone values until it reaches the optimum

solution. The solution is then sent to the site where the query was generated and MCAO is again applied to find out the best optimum solution. The algorithm maintains several colonies, which has same number of ants, iteration and it uses the same heuristic function. The basic MCAO has already discussed in section 3.4.

In the MCAO algorithm, the parameter values are exchanged between multiple colonies of a site. In the proposed algorithm, the pheromone values are exchanged within sites to improve the quality of solutions produced by different sites. It works on the principle of ACO in parallel, each site has multiple colonies of ants that share their pheromone information on each site and between sites. The Query Generating Site is the site where a query is received initially. The Global Query Optimizer at that site distributes the query to different sites. At each site, multiple colonies of ants (In this Proposed plan, the number of colonies is set to four) find the optimal join order and exchange the pheromone values to obtain better solutions. After generating an optimal join order at each site, local optimal solutions are then sent back to Query Generating Site where again multiple colonies can find the optimal join order. The pheromone values of best colonies that generate the optimal join order are also exchanged between different sites to achieve the global optimal solution.

Conclusion

This paper initially exhibits the reason for the selection of the Multi Colony Ant Optimization Algorithm for finding the join order in a query optimization problem in Distributed Databases. Initially, the importance of query optimization in Distributed Databases is explained. A review work on MCAOs is then given to show the importance of MCAO for the above problem. An improved MCAO is suggested for finding the optimal solution then a detailed strategy is described to show the overall working of the algorithm. With the help of above described algorithm, join order can be found out in minimum time. In future MCAO can be utilized with other algorithm as a hybrid to find the join order.

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Role of Media in Sustainable Development in India

Dr. Nandani Sharma

Associate Professor, Poddar International College, Mansarovar, Jaipur

Abstract

“Innovation is an inexhaustible Engine for Economic Development”

Today sustainable development is the common goal of world countries. The goal of sustainable development is not confined to one locality or region or nation but it is for the entire globe. Media plays a very important role in developing sustainable development in the society. Sustainable development is development that meets the needs of the present without negotiating the ability of future generations to meet their own needs. The most innovative media is digital based media (basically based on binary system) is known as New Media. The Internet or the new media is the world's largest interconnected environment. It requires people to think globally and act locally. Since the early 90s, the conventional media played a remarkable role in creating awareness about the concept of sustainable development. This paper is intended to explore the extent of social media's contribution to sustainable development and how it is uniting likeminded people and driving them to take collective action.

Keywords: Sustainable Development, Media, Contribution.

Introduction

Digital Media (Internet) came into the light in 1990. New Media is a 21st Century catchall term used to define all that is related to the internet and the interplay between technology, images and sound. In fact, the definition of new media changes daily, and will continue to do so. New media evolves and morphs continuously. The forms of communicating in the digital world,

which is primarily online via the Internet, but also publishing on CDs and DVDs. It implies that the user obtains the material via desktop and laptop computers, smart phones and tablets. Each organization in the created world is engaged with new media. Appear differently in relation to old media. The idea that individuals with comparable interests gather on the web and offer, sell and swap data and merchandise. New media likewise enables everybody to have a voice in their locale and on the planet all in all. The Internet or the new media is the world's biggest interconnected condition.

It is the latest specialized apparatus of the reality where a client can rise above fringes and approach the reference books, papers, notice sheets, video arcades, hypermall, communicate stations, the motion pictures, grapevine, travel office, and mail request - all at one stop, in a worldwide town. With the approach of the New Media (Internet), the legislature is looked with the test of how it very well may be utilized to upgrade national improvement. The new media permits intuitiveness combined with the way that it is hard to be controlled and checked when contrasted with the customary or ordinary broad communications.

Objectives

- To analyse the different Media channels.
- To check the accuracy of information given in news, features, articles.
- To understand the role of Internet.

Statement of the Problem

There is so many media's channel used by people but the main problem that accurate, relevant, rapid and impartial information by people and media play important role in fulfilling those demand.

Review of Literature

Abstract

Feasible advancement is improvement that addresses the issues of the present without arranging the capacity of future ages to address their own issues. The idea of supportable advancement can be interpreted from multiple points of view, however at its center is a way to deal with improvement that hopes to adjust extraordinary, and regularly fighting, needs against an attention to the natural, social and monetary impediments we face as a general public. India makes up 2.4% of the world's territory, while supporting 16% of the total populace. As of now, India is confronting fast and broad ecological debasement at disturbing rates. Fumble and abuse of India's once bounteous woodlands has brought about desertification, defilement, and soil consumption all through the sub-landmass. This has genuine repercussions for the vocations of

a huge number of Indians that live off the land. Manageable development and advancement, Green development, Human improvement, Social insurance Urbanization, Land changes, open area organizations, Center-State co-activity, Federal Republic of India and Regional co-activity. For the summarize these difficulties, media assumes a fundamental job particularly the new media since it inclining the adolescent in an extremely energetic way.

India had approx. 80,000,000 Internet clients (not supporters) in 2011 contrasted with 5,000,000 at the turn of the only remaining century. The ongoing improvements can be referred to at the sites like planningcommission.nic.in, echoupal.com, <http://agmarknet.nic.in> and so forth. Presently in this paper we are going to observationally affirm the patterns and situation of the supportable improvement in India on new media. (Dr. Dilip Kumar¹, Priyanka Tyagi²)

Keywords: Sustainable Development, Human development, Social protection, Urbanization, New Media.

Abstract

Today practical advancement is the shared objective of world nations. Manageable advancement is an incorporated and comprehensive methodology that requires the cooperation of people, gatherings, associations, open and governments at individual, nearby, territorial, national and worldwide levels. The objective of practical advancement isn't kept to one area or district or country however it is for the whole globe. The advances in data and correspondence innovations have presented interceded correspondence which thusly empowered the relationship improvement procedure and spread the worry for reasonable advancement. The online life has empowered a person to speak with hundreds or even a great many other individuals thoughts, suppositions, items, administrations, and culture over the world. Web based life enable viral promoting of thoughts, occasions, and associations by empowering the fast sharing of data got from one contact to all others. In any case, this pattern has changed with the rise of online networking which spread reasonable advancement ideas through friend learning. This paper is expected to investigate the degree of internet based life's commitment to economical advancement and how it is joining likeminded individuals and driving them to make aggregate move. (1 Prof. B. Balaswamy 2 Ramesh Palvai)

Keywords: Sustainable development, social media, environment, common concerns, traditional media, Climate of opinion and participation.

Social Media

Social media is a platform for people to discuss their issues and opinions. Social media are computer tools that allow people to share or exchange information's, ideas, images, videos and

even more with each other through a particular network. Now a day's social media has been the important part of one's life from shopping to electronic mails, education and business tool.

Social media plays a vital role in transforming people's life styles. Social media has revolutionized the way we view ourselves, the way we see others and the way we interact with the world around us.

The Paradigm Shift: Sustainable Development

As referenced before, industrialization, urbanization and modernization were viewed as the primary courses for improvement; however they couldn't destroy the neediness, imbalance and different ills of the general public. In addition, attributable to the procedure of industrialization dependent on tremendous ventures of capital, abnormal state use of science and innovation, over the top helpful and extravagant way of life of prosperous individuals and populace blast some malicious impacts occurred on condition and society, for example, social and monetary disparities, wellbeing dangers, soil disintegration, desertification, corrosive downpours and contamination of climate. Today humankind faces colossal difficulties to its very presence because of the over misuse of characteristic assets, carbon emanations of non-renewable energy sources and the resulting warming of the earth atmosphere and harm to the ozone layer. The idea of supportable improvement is an endeavor to join developing worries about a scope of ecological issues with financial issues. The idea of economical improvement has involved a focal spot in each part of human life today. It is a multi-dimensional and multi-disciplinary idea covering practically all circles of human action. Practical advancement has turned into the worry of financial experts, biologists, chairmen, correspondence specialists, hippies, human rights activists, legal counselors, women's activists, researchers and NGOs.

Sustainable Development: Need for Evolving a new Life Style

As a trend is spreading in the west, in other parts of the world also there is a need to adopt a new life style i.e., productive, equitable and environment friendly. In the west a huge number of individuals have a place with different associations. The natural developments exist as one of the most significant social developments of the twentieth century. In India Mrs. Medha Phatkar, Mr. Sundarlal Bahuguna are referred to for initiating such ecological developments as Narmada Bachavo Andolon, Chipko development individually. In west, notwithstanding joining national associations, individual and family ways of life have changed including practices, for example, reusing aluminum jars, expanding visits to national stops and obtaining ecologically agreeable items. Producers have reacted by including green subjects. More bio-degradable, compostable and recyclable materials are consolidated in bundling to satisfy customer need. Neighbourhood clean-up projects appreciate wide interest in all sizes of networks. Each individual impacts and

is affected by the earth. An individual can contribute for the corruption or up-gradation of condition contingent on how one shape one's way of life.

Importance of Communication in Development

Improvement projects can possibly understand their maximum capacity if information and innovation are shared adequately, and if populaces are roused and resolved to make progress. Except if individuals themselves are the main impetus of their own advancement, no measure of speculation or arrangement of innovation and data sources will realize any enduring upgrades in their expectations for everyday comforts. Correspondence is vital to this assignment from multiple points of view. For instance, it empowers organizers, when distinguishing and figuring improvement programs, to counsel with individuals so as to consider their needs, mentalities and conventional information. Just with correspondence will the undertaking recipients become the central on-screen characters to make improvement programs effective. Helping individuals at all levels to impart enables them to perceive significant issues and discover normal justification for activity, and assembles a feeling of personality and interest so as to execute their choices.

Benefits of the New Media (Internet) for Development

The Internet offers various useful tools for communication, among which we might mention electronic mail, the World Wide Web, print media, remote access, file transfer and text-based and voiced-based chat. The net has become the most important source in the world because it connects so many people all around the word and also helpful for creating a productivity gain. Organizations use it as a communication sources through which they can easily communicate with employees, offices, to customers and suppliers. Friends and family use e-mail in replacement to snail mail, due to its speed and flexibility. To collect the various Information and knowledge of current trends is the second important function of Internet.

Limitations and Findings

The utilization of new media apparatuses has quite recently started in India during the most recent decade. The individuals who are saddling the innovation have been making true tests to take part in the advancement forms. It must be recognized here that these activities experience the ill effects of a few factors that hamper the endeavours for the inside and out improvement of the denied segments. Some of these factors are:

- Internet connectivity problems at some places
- Non-accessibility of continuous power to utilize the new innovation
- Less availability of trainers who can train people to use the technology

- Computer and Internet illiteracy
- Most of the contents available in English.

Suggestions

- Communication should be equally shared by all section of the society.
- Opening up of different mass media is necessary so that common people have easy access to them.
- Availability of information will open up new avenues of development.

Conclusion

The social media has enabled an individual to communicate with hundreds or even thousands of other people ideas, opinions, products, services, and culture across the world. While the sustainable development is an integrated and holistic approach that calls for the participation of individuals, groups, organizations, public and governments at individual, local, regional, national and global levels, social media can be helpful to achieve the goals set by sustainable development. Development programmes can only realise their full potential if knowledge and technology are shared effectively, and if populations are motivated and committed to achieve success. In order to achieve this, we need social media such as Facebook, YouTube, and Twitter may prove equally beneficial for environmental groups to access user mind space. Information and counseling services through interactive forums on websites, free direct call and interactive social networking will likely be more important in the future. In rural areas, full use of local and traditional institutions such as youth, religious and cultural, rotational and savings associations, neighborhood and working groups would all be helpful.



Effect of social networking on social commerce

Dr. Namita Pareek

Assistant Professor, MJRP University, Jaipur

Abstract

Social networking has provided new ways to consumers to engage in social interaction on the internet. Customer use social networking, to generate content and to network with other users. The study of social networking can also identify the advantages to be gained by business. This

paper enlightens the role of social networking in the development of e-commerce into social commerce. It shows how social media facilitate the social interaction of consumers, leading to increased trust and intention to buy.

Keywords: Social networking, E-commerce, Social ecommerce

Introduction

The internet in recent years have made new way to business: social networking. The internet has given individuals the opportunity to use social networking, from email and Face book, to interact with each other without the need for physical meetings. Social networking sites are an effective web technology for social interactions and sharing information. In addition, the networking of individuals through social networking platform provides to a positive impact on trust by their feedbacks and comments.

Review of literature

According to Mangold and Faulds (2009) social media enables firms to communicate with their customers and also allow customers to communicate with each other.

Researchers such as Castronovo and Huang (2012) emphasis that marketing strategies should involve social media not only because there is a growing internet usage among customer but also that consumer considers feedbacks shared on social media.

According to e marketer (2013) firms have increasingly adopting social media for various marketing activities.

According to Mangold and Faulds (2009), social media enables firms to communicate with their customers and also allows customers to communicate with each other. Communications between firms and their customers help build brand loyalty beyond traditional methods (Jackson, 2011; Kaplan & Haenlein, 2010), which concede to the promotion of products and services as well as the setting up of online communities of brand followers (Kaplan & Haenlein, 2010). Furthermore, conversations between customers provide firms with new means of increasing brand awareness, brand recognition, and brand recall (Gunelius, 2011).

Researchers such as Castronovo and Huang (2012) maintain that marketing strategies involving marketing intelligence, promotions, public relations, product and customer management, and marketing communications should begin exploring and leveraging social media, not only because there is a growing interest among consumers in Internet usage, but also due to the fact that consumers consider information shared on social media as more reliable than information issued directly by firms (Constantinides et al., 2010).

According to e Marketer (2013), firms have increasingly adopted social media for various marketing activities such as branding, market research, customer relationship management, service provision, and sale. According to Mangold and Faulds (2009), social media enables firms to communicate with their customers and also allows customers to communicate with each other. Communications between firms and their customers help build brand loyalty beyond traditional methods (Jackson, 2011; Kaplan & Haenlein, 2010), which concede to the promotion of products and services as well as the setting up of online communities of brand followers (Kaplan & Haenlein, 2010). Furthermore, conversations between customers provide firms with new means of increasing brand awareness, brand recognition, and brand recall (Gunelius, 2011). Researchers such as Castronovo and Huang (2012) maintain that marketing strategies involving marketing intelligence, promotions, public relations, product and customer management, and marketing communications should begin exploring and leveraging social media, not only because there is a growing interest among consumers in Internet usage, but also due to the fact that consumers consider information shared on social media as more reliable than information issued directly by firms (Constantinides et al., 2010). According to e-Marketer (2013), firms have increasingly adopted social media for various marketing activities such as branding, market research, customer relationship management, service provision, and sale

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Finding

Social networking is the use of dedicated websites to communicate with each other or to find people with similar interest. Social networking is the use of internet based social media sites to stay connected with friends, family etc.

Now a day's social networking not only social communication purposes but business purposes also there are various web sites for social networking such as face book, twitter, LinkedIn and instagram.

The buying and selling of goods and services through internet and the transfer of money and data to execute these transactions is known as ecommerce. That's why ecommerce also refers as internet commerce. Basically ecommerce is commercial transaction conducted online through online market. Some of the top online market places on the internet are Amazon, Ebay, Alibaba etc.

Social networking facilitate the ecommerce in two ways: social sites can facilitate a sale by directing shoppers to a merchant's ecommerce site, or they can allow users to buy something directly on the platform. In many cases, social networks such as Facebook, Instagram, Twitter, and Pinterest aren't used as ecommerce platforms. Rather, merchants use these sites to showcase their products. And when shoppers come across an item that they like on social, they are directed to the merchant's ecommerce site.

For instance, many sellers who demonstrate their products on Instagram use solutions such as like2buy to enable customers to purchase the items. Here's how it works: when a user sees a product that they like on their Instagram feed, they can click the merchant's Like2Buy link so they can view the item's product page.

Pinterest, for instance, has Buyable Pins that enable merchants to sell products featured on their Pinterest page. According to the site, "Buyable Pins have a blue price tag, which tells people your product is in stock and available for purchase. People can easily spot these Pins all over Pinterest—in search results, in related Pins and on your business profile."

Buyable Pins are currently available on Shopify, Big-Commerce, and Sales force Commerce Cloud. Speaking of Shopify, the ecommerce platform also offers a fully integrated Facebook store that allows shoppers to purchase products without having to leave the site. Shopify also has Messenger support, so customers can buy items and track their orders through chat.

Conclusion

After studying the ecommerce and social networking, I can conclude that recent developments on the internet and the social networking have facilitated the interconnectivity of consumers. Consumers can exchange their thoughts through social media such as online forums, communities, in form of ratings, reviews and recommendations. These new aspects of online market have introduced a new stream in e-commerce, called social commerce, which empowers consumers to generate content and influence others.

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Impact of Innovation on Economic Growth

Dr. Payal Goyal

Dept. BADM, S.S.Jain Subodh (Autonomus) P.G. College, Jaipur

Abstract

It is undeniable that the development of the economy over the past few decades has certainly brought great changes to everyone's life.

In the starting of the 21st century, crucial changes are seen around the world because innovation and technology are growing rapidly in every area such as a democratic corporation or any other business areas. Innovation plays a vital role in the development of any country's economic growth whereas the impact of technological innovation on growth has been largely mute especially on the role of new firm formation.

Corporates are trying to achieve a modest advantage to help them get a well and stable position in the market and to do that the best way for companies to achieve such competitive advantage anise to get them as more innovative as possible it is necessary for them to be familiar with the procedure of innovation. There are many types of innovation in which companies can achieve innovation in an association which is what this paper focuses its ways on how that can be achieved, starting from their products and services, ways of selling, supply etc.

Innovation is necessary for supportable growth and economic-development; therefore several core conditions enable innovation and encourage economic growth. In the contemporary economy, innovation is important for value creation, growth, employment and innovation processes which take place at the enterprise at a national or international level.

Hence, innovation is affecting the economic growth and development of the nation and so this paper identifies about the importance of economic growth and how it is an effect on the development with other ways of transforming it in a competitive advantage for organizations.

□□□

Study of IoT Techniques for Smart Pedagogy

Dr. Usha Badhera¹, Dr. Pooja Nahar²

^{1,2} Assistant Professor, S.S Jain Subodh P.G College, Jaipur

Abstract

IoT technologies represent a great opportunities and possibilities in academics. The development of new technologies enables learners to learn more effectively, efficiently, flexibly and comfortably. Learners utilize smart devices to access digital resources through wireless network for continuous learning. Smart education, a concept that describes learning in digital age, has gained increased attention. IoT technologies are being used in smart classrooms in various ways: to collect and use data by usage of attendance management system for regularizing students in class rooms, enhancing the teaching learning process, to support the meeting of the learning goals, and thus to improve the overall academic activities. In this study the existing techniques of IoT for smart education for physical and the virtual learning environment on pedagogy improvement is studied.

Keywords: IoT, Smart Classrooms, Smart education, Attendance Management System, Pedagogy

Introduction

IoT is a set of connected physical objects—or things consisting of electronics, software, sensors that permit the “things” to collect and disseminate data. The latest development of technologies are changing the user behavior and different practices are being followed in various spheres of life, and consequently in the area of education.

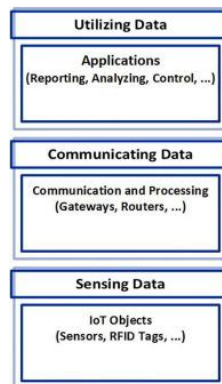


Fig:1 Basic Components of IoT

Result and Discussion

IoT to facilitate the educational environment for student, faculty members, and other staff members yields potential new learning services and scenarios.

Techniques of IoT in Smart Education

- **Flipped Classroom as element of IoT education:** IoT Flipped classroom gives opportunity for students to learn subject at anytime and any place, at university, at home, in subway or during launch time.
- **Smart classroom:** which is equipped with the IoT controlled objects to give the ability for remote functions in class room.
- **Smart Desk :**Analysis of student activities and student interaction with the learning material by using IoT enabled devices.
- **Smart Attendance Management:** student attendance is been done through the system these system is implement by using raspberry pi and store the attendance record on webpage.

Conclusion:

This study demonstrate to the learning education institutions that data collected from the IoT devices and analyzed can be effective and efficient in informing how to improve the the quality of learning and teaching for both the tutors and learners.

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Corporate Social Responsibility Practices: Development after Implementation

Dr. Raja Bhoj Sharma¹, Mr. Nikhar Goyal²

¹Former Research Representative, University of Rajasthan, Jaipur, ² Research Scholar, University of Rajasthan, Jaipur

Abstract

Corporate social responsibility (CSR) is the procedure by which an association contemplates and develops its associations with partners. The required arrangements fused in the Act will help in making consistency and responsibility of activities and furthermore the capacity measure the effect will be a stage a positive way. This paper is centered around Companies Act, 2013 and its arrangement on required spending and revelation of Corporate Social Reasonability exercises and issues and difficulties that may present in execution of CSR.

Keywords: Corporate Social Responsibility, Charity, CSR Clause, Sustainable advancement.

Introduction

India turned into the main nation to command spends on CSR exercises through a statutory arrangement. India has separated itself from other Asian nations by classifying corporate social responsibility (CSR) spending for focused organizations. The Companies Act, 2013 have made a recommendable stride by acquainting an arrangement requiring corporate with compulsorily spend an endorsed level of their benefits on certain predetermined zones of social upliftment in release of their social obligations. The new idea driving this is to cause Companies to understand their commitments towards the Society of which they are a significant constituent and release these by spending recommended some portion of their profit to benefit the individuals. The new law vide area 135 of the Companies Act, 2013 gives that it will apply to each organization with a total assets of Rs. 500 crores or more, turnover of Rs. 1000 crores or a net benefit of Rs. 5 crores or more during any money related year; The sum must be at least 2% of 'normal net benefit'. The sum must be spent on the 9 wide territories that outcome in social great. Already the CSR is considered as a demonstration of generosity and treat is as a magnanimous action yet after the change made by the organizations Act 2013 it has turned out to be obligatory which builds the responsibility of the corporate towards CSR. Commitment to any ideological group isn't viewed as a CSR movement and just exercises in India would be considered for figuring CSR consumption.

Research Methodology and Review of literature

Corporate social responsibility is characterized as "the moral conduct of an organization towards the general public"; show it as such respectable projects started by revenue driven organizations. CSR has turned out to be progressively noticeable in the Indian Corporate Scenario since associations have understood that other than developing their business it is likewise crucial to construct dependable and reasonable association with the network on the loose. This is one of the key drivers of CSR programs.

Advantages and Challenges

Advantages of a Robust Corporate Social Responsibility Program are: Communities Provide the License to Operate, Enhanced Brand Image and Reputation, Increased Sales and Customer Loyalty, Increased Ability to Attract and Retain Employees, Reduced Regulatory Oversight, Easier Access to Capital Communities as Suppliers

Difficulties of Corporate Social Responsibility are: Absence of Awareness of General Public in CSR Activities, Need to Build Local Capacities, Issues of Transparency, Non-accessibility of Well Organized Non-legislative Organizations, and Narrow Perception towards CSR Initiatives

Conclusion

The revision of the Companies Act changes the frame of mind of the associations towards CSR By making it required corporate need to contribute a predefined rate mandatorily towards CSR and with this it now not stayed as only a humanitarian action. It without a doubt is in the advantage of the general public including the corporate. In the line of SEBI command, MCA should order all organizations going under the domain of area 135 to create explicit strategies on moral strategic approaches, regard for human rights, reasonable sourcing and ecological obligation and report their adherence to same, any infringement of which ought to be fittingly culpable.

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Artificial Intelligence a Simulation of Human Intelligence in Jaipur

Ms. Ajita Tyagi¹, Ms. Ruchi Jain²

¹ *Research scholar, IIS, Deemed to be university*

² *Associate Professor, Department of Business Studies, IIS, Deemed to be University*

Abstract :

Artificial intelligence is a simulation of human intelligence which is processed by machines specially by robotics or computer system. Nowadays, many people are including artificial intelligence and adding components to the organization and in daily life. There are various ways such as computer system, robotics and applications which are been used. Here researcher studied the artificial intelligence is been accepting by the people in Jaipur very frequently. The source of the data been collected is primary and secondary sources. The sample size is 30. This is a descriptive study .This study defines whether human resource can be utmost replaced effectively and efficiently by artificial intelligence.

Keywords : Sustainable development, Human Resource, Artificial Intelligence



Spiritual Intelligence and its Impact on Organizational Commitment of Employees: A Special Reference to Private sector Banks

Dr. Richa Chauhan¹ and Preeti Gugnani²

¹ *Assistant Professor, Banasthali Vidyapith, ²Research Scholar, Banasthali Vidyapith*

Abstract

“We are not human beings having a spiritual experience; we are spiritual beings having a human experience”

Organizations need to employ committed individuals for their endurance and expansion as well as to achieve their vision and mission. In account of this, successful organizations are those

with committed employees. In today's dynamic environment organizational commitment is a major concern because it plays vital role in determining the efficiency and effectiveness of an individual. Therefore, it is important to explore the factors influencing organizational commitment. There are numerous factors which affect the organizational commitment; one of them is Spiritual Intelligence. Ahmadian et al. (2013) define spiritual intelligence in that "it is the ability in a person to buildup dream and also give a will power to accomplish that vision. Spiritual Intelligence is what we use to develop our longing and competence for implication, vision and value. It allows us to dream and to strive. Spiritual intelligence is certain for human who comes through knowledge of a transcendent dimension and this flexible intelligence empowers him to be creative and changed its own rules and roles and also enables him to carry out numerous reforms and reshape the situation in the best way (Sadaf Estanesti, 2016).

Objective of the study: This study will evaluate impact of Spiritual Intelligence on organizational commitment of employees and recommendations can be made how to enhance the Spiritual intelligence of employees.

Research Methodology: The data collection for the proposed research will be based on primary secondary data. Primary data will be collected through questionnaire and secondary data will be collected through Journals, Websites, Online resources, Published and Unpublished source. Research design will be descriptive and exploratory in nature.

Findings: The result indicates that there are positive relationship between Spiritual intelligence and organizational commitment. Symbols of high Spiritual Intelligence comprise a talent of out of box thinking, humbleness, and an access to energies that come from something beyond self-centeredness.

Implications: Spiritual Intelligence is very important now days, if organizations want to sustain in dynamic environment than they had to become spiritually intelligent. This study based only on private sector banks and one variable hence study can be expanded and other fields and variables can also be identified.

Keywords: Spiritual Intelligence, Employees, Organizational Commitment

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A Method to analyze the Torn Images

Mr. Ravi Saharan

*Assistant Professor, Dept. of Computer Science & Engineering, Central University of Rajasthan,
Kishangarh, Ajmer*

ABSTRACT:

In archaeology or forensics generally objects are found in a number of parts, which can be analyzed only after properly joining of these parts. Pictures of these objects can be clicked and stored in form of image sets. Images of the objects play a vital role for analyzing them. Images of different parts are captured and converted into digital form i.e. in the form of pixels (as pixel is the smallest unit to describe image intensity). If an image is torn into many parts, then these subparts are needed to join, for the same we have to analyze the torn parts of image in terms of digital information so as to check the similarity of any two sub parts of torn image. Joining of them into an image of the object resolves the problem associated in archaeology, medicine, art restoration, and forensics. Digital information contains boundary contents and color contents.

Keywords: Archeology, Boundary pixels, Color contents, Digital images.

INTRODUCTION

This analysis of torn images is useful in several applications, like archeology [1], medicine; art restoration. Manually solving such puzzles may take very long time .Torn images can be analyzed in terms of several properties like color, texture, material, etc. The classification is helpful by reducing the number of fragment pairs that need to be compared manually. If we have very large collection of plain torn images, a procedure is required that can automatically check similarity between torn images based on their shapes which are the problem that we concentrate in this paper.

Also similar problem can be solved by applying techniques for automatic assembly of jigsaw puzzles [2] but we can't directly apply because it requires particular shape of jigsaw puzzle torn images.

Torn Parts Analysis

In this section we describe about torn parts analysis. The input is an image which has been partitioned into several part (torn images) of two-dimensional objects can be defined by their closed boundary values. Object recognition [4] is one of curve matching algorithm's applications. The analysis is based on information which is obtained from all sample points on the curve rather than on information obtained from some special points which may or may not exist.

For the available set of torn images, first calculate boundary pixel in order to separate torn images from the background. For this Flood fill based algorithm [5] is used that separates every pixel either foreground pixel (fragment) or background pixel. The pixels that compose the boundary of a part are then located as those belonging to the fragment that are adjacent to a background pixel.

We calculate the boundary of the torn parts by moving from one boundary pixel to another. The next boundary pixel is located by searching among the eight neighbors of the current boundary pixel. The result is stored in a boundary array containing the coordinates and the color of every pixel belonging to the torn parts boundary.

This algorithm is based on conversion of curves into numerical strings i.e. arrays. Curve matching complexity is in time $O(n)$, n being the number of sample points on the curves.

Generating Boundary Values

Generating of boundary value is rotation and translation dependent, to overcome this problem we use the local curvature [6] which can be treated as one to one mapping between a regular curve and its curvature function. The curvature function is the derivative of the tangent angle to the curve, parameterized as a function of its arc length.

The local curvature of the border pixels of the first and the second parts are stored in real-values arrays, respectively. Since the number of pixels in two segments with the same physical length is different if the segments are not parallel, we use an adjusting algorithm that stretches the border and curvature arrays adding interpolated pixels depending on the slope of the local tangent.

EXPERIMENTAL SCENARIO AND RESULTS

Here experimental results obtained from the implementation of the method described above are presented.

This approach is based on the information obtaining from the boundary value and from the color contents of the two torn images. Further this technique can be extended in order to generate similarity of torn images.

Following are the steps to analyze the torn images [3]:

1. Analysis of the two torn images and extraction of their representations.
2. A fragment is represented by the sequence of its boundary pixels.
3. Pixels are associated with relatively information about coordinates, color, etc.
4. Obtaining curvature of boundary pixels.

The process of the algorithms done to assess the effectiveness of the method and to analyze the role of the different parameters involved, working in a GUI environment that could be quickly modified.

A. Approach involves following algorithm steps

1. Image of an object is taken that has been broken into several no. of pieces i.e. torn images.
2. Torn images are digitized to get a binary image for each fragment.
3. Calculate boundary value of each part which is calculated from the binary image.
4. Calculate color value of each pixel of the boundary.
5. Store these values in respective arrays which is independent from translation and rotation.

B. Implementing torn images analysis

Two functions are designed for this analysis. First function calculates boundary point in form of pixels using flood fill algorithm. Flood fill algorithm can be implemented either by 4-connected or 8-connected approach.

We have used 8-connected approach in order to get more accurate results. This function outputs the boundary pixel values. This function is used to generate original torn images and its associated boundary point.

Conclusion and Future Work

In this paper analysis of torn images of an object is done. The method presented uses information about boundaries and color content of torn images. While analysis in order to get rotation and translation free calculation, outlines of the torn images are represented by local curvature value.

Analysis of torn images play useful role in terms of fragment reassembly problem where torn images are joined using information obtained from fragment analysis. Once we have analyze the torn images, future work may be inclined to join the torn parts for getting useful information from an object captured during archaeological digging process or during forensics research.

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Digital Banking: An Innovative and Sustainable move for expansion of Banking Infrastructure

Dr Sanjeev Kumar Bansal¹ and Nidhi Arora²

¹Associate Professor, Nohar (Raj.), ² Research Scholar, M.G.S.U., Bikaner (Raj.)

Abstract

The sustainable development goals as adopted by the United Nation member states in 2015 (including India) formed the basis of the revolutionized working of the all the sectors of the economy. The 17 SDGs are so interrelated and interconnected that all the sectors have to modernize and come up with new systems and approaches to play significant role in achieving the goals. Keeping this in mind the existing players of the financial sectors (public and private sector banks) have come up with new avenues under the Digital Banking campaign such as (ATM, MOBILE BANKING, INTERNET BANKING, QR CODES etc). In 2015 RBI has also contributed significantly in this move of digitization by the introduction of Payment Banks to bring the unbanked in the ambit of modern banking.

The objective of the paper is to analyse the contribution of Digital Banking in achieving SDGs as well as the role of the Payment Banks in achieving the goals of a sustainably financially inclusive economy. The data is collected from the secondary sources (website, journals, newspapers) for analysis.

Keywords: Sustainable growth, UNEP, Financial Inclusion, Differentiated Banking.

Introduction

The introduction of the digital banking has completely transformed the entire banking systems and procedures as the basic services such as payments, transfers, bill payments etc can be done now digitally with the use of mobile phones within seconds. The existing private and public sector banks are now providing numerous digital payment modes to their customers such as ATM, Mobile banking, Internet banking, QR codes etc. The data provided by RBI from time to time also reveals tremendous increase in the mobile banking transactions year on year. This has led to the introduction of Payment Banks in which the entire banking services are provided through mobile phones only upto a certain amount.

The main objective of Digital Banking and Payment Banks is on Sustainability as these activities contribute to less paper work and Green Banking in the operations. The goals of sustainability can be achieved when the people of the country are financially inclusive only. The achievement

of financial sustainability can contribute in removing poverty and formation of educative and healthier society also.

Result and discussion

The data collected and analysed reveals that the people of the country are gradually adopting the Digital modes and payment banks which contributes significantly in forming a Sustainable economy. But this adoption is higher in urban areas and the majority of the people residing in rural areas (esp women) are still unaware about these modes of payments. Therefore in order to achieve the goals of financially inclusive and sustainable economy the need of the hour is to educate the people about these avenues. The other major area of concern is security of the funds as a result of which people hesitate to perform transaction digitally. The availability of strong internet network and smart phones are also a major concern for success and growth of the Digital Banking. Therefore these challenges are required to be overcome to achieve the goals.

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Open Banking in India – A Road Ahead

Mr. Vrinda Mathur

*Assistant Professor, Department of Commerce,
Mahatma Jyoti Rao Phoolle University, Jaipur, India*

Abstract:

In the past few years, digitization and open source has caused a major disruption in various sectors like transport, food, automobiles, retail etc. But the impact is much larger on the financial sector services. The Banking sector has gone through huge disruption with the initiation of digital banking, block chain, Fin Tech companies, highly personalized product & services etc. Open banking is one such disruption that is poised to change banking sector. The objective of the present study is to understand the concept of open banking and to study the steps taken for the implementation of open banking in India. This study also highlighted the challenges of open banking from India's perspective. This paper is based on secondary data collected from various online articles & Journals. The study found that open banking is paving

the way for a new banking environment and India has taken progressive steps towards this initiative, in the form of e KYC, Adhar, affordable data & extensive Smartphone access, but there is still a gap that needs to be fulfilled when it comes to facilitating adoption of the reforms. The main focus should be towards developing a strong and secure digital infrastructure to support fast changing system.

Keywords: Open Banking, Banking, Digitization



Computer Networks Security issues: Threads and Attacks

Ms. Kavita Kavar¹, Mr. Abhijeet Sharma², Ms. Mahima Trivedi³

¹Assistant Professor, MJRPU, Jaipur, ^{2,3} Student Sri Bhavani Niketan College, Jaipur

Abstract:

Information Security is not always only about securing information from unauthorized access. Information Security is the practice of preventing unauthorized access, modification, inspection, use, disclosure, disruption, recording or destruction of information. In computer security terminology, threat is a possible danger that can exploit a vulnerability in order to breach security and therefore cause possible harm. The paper includes simple safety threats and its types and diverse protection assaults which affect the statistics, device and software.

Introduction:

Network security is any activity involving the protection of the integrity and usability of your network and data. It includes both hardware and software technologies. Effective network security manages access to the network. It targets a various types of threats and stops them from entering or spreading on your network and protect over data and devices.

Network Security Threats

Network security threats fall into two categories

1. Passive threats are sometimes referred as eavesdropping which involve attempts by an attacker to obtain information relating to communication.
2. Active threats are those threats involve some modification of the data that is sent by one person to other or the creation of a false stream.

Types of Security Attacks

1. **Passive Attack:** It attempts to learn or make use of information from the system but does not affect system resources.
2. **Active Attack** are the kind of attacks where the attacker attempts to alter system resources or affect their operation.

Passive Attacks:

1. Passive attacks involves eavesdropping on victims computers, or monitoring of transmissions.
2. The goal of the opponent is to obtain information that is being transmitted.
3. There are 2 types of passive attacks they are: Release of Message Contents ,Traffic analysis

Active Attacks:

Active attacks involve some modification of the data stream or the creation of a false stream and can be subdivided into four categories:

1. **Masquerade:** It is a attack where the attacker pretends to be an authorized user in order to gain access to the system or to gain higher privileges than they are authorized for.
E.g. Authentication sequences can be captured and replayed after a valid authentication sequences has taken place, thus enabling an authorized entity with few privileges to obtain extra privileges by inter personating an entity that has those privileges.
2. **Replay:** Replay involves the passive capturing of the data unit and its subsequent re-transmission to resulting in an unauthorized effect.
3. **Modification of Messages:** The some portion of a legitimate message is altered or that messages are delayed or reordered, to produce an unauthorized effect.
4. **Denial of Service:** DOS attacks prevents the normal use or management of communications facilities. This attack may have a specific target;

Conclusion:

Computer Network Security attempts to make certain the confidentiality, integrity, and availability of computing systems and their additives. Three principal parts of a computing system are subject to attacks: hardware, software, and data. These three, and the communications among them, are susceptible to computer security vulnerabilities. Threat is an incident that could motive harm. Vulnerability is the weakness using which harm could occur. In order to control such situations, we try to block both or decrease the chance, or near the vulnerability.



Role of Banking Sector in Economic Growth of India

Dr. Shubhr Gupta

Assistant Profressor, S.S. Jain Subodh P.G. College, Jaipur

Financial sector play a crucial role in economic growth by mobilising saving, facilitating payments and providing loan and advances to industrial sector. The development of a country depicted by the economic growth deals with the investment and production over the period of time. Despite of many initiatives by RBI and GOI, many banks are not able to cope up with the given targets due to negligence of recent trends in economy, agriculture sector, Small and Medium Enterprises and weaker section of society .Weak investment growth, downfall in real estate sector and automobile sector, low demand and problems in Non Banking Financial Sector also pull back the economy at its slowest pace in last quarter, depicted only 5 percent GDP growth. Although various initiative has been taken by the government to boost the industrial sector, foreign investment, solving problems of NBFC's, it is required to pay serious attention on recovery of NPA through various channels particularly through SARFAESI and Debt Recovery Tribunals. Banks need to set more targets to be very careful in sanctioning and monitoring of loans. All scheduled commercial banks need to strive hard for the economic growth and to cater wider area of society.

Keywords: NPA, GDP, SARFAESI, NBFC

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A Case Study on STEM Education in Indian School Education System

Ms. Shikha Dixit

Research Scholar, Mahatma Jyotiba Phule Rohilkhand University, Bareilly

Abstract

India is a growing nation and is slowly making its place among the top nations of the world. One of the biggest challenges facing this nascent power is the science education of its young population. Under such circumstances, it is very important for educational institutions to keep pace with scientific and a technological innovation is a challenge in itself. More importantly,

including latest developments in STEM in their curriculum in a holistic manner keeping in mind both students' employability as well as social development is a key challenge.

India too decided to adapt STEM education in their school education and so the Indian Government decided to launch the initiative of setting up of ATL Labs (Atal Tinkering Labs) in various schools across the country. For this to be successful, there's need to identify scientific talent at the school level – it helps to Sharpen future researchers, identify their research domains, strengths as well as weakness early on. It also helps in etching a plausible career trajectory based on the student's interest and intellectual proclivities. In order to determine the efficiency of the STEM education programs in India One possible way is to track the proportion of students with STEM Curriculum and obtaining a 'good' grade in their examinations with that of students who not getting STEM education using various indicators and outcomes. The paper suggests further directions for research and offers recommendations for practice in STEM.

Keywords: STEM Education, ATL, Education



A Journey from Destruction to Construction: India's Renewable Energy Consumption Feels Shine

Dr. Tapasya Malhotra¹ and Mr. Vikalp Joshi²

¹Head & Associate Professor, Department of Business Administration, S.S. Jain Subodh P.G. (Autonomous) College, Jaipur

²Student, Bachelor of Commerce, S.S. Jain Subodh P.G. (Autonomous) College, Jaipur

Abstract

Researchers made an effort to know the opinion of household and commercial respondents regarding awareness, technology, installation process, environmental benefits, pricing, suitability, technicalities and problems in installation, availability of suppliers, post sales services, government subsidy, RE products etc. 100 household consumers and 25 commercials were selected through random sampling. Various statistic tools were used to analyze the data and hypothesis testing. At the end, suggestions to individuals, society, media and government are given separately.

Keywords: Renewable Energy Products, solar, subsidy, consumption

Introduction

Today, India is considered as the world's sixth-largest economy by nominal GDP and the third-largest by purchasing power parity. India's growth rate should stabilize at 8% during the next decades, ranking the country as the world's fastest-growing economy according to various economic analysts. Still the industrial growth is declining over a period of time. Is this the end of mature period of industrial growth? Manufacturing, mining and power generation sector saw their factory outputs decline in June 2019 by 1.2 per cent, 1.6 per cent and 8.2 per cent, as industrial production slowed. The four major industries out of 8, faces a huge declining phase in current scenario which is crude oil (- 6.8 per cent), Natural Gas production (-2.1 per cent), Petroleum Refinery production (-9.3 per cent), Cement production (-1.5 per cent).

Now the question arises:

- What makes this slowdown serious? Is the standpoint of people change?
- Does government prepare for this? Does industries planned for measures?
- How much people are aware about Renewable energy products?
- Are they have information about the technology, availability and subsidy from Government related to these?
- Are existing users of these RE products are facing any problems regarding installation, maintenance, and post sales services etc.

The problem doesn't stop here. These industries are also responsible for environmental issues like mining coal wrecks havoc on environment and residential in the similar area, climate change like acid rain, respiratory illness are other issues which make a question mark. Therefore Indian government is seeking arrangements in the form of renewable energy as a cheapest source of electricity in the world. Accept hydro power energy total renewable power generates capacity is 78.35. Its total energy sources are 101.84 billion units in India.

Various initiatives are taken like Kumar (2019), Bahrathi Cement invested into a 10 MW ground mounted solar power plant at its manufacturing plant at Kadapa in Andhara Pradesh. Tata Power is investing for 150 MW solar capacity project in Pokhran, Rajasthan to fulfill the needs of the people in cheaper way. Visaka, a company from Hyderabad, introduced its product 'ATUM Smart Cart' in December 2018. 18 Smart Cart Rs. 72,000, were donated to local vegetable vendors. Definitely, the use of RE products is cost effective, environment friendly and Frank Jossi (2018) a developer has said that people are also using

Objectives

- To analyse the slowdown in particular industries that affect directly the pace of economic growth.

- To enhance the knowledge related to overexploitation of scarce resources.
- To know the awareness and perception among selected respondents regarding renewable energy products.
- To compare the traditional fuel generation with RE products in terms of price, biodiversity, environment initial investment etc.
- To provide measures to improve the existing life style in a healthy environment of selected respondents.

Hypothesis

The RE products and traditional electronic products are similar in pricing, electricity consumption, Investment and ROI.

Research Methodology

100 household consumers and 25 commercial users were selected as respondents for this study through random sampling in Jaipur city. Researchers made an effort to know the opinion of consumer's as well as commercial users regarding awareness and willingness to adopt, pricing, installation expenses and process, government subsidies, reliability on RE products, various problems in adoption, after sales services provided by installers after installation monthly pricing etc. of RE resources.

Findings

The household respondent's responses showed that 86% respondents had awareness regarding potential renewable energy resources and 4% has knowledge about some resources and rest of respondents are not known to these options.

After providing information to unknown respondents, researchers asked them that in how much time duration the selected renewable energy resources (wind, solar, small hydro, waste of energy, biogas) can replace these conventional fuels (oil, gas, coal etc.). Then more than half (62%) respondents said that it will take more than 15 years to replace conventional energy resources and 29% respondents said that it will take more than 20 years. A total shows that 91% respondents have a positive thought regarding this.

People are ready to consume these selected renewable energy sources but only after the initiatives taken by the government. A maximum of those (73%) are also not aware about the subsidies provided by the government. For these self-initiatives factor is missing among Jaipurites.

Though, they are agreed on this aspect that prices of these RE products will be cheap in comparative aspect. The price factor also shows a positive response of respondents when they got to know that initial investment is a sure short price benefit to them in future. Their interest has increased towards in this highly price sensitive segment.

42% respondents are aware regarding impact of these technologies on environment and biodiversity. Some people are not too much aware about the process of power generation. Some known respondents also shown then interest regarding the safety of birds from solar panels and windmill installation.

49% Respondents are not fully aware about the government subsidies and policies regarding this. Some of them are aware with the name but not fully aware with installation system procedure with percentage of subsidy amount.

After given information 96% respondents showed their interest towards renewable energy resources. 39% of them also discussed about hurdles in the adoption of these technology like less government support, existing infrastructure of their houses, availability of installers, limited accessibility, not able to fulfill the full requirements and not possible in rented accommodations etc.

72% respondents don't have the information regarding technology suppliers. They also said that, if the information is provided they definitely want to take positive steps regarding this. Local accessible medium should be adopted (newspaper, magazines etc.) for this purpose.

In this researcher also get to know about those users who are already using renewable energy products at their places. 41.2% respondents are already using renewable energy products directly or indirectly.

'Solar water heater' has the highest applicability in this regard. Solar home light, solar street light, solar cookers etc. are other renewable energy products which are popular among public. The products which they are using solar mobile charges, solar battery charges, kitchen waste composting, solar fencing, solar pump, solar flash light etc.

Cost analysis

The major question arise now is how will it cost in adoption of this technology? Will it really help in reducing bill burden?

On the basis of survey, the respondent's shows average power consumption during a month of Indian nuclear family is 200 units minimum and 300 units maximum.

So, before calculating the solar saving the first step to calculate how much respondents are currently spending on electricity every year as a domestic with single phase

Minimum 200units x 12 months= 2,400 units

2,400 units x Rs 7(varies from state to state) = Rs. 16,800

Rs. 16,800 + Rs. 2,700 (meter rent which is 225 in Jaipur) = Rs. 19,500

Maximum 300units * 12months= 3,600 units

3,600 units * Rs. 7 (varies from state to state) = Rs. 25,200

Rs. 25,200 + Rs. 2,700 (meter rent which is 225 in Jaipur) = Rs. 27,900

Indian family which is having 4 ceiling fans, 1 refrigerator, 1 cooler, 4 tube lights and some kitchen appliances spending approximate Rs. 19,500 - Rs 27,900 every year. It can be said, that in a northern region the Jaipur district having a temperature of 46.5 degrees Celsius in summer and 25 degree Celsius in winter as their consumption is change according to season so this a appropriate place for this technology

And now after the adoption of technology there initial investment calculated as;

Per day unit consumption = 200 units p.m / 30days

= 6.66 units or 7kwh

Similarly with 300units

Per day unit consumption = 300 units p.m / 30days

= 30 units or 10kwh

With this clear we have require solar system that will produce 7000 watts or 10,000 watts per day so here is table as follows;

(Serial no.)	(Kw pv plant)	(kwh produced per day)
1	1 kw	3-4.5 units
2	1.5 kw	6 units
3	2 kw	8-10.5 units

It's up to the buyer which system he choose as the cost of investment is 1kw pv plant is Rs 95,000-1lac approximate and for 2kw pv plant is Rs 1.40-2lac

Save your pocket! Save your environment!

As the initial cost of this investment burden also strikes in the minds of people so government take initiatives to share the burden in the form of providing 30% subsidy in bill and 70%

installation charges (varies from state to state) so now it will be Rs. 40,000 – Rs 49,000 solar pv plant of 1kw and now the respondents save Rs. 6,000 to Rs. 10,000 per annum.

Other option is use of solar geyser which has the maximum percentage in electricity bill (35-45%). This bill can be reduced by 40 -50%. The cost of 100 lit. capacity solar geyser is 22000/- Solar cooker, solar garden lights, solar lights outside the home which people used whole night etc.

Unused land can be used as a better source of earning as excess power supply will be sold to Government for further supply.

So, the above calculation shows that RE products are cheaper in long term pricing, power consumption, investment and ROI. Traditional and RE products are not similar in price and long term performance.

Conclusion

Appropriate choice of RE product is the basis of ROI. For everybody, similar product is not beneficial. A product should be finalized after need base analysis. Suitability, designing and appropriate use of technology can decrease the cost of maintenance, which will automatically increase overall return from these RE products. Use of these products can provide the light in some dark places also. With this motive, country can provide more brightness in the eyes of their citizens with better HDI.

Suggestions

Following are the suggestions for the better utilization of available RE products:

Individuals

- By considering the price sensitive nature of an indian consumer the total saving price after adoption of renewable energy products should be clearly understood by each and every individual so that they can make their annual budget according saving after adoption renewable energy products can be used somewhere else in the life.
- Existing users have their experiences with others for better use of resources, environmental imbalance due to power generation with traditional resources.
- Made an attempt to inquire about and contact government agencies, manufacturers and non-government organisations (with similar vision) regarding more appropriate information related to technology installation as per their home, total expenses and other specification.
- Individuals should support each other regarding the comparative expenses of renewable energy product.

Technology providers

- Technology providers, manufacturers and vendors should provide information regarding subsidies, installation charges and other specific services for and individual.
- Post sales services should be enhanced with availability of spare parts.
- They should convince people and updated technology with government subsidies policies and programmes.
- They should present their advertisements or information circulation with a comparative aspect of tradition fuel sources.

Government & Media

- A combined effort should be done by Media and Government to create a positive perception regarding renewable energy products.
- A specific weekly Column should be given with expert's view in local newspaper including the problems solution of reader.
- Government policies, programmes and subsidy should be give due weightage on government websites, hoardings, with benefits of adoption of renewable products.

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Big Data Analytics using Deep Learning: A Review

Dr. Satish Pandey¹, Ms. Poonam Saini²

¹Head of Department Pratap University, Jaipur, ²Research Scholar, IIS University, Jaipur

Abstract

Two major focus areas of data science are Big Data Analytics and Deep Learning. Due to the huge collection of data by public and private organizations through various sources, Big Data has emerged as an important technology. The data may contain information from various resources which might be useful in different areas like national intelligence, cyber security, fraud detection, marketing, and medical informatics. Various companies like Google & Microsoft are analyzing this bulk data to make future predictions about various business trends, choice of customers and many more. A step by step procedure is used in deep learning to extract the high level, data abstractions. The major benefit of deep learning is to create a valuable data from a bulk of raw data, which in turn can be efficiently used by big data analytics. In the present study, we explore how Deep Learning can be utilized for addressing some important problems in Big Data Analytics, including extracting complex patterns from massive volumes of data, semantic indexing, data labeling, quick information retrieval, and simplifying complex tasks. We also investigate some concepts of Deep Learning research that need further explanation to incorporate specific challenges introduced by Big Data Analytics, including streaming data, high-dimensional data, scalability of models, and distributed computing. We summarize by presenting insights into relevant time ahead works by posing some questions, including defining data sampling criteria, domain adaptation modeling, defining criteria for getting useful data abstractions, enhancing semantic indexing, semi-supervised learning, and active learning.

Keywords: Deep learning; Big data

Conclusion

In difference with more conventional machine learning and feature engineering algorithms, Deep Learning has an upper hand of providing a key to address the data analysis and learning problems found in massive volumes of input data. It enables in automatically retrieving complex data presentations from huge volumes of unsupervised data. This makes it a valuable tool for Big Data Analytics, which involves data analysis from very large groups of unfiltered data that is generally unsupervised and un-categorized. The hierarchical learning and extraction of different levels of less simple, data abstractions in Deep Learning provides a certain degree of simplification for Big Data Analytics jobs, especially for analyzing massive volumes of data, semantic indexing, data labelling, information retrieval, and discriminative tasks such a classification and prediction.

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Integrated Reporting: Benchmarking with Best Practice

Udai Lal Paliwal and Nitin Saxena

Nirma University, Ahmedabad, India

Abstract

Integrated reporting tries to combine financial and non-financial information for better decision making by investors and other stakeholders. This paper is an attempt to various critically analyse the quality of integrated reporting by a prominent Indian mining company (Vedanta) and contrast it with the best practice (Kumba Iron Ore Limited, South Africa).

Keywords: Integrated Reporting, Decision Making.

Introduction: The increasing complexity of the business world and ever increasing information needs of stakeholders led to growing demand on companies to provide information not only about their financial performance but also about their corporate governance, their impact on various stakeholder groups and their contribution towards sustainability. In addition, investor demand more information about various facets of the business as the financial accounting system alone fails to account perfectly for most of intangible assets generated and / or consumed by businesses and its impact on wider group of stakeholders. Making a strong case for <IR>, an EY report states that, “Financial reports fail to reflect an organization’s ability to create value in the short, medium and long term through efficient management of its strategic resources”¹. The report further states that an organization’s value is decreasingly derived from the tangible assets on its balance sheet and increasingly from its intangibles. The weight of tangible to intangible assets has inverted over the last three decades. According to IIRC Framework an integrated report should not only provide the historical information but also forward looking information on issues including but not limited to organisation’s overview and operating context, risks it faces and competitive advantage it enjoys due to opportunities that exist, governance structures and styles, its business model, strategy that it applies in short, medium and long term, past performance and the future outlook.

The major influences behind the popularity of integrated reporting in India during past decade include the Companies Act 2013 and the SEBI guidelines including those related to Corporate Social Reporting and Business Responsibility Reporting. The changing mind set of corporate India is expected to promote adoption of the initiatives such as <IR> in a big way. Interestingly a qualitative content analysis of the <IR> disclosed by the French companies in the period of 2013–16 reveals that information asymmetry is not reduced since companies mention only some capitals as inputs to their value creation process while almost entirely excluding natural capital. Moreover, companies disclose only positive information mainly about their financial

capital, without mentioning any destruction of capital, especially not the natural one. Similarly, a study conducted in Thailand reveals that companies with good corporate governance awards are those disclosing information required by <IR> framework, however, the quantity of information provided is minimal².

Experimental: The study is a qualitative exploration based on secondary data obtained from the reports published by the sample companies, available through their websites.

Result and discussion: This work in progress study identifies the <IR> reporting practices of Indian corporate and compares it with best practice. IT looks at various dimensions of Integrated Reporting as used by corporates in an effort to provide financial and non-financial information for improved decision making.

Conclusion: This study evidences that the quantity and quality of information provided by Indian companies is not at par with the best practices.

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Marketing Inclusion: A new phase of marketing innovation

Dr. Alka Kumawat

Assistant Professor (Management), MJRP University Jaipur

Abstract:

Inclusive marketing creates content which really reflects diverse communities of the consumers in the market. This paper focuses on the need of marketing inclusion in various sectors.

Keywords: marketing inclusion, consumers, communities.

Introduction

Inclusive marketing is a modern style marketing that doesn't focus on one demographic traditional stereotype, but includes all diversity of the market. Due to globalization & migration

market is full of different diversities; consist of consumers from all backgrounds regardless of race, ethnicity, gender, identity, age, religion, ability, sexual orientation etc.

As per salesforce's new research 90% consumers believe that marketers have a responsibility to look beyond profit and improve the state of living of the whole world. According to Census of India 2011 Indian religion consists of diverse religious group as shown in table 1.1.

S. No	Religious Group	Population 2011%
1	Hinduism	79.8%
2	Islam	14.23%
3	Christianity	2.3%
4	Sikhism	1.72%

Indian population is full of cultural and religious diversity as shown in table 1.1 Hindu customers dominates in the market followed by Islam. Marketing inclusion cover the various important aspects like:

1. Language tone covers the sentiments of a piece of content, which should be respectful and in a positive direction.
2. Language with intentional words, phrases, symbols or metaphors which describe the product. Language has immense power which can deepen understanding and strengthen relationship; it can confuse or even cause harm. Every word, phrase should have the meaning attached to it which describes the product brand.
3. Context in which the incident happened:-Some situational circumstances reflect the historical or cultural influences and extent to the order and hierarchy of the subject for example in a situation of “manager and employee” in stock photography, often seeing a male employee standing over a woman colleague, implying certain power dynamics. So marketer can change this hierarchy or order according to the new society.

Results and findings

Marketers should focus on the content variety which take into consideration all diverse culture in the society language and should be in a polite manner and each and every word should reflect the intension describing the product variant. Else it will create controversy as in the ad Team Toyota, which was launched in 2018.

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A Study on Employees Motivation and its effect on their work performance and Organization's Productivity

Jyoti Kumari

MBA 1ST Semester, Poddar International College, Mansarovar, Jaipur

Abstract

Motivation is the key factor to boost up an organization. The research paper is all about how motivated employees are helpful in the success of an organization. The main objective of this research paper is to find a relationship between employees work motivation and their productivity. Motivation plays a very important role in an organization. It is always seen that motivated employee's works in more efficient manner than the demotivated employees. Now-a-days organization has to face a tough competition so, it is important for an organization to keep their employees motivated. To keep the employees motivated organization follows different strategies which help an organization to reach at their desired goals.

Keywords: Motivation, Organization, Productivity and Competition.



Maintainability prediction in Consumer Electronics using Software Quality Metrics

Mr. Sanjay Kumar

Faculty, Pathshala Classes, Jaipur

ABSTRACT

Software quality is a multifaceted factor that will across different application and the customers who request them. Determining the quality of products software quality is important aspect in consumer electronic software. Consumer electronics field demands high performance, low cost and easy to utilize continuous need for new product modernization. So, maintainability is considered as a solution to satisfying such demand. Maintainability is an important quality goal for Consumer Electronics product software. In this research paper, we have found some quality attributes of McCall as the critical quality factors, these factor help in our model to develop the quality of product in business and define the product property. Our objective is to identify metrics which can be calculated by static analysis tool which is used for critical quality factors and then, we found some problems which affect the software quality. We design a model for Consumer Electronics products, derived quality model can be utilize for quality estimation and quality improvement in Consumer Electronics area.

INTRODUCTION

A quality model is described as the set of characteristics and the relation with them which provide the basis for specify quality requirements and evaluating quality [2]. Consumer electronics including personal computing tools, home entertainment devices, appliances, cell phones, and cameras has improved in recent years, and quality of software is more serious. Today the Consumer Electronics industry is facing surprising changes. Day by day new products are introduced regularly [3]. These products have a short life that means to exploit revenues per product in a short time frame. Consumer Electronics Company always make an effort to achieve new heights of effectiveness with their demand, planning and inventory optimization.

CONCLUSION AND FUTURE WORKS

We have to identified quality goals which should be achieved by Consumer Electronics product software maintainability has been recognized as quality goal of Consumer Electronics product software in this research. We have specified three quality factors – portability, maintainability

and reusability from quality characteristics in McCall, based on the relationship with maintainability as quality goal. Properly designed metrics with documented objectives can help an organization acquire the information it needs to continue to improve its software products, processes, and services for maintaining a focus on what is important. We have identified metrics which can be considered by static analysis tool for critical quality factors. Consumer Electronics product can be assured by improvement of metrics, Our approach utilize for quality estimate and quality improvement in Consumer Electronics domain.

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The Impact of Spirituality on the Working of a Medium Scale Manufacturing Unit

Mahitosh Roy

Technical Director – Hi Tech Insulators Private Limited, Rajasthan (India)

Abstract

The beginning of 21st century has seen a lot of changes in the world of trade and industries – both positive and negative. We, as human, have embraced welcomed the positive changes, namely, technology, new concepts, advanced education and managerial practices with open arms. But, we have also unwillingly immersed ourselves in the plight and side effects of all the modernity that has left us grasping in all the directions and disciplines for explanations and solutions. Spirituality has emerged as a fool proof solution for all the negative aspects that the modern technology has brought with it in the workplace. It has started gaining significance in the world of trade and industry from the early twenty-first century. Employees spend their most of their life in their workplace and they derive social identity from being successful in their respective careers. What happens to them on the job is very important for their mental and

physical health and shapes their personality with time. This article aims to measure the importance of workplace spirituality on the employee work attitudes in a medium scale manufacturing unit. The model used explains the relationship between the significant work, sense of cognition in the community, alignment of personal values with the workplace spirituality dimension like organizational citizenship, intention to continue, job satisfaction and enrichment, self-esteem and actualization, etc.

Keywords: Spirituality, Manufacturing Unit, Job Satisfaction



Artificial Intelligence and its Applications in Healthcare

Dr. Anupama Goyal

*Assistant Professor, School of Life and Basic Sciences, SIILAS Campus, Jaipur National University,
Jaipur*

ABSTRACT

Artificial intelligence (AI) is going to make huge difference in our day to day lives. AI is influencing the way we live and how we interact with the world, and there is much more to come in the years to follow with more advancement. As AI becomes more deeply integrated into our lives, it will become the new infrastructure powering a second industrial revolution. Bridging the link between current nano-sciences and AI, it can boost research in various disciplines and provide a new generation of information and communication technologies that shows a large impact in our society, probably providing the means so that technology and biology merge. Major changes in the education curriculum of medical professionals need to take place. But the rising cost of healthcare may prove to be an independent driving force to develop these technologies; meanwhile health information technology not only improves the quality of care, but also reduces its cost significantly. AI has the potentiality to reduce the cost of healthcare markedly and in future, this may translate into creation of promotional policies to accelerate investment in AI by rewarding the hospitals and the physicians who incorporates it into their workflow. While a terminator-like scenario is unlikely any time soon, the progression of artificial intelligence techniques and its applications will certainly be very exciting

Keywords: Artificial intelligence; Deep learning; Healthcare; Diagnostics; Imagine

Components of Artificial Intelligence include

- Perception
- Reasoning
- Language-understanding
- Learning
- Problem-solving

AI has multitudinous targets as mentioned with different techniques used for each. The foremost and much significant are artificial neural networks (ANNs) and an advanced version known as deep learning.

Artificial neural networks are algorithms which were inspired by the biological process of the brain. An ANN is set up for a specific application, such as pattern recognition or data classification. Deep learning, while sounding flashy is a term to describe certain types of neural networks and related algorithms that consume often raw input data.

Application of ANN in Health Care Domain

- MRI brain tumor analysis:** To classify images in diagnostic science, ANN techniques are used. Least squares support vector machines (LSSVM) is another mechanism used for the diagnosis of normal and abnormal areas of brain from data of magnetic resonance imaging (MRI). Because of autonomous way to classify MRI image, it shows result with greater accuracy than other classifiers.
- Gastroenterology:** This technique works by merging the methods of fuzzy systems and radial based function.
- Heart disease classification:** Artificial neural network has substantiated its ability by working on the classification of heart disease. In this technique for the classification of stroke, the input of sensor is given to the system that uses forward feed network with the rule of back propagation way.
- Decision support system to diagnose nodules:** Through the concept of ANN, the new proposed system is decision support system (DSS). A decision support system diagnoses nodules into benign and malignant or identifies its severity by analyzing the collected data.

Regardless of its ability to see and listen, AI also smells. Humans aren't particularly aware of the richness of information that can be transmitted through the air and can be perceived by a highly sensitive olfactory system. AI brought change into that by introducing machines in the laboratory which detects very small amounts of substances in the air. Those machines are called gas-chromatography mass-spectrometers or gas chromatography– mass spectrometry (GC-MS), which analyses the air to discover thousands of different molecules known as volatile organic compounds. AI system helps to reveal the illness by smelling human breathe substances.

CONCLUSION

Artificial intelligence is going to make huge difference in our day to day lives. AI is influencing the way we live and how we interact with the world, and there is much more to come in the years to follow with more advancement.

Bridging the link between current nano-sciences and AI, it can boost research in various disciplines and provide a new generation of information and communication technologies that shows a huge scope. Major changes in the education curriculum of medical professionals need to take place. But the rising cost of healthcare may prove to be an independent driving force to develop these technologies.

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Role of Regional Rural Bank in Regeneration and Growth of Priority Sector in Rajasthan

Meenakshi Bhardwaj¹ and Dr. Jitendra Kumar Sharma²

¹Research Scholar, Department of EAFM, University of Rajasthan, Jaipur

²Lecturer, L.B.S Govt. (PG) Collage, Kotputli, University of Rajasthan Jaipur

Abstract:

Regional Rural Banks in India penetrated every corner of the country and extended a helping hand in the growth process of the country. Regional Rural Banks were established under the provisions of an Ordinance passed on 26 September 1975 and the RRB Act.1976 to provide sufficient banking and credit facility to the priority sectors. The rural banks were placed with an

opinion of evaluative the rural area by providing them suitable credit, for the intention to enhance various sector such as agriculture, small business, industry, commerce, and other manufacturing activities in rural economy, credit and different facilities, specially to the small and marginal agriculturist, agricultural workers, artisan and small businessman and for concern related with the and casual thereto. The need for established of RRBs in rural region is to cover up the credit gap. Every RRB is works with in the local range described by notification. Banks are the important part of economic that provides necessary credit to the various sector of the country. Well priority sector lending is also one of the remarkable concepts of the Indian Government to enhance the social banking format. Banks were prescribed a special role for the development of the economy, except secure the development of the banking sector. Reserve Bank of India regulates the banking sector and fixed some target for priority sector lending for developmental of backward area of the country. The effect of banking sector on economic development may be seen by improving tools to those sectors which are employment deep and have higher contribution to GDP (Gross Domestic Product) of the India. The Indian Government by Reserve Bank of India (RBI) mandates some type of lending for the banks operational in India to those sectors which are avoided by the banks and cannot grant to pay high rate of interest due to their weak status. This research paper highlights the economic growth of priority sector by RRBs and how RRBs helps in regeneration of priority sector in India. Priority sector lending may help in financial development of the country by direct or indirect credit in the respective region. Rajasthan needs to enhance the priority sector by providing them accurate credit.

Keywords: Regional Rural Bank, Priority sector Lending by RRBs, Regeneration and growth policy.



The Criteria of effective teaching in Higher Education

Neelam Vishnoi

Research Scholar, Lecturer in Polytechnic College, Gandhi Nagar, Jaipur

Abstract

Effective teaching has been broadly understood as teaching that is oriented and focused on students and their learning. Numerous attempts have been made to identify these characteristics using a variety of theoretical perspectives, from qualitative and quantitative approaches, from various disciplinary. The purpose is to explore effective teaching. Questionnaires are given to

students as well lecturers and were found that students' want creative and effective teaching and it depends on working of bot .

Keywords: Effective teaching, Qualitative, Quantitative, approaches

Introduction:

Today new framework is established for the success of the students. New challenges are faced in the education sector. One of the ironies of higher education is that teachers enter the job with full zeal and they teach effectively and efficiently. In effective Teaching in Higher education: Research & Practice- Raymond, Perry & John C. Smart offer some answers as to why some college- level teachers are more effective than other teachers. With time passing, different theories have evolved like behaviourism, cognitivism, constructivism and humanism.

This paper aims to provide a review of new approaches that benefit the quality of teaching in Higher Education. It focussed on effective teaching. There is much diversity in the literature about the number of dimensions or components of effective higher education, teaching skills and practice (Devlin 2007). Soryan, Amundsen, McAlpine, Weston, Wirer and Gandell (2004) suggest that teaching in higher education settings requires a good grasp of the subject matter and knowing how to present it to students, thus emphasizing knowledge and presentation.

Research: Questionnaires distributed among students and teachers with a letter explaining about its content and purpose. About 15% of the faculty returned it with correct answers filled and 10% students returned it correctly filled. It was all related to what they feel about effective teaching and learning.

Result: Approaches that motivate students to learn more effective, approaches to assessment and feedbacks are more effective and approaches which bring new and emerges technologies attract students to learn effectively.

Conclusion:

Effective teaching should be evidence based, rigorous and motivating. One must be conscious of his role in the larger world we want to build.

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Digitization for Quality Education

Ms. Neelima Gupta

University of Rajasthan, Jaipur, Rajasthan

Abstract

The Government of India has declared 2010 as the innovation decade in today's digital age, using information and communication technology, in the educational situation system, student researchers and teachers can learn more. The maximum information of the curriculum is being obtained using the Director Home Surface

Education portal named Sakshat prepares quality digital content for different educational levels. Similarly, there is an educational communication board. It makes the content available online. It gives information about education and educational topics through various channels through telecast schedule by Edusat. The Ministry of Human Resource Development has made the methods of education easy and full of interest. To set up 32 educational channels has taken into account the quality of education during the design of these channels.

Keywords: Education, development, technology, communication.

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An Overview of Classical Management Theories: Review Article

Neha Saxena

Assistant Professor, Poornima University, Sitapura, Jaipur

Abstract:

Undoubtedly, management is an important issue in any organization where predetermined objective cannot be accomplished without proper management. Management is the art of undertaking different tasks with the help of other people. There is a jungle of management theories divided into classical, behavioral and situational theories. The most famous three classical management theories (scientific, administrative and bureaucratic) are discussed in this article. The science of management theory (in addition to other factors) is a basic requirement for managers of any organization, so that they can deal with different challenges in order to present the science, positive and negative aspects of management theories for managers and management scientists. Common features of classical management theory are chain of commands, authoritarian management style and behavior prediction. Although these theories are obsolete, different forms of these theories are implemented in most parts of the world.

Keywords: Classical Management; Theories

Introduction

Management is the most important element of any organization. No organization can achieve goals without proper management. Therefore, management is the heart of any organization. It is essential to be aware of management theories for leadership and management success. The organizations should deal with many challenges in modern era. Schools and colleges as typical organizations should be equipped with the science of management and management theories to deal with challenges and use maximum resources and outputs in an efficient and economical manner. Classical management theories are very important among management theories. These are foundation of all theories of management. Therefore, this article discussed classical management theories. In this article, the basic science, strengths and weaknesses of classical management theories were discussed. This article is useful for young scientists in the field of management, managers and organizers by providing a brief review of classical management theory.

Management

The term management stems from the Latin word *Manu agree* meaning leadership by hand, which refers to giving direction. It also suggests that the leader goes where he wants to send his followers for the first time(1). Peter Drucker (1974) stated that management refers to

undertaking tasks with the help of other people and resources. In other words, management represents the process of completing tasks with the help of other people. Weijrich and Koontz (1993) stated that management shows the process of planning, leading, organizing and controlling people in a group in order to achieve goals. In addition, it is essential to lead and control the activities to implement a plan. This shows the necessity of a definite plan for effective management. According to this definition, it can be concluded that management is a process of strategic planning, goal setting, resource management and development of necessary human and financial assets in order to achieve goals and measured outcomes. This also includes recording facts and information for later use with respect to the needs. Management and leadership are two similar terms that confuse many people. Therefore, the term leadership should be explained.

Leadership

Leadership refers to the process that an individual influence other people to achieve organizational goals. Grey (2005) and Shaik (2008) believed that leadership: a) is the process of social influence; b) living is impossible without leaders and their followers; c) is a voluntary action by the followers; d) changes behaviors of the followers (5)

Classical Management Theories

Management theories can be classified into classical management theory, humanistic management theory, situational management theories, modern management theories, etc. Classical management theories are discussed in this paper. Classical management theories are developed to predict and control behaviors in the organizations. Unique features of classical management theories are as follows:

a. Chain of command: management is divided into three levels in classical management theories.

Top-level management: This is generally the government (executive), which includes the board of directors, general manager in business enterprises, the president, directors, deputy of directors, heads of universities, etc. Top-level managers are responsible for development of long-term strategic goals in line with organizational goals. Planning, organizing and directing are major responsibilities of top-level managers

Middle-level management level: This is between top-level and low-level managers. Middle-level managers are responsible for coordinating activities of the supervisors, developing and formalizing policies and plans with respect to high-level strategic policies. Middle-level managers in the department of education are supervisor of a group, deputy and assistant of the manager, deputy and assistant of supervisor of examinations, registrar and deputy of

department of education in the district, officials and teachers, deputy of director. Middle-level managers are managers (production manager, administrative managers, financial managers, etc.), deputy and assistant of managers in enterprises

First-level Management: This includes supervisors also called supervision management. Policies and plans are implemented at this stage. Activities are monitored day by day. Teachers are first-level managers in the department of education. Foreman, supervisors, shift assigners, etc. are first-level managers in enterprises

- b. Division of labor:** This is the second key feature of classical management theories. Complex tasks are divided into more simple tasks that can be easily undertaken by workers
- c. One-sided Top-Down influence:** There is one communicational route in classical management theories of communication. Decisions are made at top-level and sent to low-level (Weijrich And Koontz, 1993).
- d. Authoritarian leadership styles:** Authoritarian leadership style is another feature of classical management theories. Management was impressed by the church in older days. Therefore, authoritarian style belonged to those times and was the dominant culture. In other words, the managers made decisions and directed (commanding and organizing) the entire management system. It was believed that the workers should be treated as machines in order to increase efficiency. The workers were strictly controlled. Three classical management theories are properly founded as scientific management theory, administrative theory and bureaucratic theory.

Scientific management theory

This is a well-known management theory developed by Frederick Taylor in 1911. This theory is also important due to temporal factors and purpose of the investigation. His studies were the greatest event of the nineteenth century. This theory is mainly focused on maximum productivity. This theory delivers a proper solution for problems and challenges of industrialists (9). Taylor believed that scientific management is the solution to business problems. He discussed scientific management theory in his book entitled as *Principles of Scientific Management*. He stated that certain efforts change the management system in some cases, so that interests of workers are converted into interests of management (13). In an experiment, shovellers efficiency increased from 16 to 59 tons per day, which reduced the number of yard workers from 500 to 140. He brought a revolution in the art of cutting metal and quickly doubled the speed of cutting metals. In the late nineteenth century and early twentieth century, Taylor worked on increasing efficiency using scientific methods, eliminating additional movements and transfers at workplace. He wanted to train workers for better jobs, divide the

tasks between management and workers and implement scientific management style with respect to different practices and workers in action. In this method, each group make their best efforts.

Four management principles to increase productivity

It is essential to develop the science of working. In other words, the job should be investigated in action to find the best ways to do the job. Either scheduling or orientation method can be used for data collection. Different methods should be used to find the best method. A new method should be chosen. The workers should be selected. Scientific training should be given according to the best way of performing the job. Different workers should be selected for different jobs. Training should be given to the workers according to their position in the organization, so that each worker would be an expert in his job and perform a better job. Taylor's work was appreciated by the industrialists at that time. His principles are still practiced in most parts of the world.

Administrative management theory

Administrative management theory is another well-known classical management theory developed by Henry Fayol in 1916. Fayol was a senior manager. He has developed this theory based on personal experience. The theory encompasses business management (business) and general management. His main focus was on management. He introduced six functions and fourteen management principles in his theory. Six management functions are predicting, planning, organizing, commanding, coordinating, monitoring.

Management bureaucratic theory

This theory is proposed by the German sociologist Karl Emil Maximilian known as Max Weber. This is also called Weber's theory of bureaucracy. He proposed this theory in 1947. He called his work a social and economic organization theory. This theory mainly focuses on organizational structure. He focused on hierarchy and authority-control strict lines in structuring the organization into a hierarchy. He suggested that the organizations should develop precise and comprehensive operating procedures to do predefined tasks.

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Effectiveness of Training & Development Programs in an Organization

Nikhil Dixit

MBA 1st Semester, Poddar International College, Mansarovar, Jaipur

Abstract

The research paper is about the effectiveness of training and development programs in an organization. Training & development programs play a very important role for an organization to achieve its goals. Organization provides both on the job training and off the job training programs to their employees which enhances their skills and knowledge which ultimately helps them to do their job in more effective and efficient manner. Employees are the most significant resources for an organization; the success and failure are totally depending on them. Now-a-days we can see many of the organizations are approving and encouraging new policies and strategies which are as follows: Formal training sessions (individual and corporate), Employee coaching and mentoring, Job shadowing, Job rotation. So it is very important to provide right training at right time to the Employees.

Keywords: Training, Development, on the Job, off the Job.

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What is Sustainability? A Review of the Concept and its Applications

Nikhil Saini

Student, Maharshi Arvind Institute of Science and Management, Jaipur

Abstract

Though the idea of manageability is extensively recognized as being multi-dimensional, its different measurements have exposed distinctive discourses over time and have regularly been dealt with independently. Now and again, this separation has restricted the real execution of supportability to its negligible rhetoric. By depending upon an audit of the significant writing which locations the notion of maintainability (or of manageable improvement), the present part points to explore this idea by recognizing its key measurements and the intertwining relationships between them. In this manner, the difficulties and opportunities brought out by an incorporated methodology towards supportability are also emphasised, together with the pretended by administration structures, business models, the board, estimation and detailing frameworks in implementing 'integrated maintainability' inside associations. In this specific situation, the contribution of incorporated revealing is investigated

Keywords: Sustainability



Digitalization and its Impact on Economic Growth

Nisha Pasari

Student (BBA LLB), Jamnalal School of Legal Studies, Banasthali Vidyapith, Niwai, Dist.-Tonk (Raj.)

Abstract

India is among one of the quickest and macroscopic growing economies of the world, but still the most disturbing fact is its economic growth, that its economic growth has not only been uneven but discrete as well. In order to overcome this, Our Respectable Prime Minister Narendra Modi took an initiative on 1st July, 2015 towards “making India Digital”.

Digitization a key motive helped in enhancing the social and financial life of people by developing digital markets which resulted in integrating economy. At the time of worldwide recession 6 million jobs have been created all round the world because of digitalization effects. The paper analyzes the importance of digitalization in economic growth. The present study is secondary based and descriptive in nature. The finding of the study will identify the contribution of digitalization in the Economic growth of India.

Keywords: Digital India, Economic growth, Digitalization

Introduction

Indian economy is among one of the quickest growing economy within the world. As per Gross domestic measure Indian economy is the seventh largest economy and third largest according to purchasing power parity (PPP). Indian economy has faced a plenty of challenges from being independent to opening its doors for international mercantilism by adopting LPG policy (Liberalization, Privatization, Globalization).

Digitalization emerged as a game changer and one of the most precious strategies in India for the un-served low income households as well as for the under-served low income households and small and micro enterprises.

Digitization emergence was accompanied with the aid of proliferation of e-commerce has profound impact on the socio- economic and productivity level of the society. Digitization has prominent impact on employment and economic growth of any nation as its miles a worldwide idea. Digitization index were related to higher employment and growth rate with increasing returns to scale. According to studies it has been revealed that use of internet by Indian SMEs would fetch 37% higher employment and 32% more revenues. (FICCI & Nathan Associates Inc., 2013). [1]

The objective of the paper is to seek answers to how digitization is fostering economic Growth of the nations, and what type of employment opportunities are created by digitization and how these opportunities could be leveraged in India.

What is digitalization?

Digitalization is an influential umbrella assignment of the authorities and advantages for the residents and India a worldwide platform with participation from various sectors of economy and people. The fundamental concept of digitalization is to make complete use of Information and Communication Technology (ITC) centers so one can assist in getting access to international records and resources and can be useful for the society on the equal time.

Impact of Digital India

Digital India is a Government initiative to encourage the growth of Indian Economy by adopting Digital technologies. Its impact on Economic growth is positive and long lasting. Some of the key initiatives of Digital India scheme were:

- Starting a Digital Locker,
- MyGovPortal,
- ORS, and
- Design Framework to allow the w digital signing of documents.[2]

Digital India resulted in reduction of corruption, increase in job opportunities, decrease in paper works to avoid wear and tear of important document, easy management of all online stored documents. Indian government have worked for several years to establish an economy based on technologies, i.e. Digital India.

Role of Digitalization in:

- **Agriculture Sector**-In Agriculture , Digitalization can be defined as data and Information and Communication Technology (ITC) ecosystems to support the development of agriculture sector and for timely delivery of products, targeted services and information to make this profession sustainable and much more profitable.
- **Industrial Sector**- Products carrying both digital and physical characteristics will be produced, which will change the present scenario of and the world of product development and the employment will be impacted positively.
- **Service Sector**-With the increase in numerous digitalized facilities being provided by the banks like NEFT, online banking, Paytm, Google pay i.e. mobile banking etc. the ease of performing banking activities and managing bank accounts has also increased which has resulted in the improvement of the future growth aspects for the Banking sector. [3]

Impact of digitalization on Indian economy:

Economic Growth

Digitalization played a major role in the growth of Indian economy. One of the best examples of it is increase in job opportunities and foreign investment. In addition with digitalization, “Make in India” also played a major role in economic growth by increase employment and opening the doors for new opportunities. The government put their full efforts in encouraging the people to become digitally sound and transform the country’s economy from a knowledge savvy to a techno knowledge savvy economy.

From the statistical data it has been observed that enlarge economies internet accounts 3.4% on average along with the stable employment generation. At the time of worldwide recession 6 million jobs have been created all round the world because of digitalization effects, 94% of which was from the emerging economies and the rest 6% from Western Europe and North America.

GDP growth-New job opportunities came up with digitalization which led to innovation in every sector which also led to the economic growth of the country. According to a study conducted by Strategy& (formerly known as Booz and Company) reveals that GDP could be increased due to effective utilization of digitalization. They analyzed that, *“the constrained economies realize a 0.5% increase in GDP per capita for every 10% increase in digitalization, while advanced digital economies show a 0.62% increase in the GDP per capita for every 10% digitalization increase.”* [4]

Demonetization – Demonetization played a great role in economic growth as digital soundness was growing at a very slow rate but after demonetization the scenario. Demonetization resulted in increased number of transactions from mobile wallet and digital payment channels. According to records of Paytm, *“hit a record of 5-million transactions in a single day, processing Rs.24, 000crore payments, less than a week into the Indian government's decision to demonetize. This clearly indicates the growth of economy in aspect of online banking and sustainable development.”*

Future of Digitalization:

According to MGI reports the India's digital economy was 8% of the nominal GDP or we can \$200 billion, in 2017-18 and it carries the potential to add 275 million internet subscribers by 2032 which will result in the increase in economic value from \$ 50 billion to \$55 billion in 2025. [5].

Anu Madgavkar and Alok Kshirsagar said, *“We anticipate lot more new data driven business models and ecosystems are coming up in agriculture, healthcare, logistics, energy, education and financial services collectively could generate huge amounts of economic value by 2025,”*

Social Impact-According to researches societal impact on degrees: the level of excellent of life in a society and the equality of access to fundamental services that a society requires. We can see the changes on societal basis like with increase in employment, improvement in standard of living.

Government Impact- Digitization contributes to greater green transport of e-government offerings, while higher e-authorities offerings stimulate a boom in digitization. Finally,

digitization helps higher shipping of primary authority's offerings, consisting of public schooling.

Digital Transformation: A Positive Contribution to Society

- **Creating a workforce for the machine age-** between 2015-2025 it is expected that digitalization would create up to 6 million jobs approximately worldwide in “logistics and electricity industries.”
- **Transitioning to a sustainable world-** According to an examination of industries it has been held that between “2016-2025, 26 billion tons of CO₂ emission” would be avoided.
- **Building trust in the digital economy-** “Usage-based insurance (UBI), attached with driving technologies will result in decrease death toll from road accidents more than 2 million by 10% by 2025.”[6]

Digitalization is an all-round social transformation by introducing latest technologies. Digitalization came up with new job opportunities, increase in GDP growth and growth in economy as well.

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Gesture Controlled Humanoid Robot for Defense Applications

Mr. Nitimaan Mathur

Student, Center for Converging Technology, University of Rajasthan

Abstract

Humanoid robots, robots with a human like appearance along with senses, are enjoying increasing popularity in research domain. Numerous groups are world wide working on issues like bipedal motion, audio-visual perception in tactile environments, human machine interactions, motion planning control, reinforcement learning targeted for the application in humanoid robots[1]. Today's humanoid robots display their potential capabilities in tasks requiring a limited subset of skills like walking and talking with users etc. This paper presents the application of Gesture controlled state-of the-art humanoid robots and discuss possible future developments.

Keywords: Humanoids, Robots, Gesture Controlled, Human robot Interaction

Introduction

In today scenario, various military organizations take the advantage of military robots for risky jobs. The robots that are used in military are generally employed within intelligent systems that include video screens, motions sensors, grippers for control along with high resolution cameras. Robots used in military also have different shapes and sizes according to their purposes, and they may be autonomous machines or remote-controlled devices.[2] Engineers and scientists are working on hardware and software for further development to advance the ability of humanoid robots to move around, make decisions, pick up objects and carry out tasks.

In this system, a gesture driven robotic humanoid is developed, in which the robot's movements and manipulations i.e., handling and control is dependent on the gesture of the user. Gesture movements of controller is captured with the help of accelerometer and it is processed by program and microcontroller software and the parameters are sent to microcontroller and encoder circuit, it is further transmitted (transmitter section) by transmitter

Future Scope and Conclusion

The role of robots in military is already undergoing many dramatic changes. This futuristic technology is, rightly or wrongly, changing at a very rapid pace and will change the scenario how countries manage their defense, from monitoring enemy activity and carrying out missions to who we send into combat missions. But while robots employed in military positions can help

reduce costs, enable efficiencies and save lives when on our side, but when in the hands of the enemy, or if given too much autonomous control, they will create deadly new threats.

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A Review: “IOT” & Its Applications

Mr. Aman Gupta¹, Ms. Namrata Jangid², Mr. Dinesh Bhamu³

¹Research Scholar, Commerce College, ²Research Scholar, Lakshika College

³Research Scholar, Commerce college

Abstract:

We are entering in a new age of computing technology i.e. Internet of Things (IoT). IOT is a type of “universal global neural network” in the cloud which enables devices to connect to various other things. The IoT is a network of smartly connected devices and tools which includes smart machines interacting and communicating with various other systems, environments, objects and infrastructures and the Radio Frequency Identification (RFID) and sensor network technologies will get up to see this new challenge. As a result bulk amount of data are being produced, preserved, and that data is being operated into useful actions that can “command and control” the things to make our lives much easier and safer—and to reduce our impact on the environment. Every organization such as private organizations and public organizations need recent information about people. In this context, most setups either use websites, emails or notice boards. However, in many countries internet is accessible to people on PCs and their mobile devices, so that the information communication can be done easily and in an inexpensive way through the internet.

Keywords: Information dissemination; Embedded System, Web server formatting, Smart System .

INTRODUCTION

Internet of Things (IoT) term represents a general notion for the potential of network devices to sense and gather data from around the world, and then communicate that data across the Internet where it can be operated upon and made available for various purposes. The IoT is made using various smart machines interacting and communicating with other machines, tools, environments and infrastructures. Now a day's every other person is communicate with each other through lots of ways. Among all, most common communication tool is internet so if said differently, we can say internet is a technique which connects people.

The essential idea of the Internet of Things (IoT) has been around for nearly past twenty years, and has attracted several scientists and industry experts because of its highly measured impact in enhancing our day to day lives and society. When things such as household appliances are connected to a network, they can work together in synchronization to give the ideal solution as a whole, not individually. This is beneficial for different types of the real-world applications and services, and one would for example apply it to build a smart home; for example doors & windows can be shut with a button click when the air conditioner is turned on, or can be opened for oxygen when the gas oven is turned on. The plan of IoT is especially valuable for differently abled persons, as IoT technologies can help human activities at greater extend as building smart society, as the devices can mutually engage to act as a whole system.

LITERATURE REVIEW

In any firm there is always help desk that helps by giving information, advertisement texts and many notification messages to their customers and staff. This work engages the staff that is remain sengagedin for that purpose and that must have updated information about different offers, advertisements and the organization behavior. Due to the evolvment of IOT we can find different smart devices or tools around us. Alike work has been previously done by many researchers around the world. In literature [10] the IoT refers as the network of intelligently connected devices and systems to collect data from embedded sensors and actuators and other physical objects. IoT is expected to rise enormously in coming years. A new extent of services that enhance the quality of service for consumers and productivity of enterprises opening new opportunities. In current scenario, Mobile networks already provide connectivity with a broad category of devices, which can allow the development of new services and applications. This new trend of connectivity is going far off the tablets and laptops; to connected vehicles and buildings; smart meters and traffic control; with the prospect of intelligently connecting almost anything and anyone. This is what the GSMA refers to as the "Connected Life".

APPLICATIONS

The IoT system can be implemented for a shopping complex, mall but it can be also utilized in different firms like educational display board system or at Railway station, Bus station and Airport to display the information and important messages. In closed areas like mines, it is can be applied to regulate the humidity and temperature of the area using temperature sensor. In Industrial organization it can be also used. Electronic-display system may be used to display Emergency messages in Hospitals. Some areas where IoT may be applied:

i. Smart cities:-

To make the city as a smart city to engage with the data exhaust produced from your city and neighborhood.

- Observing parking areas availability in the city.
- Detecting vibrations and material status in buildings, bridges and historical monuments.
- Monitor Android devices, iPhone and in general any device which works with Bluetooth interfaces or WiFi.
- Measuring the extent of the energy dissipated by cell stations and Wi-Fi routers.

ii. Security & Emergencies:- Spotting and observing people in restricted areas.

iii. Smart agriculture: Wine Quality Enhancing: Tracking soil moisture and trunk diameter in vineyards to control the amount of sugar in grapes and grapevine health.

CONCLUSION

The IoT assures to deliver a step change in individuals' quality of life and enterprises' productivity. Instead, a widely used, locally intelligent connectivity of smart devices, the IoT has the capability to make extensions and extensions to general services in transportation, logistics, security, usages, education, health-sector and various other areas, while providing a new ecosystem for application development. A concentrated effort is mandatory to raise the industry beyond the early stages of market development towards maturity, driven by general concepts of the different nature of the opportunity. This place has different features in the areas of service transformation, business and charging models, abilities required to transform IoT services, and the differing desires these services will place on mobile networks

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A study on Working Capital Management

Nishu Jain

MBA 1st Semester, Poddar International College, Mansarovar, Jaipur

Abstract

Finance plays an important role for the survival and growth of the company. A well designed and implemented working capital management is expected to contribute positively to the firm's value. "Working capital" is the capital invested in different items of current assets needed for business, i.e, debtors, inventory, cash, marketable securities and other current assets are essential for the smooth functioning of business and proper utilization of fixed assets. The firm should maintain sufficient level of working capital to produce upto a given capacity and maximize the return on investment on fixed assets. Shortage of working capital leads to lower capital utilization, lower turnover and lower profits. Working capital, in excess of the amount required to produce full capacity, is idle and consequently leads to decline in profits. So, it is very important to deal with the problems involved in working capital like estimation of working capital and provision for working capital at the time it is needed and to find out the source and application of working capital and efficient use of funds.

Keywords: Working capital, current assets, fixed assets, investments



Management Control for Sustainability: The Development of a Fully Integrated Strategy

Pawan Meena

Student, University of Rajasthan, Jaipur, Rajasthan

Directors battle to make an interpretation of maintainability methodologies into activities. This examination looks at the utilization of an administration control system and manageability control framework to help the execution of a coordinated maintainability methodology. It depends on inside and out meetings with key money and maintainability administrators in a Swedish worldwide modern organization. We draw upon the switches of control idea to break down the organization's use of MCS and SCS. The interactive components of the association's

SCS are characterized by discourse among vital and tactical level directors in a non-obtrusive condition. In this way, the firm deploys these key execution controls in an empowering rather than a compelling style. Key legitimacy controls, be that as it may, are just well-created for a subset of the firm's products and administrations. These discoveries recommend that the way where an association sends intelligent controls inside its SCS is impacted firmly by the association's way of life and the business wherein it works. The association's MCS and SCS display specialized integration, but faces challenges as for authoritative and subjective incorporation. However, specialized reconciliation seems to repay to some extent for the absence of combination along the other two measurements. This examination adds to a developing group of research that adjusts the executives control structures to examine the connection among technique and manageability.

Keywords: Strategy, management control, sustainability, corporate social responsibility, levers of control



A Study of Economic Growth in India

Pooja Tarun¹, Chitranjan Kumar Maurya²

¹*Assistant Professor, Government PG College, Deoli, Tonk*

²*Research Scholar, Department of Economics, Uni of Raj, Jaipur*

Economic growth is the increase in the market value of the goods and services produced by an economy overtime. It is measured as the percent rate of increase in real Gross Domestic Product or real GDP. It has all the advantages and drawbacks of that measure. An increase in in per capita income is referred to as intensive growth. GDP growth caused only by increases in population or territory is called extensive growth. Growth is usually calculated in real terms i.e., inflation adjusted terms to eliminate the distorting effect of inflation on the price of goods produced. Economic growth refers to growth of potential output, i.e. production at “full employment”.

The progress of economic reforms in India is followed closely. The World bank suggests that the most important priorities are public sector reform, infrastructure, agricultural and rural development, removal of labour regulations, reform in lagging states, and HIV/AIDS. For 2018, India ranked 77th in the Ease of Doing Business Index. According to Index of Economic

Freedom World Ranking an annual survey on economic freedom of the nations, India ranks 123rd as compared with China and Russia with ranks 138th and 144th respectively in 2014. At the turn of the century India's GDP was at around US \$480 billion. As economic reforms picked up pace, India's GDP grew five-fold to reach US \$2.2 trillion in 2015. India ranks 7th (nominal 2018) and 3rd (PPP 2018) in GDP and 139th (nominal 2018) and 119th (PPP 2018) in GDP per capita. Public Debt are ₹133.10 trillion (US \$ 1.9 trillion) 69.794 percent of GDP (2018) and Revenues are ₹39.29 trillion (US \$ 570 billion) 20.60 percent of GDP (2018). India is the 58th most competitive nation in the world out of 140 countries ranked in the 2018 addition of the Global Competitiveness Report published by the World Economic Forum. According to International Monetary Fund World Economic Outlook (October 2018) GDP (nominal) of India in 2018 at current prices is \$2690 billion. The economic growth has been driven by the expansion of the services that have been growing consistently faster than other sectors. Services concerns have been raised about the jobless nature of the economic growth. Favourable macroeconomic performance has been a necessary but not sufficient condition for the significant reduction of poverty amongst the Indian population. The rate of poverty decline has not been higher in the post reform period. The improvement in some other non-economic dimensions of social development have been even less favourable. This is a study paper to know more about Indian Economy and reforms during 2010 to 2018. This paper will conclude the present status of Economic Growth in India and affecting factors.

Keywords: Economic Growth, Development, Infrastructure, Agriculture, Service Sector, Economic Reforms



International Financial Reporting Standard (A Comparative Analysis of IFRS, US GAAP and Indian GAAP)

Pooja Yadav and Ravi Saini

University of Rajasthan, Jaipur, Rajasthan

Abstract

International financial reporting standards (IFRS) set of common rules so that financial statements can be consistent, transparent and comparable around the world. IFRS are issued by the international accounting standards board (IASB). They specify how companies must maintain and report their accounts, defining types of transactions and other events with

financial impact. IFRS were established to create a common accounting language. IFRS is used primarily by businesses reporting their financial results anywhere in the world except the United States. Generally Accepted Accounting Principles, or GAAP, is the accounting framework used in the United States. GAAP is much more rules based than IFRS. IFRS focuses more on general principles than GAAP, which makes the IFRS body of work much smaller, cleaner, and easier to understand than GAAP. IFRS requires businesses to report their financial results and financial position using the same rules; this means that, barring any fraudulent manipulation, there is considerable uniformity in the financial reporting of all businesses using IFRS, which makes it easier to compare their financial results.

Keywords: IFRS, IASB, Indian GAAP, IAS, accounting standards, consolidated financial statement, financial instruments, international business.

International Financial Reporting Standards (IFRS) IFRS is a refined system of financial reporting which is going to benefit all the stakeholders in the coming years, together with improved corporate governance and increased free flow of capital across the globe. International Financial Reporting Standards (IFRS) are a set of accounting standards developed by the International Accounting Standards Board (IASB) that is becoming the global standard for the preparation of public company financial statements.

IFRS in India

IFRS convergence, in recent years, had gained momentum in this world. As the capital markets become increasingly global in nature, more and more investors see the need for a common set of accounting standards. India being one of the global players, migration to IFRS will enable Indian entities to have access to international capital markets without having to go through the cumbersome conversion and filing process. It will lower the cost of raising funds, reduce accountants' fees and enable faster access to all major capital markets. Furthermore it will facilitate companies to set targets and milestones based on a global business environment rather than an inward perspective.

Benefits of IFRS over the Indian GAAP

The following are the reasons for adoption of IFRS in spite of Indian GAAP:

1. Improve transparency in accounting system.
2. Globally accepted.
3. New opportunity.
4. Allows exercise of professional judgment.

5. IFRS are increasingly being recognized as Global Reporting Standards for financial statements.
6. Indian GAAP is becoming rare because it has some limitations in comparison with IFRS.
7. As global capital markets become increasingly integrated, many countries are adopting IFRs.
8. More than 100 countries already permit the use of IFRS in their countries.

Benefits of IFRS in India

The following are the benefits to India by the implementation of IFRS:

1. It would benefit the economy by increasing the growth of international business.
2. It would encourage foreign investment which results in foreign capital inflows into the country.
3. It would reduce the cost of compliance.
4. IFRS would open many opportunities for the professionals to serve the international clients.

Challenges in implementation of IFRS in India

There are certain challenges in implementation of IFRS in India. They include:

1. Increase in cost initially due to dual reporting requirement, which entity might have to meet till the full convergence is achieved.
2. Current accounting framework in India is deeply affected by laws and regulations. It is required to make amendments in various laws and regulations.
3. All stakeholders, employees, auditors, regulators, tax authorities etc. would need to aware about IFRS. They need to be trained.
4. Organizations would incur additional costs for modifying their current accounting procedures for meeting the new disclosures and reporting requirements.

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Technological Innovation in the Internet of Things

Ms. Shweta Gupta¹, Ms. Pranshi Khandelwal²

^{1,2}Student Shankara College, Jaipur

Abstract

The Internet of Things (IoT) refers to billions of physical devices around the world that are now being connected to the whole internet, collecting & sharing data. Thanks to low-priced processors or wireless networks, it has now become feasible enough to turn anything, whether it's about turning a capsule to an aeroplane, into an IoT Part. This augments a level of digital aptitude to devices that would be otherwise dumb, facilitating them to communicate without a human interference, and unifying the digital & physical worlds.

What can be considered as an Internet of Things device?

Pretty much any physical object can be transformed into an IoT device if it could be connected to the internet & guided in that way.

For Instance, A light-bulb that could be switched on using any Smartphone application can be considered as an IoT device, as it is a motion sensor or a smart-thermostat in your office or a connected streetlight. An IoT device could be as fluffy as a child's teddy bear or as considerable as a driverless truck, or could be as complex as a jet engine that's now crammed with a lot of sensors collecting as well as transmitting data. At an even higher scale, smart cities projects' are loading whole regions with sensors to assist us in understanding & also controlling the environment.

The term 'IoT' is mainly used for devices that wouldn't usually be generally expected to have an internet connection that can communicate with the network independently of human action. For this reason, a PC isn't generally considered an IoT device and neither is a Smartphone -- even though the latter is crammed with sensors. A smart watch or a fitness band might be counted as an IoT device, however.

What are the achievements of India till 2018 in Internet of Things?

The IoT promises to make our environment -- our homes and offices and vehicles -- smarter, more measurable, and chattier. Smart speakers like Amazon's Echo and Google Home make it easier to play music, set timers, or get information. Home security systems make it easier to monitor what's going on inside and outside, or to see and talk to visitors. Meanwhile, smart thermostats can help us heat our homes before we arrive back, and smart light bulbs can make it look like we're home even when we're out.



Role of Foreign Direct Investment and its Impact on Indian Economy

Prahalad Dhaker

Assistant Professor, Department of Economics, Government College, Kherwara, Udaipur (Rajasthan)

Abstract

Foreign Direct Investment (FDI) is refers to capital inflows from abroad that are invested in to enhance the production capacity of the economy. It has facilitated India to achieve a certain degree of financial stability, growth and development. It helps in economic development by providing foreign capital, funds and expertise, latest technology and machinery, providing more opportunities for up-gradation of technologies, skills and job opportunities, boosts export of manufactured goods and services provide wide and varied choices and quality goods to consumers which ultimately contribute to economic growth. The international competition ensures breaking of the domestic monopolies and bringing down the prices. FDI also contribute to the corporate revenue of the host economies. Foreign investment is the indispensable factor that helps in boosting the growth of economy also promotes globalization. FDI is one of the most dynamic international resource flows to developing countries.

The objective of this paper is to analyse the role and impact of the FDI across different sectors in India. This study is based on secondary and published data for the period of 1991-92 to 2016-17, obtained from various sources such as World Development Indicators provided by World Bank, World Investment Reports, Handbook of Statistics on the Indian Economy, RBI, CSO and CMIE.

The period of the study is significant in the sense that during this period there has been an inclusive change in policy frame work and the outlook of developed and developing countries towards FDI owing to its benefits to the host country and FDI was also considered as an important source of external finance. India has witnessed the increase in the flow of FDI from US \$ 129 million in 1991-92, to US \$ 60,082 million on 2016-17. This period is important for many reasons mainly because of adoption of LPG polices in 1991. FDI is considered to be one of the important measures of increasing economic globalization. FDI is expected that this study will give some additional insights about the relationship between FDI inflows and economic growth in India.

Keywords: Foreign Direct Investment, Multinational Companies, Globalization, Economic Growth and Inclusive Growth, LPG etc.



Environmental Accounting and its Impact on Business Growth

Priya Sharma

Department of Commerce (ABST), Research Scholar, MJRP University, Jaipur

Accounting and disclosure of environmental matters have been increasingly manifesting as an important dimension of corporate accounting and reporting practices. In order to sustain in this competitive world most of the industrial and corporate houses globally are incorporating the concept of environmental element in their daily business operations.

Green accounting is a popular term for environmental and natural resource accounting. It is an expanding field focused on factors like resource management and environmental impact, in addition to company's revenue and expenses. Companies are incorporating the concept of environmental element in their business operation. Green accounting will help the organization to identify the resource utilization and incurred cost.

Accounting and disclosure of environmental matters have been increasingly manifesting as an important dimension of corporate accounting and reporting practices. Industrialization is the foundation stone of the development of any economy, while the unplanned industrialization and discharge of waste by industries is one of the major cause of environmental pollution. As corporate sectors in the global market, especially in India are becoming anxious about environmental degradation, depletion of resources etc, naturally more and more emphasis will be ascribed to how environment-friendly the outcomes. Maintaining accounts of such environmental and natural resources in the country has become more urgent. Moreover, international awareness and acceptance of the importance of environmental issues has motivated the development of a branch of accounting called "Green Accounting" or "Environmental Accounting". But, as conventional accounting deals with mainly non-living things, the formulation of valuation, and measurement and accounting techniques for incorporating environment-related matters in the corporate financial statement sometimes creates problems for the accountant. In the light of this situation, the conceptual analysis of the study is concerned with the rationale of environmental accounting on the economy and society as a whole, and focuses the failures of the traditional accounting system. The present research paper concentrates on exploring the concept of Environmental/Green accounting, its impact on Business Growth in India. A modest attempt has been made to throw light on the environmental awareness in developing nations like India and discuss the problems impact of it on the Business.

Keywords: Environmental Degradation, Environmental Accounting, Social Responsibility, Environmental Reporting.



Sustainable Manufacturing: An innovative move in Indian Steel Industry

Prof. (Dr.) S.C. Jain¹ and Ashok Kumar²

¹*Dean, Faculty of Commerce and Management, Maharishi Arvind University, Jaipur*

²*Research Scholar, Department of Commerce and Management, Maharishi Arvind University, Jaipur*

Abstract

Sustainable Manufacturing (SM) for our purpose can be defined as a method for manufacturing that minimises waste and reduces the environmental impact. These goals are to be obtained mainly by adopting practices that will influence the product design, process design and operational principles. Therefore, sustainable manufacturing may be defined as a system that integrates product and process design issues with issues of manufacturing, planning and control in such a manner as to identify, quantify, assess, and manage the flow of environmental waste with the goal of ultimately reducing the environmental impact to that of the self-recovery capability of the Earth could deal with while also trying to maximise resource efficiency.

India was the world's second-largest steel producer@ with production standing at 106.5 MT in 2018. The growth in the Indian steel sector has been driven by domestic availability of raw materials such as iron ore and cost-effective labour. Consequently, the steel sector has been a major contributor to India's manufacturing output.

Manufacturing has emerged as one of the high growth sectors in India. Prime Minister of India, Mr Narendra Modi, had launched the 'Make in India' program to place India on the world map as a manufacturing hub and give global recognition to the Indian economy. India is expected to become the fifth largest manufacturing country in the world by the end of year 2020*.

The Indian steel industry is very modern with state-of-the-art steel mills. It has always strived for continuous modernisation and up-gradation of older plants and higher energy efficiency levels. This has led to the introduction of the term **Sustainable Manufacturing** for promoting sustainable development. The main thrust of Sustainable manufacturing lies on environment friendly manufacturing production by the manufacturing companies.

The paper attempts to study the concept of Sustainable Development and Sustainable manufacturing in context of Indian steel industry.

Keywords: Sustainable Manufacturing, Sustainable Development, Make in India, Sustainable Development Goals (SDGs).



Impact of Social Spiritual and Cultural Intelligence on Trainees

Ms. Rashmi Sakarwal

University of MJRP, Jaipur

Abstract

It has long been observed that while some people may have strong intellectual abilities, they seem to struggle to master social skills which enable them to interact successfully with other people. This ability to “get along” with others has now been officially recognised as a form of competency or even a specific type of intelligence: social intelligence. Spiritual intelligence (SQ) is our capacity for developing meaning, vision and value. It allows us to dream and to strive. It underlies the things we believe in and the role our beliefs and values play in the actions that we take. The higher our SQ, the more we are truly ourselves, mindful of our being and not hiding behind reactive emotions or conditioned belief systems. Some people those with high "cultural intelligence" are good at spotting cultural differences, and they adapt their behaviour accordingly. This is a key skill when working with culturally diverse groups. It's very possible to develop cultural intelligence. In this paper, we'll look at what it is, and we'll see how to build it.

Keywords: Spiritual, cultural, emotion, intelligence.



The Impact of Triple Bottom Line Reporting on Sustainable Development

Rekha Naruka

Research Scholar, University of Rajasthan, Jaipur, India

Abstract

“Sustainable Development Goals (SDG)” in September 2015, the United Nations General Assembly formally adopted the “universal, integrated and transformative” 2030 agenda for sustainable development a set of 17 sustainable development goals(SDG). The goals are to be implemented and achieved in every country from the year 2016 to 2030. This study examines the impact of triple bottom reporting on sustainability development. This relevant literature was

conducted and revealed an inconsistent use of the term sustainability with respect to social, environmental, and economic lines. On the other hand, consistency in terms of referring to the three lines simultaneously is built into structure of TBL as the concept is clearly based on the combination of social, environmental, and economic lines. It also explores ‘Sustainability’ and the ‘Triple Bottom Line’, as tools to examine, appraises or measures the effects of business activities on the economy, social equity, and environment.

Keywords: Triple bottom line (TBL), Sustainability development

Introduction

Sustainable development was defined by the Brundtland Commission of the United Nations in 1987. Triple bottom line (TBL) accounting expands the traditional reporting framework to take into account social and environmental performance in addition to financial performance. Sustainable development is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural resources and ecosystem services upon which the economy and society depend. Sustainable development can be defined as development that meets the needs of the present without compromising the ability of future generations.

Triple Bottom Line on other hand (TBL) refers to a method of measuring the economic, environmental and community service impacts of an organization than traditional practice of measuring just the financial bottom line. John Elkington (1994), coined ‘triple bottom line (TBL)’ as a new term to advance his sustainability agenda.

Difference between Tradition Reporting and TBL Reporting

In traditional business accounting and common usage, the “bottom line” refers to either the “profit” or “loss”, which is usually recorded at the very bottom line on a statement of revenue and expenses. Over the last 50 years, environmentalists and social justice advocates have struggled to bring a broader definition of bottom line into public consciousness by introducing full cost accounting.

Triple bottom line (TBL or 3BL) is an accounting framework with three parts: social, environmental (or ecological) and financial. Many organizations have adopted the TBL framework to evaluate their performance in a broader perspective to create greater business value. The triple bottom line (TBL) is a framework or theory that recommends that companies commit to focus on social and environmental concerns just as they do on profits. The TBL posits that instead of one bottom line, there should be three: profit, people and the planet.

Research Methodology

The nature of research is descriptive. For the purpose of study the secondary data/data source. The present study is based on secondary data. Basically, the required information has been derived from

1. Various Books
2. Articles from Newspapers, Magazines and Journals, and
3. From the various related web-sites

Review of Literature

Andrew Manikas, Michael Godfrey (2011)

A corporation that wants to fully embrace sustainability must address all three pillars of the triple bottom line. Among profit, planet, and people, it is this last category that is hardest to measure directly.

Daizy, Mitali Sen and Niladri Das (2013)

This paper aims to review the various initiatives and trends of corporate sustainability with special reference to the recent trends of sustainability reporting in India. The study finds that the sustainability reporting scenario in India is still at nascent stage.

Objectives of Study

- To ascertain the impact of Triple bottom Line Reporting on Sustainable development.
- To identify various indicators of TBL reporting and sustainability development.

Countries Promoting TBL Reporting

Australia	New Zealand
Britain	South Africa
France	Switzerland
Japan	United States
Canada	Germany

Source: Centre for Promoting Ideas, USA.

Conclusion

Thus it can be concluded from the above study the interface between ‘Sustainability’ and ‘Triple bottom line’ (TBL) as two related concepts that are used interchangeably in the literature. As the popularity for Triple Bottom Line Reporting grows and more competitors from different markets choose to address the social and ecological issues at hand, the standards by which the companies operate should be raised to meet higher needs. The struggle to retain all resources possible for future generations while still utilizing enough to survive today must be part of the evolutionary process into sustainability. TBL connects the financial reporting with the business’s everyday activities in a way that provides a broader awareness of the impact of the business upon society. Information should be constantly and accurately recorded to confirm the advantages of taking the steps to become a sustainable company.

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Environmental Accounting & its impact on business growth

Renu Nagar

Assistant Professor in Department of ABST (Raj. University)

Environmental Accounting refers to identification, measurement and communication the data on environment activities which facilitates a business entity for its economic decision making. Business is a socio-economic activity. It takes its inputs from society hence it should be objective of an enterprise to work for society. An enterprise is corporate citizen and like a

citizen who is obliged for its environment, an enterprise should also responsible for its surrounding, where it runs.

An enterprise uses its resources both human & material. It also pollutes the environment through its various production activities. Now there is a question arises how to measure this cost in monetary value of such harm to environment. Since enterprise harms the environment it also takes initiatives for its betterment. Again, question arises how to measure these benefits in monetary value. For this problem environmental accounting concept is initiated.

Environmental accounting focuses on measuring the economic efficiency to environment conservation activities and the environment efficiency. Environmental accounting is a field that identifies contribution of natural resources to economic well being and cost imposed by pollution or resource degradation.

There are three approaches of environmental accounting which are pollution & expenditure accounting, physical accounting and green accounting. Environmental accounting would aid the discharge of corporate social responsibility under Indian companies Act-2013. Environmental accounting encourage the consumers to purchase environment friendly products i.e. green products, it increases the profit of business and upholds the image of business in society. Environmental accounting is not an additional responsibility of an enterprise but it has great impact on business growth of an enterprise.

This paper will presents the concept of national income, cost concept, degradation of natural resources, disclosing its value in balance sheet, determining value of contribution to industries to environment and social well being.

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Artificial Intelligence

Shilpika Tewari¹, Dr. Manju Sharma²

¹Researcher (Education) Jyoti Vidyapeeth Women's University, Jaipur

²Guide (Education), Jyoti Vidyapeeth Women's University, Jaipur

Abstract

Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite

conclusions) and self-correction. Artificial intelligence is a technology that is already impacting how users interact with, and are affected by the Internet. In the near future, its impact is likely to only continue to grow. AI has the potential to vastly change the way that humans interact, not only with the digital world, but also with each other, through their work and through other socioeconomic institutions – for better or for worse. If we are to ensure that the impact of artificial intelligence will be positive, it will be essential that all stakeholders participate in the debates surrounding AI.

AI can be categorized as either weak or strong. Weak AI, also known as narrow AI, is an AI system that is designed and trained for a particular task. Virtual personal assistants, such as Apple's Siri, are a form of weak AI. Strong AI, also known as artificial general intelligence, is an AI system with generalized human cognitive abilities. When presented with an unfamiliar task, a strong AI system is able to find a solution without human intervention. Because hardware, software and staffing costs for AI can be expensive, many vendors are including AI components in their standard offerings, as well as access to Artificial Intelligence as a Service (AlaaS) platforms. AI as a Service allows individuals and companies to experiment with AI for various business purposes and sample multiple platforms before making a commitment.

Keywords: Artificial, intelligence, technology, commitment



Usability Evaluation of Mobile Learning Applications

Ms. Divya Sharma¹, Ms Ankita Sharma²

Student, Biyani Institute of Science & Management, Jaipur

Abstract:

Mobile learning is creating new opportunities for learning anytime, anywhere by using the mobile device. Mobile learning supports, a continuous access to the learning process and with the arrival of mobile learning, educational systems are changing. The availability of mobile applications is increasing speedily and with the increased process power accessible on moveable devices, developers are increasing the vary of services. The interface of the mobile educational (apps) ought to be compatible with the cognitive skills of children so as to supply higher learning expertise. In mobile learning apps the students are provided audios, videos, texts related to the study material with the help of which they can learn their respective subjects

and can acquire more knowledge and understanding about the concept. Therefore, this paper will provide the feedback for mobile learning applications using the testing method i.e. think aloud testing methodology.

Usability evaluation is used by practitioners to gather feedback from users about a website or application and it focuses on how well users are satisfied and how well they can use the product to achieve their goals and how well they can learn from the product and how well they are able to discover and explore the content. Usability evaluation has a variety of learning applications ought to be user friendly and additionally compatible with their cognitive skills. The widespread use of the mobile applications can solely be accepted by users if their comprehensibility is of acceptable level. Clear and visual navigations, consistent designs and colors, concise content, appropriate help and simply accessible are numerous usability factors to affect the end user's satisfaction. A large variety of learning applications are offered in market, targeting the young kids and also the increasing quality of mobile has prompted a replacement wave of mobile learning in student education.

Computer professionals have a requirement for strong, easy to use usability analysis strategies to assist them and systematically improve the usability of pc artifact[5]. Conducting usability evaluation could be a crucial step in taking a website to the next level when it involves the target market and involves getting ahead of the competition. When visitors view the site that time the usability evaluation helps to eliminate the various mishappening like where the style, categorization and layout is lacking. Usability evaluation provides us a more robust understanding of how the target market thinks and then shows the best way to develop and optimize the website. By usability of mobile app we exactly meant to have an effective, efficient and client satisfaction via possible use of the apps[6]. Think Aloud is a cheaper method as no special equipment is required in this and the test user can simply sit next to the user and can gather the feedback.

Keywords: Mobile learning Applications, Think Aloud Testing, Usability Evaluation, Feedback Cognitive Skills.

Introduction:

Mobile technologies will give key support in education and facilitate users to develop new skills. Various results shows that students are excited to use mobile devices. For developing mobile learning applications number of design challenges are to be faced. The interface of M-one of set of methods that allows a user experience expert to evaluate the usability of a system or of a production varying levels of detail.

Methodology Used:

Usability evaluation consists of number of methods to evaluate the product or the system. But in our paper we are using the Think aloud testing methodology among the several usability evaluation methods. Using think aloud method the invigilators will get the answers to their questions by getting direct insight into how users think. Think aloud testing provides the direct data on ongoing thinking process. In a think aloud process the users or the targeted group is asked to verbalize what they are thinking, doing and they anticipated and also interprets the reason behind this. The product will then be reformed based on the feedback. Think aloud testing provides numerous benefits like it's cheap as no special equipment is needed to conduct testing, robust, flexible as can be used at any stage in the development lifecycle, convincing and easy to learn.

In this research paper we are performing the think aloud testing on application X. The app X is being tested by considering some test users and moderators. The students from various colleges are taken to conduct the test. The results of the test is as follows:-

Result and Discussion:

	Very Good	Good	Average	Bad	Very Bad
Ability to share the link of downloading the app	13	5	2	4	8
Ability to mark subjects as favourites	14	5	7	2	4
Ability to mark videos as favourite	14	4	3	0	11
Ability to download the videos	10	4	5	5	8
Ability to chat on screen with others while watching a video	8	5	3	6	10
Ability to access videos related to a subject	12	3	6	4	7
Ability to add videos to playlist	7	5	5	5	10
Ability to share the videos	12	4	5	3	8
Ability to search for a particular subject	12	7	2	2	9
Ability to search for a lecture	13	4	5	3	7
Account setup	9	13	8	2	0
Login process	8	11	7	4	2
Visual interface ("look and feel" of the application)	8	5	12	5	2
Icons for video downloading and sharing	8	6	10	5	3

Icons for adding to favourites and adding to playlist of videos	4	9	9	7	3
Icons for Home, Navigation, Notification, Settings	8	9	5	7	3
Enrolling in a course	8	11	7	6	0
Rating a video	9	10	9	3	1
Rating the application	11	9	6	4	2
In-class activities and assignments	11	10	7	1	3
The relationship of the virtual instructor with students	8	12	7	3	2
Your understanding about the subject	10	9	6	4	3
Your ease of using a mobile learning application	10	7	6	7	2
Your ease of using the application	7	11	5	3	6
Using the downloaded videos for later reference	5	11	8	3	5
Sharing the videos with your friends	6	9	10	4	3

Conclusion:

In this paper the think aloud testing is carried out on an app X. We took 32 students from various colleges for carrying out the testing. Therefore, from above observations using usability evaluation we can conclude that the app X is useful as the percentage of the app on basis of the criteria 'very good' is the highest in maximum number of questions. From the above results based on the various criteria's we can say that the maximum students found the app as useful. Many students rated the overall features of app as good and they found that the interface is also good and average. So in totality this mobile learning application X is found useful by many students from various colleges.

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Zero Knowledge Proofs

Ms. Khushbu Bhati¹, Ms. Leena Ahuja²

^{1,2} Student, Biyani Group of Colleges, Jaipur

ABSTRACT

A Zero Knowledge Authentication is a protocol which takes place between two parties called the Claimant and the Verifier. In the Zero Knowledge Authentication, anything which may increase the risk of confidentiality of the secret is not revealed by one party, which is called the claimant. The claimant simply has to prove the other part called the verifier that it knows a secret, without telling it. These interactions are designed not to give or reveal any secret. After interchanging messages, the verifier can only know that the claimant does or doesn't have the secret. The result is simply a yes/no situation that has only single bit of information. The three important protocols of Zero Knowledge Authentication have been implemented, which are Fiat-Shamir protocol, Fiege-Fiat Shamir protocol and Guillou- Quisquater protocol and their performances are compared.

Keywords: Privacy, Security, Confidentiality, Verifier, Identity

INTRODUCTION

Zero-Knowledge Proof is an encryption scheme originally developed by MIT researchers in the 1980s. Zero-Knowledge Proof agreement is a method by which a party (certifying party) can prove that something is true to the another party (verifying party). No additional information is revealed, except for the fact that this specific statement is true.

Basically, in cryptography, zero knowledge proofs let you convince me that you know something, or have done something, without revealing to me what your secret thing was. Practically, zero-knowledge is important because it gives you privacy in situations where you'd otherwise have to disclose confidential information. The following are a few examples:

- Logging into a website: You can simply send a proof that you “know your password”, rather than typing your password into a potentially unsafe website.
- Authenticating your identity: You can simply send a proof (a cryptographic fingerprint), that you are who you say you are, rather than giving your mother's maiden name over the phone to a random, bank call center agent.

SIGNIFICANCE

Data privacy is one of the most important subjects today. Protection of personal data related to the identity of individuals (date of birth, bank statements, transaction histories, education credentials) is critically important and will continuously increase in importance. In the era of technology, we are generating truly mind-boggling amounts of information like never before and the data that we are constantly creating about ourselves is up for grabs. Enterprise businesses dislike sharing proprietary information that can get into the hands of hackers or their competitors. They also want to ensure that the information is securely delivered to the intended party. Ordinary block chains can accomplish this, but with ZKP, businesses can share proofs about the data without sharing the data itself.

For instance, current websites store the hash value of the user's password in their web servers. In order to verify that the client actually knows the password, most websites currently use the method of hashing the password input by the client and comparing it with the stored result. Zero-Knowledge Proof can protect user's account from leakage. If Zero-Knowledge Proof can be realized, the client's password will remain unknown to anyone but can still authenticate the client login. If a server is attacked, the user's account is still secure because the client's password is not stored in the web server.

IMPLEMENTATION/ WHERE CAN ZKP BE APPLIED?

- ZCash may be one of the most famous block chain projects that have successfully implemented Zero-Knowledge Proof. ZCash implements a modified version of ZKP called zk-SNARKS, which stands for ‘Zero-Knowledge Succinct Non-Interactive Argument of Knowledge’.
- Authentication systems- Research in ZKP proofs has been motivated by authentication systems, where one party wants to prove its identity to a second party via some secret

information, such as a password, but doesn't want the second party to know anything about the secret.

- Confidentiality- Another use case for ZKP is in transactions that need confidentiality.
- Anonymity.
- Reviewing personal information.

LIMITATIONS

- The ZKP may require translation in a situation where the secret is not a number.
- It is relatively lengthy as it has approximately 2k entity which takes a lot of time and resources to compute.
- The ZKP is quite imperfect as the intruder can still intercept the messages (such as messages to the verifier may be modified, or destroyed)

CONCLUSION

Zero-Knowledge conventions allow the verifier to demonstrate to the verifier that they know a secret without uncovering data about that secret. By thinking about qualities between the dedication and reaction, the verifier can ascertain if the reaction matches the normal worth. This permits the verifier to check data without having any learning of the secret, private to the verifier. This process may be utilized to permit unnamed confirmation in gadgets, for example, RFID labels. Specifically, where protection of secret data is at a premium, for example, travel permits, RFID labels with a Zero Knowledge convention could be used to ensure particular data while as of now being utilized to verify the validity of the individual with the passport.

ZKP is relatively expensive. Nelson Petracek, CTO of the Strategic Enablement Group at TIBCO, states in a Venture Beat article that "Performance and the level of compute power required to support trust setup can be an issue." Although ZKP technology has been around for decades, it is only that it is maturing and gaining attention. The ability to verify sensitive information like the amount of a transaction, passwords and other identifiable data will become more precious for everyone with the rising presence of bad actors. This technology shows great promise and I believe we will be seeing an increasing number of partnerships between big institutions and startups, working closely together to develop new products, solving privacy problems in the near future.

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Artificial Intelligence in Computer Games

Ms. Shreya Gupta

Student, Biyani Girls College, Jaipur

Abstract:

Artificial intelligence is an ability of a digital computer or robot controlled computer to perform common tasks. This research is on how the AI solves the common problems in computer games. AI techniques help to provide a solution to these problems. The first Computer Game was created in 1952 i.e. game OXO was a Tic-Tac-Toe by Alexander Douglas, and he wrote for thesis on human computer interaction. There is a character which helps to finding paths, decision-making and for learning i.e. NON PLAYING CHARACTER (NPC). NPC is implemented based on Rule-Based systems. Machine learning has capability to improve NPC performance.

Keywords: Games, Artificial intelligence, NPC movement, A* algorithm, Dijkstra

Introduction:

Computer games minimize the resources for finding a way. Computer games advanced in graphics, animation and audio for games. Recently a modern computer game which gives the impression of reality is 3D animated graphics. One of the implementations of a game AI system by the game developers are IBM's Deep Blue, Ultimate Chess Machine. **Common problems that provide a solution for computer games are:-** NPC (Non-Playing Character) movement, NPC Decision-Making, NPC Learning. A computer games provide a way for NPC to move in the game world. The main problem of NPC movement was that when the Monster is on one side of the Building and the player is on the other side of the building then what technique that the monster negotiate a path through the building to the player. For NPC Problem, AI searching a method in computer games that have been utilized find a path i.e. A* algorithm. AI path finding is an important part of a computer games because NPC know the shortest path goals i.e.

The Player. The A* algorithm works well and in efficient manner, but they have some drawbacks:- The article “path finding for human motion in virtual environments” found that the path produced by A* are not necessary that they produce by humans. The article “path planning in construction sites”, In Dijkstra, A* and GA search algorithm’s have been evaluated and enhanced the performance.

Conclusion:

This research paper presents a survey of articles and described how AI techniques are used in computer games regarding Artificial Intelligence. In future, NPC’s will increase a lot for the Illusion project in life. So AI becoming the new decision factors for the success of games and computer graphics. 3D graphic will become available similar to the GPU’s. Benefits for developing a produced for such a small markets are few so that Company would invest times and Resources in the research of specialization of AI.

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A Review on Virtual Brain towards Sustainable Development Artificial Intelligence Study-The Blue Brain

Ms. Mehak Rastogi¹, Ms. Pragati Kumari Srivastava²

^{1, 2}Students of Biyani Girls College, Jaipur

Abstract:

Blue Brain - It was the first artificial brain which has been researched by IBM .This project is working with an aim to upload human brain into machine i.e the virtual brain .This is a kind of Artificial brain which can think, take decision itself and stores the memories and feelings like human .This project is such that if a person dies. After the death of the person we will not lose the intelligence, knowledge and memories of that person .Using Virtual Brain the machine can act as a human.

Keywords: Blue brain, Virtual brain, Brain tissues, Patch clamp electrode, Neuron, Cerebral cortex, Super Computer.

Introduction:

We all know about the complexity of a human brain, how complex the human brain is. Many year ago human not know about the computer which was a big question for all of us at the time. But today, it is worldwide accepted technology .Even a child of 3 to 4 years can operate a mobile phone. The blue brain which emerges as a advance technology is an attempt to reverse engineer the human brain and recreate it at the cellular level inside a computer simulation .This project has many goals such as:

- a complete brain understanding can be gained
- treatment of brain disease can be treated faster and comparatively better.



Working: Using microscopes slices of living brain tissues was researched in which data was collected from different types of neurons. The blue brain name is depicted through a supercomputer named blue gene built by IBM which carried out simulations

Conclusion: We concluded that at some time we will be able to transmit ourselves into computer and in future we can simulate up to 100 cortical columns,1 million neurons,1 billion synapses at once using blue gene computer. This project on human brain can be predicted to complete in next 4 to 5 years and become the most advanced technology of human.

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The Perishing Handicraft Industry in Indian Economy

Shivani Sethi

BBA-LLB II year, Jamnalal Bajaj School of Legal Studies, Banasthali Vidyapith, Tonk

Abstract

Handicraft, since the dawn of time has been one of the most important industry in India. Not only has this industry prevailed and attracted the most powerful and the richest, the different fields of handicraft starting from sculptures, jewellery, metal work, marble work, garments, textiles, carpets, wood work, handmade paper to name a few along with agriculture has been the main stay of the prosperous Indian economy of the yester years .“Handicraft”also provided a distinct and unmatched essence to India.

Since the globalization of economy, Indian economy has been largely been influenced by western and developed economies. It moves in tandem with the west. The globalization aims to attract the multinationals to set up industries in India for the following two reasons comparatively cheaper labour is available in India and India has large untapped market to sell its goods. The major profits are either gulped by these capitalists or shared by the shareholders. They are already on the creamy layer and thus have further tilted the balance of wealth distribution. This so called Globalization has adversely affected India’s handicraft industry which falls in the so called “UNORGANIZED” sector.

Even though the government has recognised and understood the importance of this sector no concrete steps have been adopted to rebuild this industry. This industry has been forgotten since the 16th century. The present study will highlight that how the handicraft industry can never perish as it has sustained great tragedies and have always found a way to sustain. But the question arises how long will the craftsmen and artisan will be able to sustain the ailment in this industry. This paper focuses on why this industry slipped from its pedestal, why has it taken such a long time to build it back up. Even today handicraft industry employs millions. In rural area this industry is the second largest employer.

This paper has been written by interviewing various craftsmen and those were block maker, block printers, colour master, tailors, quilt makers, Mukesh workers, hemmers; owners and managers of a few local handicraft firms mainly targeted towards block printing and quilt making based in Jaipur.

Keywords: Ailment, Artisans, Handicraft, Perishing



Diversity in the workforce

Shubham Jhanwar

Student, IPS Academy, Indore

Abstract

Diversity in the workforce is believed to be a HR motto with no quantifiable effects on long haul benefits. This attitude thusly changes any decent variety activity set out by a firm as a fixed expense as opposed to an interest in its tasks. This paper demonstrates that there is a positive direct association with assorted variety on higher paces of profit for monetary resources between 15 to 35 percent and brings down representative steady loss rates by 20%. These cases are attested and approved through an assortment of outsider research reports, contextual analysis models, and distributed white papers. Utilizing this data, this paper delineates why assorted variety activities flop and how to accurately actualize a functioning decent variety activity.

Keywords: Diversity, Attrition



A Study of Artificial Intelligence and Quality of Work Life

Suresh Choudhary

Senior Research Fellow, University of Rajasthan, Jaipur, Rajasthan

Abstract

Artificial intelligence (AI) is the simulation of human **intelligence** processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Will *artificial intelligence* give us human-like machines? Or is it just another industry buzzword?

Quality of work life refers to the level of happiness or dissatisfaction with one's career. Those who enjoy their careers are said to have a high quality of work life, while those who are

unhappy or whose needs are otherwise unfilled are said to have a low quality of work life. Quality of work life is viewed as an alternative to the control approach to managing people.

Findings of the study will help the management companies to understand the Benefits and disadvantage of Artificial Intelligence.

Keywords: Artificial Intelligence, Human, Information, Quality of Work Life.



Sustainable Practices in Garment Industry with Special Reference to Rajasthan

Swati Malik

Assistant Professor, Poornima University, SDA

Abstract

Zero waste is a philosophy that encourages redesign of resources life cycle so that all products are used to maximum. The paper throws light on the issue of total fabric consumption and creating minimal textile wastage in apparel sector in Rajasthan. This would help in generating sustainable approach, innovative thinking, design development and brain storming, resulting in new product development with reduced wastage filling landfills, incinerators or the oceans, bridging the lacuna in talent management, skill development and employment engagement. The objective is to translate the wastage and leftover fabrics with tangible representation of art, craft and design. Structured questionnaire was used to collect the data. The data was analyzed through IBM SPSS 21. The results of study suggested that sustainable solutions practices in garment design with minimum fabric wastage are the need of the hour along with future innovative design development.

Keywords: Zero wastage, Sustainability, Art, Craft and Design innovations



Artificial Intelligence and Economic Growth

Teena Pareek

ISB&M, Pune, India

Abstract

This paper examines the potential impact of artificial intelligence (A.I.) on economic growth. We model A.I. as the latest form of automation, a broader process dating back more than 200 years. The current wave of technological change based on advancements in artificial intelligence (AI) has created widespread fear of job losses and further rises in inequality. This paper discusses the rationale for these fears, highlighting the specific nature of AI and comparing previous waves of automation and robotization with the current advancements made possible by a wide-spread adoption of AI. It argues that large opportunities in terms of increases in productivity can ensue, including for developing countries, given the vastly reduced costs of capital that some applications have demonstrated and the potential for productivity increases, especially among the low-skilled. At the same time, risks in the form of further increases in inequality need to be addressed if the benefits from AI-based technological progress are to be broadly shared. Keywords: Artificial intelligence, productivity growth.

1. Introduction

This paper considers the implications of artificial intelligence for economic growth. Artificial intelligence (A.I.) can be defined as “the capability of a machine to imitate intelligent human behavior” or “an agent’s ability to achieve goals in a wide range of environments.”¹ These definitions immediately evoke fundamental economic issues. For example, what happens if A.I. allows an ever-increasing number of tasks previously performed by human labor to become automated? A.I. may be deployed in the ordinary production of goods and services, potentially impacting economic growth and income shares. But A.I. may also change the process by which we create new ideas and technologies, helping to solve complex problems and scaling creative effort. In extreme versions, some observers have argued that A.I. can become rapidly self-improving, leading to “singularities” that feature unbounded machine intelligence and/or unbounded economic growth in finite time (Good (1965), Vinge (1993), Kurzweil (2005)). Nordhaus (2015) provides a detailed overview and discussion of the prospects for a singularity from the standpoint of economics.

In this paper, we speculate on how A.I. may affect the growth process. Our primary goal is to help shape an agenda for future research. To do so, we focus on the following questions:

- If A.I. increases automation in the production of goods and services, how will it impact economic growth?
- Can we reconcile the advent of A.I. with the observed constancy in growth rates and capital share over most of the 20th century? Should we expect such constancy to persist in the 21st century?
- Can A.I. drive massive increases in growth rates, or even a singularity, as some observers predict? Under what conditions, and are these conditions plausible?
- How are the links between A.I. and economic growth modulated by firm-level considerations, including market structure and innovation incentives? How does A.I. affect the internal organization of firms, and with what implications?

Fuel for Growth: Compelling data reveal a discouraging truth about growth today. There has been a marked decline in the ability of traditional levers of production—capital investment and labor—to propel economic growth.

Yet, the numbers tell only part of the story. Artificial intelligence (AI) is a new factor of production and has the potential to introduce new sources of growth, changing how work is done and reinforcing the role of people to drive growth in business.

Accenture research on the impact of AI in 12 developed economies reveals that AI could double annual economic growth rates in 2035 by changing the nature of work and creating a new relationship between man and machine. The impact of AI technologies on business is projected to increase labor productivity by up to 40 percent and enable people to make more efficient use of their time.

“Artificial Intelligence heralds dramatic potential for growth for both the economy and for humans.” Mark Purdy, Managing Director-Economic Research, Accenture Institute for High Performance.

Doubling Down on Growth: By acting like a capital-labor hybrid, Artificial Intelligence offers the ability to amplify and transcend the current capacity of capital and labor to propel economic growth. Our research reveals unprecedented opportunities for value creation.

Clearing the path to an artificial intelligence future.

Prepare the next generation for the Artificial Intelligence future: Integrate human intelligence with machine intelligence so they can successfully co-exist and reinforce the role of people to drive growth.

Encourage Artificial Intelligence- powered regulations: update and create adaptive, self-improving laws to close the gap between the pace of technological change and the pace of regularity response.

Advocate a code of ethics for Artificial Intelligence: ethical debates should be supplemented by tangible standards and best practices in the development and use of intelligent machines.

Address the redistribution effects—policy makers should highlight how Artificial intelligence can result in tangible benefits and preemptively address any perceived downside of Artificial intelligence.

How AI boost industry profits and innovation:

The steady decline in business profitability across multiple industries threatens to erode future investment, innovation and shareholder value. Fortunately, a new factor of production—artificial intelligence (AI)—is emerging that can help kick-start profitability. AI consists of multiple technologies that can be combined in different ways to sense, comprehend, act and learn. Accenture research shows that AI has the potential to boost rates of profitability by an average of 38 percent by 2035 and lead to an economic boost of US\$14 trillion across 16 industries in 12 economies by 2035. But this will only happen if organizations adopt a people-first mindset and take bold and responsible steps to apply AI technologies to their business. Our research has identified eight cross-industry strategies to help seize the AI opportunity.

Why Artificial Intelligence is the future of Growth: Macroeconomic View

Research reveals that AI could double annual economic growth rates by 2035 by changing the nature of work and creating a new relationship between people and machines, in which people are firmly in control and technology increasingly adapts to our wants and needs.

The impact of AI technologies on business is projected to increase labor productivity by up to 40 percent—and enable people to make more efficient use of their time. For further insights please refer to our report, “Why Artificial Intelligence is the Future of Growth.”

The value of AI to industry

We compared two scenarios for each industry to assess AI’s future impact. First, the baseline case shows the expected economic growth for industries under current assumptions. Second, the AI steady state shows expected growth with AI integrated into economic processes. As it takes time for the impact of a new technology to feed through, we used 2035 as the year of comparison (for further details see “Appendix: Modeling the GVA impact of AI”).

Our research shows that Information and Communication, Manufacturing and Financial Services are the three sectors that will see the highest annual GVA growth rates in an AI scenario, with 4.8 percent, 4.4 percent and 4.3 percent respectively by 2035. In the Information and Communication industry, with its heavy reliance on technologies, AI capabilities can coalesce with existing systems to generate US\$4.7 trillion in gross value added in 2035. For instance, providers can develop new AI platforms for offering cyber-attack protection services to their customers.

“To realize the opportunity of AI, it’s critical that businesses act now to develop strategies around AI that put people at the center, and commit to develop responsible AI systems that are aligned to moral and ethical values that will drive positive outcomes and empower people to do what they do best—imagine, create and innovate.”

Conclusion:

Modeling the GVA impact of AI

The results of these publications are based on the same economic model that we developed in association with Frontier Economics. We introduce AI as a new factor production that will change how growth is generated on a country and industry level. To measure this growth, our model proceeds in three steps as:

- We draw from research that looks at the share of tasks that are susceptible to AI in the overall labor force. We estimate the probability of individual occupations to be automated in the future. We then look at the spread of these occupations across industries and countries from the labor statistics data of the analyzed countries. This exercise of matching the susceptibility of tasks to AI with the spread of occupations per country and industry enables us to determine a view of the AI absorption rate per country and industry.
- We include the quality improvements of AI over time. We measure this variable by referring to data on falling prices of software, hardware, robots and cloud from 1990 to today. We determine the additional innovation effects expected from the diffusion of AI as measured in total factor productivity (TFP). We refer to historical data on the impact of information and communication technologies (ICT) on TFP growth and enhance that figure by investment figures in AI across industries, as well as the capacity of national economies to absorb new technologies.

Having taken these steps, we have a view of the economic potential of AI per country and industry. For the country results, we aggregate the results for each of the 16 industries per country. For the industry results, we aggregate the data across the 12 countries per industry.

Our profitability forecasts are based on the industry GVA results. To arrive at a proxy for profits, we subtract labor compensation from GVA. That gives us the gross operating surplus (GOS) per industry (GOS describes the surplus generated by operating activities after the labor factor input has been subtracted), an approximation of profits. For a truer measure of profitability, we apply a deflator comprising data on capital depreciation to the GOS results.

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“Indian Economy-Emerging Issues” with special reference to “Entrepreneurship Development in India”

Urvika Mathur

Research Scholar, Department of Business Administration, University of Rajasthan, Jaipur

Abstract

India's economy over the last decade looks in many ways like a success story; after a major economic crisis in 1991, followed by bold reform measures, the economy has experienced a rapid economic growth rate, more foreign investment, and a boom in the information technology sector. Yet many in the country still suffers from crushing poverty, and social and political unrest remains a problem. India is one of the fastest transforming economies in the world. This has become possible because of the globalization of Indian economy on the one hand and on world economy integrating itself. In the World Economic Outlook Update released, IMF retained India's growth projection for current year at 7.5 per cent, which will be higher than China's 6.8 per cent. IMF's growth projection for India, however, is lower than the estimates of the Indian Finance Ministry and the Reserve Bank of India. The Finance Ministry expects GDP growth to be 8-8.5 per cent in 2015-16, while the Reserve Bank of India estimated it at 7.6 per cent. The global growth projection for 2016 has been retained at 3.8 per cent.

It's a known fact that India, today, is an emerging economy that is destined to achieve milestones, on various fronts, in the near future. However, for India, to acquire the status of a "developed" nation, it needs to create 100 million jobs, as per the information revealed by statistics. In an endeavour to achieve this mark, tapping the potential of the unemployed and exploring opportunities in the employment market, so that each and every person plays a crucial role in contributing towards the growth of the Indian economy is necessary. This article focuses on the development of Entrepreneurship in India and the steps taken by Government to enhance Entrepreneurship spirit in Indian Youths.

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Sustainable Water Management: Challenges and Planning

Vaishali Gohil

Assistant Professor, Department of Financial Studies, IIS University, Jaipur

Abstract

In today's world demand of water is there on global context, shortfall is also been noticed in terms of quality/quantity in many parts of the world. There are many regions where our freshwater resources are inadequate to meet domestic, economic development and environmental needs. The day is not too far when a tough competition will be at its highest level because of various challenges, some of the known reasons are political, economic and social reasons and one of the main reason behind it will be change in climate. To face such challenge demand of the hour is to look for some actions which can move in a correct direction for sustainable management of water resources.

Water is a scarce natural resource, essential for life and to carry out the vast majority of economic activities; it is irreplaceable, easily vulnerable and susceptible of successive uses

Integrated Water Resources Management (IWRM) is a process that promotes the development and coordinated management of water, land and related resources in order to maximize economic outcomes and social well-being, in an equitable manner, and without compromising the sustainability of vital ecosystems.

In general terms, Integrated Water Resources Management can be interpreted as an approach to water development and management that seeks balanced results among the three dimensions of sustainable development: Economic efficiency, social equity and environmental sustainability.

It is going to require all of us as a society to identify, through research, develop, through engineering and science, and implement, through governance, the technological, economic, political, and social measures that will set a course toward the achievement of a desirable and more sustainable and secure future.

Keywords: Integrated Water Resources Management, waterdevelopment, environmental sustainability



Artificial Intelligence: An Overview

Sonali Mishra

ICFAI University, Tripura

Abstract

The present paper reviews the techniques for automated extraction of information from signals. The techniques may be classified broadly into two categories- the conventional pattern recognition approach and second one is artificial intelligence based approach.

ARTIFICIAL INTELLIGENCE is the intelligence of machines and the branch of computer science that aims to create it. Textbooks define the field as “the study and design of intelligent agents”. The field was founded on the claim that a central property of humans, intelligence – the sapience of Homo sapiens – can be precisely described that it can be simulated by a machine. AI has been the subject of optimism, but has also suffered setbacks and today, has become an essential part of the technology industry, providing the heavy lifting for many of the most difficult problem in computer science. The study of logic led directly to the invention of the programmable digital electronic computer, based on the work of mathematician Alan Turing and others. AI has been used in a wide range of fields including medical diagnosis, stock trading, robot control, law, scientific discovery and toys.



Role of Technology in Sustainable Development

Jyoti Shekhawat

B.B.A. 2nd Year, Biyani Girls College, Jaipur, Rajasthan-302039

Abstract

This research paper centers on the role or importance of technology in sustainable development. Firstly one thing strikes in the mind that is what is technology. Technology includes two things firstly the tools and secondary the instrument, these two helps in improving the human skills to shape the nature and to solve problems, to make human life easy.

Keywords: technology, sustainable development, e-marketing, cashless economy, demonetization.

Introduction:

Sustainable development means the development of economy, society or the country and that too remains stable i.e., sustain ever. The goal of sustainable development is to meet the needs of present without compromising the ability of future generation to meet their self needs. Now a days technology is expanding and is used on a large scale by every person. Everyone use technology in the form of mobile phones, smart classes, bikes, cars, laptops, computer, internet and many more items. Technology plays a vital role in sustainable development. E-marketing is the modern way of marketing in which technology is used drastically. It has become a large platform for the marketers and customers. Internet is playing a vital role in sustainable development. Cashless economy is an example to this thought. Cashless economy is an economy where most transactions are done through e-cards and IMPS, NEFT and e-wallets. Our Prime Minister Mr. Narendra Modi has demonetized note of Rs. 500 and 1000 which boost up the use of these online fund transfer system. Many technologies used in this scenario are ATMs, cash deposit machines, net banking, internet, railways, airways, etc. In September, 2015, UN General Assembly accepted 2030 development agendas including 17 sustainable development goals. Some future innovations which we may notice are smart toothbrush, smart sprinkler system, water cars, driverless cars, smart home security, etc. So, technology is must.

Conclusion:

Sustainable development is a multi-dimensional concept which has huge responsibility of systematic economic, social and ecological development which would be impossible without the use of technology. Hence, technology plays an important role in sustainable development of country.



Sustainable Development: 5G Network

Mahima Paliwal

B.B.A- 2 Year, Biyani Girls College, Jaipur-302039, Rajasthan

Abstract

This research paper is focusing on the 5G network plans in India. Mr. Mukesh Ambani said that he is launching 5G network at minimum cost. Reliance jio is launching first and fastest network in India. The reason behind launching the 5G is to provide facilities at the minimum cost. It will help our business organizations to access in an easy manner and also at affordable access to advance technology. Telecom operators already announced the 5G modem named X50 and the speed will be 5GBPS. Testing of 5G is successfully continued. If we talk about the applications of 5G It is completely endless. We can also implement 5G network everywhere. We can also manage traffic through 5G network connection eg.: If we want to stream 4K3D videos It will provide is best network services. 5G Network focuses on the speed it will give the fastest speed to the people in India. The local area people will also get benefit from this network. It is setting up in all over India for providing best services to urban as well as local areas. By this the people will be able to get the benefit of fastest speed. By bringing the 5G network in India Mr. Mukesh Ambani is capturing the digital market in India.

Conclusion:

By 2024, volume of mobile data traffic are expected to increase by a factor of 5G and 25% of that traffic will be carried by 5G networks. 5G is sustainable development in India.

Keywords: 5G network, Reliance Jio, affordable, data traffic, telecom



Encouraging Information and Technology Communication Development in Economy Growth

Riddhi Dangayach, Mobina Sheikh and Vishakha Shekhawat

Student, B.Com. 3rd Year, Biyani Girls College, Jaipur

Abstract

In the last two decades, the information technology sector has been responsible for more activity, more wealth creation, more productivity and more worldwide economic growth than any other sector in the economy.

Consumers, businesses and government reap the benefits of technological innovation R&D is not the only source of new technology. In modern industrial economies other activities such learning by doing or design are conduct in most cases on the basis of new technology.

Technological change is the rate at which new knowledge is put into physical form and diffused for use in economy Major technology advances such as the steam engine or microprocessor as know as general purpose technology as they have broad applications and productivity enhancing effects in a number of different sectors.

Keywords: decades, reap, industrial, microprocessor, steam



Cashless Economic Policy and Sustainable Development in Indian Economy

Monika Babani

Biyani Institute of Science and Management, Rajasthan Technical University, Jaipur

Abstract

Cashless Economy was seen as an economic setting which goods and services are bought and paid for through electronic media. Sustainable development is the organizing principle for sustaining resources necessary to provide for the needs of future generations of life on the planet. The Study showed that Cashless economic policy reduces the movement of cash

through the usage of ATM, helps customers to carry out a number of financial transactions without delay, produces speedy and accurate financial report in efficient manner, creates more employment opportunities in industrial/banking sector, reduces in money laundering, check corruption and improved the effectiveness of monetary policy in managing inflation and driving economic growth thereby contributes significantly to sustainable economy development. It was recommended others that, Information and Communication Technology (ICT) should be given much attention in order to have good networking system since the implementation of cashless economic policy depends on internet service.

Keywords: Cashless Economy, Sustainable Development, Internet.

Introduction

The world today is moving away from paper payment to electronic means, especially payment cards. In a bit to ensure and foster sustainable development of the state economy, the Central Bank of India introduces the cashless economy policy with the objective of promoting the use of electronic payment. A Cashless Economy is an economy where transactions can be done without carry physical cash as means of exchange for transactions but rather with the use of credit and debit card payment for goods and services. The Prime Minister of India stated the introduction of cashless economic policy in India would moderate the cost of cash management, encourage the use of electronic payment channels and reduce lending rates to further make credit accessible to big and small business. He stated that cashless transaction is the only way to curb corruption. Our country economy was damaged for several years, and to make it strong, we will have to go cashless and will have to work towards bringing everyone under such a system he said.

Sustainable Development

This is a road map; of action plan for achieving sustainability in any activity that uses Resource and where immediate and intergenerational replication is demanded. Sustainable development is the organizing principle for sustaining fruit resources necessary to provide for the needs of future generations of life on the planet.

Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. sustainability is a function of social, economic, technological and ecological terms. Sustainable development meets the needs of the present and future generation to meet their needs. Sustainable development is an approach to growth and to manage natural product and social welfare of their generation.

Internet Banking

This involves conducting banking transactions on the internet using electronic tools such as computer without the customer having to visit the bank. It is a product that enables the Bank leverage on the internet.

Cashless Economic Policy

This is an economic setting in which goods and services are bought and paid for through electronic media. It is not the complete absence of cash, it is an economic setting in which goods and services are bought and paid for through electronic media. It is defined as one in which there are assumed to be no transaction frictions that can be reduced through the use of money balances, and that accordingly provide reasons for holding such balances even when they earn rate of return. In a cashless economy, how much cash is in your wallet is practically irrelevant. Payment could be made for purchases by anyone of a plethora credit cards or bank transfer.

Impact of Cashless Economic Policy and Sustainable Development

Experts have pointed out specific areas which the cashless economy will enhance the quality of life. They include;

Faster Transaction: Reducing queues at the point of sales.

Improving Hygiene on Site: Eliminating the bacterial spread through handling notes and coins, increased sales, cash collection made simple because time spent in collection, counting and sorting cash is eliminated.

Other factors-

- Reduction in money laundering
- Check on terrorist financing
- Effectiveness of the monetary policy
- Creation of more employment opportunities in industrial/banking sector.
- Provision of evidence against corrupt official.
- According to Central Bank of India, the new cashless policy is introduced into the Indian Economy for the following reason:
- To drive development and modernization of Nigeria's payment system in line with vision 2020 goal.
- To reduce the cost of banking services (including cost of credit) and drive financial

inclusion by providing more efficient transaction options.

- To improve the effectiveness of monetary policy in managing inflation and driving Economic growth.
- The Finance Minister of India believes that- A shift towards cashless policy will reduce the high operational costs incurred in a cash based economy. Such costs emanate from cash management and movement, currency sorting and printing.
- Cashless policy will help minimize the risks associated with the use of physical cash that do arise from burglaries and thieves as well do financial losses in fire outbreaks.
- Cashless economy will make every segment of the banking population to pay for its usage of cash. The situation in the cash based system where the majority small cash users pay for the minority high cash users will stop.
- Corporate organizations will benefit by way of faster access to capital, reduce revenue leakages and reduce cash handling cost.
- On the part of the government, it will bring about increased tax collection, greater financial inclusion, reduced revenue leakages and increase economic development.

Conclusion

This paper presented the new cashless economic policy and sustainable development in Indian Economy, assessing the missing links. The introduction of electronic banking in India has impacted positively on the development of payment system in particular and the banking system in general.

The paper observed some missing links militating against effective implementation of cashless economic policy and sustainable development in Indian Economy such as Religious Beliefs, high bank charges, infrastructure deficit, Interrupted Power Supply, High Rate of Illiteracy, Prevalence of e-fraud/Consumer Protection, Availability of Real Data, investment, security, Lack of Customer's Sensitization poor internet services etc despites the numerous benefits of the policy.

□□□

Impact of Environmental Accounting: In Indian Corporate Scenario

Vanshita Shekhawat, Monika Singh

Abstract

This paper focuses on pre-requisites of Environmental Accounting in Sustainable Development and filling the voids. This paper involves the significance of Environmental Accounting in solving Economical, Social and Corporate Environment problems which are alarming in current scenario. This theoretical study shows that How Environmental Accounting could be beneficial for not just the corporate but for the world environment also.

Keywords: Environmental Accounting, Climate change, Legal Frameworks and Policies, Significance.

Introduction

Mahatma Gandhi has said “Earth provides enough to satisfy every man’s needs, but not every man’s greed.”

The word ‘Environment’ comprises each thing in all its evident forms; on the earth, beneath the earth and above the earth. The term ‘Accounting’ means recording information. Hence, “Environmental Accounting” is a method of recording environmental events which comprises of evaluation of natural resource & their uses, waste management, measuring and communicating Environmental cost.

Environmental cost includes expenditure on acquiring equipment for environmental protection, its operating and maintaining cost, waste management cost, penalties and taxes, environmental fines and the cost to clean up or to remediate contaminated sites. Now, Globe is facing twin problem of promoting economic development and protecting the environment with sustainable development as immense economic development has unfavorable impact on environment.

Discussion

Climate change is the change in earth’s weather pattern over the period of time. It has resulted into massive shed down of glaciers into ocean gradually, global warming, loss of Biodiversity, Soil erosion etc. Climate change is the Environmental challenge for this generation and we are the last that can stop climate change. Over the decades, over exploitation of natural resources

has taken place in name of economic development and immense industrialization. As the role of Corporate has increased in few decades as they are the main contributors in the economic development. They should not always focus on maximizing their profit by over exploitation of resources which has resulted into disastrous events Minamata Mercury poisoning, Japan (1956), Love Canal Disaster in US (1978), Bhopal Gas tragedy, India (1984) which are the result of Human's greed. So, Corporates should fulfill societal and environmental objectives which will help them in increasing the wealth and goodwill of not only stakeholders but also of its own.

The idea of Environmental Accounting was first adopted by Norway in the early 1970s and UN established a central multipurpose framework System of Environmental Economic Accounting (SEEA) in early 1990s which includes different areas like flow of material and energy, environmental economic statistics & stocks and interaction of natural resources. Significance of Environmental Accounting in today's era-

1. Discloses utilization of Natural Resources
2. Social Contribution by corporates
3. Environmental Protection
4. Help to build trust & confidence in the society.

Legal Framework and Policies in India for Environmental Accounting-

It is in the culture and tradition of India to value and protect the Environment. Now, the Govt. has also imposed certain rules and policies to safeguard the natural resources. The latest Companies Act, 2013 also incorporates a stress on green initiatives They are mentioned as two different heads:

1. Directly related to the protection of environment
 - (i) Water (Prevention and Control of Pollution) Act, 1974
 - (ii) Water (Prevention and Control of Pollution) Cess Act, 1977
 - (iii) Air (Prevention and Control of Pollution) Act, 1981
 - (iv) The Forest Conservation Act, 1980
 - (v) The Environment (Protection) Act, 1986
2. Indirectly related to the protection of environment
 - (i) The provision in the Constitution (Article 51A)
 - (ii) The Factories Act, 1948

- (iii) Hazardous Waste (Management and Handling) Rules, 1989
- (iv) Public Liability Insurance Act, 1991
- (v) The Motor Vehicle Act, 1991
- (vi) Indian Penal Code
- (vii) The National Environment Tribunal Act, 1995
- (viii) Indian Fisheries Act, 1987

In India, Environmental Accounting is confined to certain industries like oil and petroleum, cement, power and electronics, natural gas, steel, engineering and textile industries. According to Carbon Disclosure Project, 5 Indian companies have been graded 'A' ranked and those are- Essar Oil, Larsen & Turbo, Tech Mahindra, TATA consultancy services & Wipro (2014).

Conclusion

Environmental accounting is an important measure for understanding the role played by natural environment in the development of an economy. In India, Corporates disclose Environmental Accounting in descriptive manner and not in decision making tool. Environmental Accounting doesn't contain non-quantitative measures as neither the latest company law nor the accounting standards by ICAI prescribe the disclosure norms for environmental related aspects in the corporate financial reports. So, the major role is played by the accountant in bridging and controlling the gap of sustainability.

Thus, due to lack of measurable factors of environmental accounting at national and international level leads to over exploitation of environment by Corporates.

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Auditing and Recent Developments in IT

CA Shagun Agarwal¹, Kapil Kasliwal²

^{1,2}*Assistant Professor, Biyani Institute of Science & Management, Jaipur*

ABSTRACT:

The aim of this paper is to select two of the recent developments in information technology, and those expected in the near future, which suggest major advances in both human-computer and computer-computer communications. Also, it explores the internal control and auditing issues which surround two such technologies – end-user computing and electronic data interchange (one from each of these categories respectively). It also notes the growth of end-user computing, together with the need to balance control against the trust and creativity which it fosters. This implies the need for a less instrumental and more organizational approach to audit and control. Electronic data interchange provides the opportunity for the further development of paper minimal systems and the resulting legal, as well as audit and control, problems are discussed. Finally, the research concludes by suggesting that there may be a need for a review of audit methodologies which, in principle, remain focused on the large bureaucratic paper-based systems of the early 1950s.

KEYWORDS: Computer audit, Electronic data interchange, End user computing

□□□

महिला सशक्तिकरण में उद्यमिता की भूमिका का अध्ययन (जयपुर में कुटीर उद्योग के संदर्भ में)

रीतु वैश्य

शोधार्थी

सारांश

महिला सशक्तिकरण के माध्यम से गरीब महिलाओं को उद्योगों से जोड़ने के लिए विकासत्मक आयोजन की प्रक्रिया अपनाई जा रही है। जयपुर में गरीबी के नीचे जीवन यापन करने वाली जनसंख्या का प्रतिशत बहुत ऊँचा है। जयपुर शहर भारत के सर्वाधिक पिछड़े हुए क्षेत्रों में से एक है। इस क्षेत्र में प्राकृतिक संसाधनों की बहुलता है। कुटीर लघु उद्योगों द्वारा अप्रयुक्त संसाधनों का बेहतर उपयोग किया जा सकता है और गरीबी के नीचे जीवन यापन करने वाली जनसंख्या को ऊपर

उठाया जा सकता है। बेरोजगारी व अल्पबेरोजगारी सबसे घृणित रूप में इस क्षेत्र को तबाह किये हुए है। इसका बड़ा समाधान कुटीर उद्योगों का प्रसार है।

यह बहुत ही आवश्यक है कि कुटीर लघु उद्योगों को अत्यधिक मात्रा में संस्थागत वित्त की आपूर्ति करायी जाये। वाणिज्यिक बैंक जो कुल आपूर्ति वित्त का लगभग 41 प्रतिशत भाग प्रदान करते हैं, वह बहुत कठिनाई से कुटीर उद्योगों की आवश्यकता हेतु पूरा पड़ता है। नीची विनियोग स्तर की इकाईयां जमानत के अभाव में वाणिज्यिक बैंकों से ऋण लेने में असमर्थ रहती है। उनकी कार्यशील पूँजी हेतु ऋणों के आवेदन को अनार्थिक तथा ऋण वापसी में असमर्थ कहकर निरस्त कर दिया जाता है। ऐसा अनुभव किया गया है कि कुटीर लघु औद्योगिक इकाईयों को उनके कार्यचालन के तत्कालिक स्थिति के आधार पर साख हेतु अयोग्य माना जाता है। बैंकों को ऋणों के अनुमोदन में और उदार तरीका नहीं अपनाता। वर्तमान में बहुत से कुटीर लघु उद्योग कर्ज लेने के बाद अपने को बीमार घोषित करने में जरा सी विलम्ब नहीं करते। बहुत से कुटीर लघु उद्योग इस क्षेत्र में केवल सुविधाओं की ही वजह से हैं। कर्ज के प्रार्थना पत्रों को बहुत बारीकी से जांचने की आवश्यकता है। कर्ज के अनुमोदन के समय यह बहुत ही आवश्यक है कि इकाईयों के साख की आवश्यकता को बैंक कर्मचारियों द्वारा बहुत बारीकी से देखा जाये तथा यह सुनिश्चित किया जाय कि जमानत के अभाव में इकाई की वित्तीय आवश्यकता प्रभावित न हो तथा साथ ही बैंको का हित भी सुरक्षित रहे।

यह सामान्य विश्वास की बात है कि कुटीर लघु उद्योग राज्य के विभिन्न भागों में आसानी से खोले जा सकते हैं, जिससे कुटीर उद्योगों का विकेन्द्रकरण एवं संतुलित आर्थिक विकास सुनिश्चित होगा। कुटीर लघु उद्योगों में अधिक पूँजी व उच्च प्रशिक्षण प्राप्त श्रमिकों की कम आवश्यकता पड़ती है। कुटीर लघु उद्योगों के बहुत से लाभों के बावजूद भी ऐसा माना जाता है, कि ये कुटीर उद्योग आर्थिक रूप से बहुत लाभदायक नहीं होते। इनके कार्य चालन की लागत तुलनात्मक रूप से अधिक होती है।

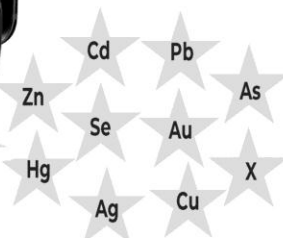
कच्चे माल की आपूर्ति में बाधा कुटीर लघु उद्योगों के उत्पादन को बुरी तरह प्रभावित करती है। कुटीर लघु उद्योगों की वित्तीय स्थिति अत्यंत दयनीय है, जिससे कभी-कभी ये अभ्यंशित कच्चे माल की भी उपयोग नहीं कर पाते, केवल कुछ इकाईयाँ ही अभ्यंशित कच्चे माल का उपयोग कर पाती हैं। बहुत सी इकाईयाँ इस सुविधा को अस्वीकार कर देती हैं। कच्चे माल के अभ्यंश के वितरण में भी बहुत से कुप्रबंध हैं, जो कुटीर लघु उद्योग के कार्यचालन व अन्तः लाभ प्रदत्ता को बहुत बुरी तरह प्रभावित करते हैं।

संदर्भ सूची:

1. जैन बी.के. भारत में आर्थिक नियोजन विकास एवं आर्थिक उदारीकरण में लघु एवं कुटीर उद्योगों के संदर्भ में 2000
2. संजय सिंह, दलित और शिक्षा" ओमेगा पब्लि. नई दिल्ली पृष्ठ 2



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Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At

■ Analysis application developed
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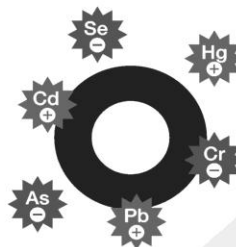
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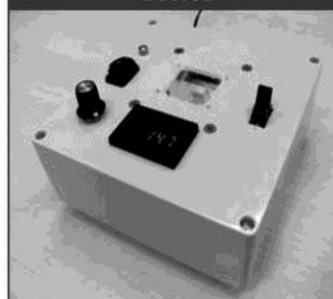
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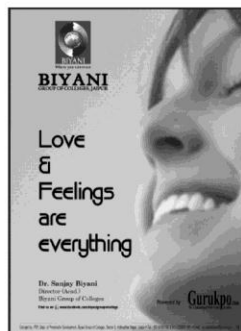
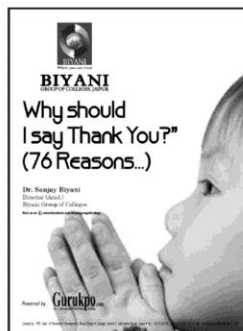
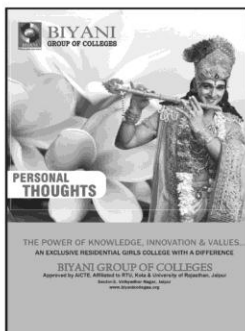
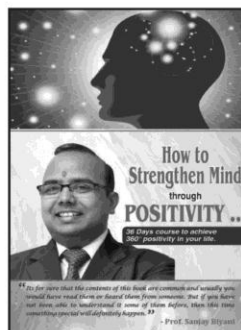
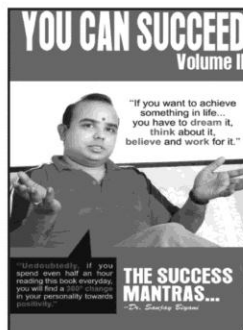
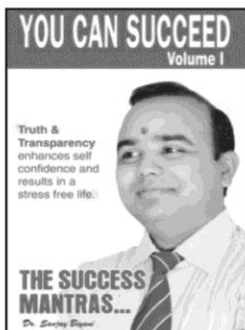
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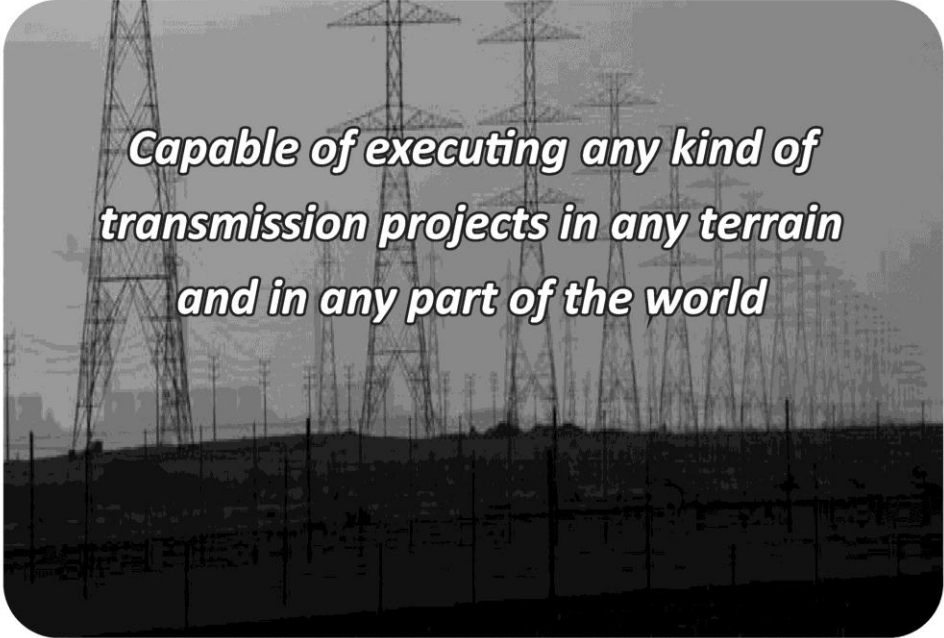
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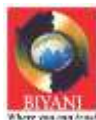
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Welcome to India-Japan Fest-2019 and Pink City Jaipur, India!

This year we are celebrating the 14th Anniversary of India-Japan Fest at Biyani Group of Colleges, Jaipur. Since, the first conference in 2006, it has become an annual feature of our institution and has continued to grow. The institution is leaving no stone unturned in encouraging the spirit of research and innovations and strengthening the bilateral academic relationship between India and Japan. Every year, this event receives increasing number of participants from both the countries, India and Japan, and we continue to evolve, adapt and develop new collaborative programs between various institutions in India and Japan.

Biyani Group of Colleges is organizing this mega event in collaboration with partner institutes from Japan **Japan Advanced Institute of Science and Technology, Akita Prefectural University, Saitama University, Kyushu University and Well Group.**

The theme of **BICON-2019** is **Sustainable Development Goals** guided by different departments including Science, Commerce & Management, Information Technology, Social Science, Nursing and Law based on ‘multidisciplinary-to-interdisciplinary’ approach. This is an initiative to introduce and promote sustainable development among nations and identify the challenges hindering the same.

We are proud to announce that Biyani Shikshan Samiti has been empanelled as a **SENDING ORGANIZATION** by NSDC, MSDE, New Delhi. This program will provide opportunity to our technically qualified youth in enhancing their skills as well as getting placed in the top organizations of JAPAN. We are welcoming “WELL GROUP” as the placement partner for Technical Internship Training Program (TITP).

BICON-2019 has decided to call for Abstract of the paper to be published in the conference proceedings with ISBN numbers. The Technical Program Committee is charged with reviewing all abstracts to accommodate the growing number of paper submissions. In a rigorous and time-consuming review process, the committee members worked hard to ensure the continued high quality of accepted papers. There are 23 invited talks (11 Japan + 12 India) in BICON-2019.

The months of planning, hard work and team effort by dedicated staff has culminated into the success of this event for which we would like to thank the management committee who trusted us to organize this conference and contributed significant funds to support the event. We would also like to thank the Technical Program Committee and the reviewers for their excellent work in reviewing the abstracts as well as their valuable input and advice. We would also like to express our sincere thanks to all the dedicated BICON-Team members for their active role and support in all aspects of this conference from collecting abstracts, assisting in coordination, helping to plan the agenda, recruiting sponsors and assisting in organizing the conference. I want to thank all the conveners of each symposium : Dr. Priyanka Dadupanthi (Science), Ms. Tarawati Chaudhary (Nursing), Dr. B.N. Gaur (Commerce & Management), Er. Vivek Sharma (Information Technology), Ms. Malti Saxena (Social Science) and Dr. N L Gurjar (Law) and Graphic designer Mr. Nilesh Sharma and team for editing the conference proceeding in the last running moments and beautifully designing the brochure and other conference materials.

Finally, we want to express our sincere thanks to all the invited speakers, offline and online, who have joined us from India, Japan and other countries, for taking out time from their busy schedule to participate in this conference. It has been a great pleasure to interact with them and receiving their interest in collaborating in the future.

The venue of this conference is located in Pink City Jaipur and we have tried to promote a sense of the local culture and North-Indian cuisine to the attendees during this conference. We hope that this conference is intellectually stimulating, enjoyable, professionally satisfying and memorable for all the attendees.

With warmest regards,



A handwritten signature in black ink, appearing to read 'Manish Biyani'.

Dr. Manish Biyani
Organizing Chair

- Res. Director,
Biyani Group of Colleges, India
- Res. Asso. Professor, JAIST, Japan



A handwritten signature in black ink, appearing to read 'Neha Pandey'.

Dr. Neha Pandey
Convener
Vice Principal & Registrar
Biyani Group



**CHIEF MINISTER
RAJASTHAN**

MESSAGE

I am pleased to know that the Biyani Girls College, Jaipur is organizing the 14th India–Japan Bilateral Conference (BICON–2019) from September 23rd to 25th, 2019 in Jaipur.

Rajasthan maintains special relation with Japan in terms of investment. This relationship has strengthened during the past years as investment made by the Japanese companies in the state has brought prosperity to the region.

I hope that this event will further strengthen bonds between the people of India and Japan

I wish the conference a great success.

(Ashok Gehlot)

Master Bhanwarlal Meghwal

Minister

Social Justice and Empowerment Department

Disaster Management & Relief Department

Govt. of Rajasthan



Office :
Room No. 6016,
Ministerial Building,
Secretariat, Jaipur - 302005
Phone. (O) : 0141-2227328



Date : 17-09-2019

Message

I am Pleased to know that Biyani Girls College is organizing 14th India-Japan Bilateral Conference (BICON-2019) on Sustainable Development Goals from 23 September to 25 September 2019.

Rajasthan maintains strong relationship with Japan in terms of Academic and Research Activities.

Your Organization is also publishing a souvenir on this occasion. I hope this souvenir will be inspiring for the young generation and promote further stronger relationship between India and Japan.

I wish all the best for the success to the conference.


(Master Bhanwarlal Meghwal)
Minister

Dr. Rajeev Biyani

Chairman

Biyani Girls College

Sector-3, Vidhyadhar Nagar, Jaipur

Residence : 382, Civil Lines, Jaipur (Raj.)

लालचन्द कटारिया
मंत्री



राजस्थान सरकार
कृषि, पशुपालन एवं मत्स्य विभाग
6116, मंत्रालय भवन, शासन सचिवालय
जयपुर-302005 (राजस्थान)
दूरभाष: 2227125(का.)

Serial -

Date-

Biyani Group of Colleges, Jaipur

I am very happy to hear that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September 23rd to 25th, 2019.

I am confident that this conference will attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes. Participation of the accomplished girls from Biyani College in this event shall Foster Women empowerment in our state.

I wish great success to the conference

Lalchand Kataria
Minister

Director

Biyani Group of Colleges, Jaipur

निवास :- कटारिया कृषि फार्म, सिरसी रोड, विशनावाला, जयपुर-302034

भंवर सिंह भाटी
राज्य मंत्री



उच्च शिक्षा (स्वातंत्र्य प्रभार),
राजस्व, उपनिवेशन एवं कृषि स्थिति क्षेत्रीय विकास
एवं जल उपयोगिता विभाग
राजस्थान सरकार, जयपुर - 302005



Message

I am very happy to learn that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September r, 23rd to 25th 2018.

I hope that this conference will attract bilateral academic / research agreements and promote further stronger relationship between Japan and India especially Rajasthan.

This event is organized to celebrate the bilateral research agreements and promote strong relationship between JAIST and Indian Institutes.

I wish Biyani Group of Colleges a great success for the conference.

(Bhanwar Singh Bhati)

डॉ. सुभाष गर्ग
राज्य मंत्री
राजस्थान सरकार



तकनीकी शिक्षा एवं संस्कृत शिक्षा (स्वतंत्र प्रभाग),
चिकित्सा एवं स्वास्थ्य, आयुर्वेद और चिकित्सा,
चिकित्सा एवं स्वास्थ्य सेवाएं (ई.एस.आई.)
एवं सूचना एवं जनसम्पर्क विभाग


Message

I am happy to know that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON-2019) between 23rd-25th September, 2019.

I am confident that the outcomes of the brainstorming sessions will be most fruitful, resulting in educating the masses and transforming common men into responsible citizens.

I extend my wishes to the organizers of the Conference for great success.




(Dr Subhash Garg)

कार्यालय : 6316, नंभालय भवन, शासन सचिवालय, जयपुर-302005 • फोन : +91-141-2227925
ईमेल : mostechedu@gmail.com



जगरूप सिंह यादव, आई.ए.एस.
Jagroop Singh Yadav, I.A.S.



MESSAGE

राजस्थान सरकार
GOVERNMENT OF RAJASTHAN
जिला कलेक्टर एवं जिला मजिस्ट्रेट
DISTRICT COLLECTOR & DISTRICT MAGISTRATE
कलेक्ट्रेट, जयपुर-302016
Collectorate, Jaipur-302016

I am extremely delighted to know that Biyani Group of Colleges, Jaipur is organizing 14th International Conference on "Sustainable Development Goals" from September 23rd to 25th, 2019. It is indeed the need of the hour to focus on such issues of sustainable development.

This conference will certainly attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes.

The prospects of such activities have much more scope for the younger generation to uncap their talents and touch greater heights of achievement.

I wish to convey Biyani Group of Colleges a great success in the event.

Best Wishes.


(Jagroop Singh Yadav)



Rajasthan ILD Skills University (RISU)

(Established under the Act No. 6 of 2017)

Dr. Lalit K. Panwar

IAS (R)

Vice Chancellor

Former Secretary, Tourism, GoI

Tel. No. +91-141-2361120

Mob. No. +91-9650687888



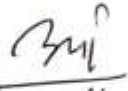
Message

It is a matter of great pleasure to know that Biyani Group of Colleges is organizing the 14th India-Japan Bilateral Conference (BICON 2019) during September 23-25, 2019.

Kindly accept my compliments and heartiest congratulations to Biyani Group of Colleges for organizing the 14th India-Japan Bilateral Conference (BICON 2019).

I am sure that this would definitely help in enhancing the bilateral relations between India and Japan particularly in the areas of academic and research activities and would certainly contribute tremendously in promoting Sustainable Development Goals between the two countries.

I wish the 14th India-Japan Bilateral Conference on Sustainable Development Goals a grand success.


(Dr. Lalit K. Panwar)
17.9.19

Khasa Kothi Campus, M.I. Road, Jaipur-302001, Rajasthan
E-mail : risujaipur@gmail.com, Website:- www.rajskills.edu.in

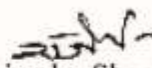


MESSAGE

I am glad to convey my warm congratulations to Biyani Group of Colleges on occasion of the 14th India-Japan Bilateral Conference (BICON-2019) on sustainable development, going to be organised from 23-25 September, 2019. It is remarkable that JAIST and other Institutes from Japan has been working with Indian Universities to enhance collaborative endeavour between India and Japan.

I am pleased to note that this event will promote India-Japan activities on sustainable development and hence mark out the hindering challenges. The launch of joint India-Japan activities for Technical Intern Training Program will provide immense opportunities for student's skill development.

I wish great success to Biyani Group of Colleges for their efforts to organize such prestigious event.


(Rajendra Sharma)
Registrar
Rajasthan Nursing Council,
Jaipur

FROM THE CONVENER'S DESK

It gives me great pleasure to extend to you all a very warm welcome on behalf of Department of Science and Nursing, Biyani Girls' College. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the BICON 2019.

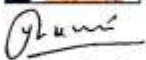
It is an opportune time to renew contacts and discuss opportunities of mutual interest with delegates from both Japan and India bilaterally.

It is gratifying to note that the agenda of the Seminar covers a wide range of very interesting items relating to higher education frontiers in India and Japan, and resulting opportunities for both countries.

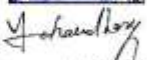
No matter how much we can do by ourselves on the national level, whether it be research or development, it is never enough. In a spirit of true cooperation, we in Asia, and particularly in Japan and India, are proud of nurturing past and present civilizations and cultures. We must join in an action-oriented effort to recognize and capitalize on the bilateral opportunities in the higher education sector in both countries.

The utter sincerity and dedication of the management, the teaching faculty, non-teaching staff and the students at Biyani Girls' College has brought this event to fruition. It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.



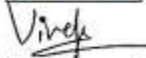

Dr. Priyanka Dadupanthi
(Dept. of Science)
Convener



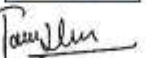

Ms. Tarawati Choudhary
(Principal, Nursing)
Convener

Department Core Committee Members

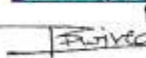



Dr. Vivek Kumar Jain
Assistant Professor (Physics)
Dept. of Science




Mr. Tarun Sharma
Assistant Professor (Mathematics)
Dept. of Science




Ms. Pratibha Dwivedi Tiwari
Assistant Professor (Biotechnology)
Dept. of Science

CORE COMMITTEE :

- Ms. Pushpa Biyani (Mentor)
- Dr. Rajeev Biyani (Chairman)
- Prof. Sanjay Biyani (Director-Acad.)
- Prof. Manish Biyani (Director-R&D)
- Prof. Neeta Maheshwari (Principal, BGC)
- Ms. Sujata Biyani (Asst. Director)
- Ms. Priyanka Biyani (Asst. Director)
- Dr. Madhu Biyani (Asst. Director)
- Dr. Neha Pandey (Registrar)
- Ms. Renu Tandon (HR Manager)
- Dr. Priyanka Dadupanthi
- Ms. Tarawati Choudhary

ORGANIZING COMMITTEE:

- | | |
|-------------------------|------------------------------|
| • Dr. Tarun Kumawat | • Dr. Vivek Jain |
| • Dr. Deepika Rani | • Dr. Neetu Rawat |
| • Dr. Sunil Chaudhary | • Dr. Anita Mishra |
| • Dr. Yachana Jain | • Dr. Vashundhra Sharma |
| • Mr. Tarun Sharma | • Mr. Tanveer Singh |
| • Mr. Umesh Kumar Singh | • Mr. Jitendra Prasad Sharma |
| • Mr. Mohd. Shakil Zai | • Ms. Kanchan Sharma |
| • Ms. Akanksha Shukla | • Ms. Pratibha Dwivedi |
| • Ms. Chhavi Bhalothia | • Ms. Sheenu Sharma |
| • Ms. Nisha | • Ms. Sonam Yadav |
| • Ms. Pooja Yadav | • Ms. Shilpa Bhargava |
| • Ms. Rajshri Nagar | • Ms. Aditi Joshi |
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| • Ms. Sanju Jangir | • Ms. Chetna Sharma |
| • Ms. Ritu Gupta | • Ms. Shalini Tailor |
| • Ms. Alka Dadheech | • Ms. Shivani Sharma |
| • Ms. Jishu George | • Ms. Remya Renjan |
| • Mr. Suresh Yadav | • Ms. Mamta Yadav |
| • Ms. Jyoti Sharma | • Mr. Shahid Ali |
| • Ms. Sonia John | • Ms. Laxmi Pharaswal |
| • Ms. Anita Choudhary | • Mr. Rakesh Kumar Sharma |
| • Ms. Priyanka Sharma | • Ms. Rumana Ali |

PROGRAMME AT A GLANCE

Timing	Programme
08:30-09:00	Registration (Flag Ceremony)
09:00-10:15	Biyani-Kyodai HIV-Labo Session
09:00-09:05	Lighting of the Lamp
09:05-09:15	Welcome address and Introduction: Prof Manish Biyani, Chair-BICON2019
09:15-09:35	Keynote Speaker : Prof Bechan Sharma, University of Allahabad, India
09:35-09:55	Invited Talk: Prof Kiyoshi Yasukawa, Kyoto University, Japan
09:55-10:05	Invited Talk: Dr. Kenji Kojima, Kyoto University, Japan
10:05-10:10	Open discussion
10:10-10:15	Vote of thanks and Group Photo (Memento Distribution)
10:15-10:30	Tea Break
10:30-14:00	Smart Healthcare Session
10:30-10:40	Introduction: Prof Manish Biyani, Chair-BICON 2019
10:40-11:00	Invited Talk: Prof Naoki Nakashima, Kyushu University, Japan
11:00-11:20	Invited Talk: Dr Madhu Biyani, Toyama Prefectural University, Japan
11:20-11:40	Invited Talk: Fumihiko Yokota, Kyushu University, Japan
11:40-12:00	Invited Talk: Rafiqul Islam Maruf, Kyushu University, Japan
12:00-12:20	Invited Talk: Dr. Prashant Singh, University of Rajasthan, Jaipur
12:20-12:25	Open discussion
12:25-12:30	Memento Distribution
12:30-14:00	Lunch Break and Poster/Exhibition display
14:00-17:00	TITP Session
14:00 -14:10	Introduction: Prof Manish Biyani, Chair-BICON 2019
14:10 -14:30	Invited Talk : Dr. Rieko Izukura, Kyushu University, Japan
14:30 -14:40	Invited Talk : Masashi Imura, CEO, Well Group, Japan
14:40 -15:00	Invited Talk : Pracheesh Prakash, Eternal Hospital, Jaipur, India
15:00-15:20	Invited Talk : K.K. Sharma, Eternal Hospital, Jaipur, India
15:20-16:20	Oral Presentation
16:20-16:25	Open discussion
16:25-16:30	Memento Distribution
16:30-16:40	Prize Distribution
16:40-17:00	Closing remarks and Group Photo
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Invited Lecture 1

Exploring Impact of Mutations at K154 in HIV 1 Reverse Transcriptase on its Biochemical Properties



Bechan Sharma

Affiliation & Contact:

Department of Biochemistry, Faculty of Science, University of Allahabad, UP, India

Phone: 09415715639

Email: sharmabi@yahoo.com

Research Interest:

Molecular Biology of HIV/AIDS, Tropical Diseases (Filariasis/Malaria) and Biochemical Toxicology of xenobiotics including heavy metals and pesticides.

Education Qualification:

1988	Ph.D. Biochemistry	Banaras Hindu University, Varanasi
1982	M.Sc. Biochemistry	Banaras Hindu University, Varanasi
1980	B.Sc. (Honors)	Banaras Hindu University, Varanasi

Professional Experience:

2004-Present	Professor (CDR)	University of Allahabad
2002-2004	Professor (CAS)	Dr. RML Avadh University, Faizabad
1994-2002	Reader (CDR)	Dr. RML Avadh University Faizabad
1989-1994	Assistant Professor	Sher-e-Kashmir University, J & K
1988-1989	Senior Tech. Assistant	Sher-e-Kashmir University, J & K

Research Projects Completed:

1. Environmental impact assessment of commonly used pesticides and the abatement of the Environmental pollution due to pesticides through biochemical tools. Funded by AICTE-New Delhi. March, 1994-March, 1997, Grant No. F2-2/93-TD.VI, Direct Costs Rs.8.5 Lakhs
2. Studies on the effect of organocarbamate on non-target aquatic (fish) and mammalian (rat) systems and possible remedial measures. Funded by AICTE-New Delhi for three years (January, 1995- January, 98.), Grant No.802/RDII/R&D/94/Rec 246, Direct Costs: Rs.2.75 Lakhs
3. Isolation and characterization of pesticide (organocarbamates and organophosphates) degrading microorganisms. Funded by AICTE-New Delhi for three years (March 1999-February 2002), Direct Costs: Rs.6.0 Lakhs
4. Government of India, Department of Science and Technology (MHRD)-FIST Project Grant, Direct Cost: 85 Lakhs, at Dr.R.M.L. Avadh University-Faizabad, 03 years.
5. UGC-SAP, DRS Project Grant No. F3-11/2004 (SAP-2), 26-03-2004, Direct Cost: 12 Lakhs, at Dr.R.M.L. Avadh University-Faizabad for three years.
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Publications:

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2. Singh S and B. Sharma (2015) Phytochemicals from medicinal plants and herbs as antiHIV-1 agents (article id:277042978) INTERNATIONAL JOURNAL OF PHARMACOGNOSY AND PHYTOCHEMISTRY (Accepted)
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Abstract

Exploring impact of mutations at K154 in HIV 1 reverse transcriptase on its biochemical properties

Bechan Sharma

Department of Biochemistry, Faculty of Science, University of Allahabad, UP, India

Abstract

It is known that DNA template-directed polymerization by the human immunodeficiency virus type 1 reverse transcriptase (HIV-1RT) is error-prone for single-nucleotide substitution, addition and deletion errors at homopolymeric sequences. We have also noted strong termination of processive synthesis at these positions. The role of different amino acids located at different motifs of RT might be playing role in this process. To ascertain the role of lysine residue located near the active site pocket of HIV-1 RT we made several mutations (K154 to A, I, E and R) and characterized them properly with special reference to their property of discrimination between the correct and incorrect nucleotides. To carry out RT activity assay, utilized p32 labeled 17/18 mer primer annealed with the DNA/RNA template. The RNA template of about 300 nucleotides resembles with HIV-1RNA genome. Primer extension reactions were monitored in absence of one nucleotides and it was observed that this enzyme was able to extend the primer to some extent, though with a stall where the nucleotide is missing accumulating lot of products. The K154E mutants exhibited more fidelity whereas K154R proved to be highly error prone during cDNA synthesis. We further tested the effect of dideoxy nucleotides on the activities of these mutants and found that any mutation at position 154 in HIV-1 RT could induce drug resistance in the virion. The results suggested that K154 is crucial for not only stabilizing the ternary complex formation at the active site of enzyme during catalysis but also in imparting drug sensitivity to HIV-1 RT.

Keywords: Human immunodeficiency virus type 1 reverse transcriptase (HIV-1RT), Site Directed mutagenesis, Polymerase reaction, Drug resistance, Fidelity



Invited Lecture 2

RNA amplification



Kiyoshi Yasukawa

Affiliation & Contact:

Laboratory of Enzyme Chemistry
Food Science and Biotechnology
Graduate School of Agriculture
Kyoto University
Phone +81-75-753-6266; Fax +81-75-753-6265
Email: yasukawa@kais.kyoto-u.ac.jp

Research Interest

Enzyme Chemistry, RNA amplification

Education & Professional Career

1978-1982	University of Tokyo
1982-1984	Graduate School of Science, University of Tokyo
1984-2004	Researcher in Tosoh Corporation
1989	Ph.D. Osaka University (Medicine)
2004-2013	Assoc. Prof in Kyoto University
2013-Present	Prof in Kyoto University

Major Publications:

1. Ishiguro, T., Saitoh, J., Horie, R., Hayashi, T., Ishizuka, T., Tsuchiya, S., Yasukawa, K., Kido, T., Nakaguchi, Y., Nishibuchi, M., and Ueda, K.: Intercalation activating fluorescence DNA probe and its application to homogeneous quantification of a target sequence by isothermal sequence amplification in a closed vessel. *Anal. Biochem.* 314: 77-86 (2003)

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Abstract

RNA Amplification

Kiyoshi Yasukawa and Kenji Kojima

*Division of Food Science and Biotechnology, Graduate School of Agriculture,
Kyoto University, Sakyo-ku, Kyoto 606-8502, Japan*

Abstract

RNA-specific amplification is an isothermal reaction (41-43°C) that specifically amplifies a target RNA sequence with reverse transcriptase and RNA polymerase. Reverse transcriptase synthesizes promoter-bearing double-stranded DNA with the help of its RNase H activity. RNA polymerase continues in vitro transcription to produce copies of RNA fragments that are subsequently recycled as RNA templates for synthesis of promoter-bearing double-stranded DNA. Since RNA-specific amplification does not amplify any target sequence in double-strand DNA, it enables detection of the expression of a specific gene even in the presence of genomic DNA. RNA-specific amplification can be used to identify pathogens that express virulence genes and for drug susceptibility testing of pathogens. We established an RNA-specific amplification assay to detect *tdh* and *trh* mRNAs of *Vibrio parahaemolyticus*, *cesA* mRNA of *Bacillus cereus*, and RNA of HIV-1 reverse transcriptase. We also established a completely homogeneous and isothermal method of detecting RNA sequences, which is based on performing isothermal RNA sequence amplification in the presence of an intercalation activating fluorescence DNA probe, and measuring the fluorescence intensity of the reaction mixture.

Keywords: HIV-1, reverse transcriptase, RNA, RNA amplification, RNA polymerase



Invited Lecture 3

Recombinase polymerase amplification



Kenji Kojima

Affiliation & Contact:

Laboratory of Enzyme Chemistry, Food Science and Biotechnology,
Graduate School of Agriculture, Kyoto University
Phone +81-75-753-6268; Fax +81-75-753-6265
Email: kojimak@kais.kyoto-u.ac.jp

Research Interest:

Enzyme Chemistry, Protein Engineering

Education & Professional Career:

2001-2005	Kyoto University
2005-2007	Graduate School of Agriculture, Kyoto University
2007-2009	Researcher in Amano Enzyme Inc
2009-Present	Assistant Prof in Kyoto University
2014	PhD, Kyoto University (Agriculture)

Major Publications:

1. Kojima, K., Baba, M., Tsukiashi, M., Nishimura, T., and Yasukawa, K. RNA/DNA structures recognized by RNase H2. *Brief. Funct. Genomics*.18: 169-173 (2018)
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Abstract

Recombinase polymerase amplification

¹Kenji Kojima, ²Itaru Yanagihara, ³Shinsuke Fujiwara, ⁴Manish Biyani and ¹Kiyoshi Yasukawa

*¹Division of Food Science and Biotechnology, Graduate School of Agriculture,
Kyoto University, Sakyo-ku, Kyoto 606-8502, Japan*

*²Department of Developmental Medicine, Research Institute, Osaka Women's and Children's Hospital,
Izumi, Osaka 594-1101, Japan*

*³Department of Bioscience, School of Science and Technology, Kwansei-Gakuin University, Sanda,
Hyogo 669-1337, Japan*

*⁴Department of Bioscience and Biotechnology, Japan Advanced Institute of Science and Technology, 1-1
Asahidai, Nomi City, Ishikawa, 923-1292 Japan*

Abstract

Recombinase polymerase amplification (RPA) is an isothermal reaction that is conducted at a temperature around 40°C. RPA is based on the use of a recombinase, a single-stranded DNA-binding protein (SSB), and a strand-displacing polymerase. Since the first report in 2006, RPA has been widely used to detect various targets. Unlike other isothermal nucleic acid amplification methods, RPA has the potential to eliminate the use of specialized equipment to provide the required temperature. We presume that RPA might be the most ideal nucleic acid amplification method for use in point-of-care diagnosis.

We attempted to establish an RPA assay to detect human immunodeficiency virus type 1 (HIV-1) reverse transcriptase (RT) DNA. HIV-1 RT is a heterodimer consisting of a 66-kDa p66 subunit and a 51-kDa p51 subunit. The p66 subunit comprises the fingers, palm, thumb, and connection

subdomains and the RNase H domain, and the p51 subunit is composed of the fingers, palm, thumb, and connection subdomains, but is lacking in the RNase H domain. We selected the RNase H domain as a target for amplification because the mutation in the RNase H domain is less frequent than in other regions. Examination of the standard DNAs prepared *in vitro* synthesis showed that a positive result was obtained for as few as 10^4 copies of DNA. The detection time for 10^4 copies of the standard DNAs ranged from 11 to 15 min.

Keywords: HIV-1, recombinase polymerase amplification, reverse transcriptase, RPA



Invited Lecture 4

Importance of Patient Engagement and Population Health Management in Global Health



Naoki Nakashima, MD, Ph.D.

Affiliation & Contact:

Professor/Director
Medical Information Center
Kyushu University Hospital
3-1-1 Maidashi, Higashi-ku, Fukuoka-city, Fukuoka, 812-8582, JAPAN.
Tel: 092-642-5881
Fax: 092-642-5889
Email: nnaoki@info.med.kyushu-u.ac.jp Research Interest:

Medical Informatics, Global health, Telemedicine, PHR, PHC, Non-communicable disease

Education & Professional Career:

1996 –1999	University of California, San Diego, US, Research Fellow
1997	Kyushu University, Fukuoka, Japan, Ph.D.
1981–1987	Medical School of Kyushu University, Fukuoka, Japan, M.D.
2019	Japan Association for Medical Informatics, President
2017	Kyushu Institute of Technology, Visiting Professor
2015	International Patient Support Center, Kyushu University Hosp., Director
2014	Kyushu University Vice CIO
2014	Medical Information Center, Kyushu University Hosp., Professor/Director
2014	Kyushu University Hospital Assistant Director

Major Publications:

1. Mitsune Yamaguchi, Satomi Inomata, Sayoko Harada¹, Yu Matsuzaki, Maiko Kawaguchi, Mayuko Ujibe, Mari Kishiba, Yoshiaki Fujimura, Michio Kimura, Koichiro Murata, Naoki Nakashima, Masaharu Nakayama, Kazuhiko Ohe, Takao Orii, Eizaburo Sueoka, Takahiro Suzuki, Hideto Yokoi, Fumitaka Takahashi, Yoshiaki Uyama, Establishment of the MID- NET® medical information database network as a reliable and valuable database for drug safety assessments in Japan, *Pharmacoepidemiology and Drug Safety*, 10.1002, 2019.07.
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Abstract

Importance of Patient Engagement and Population Health Management in Global Health

Naoki Nakashima

Medical Information Center, Kyushu University Hospital, Fukuoka, Japan

Abstract

Patient engagement is defined as “the process of building the capacity of patients, families, care givers, as well as health care providers, to facilitate and support the active involvement of patients in their own care, in order to enhance safety, quality and people-centeredness of health care service delivery” by WHO (2016). Patient should be well-informed and actively participating in decision making and self-care. With health IT, patient engagement can take on many forms, from patients accessing their own health data via patient portals, to discussing

their treatment plan with their doctors through secure electronic messaging, to monitoring their own health activities using wearable devices.

Population Health Management (PHM) is another important concept in global health. Medical cost should be increased with development of medicine and progress of aging society in any countries, although budget is always limited. We have to make it cost-effectively and fairly. PHM is system of health management of specified population (village residents, company employee, insured persons, etc.) to decrease risk of chronic diseases from prevention to prognosis. They collect health/medical data from targeted population, make risk stratification, and intervene to each risk group by appropriate manner by rule base.

Therefore, Portable Health Clinic (PHC) and Personal Health Record (PHR) are expected to be powerful tools supporting these two important concepts for global health.

Keywords: Patient Engagement, Population Health Management, Telemedicine, Portable Health Clinic, Personal Health Record



Invited Lecture 5

Development of Vitamin D₃ and its Analogs for Prevention and Treatment of Cancer



Madhu Biyani, Kaori Yasuda and Toshiyuki Sakaki

Department of Pharmaceutical Engineering, Toyama Prefectural University, Japan

Abstract

1,25-dihydroxyvitamin D₃ (1,25-(OH)₂D₃) is an active form of vitamin D₃ which regulates a broad spectrum of physiological processes. In addition to its classical roles in bone metabolism, 1,25-(OH)₂D₃ also regulates the many cellular functions such as proliferation, differentiation, and apoptosis. However, CYP24A1 is a key enzyme that degrades the 'active' form of 1,25-(OH)₂D₃ into an 'inactive' form and thus it can be hypothesized that reduce concentration of 1,25-(OH)₂D₃ by over expression of CYP24A1 could interrupt the normal physiology of cells. Recent studies also reported the role of overexpression of CYP24A1 in initiation and progression of many cancer types [1]. Therefore, vitamin D analogs that can be resistant to CYP24A1 should be a promising therapeutic agent for cancer treatment (see, Fig.1). In ongoing project 'Toyama Pharmaceutical Silicon Valley Development Consortium', we are striving to develop the potent vitamin D₃ or its analogs-based drugs for the treatment of various human diseases. Over the past decades, our group has synthesized a list of analogs with structures combining "19-demethylenation" and "C2 α -modification" with different hydrocarbon moieties and some of them showed remarkable biological activities. Among those analogs, MART-10, ED-71 and O2C3 had shown to be resistant to the CYP24A1-dependent degradation, low calcemic effect in vivo studies and high binding affinity for vitamin

D receptor in compared to their mother compound, further suggesting that CYP24A1 plays an important role in determining the bioavailability of vitamin D₃ analogs [2]. Thus, we concluded that including these key properties may be essential for designing the potent vitamin D₃ analogs for cancer treatment. In this presentation, I will describe the metabolism of vitamin D₃ by CYP24A1 and its implication in cancer in an attempt to develop more potent CYP24A1-resistant vitamin D₃ analogs and CYP24A1-specific inhibitors for cancer treatment.

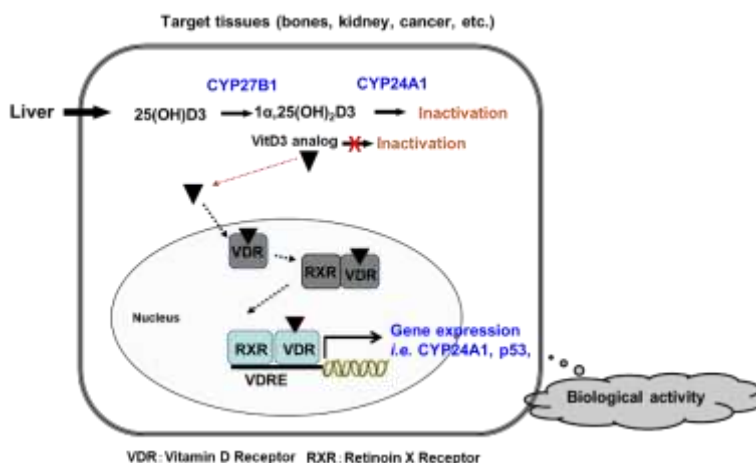


Figure 1: Genomic mechanism of VDR-dependent vitamin D₃ and its analog actions

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Invited Lecture 6

Evaluating Mobile Health Check-Up Services to improve Factory Worker's Awareness, Treatment, and Health Behaviors of Non-communicable Diseases in Jaipur, India



Fumihiko Yokota.

Affiliation & Contact:

744 Motooka, Nishi-ku, Fukuoka-city, Fukuoka, 819-0395, JAPAN.

Tel: 092-802-6052

Fax: 092-802-6057

Email: fumihiko.yokota.2011@gmail.com

Research Interest:

Public Health, Social Epidemiology, International Health

Abstract

Evaluating mobile health check-up services to improve factory worker's awareness, treatment, and health behaviors of non-communicable diseases in Jaipur, India

Fumihiko Yokota¹, Manish Biyani², Rajshri Nagar², Deepak Tiwari², Suresh Yadav², Mariko Nishikitani¹, Kimiyo Kikuchi¹, Ashir Ahmed³, Rafiqul Islam Maruf⁴, Yasunobu Nohara⁴, Rieko Izukura⁴ and Naoki Nakashima⁴

¹*Institute of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan;*

²*Department of Nursing, Biyani Group of Colleges, Jaipur, Rajasthan, India;*

³*Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan;*

⁴*Medical Information Center, Kyushu University Hospital, Fukuoka, Japan*

Abstract

Objective: The study evaluates mobile health check-up services called Portable Health Clinic (PHC) to improve factory worker's awareness, treatment and health behaviors of non-communicable diseases.

Methods: Data were collected from 141 factory workers at Saras Dairy, Jaipur who completed both baseline and after 6 month endline mobile health checkup services and questionnaires in 2018. Data included basic socio-demographic, behavioral and health check-up information. McNemar tests were conducted to compare differences in participant's awareness, treatment, and health behaviors of their non-communicable diseases.

Results: Levels of participant's awareness on their hypertensive status increased significantly after 6 months (8.5% to 25.5%, $P < 0.001$). Percentages of participants who reported "Currently taking drugs" for hypertension and diabetes increased significantly after 6 months (5.7% to 17.7%, $P < 0.001$ and 6.4% to 12.8%, $P < 0.05$, respectively). The percentages of participants who reported "already trying to improve eating habits" significantly increased from 5.7% to 17.7% ($P = 0.003$). The percentages of participants who reported "already trying to improve excise habits" significantly increased from 3.5% to 12.1% ($P = 0.017$). The percentages of participants who reported "usually go visit private clinic when sick" significantly increased from 26.2% to

46.1% ($P < 0.001$) and the percentages of participants who reported “usually go visit government hospitals when sick” also significantly increased from 46.8% to 61.0% ($P = 0.005$).

Conclusions: Levels of awareness, treatment, and health behaviors related to non-communicable diseases among factory workers in Jaipur has been improved after 6 months when they received mobile health check-up services.

Keywords: Mobile Health Check-up, non-communicable diseases, prevention, factory workers, India



Invited Lecture 7

Functional Expansion of Portable Health Clinic



Rafiqul Islam Maruf, *Ph.D.*

Affiliation & Contact:

Associate Professor
Medical Information Center
Kyushu University Hospital
3-1-1 Maidashi, Higashi-ku, Fukuoka-city, Fukuoka, 812-8582, JAPAN.
Tel: 092-642-5881, Fax: 092-642-5889
Email: rimaruf@med.kyushu-u.ac.jp

Research Interest:

ICT for Social Services, Telemedicine, Global Healthcare

Education & Professional Career:

- Ph.D. in Information Engineering in 1993 from Hokkaido University, Japan
- M.Sc. in Applied Physics & Electronics in 1992 from Dhaka University, Bangladesh
- 2017~Present: Associate Professor, Medical Information Center, Kyushu University Hospital, Japan (Present)
- 2009~Present: Director, Global Communication Center, Grameen Communications, Bangladesh (Present)
- 2000-2009: Manager, Overseas Business Development, Softfront Inc., Japan

Major Publications:

1. R. Islam, Y. Nohara, MJ. Rahman, N. Sultana, A. Ahmed, N. Nakashima, PORTABLE HEALTH CLINIC: An Advanced Tele-Healthcare System for Unreached Communities, *Ebook: MEDINFO 2019: Health & Wellbeing e-Network for All*, Volume 264, 416-419.
2. R. Islam, Y. Nohara, N. Sultana, A. Ahmed, N. Nakashima, PORTABLE HEALTH CLINIC - For Reaching the Unreached Communities with a Telemedicine System, *Proc of 3rd World Health Congress on Public Health and Healthcare Management*, Dubai, UAE, April 2019.
3. R. Islam, Y. Nohara, N. Sultana, A. Ahmed, N. Nakashima, GramHealth: Portable Health Clinic A Tele-Healthcare System for Unreached Communities, *Proc. of 12th Asian Telemedicine Symposium*, Fukuoka, Japan, November, 2018.
4. Y. Nohara, E. Kai, P. Ghosh, R. Islam, A. Ahmed, (another 4 authors), S. Shimizu, K. Kobayashi, Y. Baba, H. Kashima, K. Tsuda, M. Sugiyama, M. Blondel, N. Ueda, M. Kitsuregawa, N. Nakashima, Health Checkup and Telemedical Intervention Program for Preventive Medicine in Developing Countries: Verification Study, *Journal of Medical Internet Research*, Vol.17, No.1, 2015.

Abstract

Functional Expansion of Portable Health Clinic

Rafiqul Islam Maruf¹, Yasunobu Nohara¹, Kimiyo Kikuchi², Rieko Izukura¹, Mariko Nishikitani², Fumihiko Yokota², Sato Yoko³, Rajib Chakrabarty⁴, Nazneen Sultana⁴, Ashir Ahmed⁵, MeherunNessa⁶ and Naoki Nakashima¹

¹*Medical Information Center, Kyushu University Hospital, Fukuoka, Japan*

²*Inst. of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan*

³*Global Communication Center, Grameen Communications, Dhaka, Bangladesh*

⁴*Faculty of Medical Sciences, Kyushu University Hospital, Fukuoka, Japan*

⁵*Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan*

⁶*Department of Gynecology, Holy Family Red Crescent Medical College & Hospital, Dhaka, Bangladesh*

Abstract

Portable Health Clinic (PHC) has been designed for providing primary healthcare service in the form of preventive healthcare to the rural communities by telemedicine with the support of remote doctor. The prevalence of non-communicable diseases like Diabetes Mellitus and Hypertension has

recently increased to a cautious extent even in developing countries including Bangladesh. However, these diseases and the consecutive complications can be effectively prevented by taking cautions beforehand. Preventing the occurrence of such diseases or diagnosing it at early stage can help people to save a lot on medical bills. For this, regular screening of health status is important, which can be facilitated by PHC. Thus, from the beginning the PHC system has been developed with a special focus on non-communicable diseases. However, when the health workers visit rural areas with PHC for primary care, they face many patients who needs secondary or tertiary level of treatment for various diseases. That leads for the functional expansion with various specialized features of the basic PHC system. The major complains carried by the patients include eye care problem, maternal & child healthcare problem, dental care problem, skin care program and communicable diseases. Many cases our call center doctors refer them to nearest sub-district hospitals but still too far for them. So they try to insist the call center doctors for consultancy and sometimes they need to respond having no other alternative. Here comes a requirement from the call center doctor`s side. They need more investigation available in basic PHC package and pathological reports of the patients for better diagnosis. So the first module we have added to PHC is the Tele-Pathology module. Later we have added the Tele-EyeCare module and the Maternal & Child Healthcaremodulefor advanced support in these areas as a priority due to the highest level of demand in the rural communities. Skin Care and Dental Care modules are in the pipeline.

Keywords: Telemedicine, Tele-Pathology, Tele-Eyecare, Tele-Maternal & Child Healthcare, Preventive Healthcare, Health Triage



Invited Lecture 8

Green Vaccination: Plant Health for Human Welfare



Prashant Singh

Affiliation & Contact:

Department of Botany, University of Rajasthan, Jaipur, 302004, Rajasthan, India

Phone: 91-9057251342

E-mail: p.singh@uniraj.ac.in; psingh939@gmail.com

Research Interest:

Plant Pathogen Interaction, Plant Innate Immunity and Transgenerational Immune priming (TGIP)

Education & Professional Career:

2007	Ph.D. Biological Sciences	University of Essex, UK
2000	M.Sc. Botany	Banaras Hindu University, India
1998	B.Sc. (Honors) - Botany	Banaras Hindu University, India
March 2017- present	UGC-Assistant Professor	University of Rajasthan, Jaipur, India
Oct 2014-Feb 2017	BBSRC Senior Research Associate	Lancaster University, Lancaster, UK
Jan 2013- Sep 2014	USDA-NIFA Assistant Scientist	Department of Agronomy, ISU, USA
Dec 2008-Dec 2012	NSC Postdoctoral Fellow	National Taiwan University, Taiwan
Feb 2008-July 2008	NSF Postdoctoral Fellow	Univ. of California-Riverside, USA
Aug 2007-Jan 2008	BBSRC Postdoctoral Fellow	University of Essex, U.K.
June 2007-Jan 2008	Research technician	University of Essex, U.K.
Oct 2003- Apr 2007	Grad. Teaching Asst. (GTA)	University of Essex, U.K.

Major Publications:

1. Sekhar Kambakam, Binod B. Sahu, Rishi Sumit, Sivakumar Swaminathan*, Micheline N. Ngaki* Prashant Singh*, Devi R. Kandel, Muliya K. Rajesh & Madan K. Bhattacharyya(2019). Folate in Plant Immunity. *contributed equally to this work. (under revision, *Molecular Plant*)
2. Srivastava Anjil, Orosa Beatriz, Singh Prashant, Walsh Charlotte, Zhang Cunjin, Grant Murray Grant, Roberts Michael, Srinivasan Ganesh and Sadanandom Ari (2018). Small Ubiquitin-like Modifier protein, SUMO regulates Jasmonic acid signalling by suppressing the Jasmonic acid receptor, CORONATINE INSENSITIVE 1, COI1 activity independently of Jasmonic acid levels. *Plant Cell* 30 (9):2099-2115; DOI:<http://doi.org/10.1105/tpc.18.00036>.
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Prashant Singh and Laurent Zimmerli. Lectin receptor kinases in plant innate immunity. pp. 106-109. In Corné M. J. Pieterse, Marcel Dicke, Saskia C. M. Van Wees, Erik H. Poelman (eds). *Induced plant responses to microbes and insects*.

Patent:

Patent No: US 10,087,462 B2

Date of Patent: Oct. 2, 2018

Arabidopsis Nonhost Resistance Gene(s) and Use Thereof to Engineer SDS Resistant Plants.

Abstract

Green Vaccination: Plant Health for Human Welfare

Prashant Singh

Department of Botany, University of Rajasthan, Jaipur

Abstract

One of the biggest challenges for food security in the 21st century is to improve crop yield stability through the development of disease-resistant crops. Plants are constantly exposed to potentially pathogenic microbes present in their surrounding environment. Population burst, loss of agricultural land due to climate change, erosion and lack of water require that we reduce production losses such as those caused by pest and pathogens as much as possible. As a result, biotic stress, a loss of fitness caused to an individual by other organisms places a major constraint on plant growth.

In the absence of genetic resistance in crops, food production heavily depends on use of chemical to control pathogens. Despite their effectiveness, chemicals-based plant defense has detrimental environmental consequences and creating risks to the wider environment. Modern synthetic chemicals usually have reduced environmental toxicity; however, they are expensive and only available to advanced agricultural production systems. Moreover, as with antibiotics,

discovery of new chemical to control plant disease is difficult and extensive use of current agents may result in selection of pathogen strains tolerant to pesticides.

Reducing the dependence of food production on chemical control is a key goal of plant pathology research. One of the major goals of plant research in the 21st century is to increase our understanding of the plant defense system and unravel how this is manipulated by pathogens, in order to engineer crops with both durable resistance against pathogens and increased yields.

Plants have evolved a sophisticated immune system to resist pests and diseases. Apart from their innate immune system controlling preprogrammed defense reactions, plants can also increase the responsiveness of their immune system in response to selected environmental signals. This phenomenon is known as “defense priming”. Although defense priming rarely provides full protection, its broad-spectrum effectiveness, long lasting durability and inherited to future generations make it attractive for integrated disease management.



Invited Lecture 9

Brief Report: Nursing for Elderly in Japan



Rieko Izukura

Affiliation & Contact:

Medical Information Center, Kyushu University Hospital
3-1-1 Maidashi, Higashi-ku, Fukuoka-city, Fukuoka, 812-8582, JAPAN.
Tel: 092-642-5881 Fax: 092-642-5889
Phone: +81-092-642-5881 Email: ochamame@info.med.kyushu-u.ac.jp

Research Interest:

Cancer nursing, patient reported outcome (PRO), QOL

Education & Professional Career:

1997-2008 RN, Kyushu University Hospital
2012-2013 Teaching assistant, Department of Health Sciences, Graduate school of Medical Sciences, Kyushu University
2017-Research fellow, Medical Information Center, Kyushu University hospital
2019-Research fellow, Department of Epidemiology and Public Health, Graduate School of Medical Sciences, Kyushu University

Abstract

Brief Report: Nursing for Elderly in Japan

**Rieko Izukura, Fumihiko Yokota, Rafiqul Islam Marufa, Kimiyo Kikuchi,
Mariko Nishikitani, Yasunobu Nohara and Naoki Nakashima**

*¹Department of Social and Environmental Medicine,
Graduate School of Medical Sciences, Kyushu University*

²Inst. of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan

³Medical Information Center, Kyushu University Hospital, Fukuoka, Japan

Abstract

The aging rate of Japan is the highest in the world. In 2060, it is estimated one in three residents is the over 65 years old. With the further aging proceeding, many elderly people will live with diverse chronic diseases in Japan.

In response to the shorter hospital stays and the development of in-patient medical treatments, the concept of medical care has shifted from “curing diseases” to “healing or supporting patients and their families who live in their communities”. Therefore, both the hospital-based and the community-based nurses play an important role in elderly care.

It will introduce the current situations and issues of nursing system for elderly and then describe the role and responsibility of nurses for health care for older people in Japan.

Keywords: nursing system, elderly care



Invited Lecture 10

Human Resources of Nursing Care



Seiji Imura

Affiliation & Contact:

Well Group COO

Phone +81-743-55-0025; Fax +81-743-55-0120

Email: well-iscc@wellconsul.co.jp

Business scope:

- Medical Care and Health
- Human Resources and Education
- IT Solution and Consulting

Group Company:

- Wellconsul Co. Ltd
- City Planner Co. Ltd
- Well Japanese School
- Cooperative Well International Skills Cooperation Center
- Wellcare Cooperative
- Nihon Software Development Co. Ltd.
- Yuukai Medical Cooperation
- Kayanokai Social Welfare Cooperation
- Eva-Color Co. Ltd.
- Health Care Human Education Association
- National Federation of Technical Cooperatives
- National Association of Medi-Care Business

Abstract

Human Resources of Nursing Care

Seiji Imura

Well Group COO

Abstract

The number of nursing care staffs in Japan is decreasing recently, although the number of elderly people is increasing day by day. Well Group runs about 40 nursing care homes and clinics in Nara, Kyoto and Osaka. Approx, 800 Care workers is working for our facilities. We also run Japanese language school and Supervising Organization of TITP, and accept lots of students and trainees who want to work as care worker, nurse or engineer. I hope to accept motivated students from India and give them a great chance of technical internship and professional education.

Keywords: Care Worker, Nursing Care, IT, Education, Japanese language, TITP, Students



Invited Lecture 11

Environment and Health



K.K. Sharma

Affiliation & Contact:

Sr. Consultant, Pulmonary Medicine, Eternal Hospital, Jaipur
52/28, Vashisth Marg, Shipra Path, Mansarover, Rajasthan, India
Phone : +919414414265
E-mail: dr_kksharma@yahoo.co.in

Professional Experience:

8/2013 – till date	Sr. Consultant Pulmonary & Sleep Medicine	Eternal Heart Care Centre & Research Institute, Jaipur, India
12/2012 – 8/2013	Consultant Pulmonologist & Intensivist	Respiratory and Critical Care Medicine, Metro MAS Heart Care and Multispeciality Hospital, Jaipur, India
12/2010 - 12/2012	Specialist Consultant	Pulmonary Medicine, ESIC Hospital, Bhiwadi, Rajasthan, India
08/2009 - 12/2010	Senior Registrar	Respiratory and Critical Care Medicine Fortis Escorts Hospital, Jaipur, India
07/2008 - 06/2009	Senior Registrar	Department of Chest Diseases and Tuberculosis, S.M.S. Medical College, Jaipur, India
07/2007 - 06/2008	Junior Registrar	
06/2006 - 06/2007	Houseman Resident	

Qualifications:

- 2006-2009 M.D. (Chest Diseases & Tuberculosis) Institute of Respiratory Diseases, S.M.S. Medical College, Jaipur, India
- 2004 Internship S.M.S. Medical College, Jaipur, India
University of Rajasthan, Jaipur
- 1997-2002 MBBS S.M.S. Medical College, Jaipur, India

Professional Attainments/Courses:

- Fellow, American College of Chest Physicians, **FCCP**
- Awarded **Bursary by European Respiratory Society** to attend ERS School course on “Pulmonary hypertension and pulmonary vascular disease” at Lausanne, Switzerland, June 2014
- Fundamental Critical Care Support (**FCCS**) course

Publications/Research:

- Principal Investigator in two ongoing multicentric international trials on Bronchial Asthma by Novartis.
- Reliability of Anti-Mycobacterial Drug Susceptibility Testing and Importance of Accreditation of Laboratory Performing the Test; **SAARC Journal of Tuberculosis, Lung Diseases and HIV/AIDS** 2013; X (1); 1-6.
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Abstract

Environment and Health

Dr. K. K. Sharma, MD, FICM, FCCP

Sr. Consultant, Pulmonary Medicine, Eternal Hospital, Jaipur

Abstract

Environmental factors are a root cause of a significant burden of death, disease and disability - globally and particularly in developing countries. They range from poor water quality and access, vector-borne disease and air pollution to toxic chemical exposures, climate change and degraded urban environments. The resulting impacts are estimated to cause over 25% of death and disease globally, reaching nearly 35% in regions such as sub-Saharan Africa.

The Human Toll

Unsafe water, poor sanitation and hygiene kill an estimated 1.7 million people annually, particularly as a result of diarrhoeal disease. Malaria kills over 1.2 million people annually, mostly African children under the age of five. Poorly designed irrigation and water systems, inadequate housing, poor waste disposal and water storage, deforestation and loss of biodiversity, all may be contributing factors to the most common vector-borne diseases including malaria, dengue and leishmaniasis. Indoor smoke from solid fuels kills an estimated 1.6 million people annually due to respiratory diseases. Urban air pollution generated by vehicles, industries and energy production kills approximately 800 000 people annually. Road traffic injuries are responsible for 1.2 million deaths annually; low- and middle-income countries bear 90% of the death and injury toll. Degradation of the built urban and rural environment, particularly for pedestrians and cyclists, has been cited as a key risk factor. Lead exposure kills more than 230 000 people per year and causes cognitive effects in one third of all children globally; more than 97% of those affected live in the developing world.

Climate change impacts including more extreme weather events, changed patterns of disease and effects on agricultural production are estimated to cause over 150 000 deaths annually. Unintentional poisonings kill 355 000 people globally each year. In developing countries, where two-thirds of these deaths occur, such poisonings are associated strongly with excessive exposure to, and inappropriate use of, toxic chemicals and pesticides present in occupational and/or domestic environments. Over the next 30 years, most of the world's population growth will occur in the urban areas of poor countries. Rapid, unplanned and unsustainable styles of urban development are making developing cities the key focal points for emerging

environmental and health hazards. These include the synergistic problems of urban poverty, traffic fatalities and air pollution. In addition, increased urbanization and motorization and diminishing space for walking/recreation in cities is associated with more sedentary lifestyles and a surge in related non-communicable diseases. Globally, physical inactivity is estimated to be responsible for some 1.9 million deaths each year as a result of diseases such as heart ailments, cancer and diabetes.

Much of this burden rests upon the shoulders of the poor and vulnerable. Many of these deaths are avoidable and much of this disease is preventable. However, effective action requires renewed moral commitment to sustainable development and determined political action through international and national partnerships. Together we must translate our global knowledge-base on environment and health linkages into practical policy tools and action at the country level, incorporating environment and health considerations into social, economic and political decisions.

Why are environment and health issues not higher on policy agendas, particularly in countries where the disease burden is so great?

A review of environment and health decision-making in a developing country context described and analysed the driving forces that shape environment and health policy, synthesizing the results of over 50 in-depth interviews with experts and decision-makers globally as well as findings from an extensive literature review. The review concluded that the primary barriers to more effective policy are neither a lack of evidence nor a lack of knowledge. They are economic, institutional, political and social. Macroeconomic factors such as trade globalization, market liberalization, debt burdens and structural adjustment policies are among the most powerful drivers of national political agendas and, indirectly, environment and health policies. The hidden hazards posed by hasty and improperly conceived projects may be overlooked; better environmental management may be regarded as a luxury that developing countries cannot afford. The goods and services provided by bio-diverse ecosystems, upon which particularly the poor may rely for healthy livelihoods, are not meaningfully taken into account within market-driven development processes. This leads to continued degradation of those natural resources with resulting health impacts.

More effective impact assessment procedures are needed in developing countries. This can facilitate political and scientific exchange within a systematic and transparent framework. Impact assessment is a forum where science and policy interact – producing a synergy between scientific evidence and policy agendas. Analysis of environment and health costs and benefits is important to improved utility of assessment frameworks. Both economic and socioeconomic valuation put issues into monetary terms relevant to many policy-makers. Non-monetary

measures, including death and disease burden and the rate/degree of environmental degradation, also are powerful indicators. Interactive exchange between scientists, policy-makers and stakeholders is critical to improving access to knowledge about health and environment problems and solutions. Such exchanges can range from technical workshops to intersectoral government meetings and ministerial-level encounters. Participatory research allows policy-makers and stakeholders to "see" and "touch" the evidence for themselves. Building decision-maker and stakeholder awareness about environment and health problems, tools and policy options requires sustained and comprehensive communication strategies. Such strategies should describe potential "solutions" alongside the "problems," and relate to successful experiences elsewhere. Potential economic and poverty reduction gains should be communicated together with the health and environment gains. Policy-relevant briefing and training materials should be refined and adapted to local needs and issues.

Simple and cost-effective solutions can best be implemented when potential impacts are considered early in the policy process - rather than after environmental damage has occurred, health problems have emerged and human lives cut short or damaged. This requires an inclusive approach to the problems. For too long, the vicious cycle of unsustainable development, ecosystem degradation, poverty and ill health has been addressed sectorally, from a crisis management and curative perspective, rather than multisectorally and through preventive strategies. (Adapted from WHO-UNEP document).

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CONTRIBUTED PAPERS

Innovations for Safe Health

Amar Singh

Research Scholar & Associate Professor, Singhanian University, Pachari Badi (Jhunjhunu)

S.N.D.B. Govt. PG College, Nohar (Hanuamangarh)

asmunparia@gmail.com

Abstract

Sustainable development is not thought in a box without development pillars. Previous researchers put these pillars as economy, social and environment. Upon improving these three pillars, sustainable development becomes trustworthy in relation to workplace safety and health improvement. However, the researchers' findings have drawback in considering existing three pillars. Previous researches neglected to incorporate the other three pillars of sustainable development which are culture, political and technological factors. Having these pillars, sustainable development can also be guaranteed by considering workplace safety and health innovation for all internal and external entities engage at work. This is because of the implementation the pillars reduce the working environment accidents and disease. Hence, this research focuses on the workplace safety & health innovation, introducing new pillars for sustainable development, their impact on sustainable developments and indicating the three pillars future research areas.

At the beginning of the 21st century, we are at the dawn of a possibly unprecedented era of scientific discovery and promise. Emerging technologies, including information and communication technologies, genomics, micro electro mechanical systems, robotics, sensors, and nanotechnologies, provide enormous opportunities for population health improvement. Population health technology refers to the application of an emerging technology to improve the health of populations. Emerging technologies present an opportunity for addressing global health challenges-in both developed and developing countries. Health issues ripe for the application of new technologies include disease surveillance and control, environmental monitoring and pollution prevention, food safety, health behavior change, self-care, population screening, and chronic disease and injury prevention and control.

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Solar Photochemistry for Environmental Remediation

¹Anil Chohadia, ²Narendra Nirwan and ³Kamal Kishor Verma

¹M. P. Govt. PG College, Chittorgarh, ²S. D. Govt. College, Beawar,

*³SNKP Govt. College, Neem Ka Thana
chohadiaanil@gmail.com*

Abstract

Photochemistry is the chemistry induced by light. Being the sun the most abundant and widespread light (and consequently energy) source on earth, it is obvious that solar light can also induce chemical reactions. There are several classes of organic pollutants (organic dyes, pharmaceuticals, polycyclic aromatic hydrocarbons, polychlorinated pesticides, polychlorinated dibenzodioxins, dibenzofurans and biphenyls) that by the seriousness of the risks they pose to environment and human health are considered priorities for environmental monitoring by the most important environmental agencies. Solar light can be advantageously used for environmental remediation, leading to the destruction of environmentally relevant molecules, especially when they are present in industrial wastewaters. In fact, solar light can greatly contribute to the remediation (going from the partial decomposition to the complete destruction) of those environmental pollutants. This solar remediation action can be effective either through direct photolysis and photodegradation (light induced chemical bond cleavage leading to the formation of smaller compounds) or as being the photon source that triggers the processes of their photocatalytic degradation (solar photocatalysis through advanced oxidation processes).

Advanced Oxidation Processes (AOPs) are an emergent and promising methodology for the degradation of persistent environmental pollutants, refractory to other environmental decontamination / remediation treatments.

Keywords: Photochemistry, Environment, Pharmaceutical



Utilization of Coal Fly ash as Sustainable Material in concrete industry to protect the Environment

Anita Bhatia and Neeru Gakkhar

S.S. Jain Subodh P.G. Autonomous College, University of Rajasthan, Jaipur, India

anisharma00@gmail.com

Abstract

Coal fly ash is an abundant industrial waste product, known to be a good pozzolanic material and has been used to increase the ultimate compressive strength and workability of fresh concrete. For this simple reason it is rapidly becoming a common ingredient in concrete all over the world; it is already present to some degree in half the concrete. The use of fly ash as a performance-enhancing ingredient in concrete is one of the most outstanding examples of industrial ecology-i.e., making effective use of waste resources, and ultimately eliminating the concept of waste altogether. Concrete is an environmental friendly material and the overall impact on the environment per ton of concrete is limited. The paper covers the aspect on how to choose a material for Construction industry. It presents the feasibility of the usage of by product materials like fly ash, quarry dust, marble powder/ granules, plastic waste and recycled concrete and masonry as aggregates in concrete. The use of fly ash in concrete contributes the reduction of green house emissions with negative impacts on the economy. It has been observed that 0.9 tons of CO₂ is produced per ton of cement production. Also, the composition of cement is 10% by weight in a cubic yard of concrete. To avoid the pollution and reuse the material, the present study is carried out. Thus, concrete is an excellent substituent of cement as it is cheaper, because it uses waste products, saving energy consumption in the production. The trend is clear, Fly Ash will soon be considered as a resource material and its potential will be fully exploited. Through development & application of technologies, Fly Ash has shifted from “Waste Material” category to “Resource Material” category. Thus fly ash management is a cause of concern for the future.

Keywords: Fly ash, compressive, Eco-friendly, Construction material, efficient concrete



Complete Dietary Supplement

Anita Mishra

Department of Science, Biyani Group of Colleges, Jaipur, Rajasthan- 302039

aninareda11@yahoo.co.in

Abstract

Wheatgrass is considered as a wonder herb. Wheatgrass (*Triticum aestivum*) refers to young grass of common wheat plant, which belongs to family Poaceae. A wide range of health benefits have been attributed to wheatgrass, a young grass (7-9 day old, 12-20 cm long). Wheatgrass is widely recognized as a superfood whose nutritional components include antioxidants, amino acids, protein, iron, calcium, chlorophyll, potassium and magnesium, and vitamins A, B, C, E, per 3.5 gram of wheatgrass contain 860 mg protein, 18.5 mg chlorophyll, 15 mg calcium, 38 mg lysine, 7.5 mg vitamin C and abundance of micronutrients such as B complex vitamins and amino acids. Wheatgrass is a sure and fast way to cleanse the body of environment pollutants. Phytochemical constituents of wheatgrass include alkaloids, carbohydrates, saponins, gums, and mucilages. Wheatgrass is also called “green blood” because of its high chlorophyll content which is about 70 %. Chlorophyll is a blood builder, immune booster, detoxifier. Wheatgrass is crude chlorophyll and can be taken orally without any toxic side effects. Chlorophyll is antibacterial and can be used inside and outside the body without any toxic side effects. This plant has been shown to have anti inflammatory, antioxidant, anticarcinogenic, immunomodulatory, laxative, astringent, diuretic, antibacterial and anti-aging properties.

Keywords: Wheatgrass, antioxidants, phytochemicals, chlorophyll, detoxifier.

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Opportunistic Infections and Disease Implications in HIV/AIDS

Anupama Goyal

*Assistant Professor Botany, School of Life and Basic Sciences, SIILAS Campus,
Jaipur National University, Jaipur
goyalanupama29@gmail.com*

Abstract

HIV/AIDS is the disease of prime attention in present times. Every year about 2.5 million newcases of HIV are reported with death of approximately 1.7 million people worldwide. HIV targets immune system and leaves the patient defenseless to opportunistic infections. With progression of HIV infection, there is gradual decline in CD4 T cell population, rendering patient more and more prone to opportunistic infections. Large battery of infections wreaks havoc on patients' health, ultimately causing death. Effect of cross-talk between HIV and co-infections is reciprocal in most cases. The molecular interactions complicate and worsen the situation. Even slightest interactions are expected to affect gene activity and protein expression. Timely start of antiretroviral therapy has greatly decreased the early onset of infections; however it is very difficult to treat infections in late stages. In this article, gamut of infections in cases of HIV/AIDS is reviewed along with possible implications.

Keywords: HIV/AIDS, opportunistic infections, CD 4 T cell count and antiretroviral therapy.

Introduction

Acquired immuno deficiency syndrome (AIDS) is a disease of human immune system caused by human immunodeficiency virus (HIV). HIV is a slow growing retrovirus causing progressive immunodeficiency ultimately developing AIDS. Virus infects cells expressing CD4 membrane receptor molecules, such as T helper cells, macrophages, dendritic cells and microglial cells, but also requires another membrane chemokine co-receptor molecule CCR5 or CXCR4 for entry. M tropic strains use CCR5 chemokine co-receptor for entry and primarily infects macrophages, while T tropic strains use CXCR4 chemokine co-receptor extensively expressed by T helper cells. The normal range of CD4⁺ T helper cells in healthy person is 500-1600 cells/ μ l of blood, which gradually depletes with progression of HIV infection rendering the patient susceptible to opportunistic infections (OIs). The advent of decline in CD4⁺ T helper cells establishes opportunistic pathogens in the immunologically weakened host, further deteriorating patient vigor and complicating the disease. On reaching CD4⁺ T helper cell count near 200cells/ μ l of blood, most patients get affected with number of OIs and the patient manifests full-blown AIDS. One can simply define AIDS as: presence of one or more OIs along with CD4⁺ T cell count <200cells/ μ l of blood in HIV positive patient.

Brief description of opportunistic infections

VIRAL PATHOGENS:

Epstein barr virus (EBV)

Epstein Barr virus causes oral hairy leukoplakia (OHL). It is one of first OIs indicating immunodeficiency in HIV positive patients. OHL occurs as white patches with ridges and folds in mouth usually on cheeks and sides of tongue. It may look like thrush, but cannot be scrapped off. Almost all people are infected by EBV, but OHL appears in immunocompromised persons. More than 25% HIV patients develop OHL at some stage during disease course. It can occur at any CD4⁺ T cell count below 500cells/ μ l of blood. It is usually not a serious complication; however sensing of food temperature becomes problematic. Antivirals are recommended observing the severity of symptoms.

Hepatitis B virus (HBV)

Hepatitis B virus, a hepadnavirus, is the main cause of chronic liver disease. It is circular partial double stranded DNA virus and one from few known non-retroviral viruses, which use reverse transcription as a part of their replication. It is transmitted generally through sexual contact, blood transfusion, and contaminated syringe needles and vertically from mother to child. It can infect even through saliva, sweat and tears with great ease. It causes chronic liver disease in 10% of HIV positive patients. Hepatitis B associated with HIV-1 is characterized by increased rates of HBV carriage, greater levels of HBV viremia, rapid decline in antibodies against Hepatitis B surface antigen, increased reactivation and faster liver disease progression to cirrhosis or liver failure.

Herpes simplex virus (HSV)

Human herpes simplex virus 1 and 2 are two candidates of herpesviridae causing ulcerative mucocutaneous disease in both immunocompetent and compromised patients. Almost 95% HIV positive patients are infected either by HSV-1 or HSV-2. HSV is an enveloped double stranded DNA neurotropic virus. Virus remains latent in nerve root ganglia and sores infection occurs periodically near mouth, lips, and genitals. HSV-1 is acquired during childhood, which causes orolabial ulcers called cold sores or oral herpes.

Human papilloma virus (HPV)

Human papilloma virus is most common sexually transmissible infection in the world. HPV infects anogenital tract causing genital warts and cervical cancer. It is double stranded DNA virus of family papillomaviridae. There are at least 13 serotypes, which are oncogenic in nature. HPV 16 and 18 are mainly responsible for cervical cancers, while HPV 6 and 11 are mainly responsible for genital warts. Incidence of genital warts is 10 folds high in HIV-1 positive patients, especially in homosexual men.

FUNGAL DISEASES:

Cryptococcosis

Cryptococcosis, a fungal meningitis, transmitted through respiratory route, is caused by members of the *Cryptococcus neoformans* species complex and almost 5-8 % HIV positive patients experience the disease during course of AIDS. Cryptococcosis is observed mostly in advanced stage HIV patients having CD4⁺ T cell count <50cells/ μ l of blood.

Histoplasmosis

Histoplasmosis is caused by dimorphic soil inhabiting fungus *Histoplasma capsulatum* and almost 2 to 5% HIV positive patients develop histoplasmosis. Patients get infection by fresh inhalation of microconidia or reactivation of latent infection.

Penicilliosis

Penicilliosis is caused by dimorphic fungus *Penicilliosismarneffeii*, which is endemic in certain parts of world. It manifests as systemic disease with skin lesions, fever, weight loss, lymph nodes, bone marrow and hepatic involvement. Recently, 50 cases of indigenous penicilliosis have been reported from newly found endemic region in

Conclusion

There are a lot of viral, bacterial, fungal and protozoan pathogens associated with AIDS, changing symptomatology and pathology of disease. HIV prepares ground for successful invasion by OIs, that are etiological killers of patients. OIs are very difficult to treat in HIV patients in the absence of normal functioning immune system. However, with the introduction of combinational Antiretroviral Therapy (ART), the incidence of OIs has declined substantially, but cannot be eliminated. HIV and OIs interact synergistically, resulting overall increased disease progression and viral load. The molecular interactions between OIs and their impact on HIV pathogenicity is not fully understood and is still under active research.

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Degradation Kinetics of Copper (ii) Sesame Thiourea Complex

¹Asha Meena and ²Rashmi Sharma

¹*Department of Chemistry, S. D. Govt. College, BEAWAR-305901 (Raj.) INDIA*

²*Department of Chemistry, S. P. C. Govt. College, AJMER-305001 (Raj.) INDIA*
a.beejal@gmail.com

Abstract

Thermal degradation has attracted the attention of scientific community all over the world due to its multiple applications in environment, energy, waste water treatment, pollution control and green chemistry. Copper(II) soap complex was synthesized with nitrogen and sulphur containing ligands. The complex was characterized by elemental analysis, IR, NMR and ESR spectral techniques. TGA technique has been applied to copper(II) sesame thiourea complex for its thermal analysis and evaluation of activation energy. The results of thermogravimetric analysis reveal that copper(II) sesame thiourea complex undergo stepwise thermal degradation of saturated, and unsaturated fatty acid components of oils. In the thermal decomposition of the copper(II) soap complex, the three steps involved have been analysed by Piloyan-Novikova equation and Broido equation for evaluating kinetic parameters. It has been observed that for both equations, the stepwise energy of activation follow the order – Step III > Step II > Step I. The present work will provide significant information towards green and safe chemistry because indiscriminate release of various pollutants such as surfactants in environment has created a new facet in environment pollution.

Keywords: Copper (II) sesame thiourea complex, Kinetic parameters, Activation energy, Piloyan-Novikova Equation, Horowitz-Metzger Equation.

Introduction

Copper Soaps may play a significant role in biological activities and have different industrial applications like wood preservation, water proofing and repellency, dyeing, paints, protection of crop and lubrication (1-2). Copper Soaps have a tendency of complexation with nitrogen and sulphur containing ligands. Synthesized Copper Soaps and their complexes may play a significant role in biological activities and have sufficient pharmaceutical, industrial and analytical applications. Thermogravimetric analysis (TGA) is used to investigate the behaviour of materials as a function of temperature and time. The thermogravimetric analysis has proved to be useful in evaluating kinetic parameters such as the activation energy (3-4).

Experimental

Copper sesame soap was prepared by direct metathesis of corresponding potassium soap with slight excess of required amount of Copper sulphate. After washing with hot distilled water and the

alcohol, the sample was dried and recrystallized with hot benzene. The complex was prepared by mixing the metal surfactants and ligand in benzene and ethanol and mixture was refluxed. Purity of complex will be checked by Thin Layer Chromatography. Elemental Analysis has been done for Copper sesame soap and its thiourea complex for its metal content following standard procedures (5).

Result and Discussion

This technique measures the weight change in a complex as a function of temperature and time, in a controlled environment. This technique is very useful to investigate the thermal stability of a Copper soaps and its thiourea complexes. The technique can be used in the examination of absorptive surfaces together with the nature and processes involved in the thermal decomposition and oxidation process. As the heating rate is increased, the onset of decomposition is moved to higher temperatures. Thermo-gravimetric method for the kinetic and thermodynamic analysis of the thermal decomposition were studied using Piloyan-Novikova equation (6), Broido equation (7). The results of thermogravimetric analysis usually reported in form of curves relating the mass lost from the sample against temperature as depicted in Fig 1.

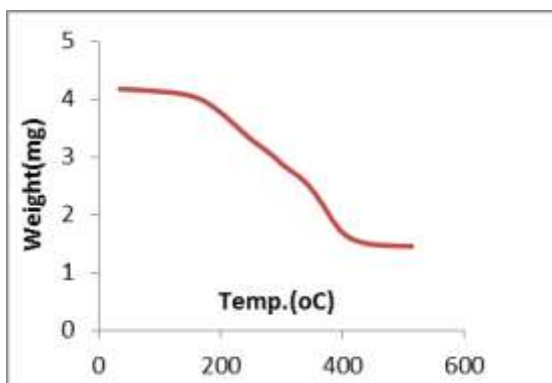


Figure 1 : TGA of Copper(II) sesame thiourea complex at 5 degree

The TGA curves plotted for thiourea complexes of Copper (II) sesame soap at $5^{\circ}\text{C min}^{-1}$ depicted that decomposition of complex takes place in three steps, in temperature range 433 K to 683 K.

STEPS EQUATIONS	PILOYAN-NOVIKOVA			BROIDO		
	I	II	III	I	II	III
CST	59.09	61.41	91.87	69.60	78.88	135.54

Table 1 Energy of activation of Copper (II) sesame thiourea complex at 5°C

Conclusion

Present study revealed that the values of energy of activation for all the equations applied follow the order: Step III > Step II > Step I. It may be suggested that the increase of activation energy for different steps in thermal decomposition of the system studied, occurred due to the possible break in the molecular bonds of unsaturated fatty acids, which are less stable than the molecular bonds of stable saturated fatty acids requiring higher activation energy of degradation. Thermal degradation of solid components will be good and significant method for the removal of the pollutant from the environment. The present study will play an important role for pollution controlling and in the field of green chemistry.

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Case Study of Amanishah Nalla area (Jaipur) for determination of Chromium in vegetables (India)

Ashok Kumar and Son Raj Mosalpuri

Department of Chemistry, S. D. Government College Beawar (India)

msonraj@yahoo.com, ashokkumar_08@rediffmail.com

Abstract

An atomic absorption spectroscopic method has been used for the determination of Chromium in vegetables grown in and around Jaipur food stuffs irrigated with industrial waste water. Vegetable samples were collected after maturity such as spinach (*Spinacia oleracea*), cauliflower, radish (*Raphanus sativus*), bottlegourd (*Lagenariasiceraria*), pumpkin *Curcubites pepo*) and chilies were analysed. The concentration of Chromium 0.93-21.23 ppm in vegetable samples. As the results show that urban consumers are at greater risk of purchasing fresh vegetables with high levels of heavy metal, beyond the permissible limits, as defined by the Indian Prevention of Food Adulteration Act, 1954 ,EU and WHO.

Keywords: Atomic absorption spectroscopy, Vegetable, Jaipur



Susceptibility Status of Dengue Vector *Aedes aegypti* (L.) against various Insecticides and Larvicides in Udaipur District of Southern Rajasthan, India

¹Arti Prasad and ²Ashok Kumar

¹Professor and Head Department of Zoology, UCOS, Mohanlal Sukhadia University, Udaipur, Rajasthan, India

*²Research Scholar, Laboratory of Public Health Entomology, Department of Zoology, UCOS, Mohanlal Sukhadia University, Udaipur, Rajasthan, India
ashokdagur198987@gmail.com*

Abstract

Background: Dengue fever is a developing disease in India and is responsible for causing significant morbidity and mortality in most tropical and sub-tropical countries of the world as well as in Rajasthan (India). Many insecticides have been used for control of vectors, recently, Unfortunately vector control programs are facing operational challenges with the emergence and

development of insecticide resistance in dengue vectors, especially *Aedes aegypti* (L.). So it is necessary to calculate susceptibility status of vectors against insecticides before applications of insecticides

Methodology

The insecticide susceptibility status of *Aedes aegypti* (L.) (dengue vector) mosquito adults and larval populations of *Aedes aegypti* (L.) was ascertained, using World Health Organization standard diagnostic concentrations and test procedures.

Results

Aedes aegypti (L.) were resistant to DDT (4%), with a mortality of <80%, but fully susceptible to deltamethrin (0.05%) at the given diagnostic concentrations. *Aedes aegypti* (L.) response to pyrethroids (malathion- 5%) with a mortality of 97% for 24 hours and 89% knock down in 1 hour. Larval samples of *Aedes aegypti* (L.) were susceptible to all two larvicides, including temephos (0.02 mg/L) and *Bacillus thuringiensis* var. *israelensis* Bti (WP) (0.02 mg/L).

Conclusion

The present study revealed that *Aedes aegypti* (L.) adults were resistant to DDT in Udaipur district of Southern Rajasthan, but still susceptible to malathion and deltamethrin. *Aedes aegypti* (L.) larvae were susceptible to both larvicides named as temephos and *Bacillus thuringiensis* var. *israelensis* Bti (WP). So the use of malathion and deltamethrin insecticides to adults control, temephos and *Bacillus thuringiensis* var. *israelensis* Bti (WP) larvicides for larval level control is best.

Keywords: Dengue, Insecticides, Susceptible, organophosphorous, Pyrethroids.



An Anatomical Investigation of Embryonal Shoot Apex in *Acacia Catechu* Willd

Baljeet Kaur

Trinity College, Jalandhar, Punjab

bkaur_1002@yahoo.ins

Abstract

The study of the embryonal shoot apex in *Acacia catechu* Willd. family Fabaceae has been made. The embryonal shoot apex exhibits a tunica-carpus organization with uniformly densely stained cells in both the zones.

Keywords: Fabaceae, tunica-carpus, embryonal shoot apex

Introduction

One of the fundamental differences between plant and animal development is that plants produce new organs throughout their lifetime, which can span hundreds of years ([1]). Shoot apical meristems (SAMs) are small groups of dividing cells that initiate all of the aerial parts of the plant. According to a widely accepted model, SAMs are composed of functionally distinct zones ([2][3][4]). Some recent studies on shoot apical apices have used the terms ‘shoot apex’ and ‘apical meristem’ with broad definitions or interchangeably ([5][6]). In our laboratory work on shoot apical meristem has been done by many researchers ([7][8][9][10][11]). *Acacia catechu* Willd. is a medium-sized, perennial woody tree, flowers during July-August, having a cymose type inflorescence with axillary cylindrical yellow/pale-yellow spikes, commonly known as Khairtree ([11]). The present paper deals with the study on shoot apical organization at the embryonal stage of *Acacia catechu* Willd.

Results and Discussion

The mature embryonal apex of *A.catechu* showed a high dome measuring about 30.72 µm and 107.52µm in hight and diameter. The apex flanked by two cotyledons showed a tunica-carpus organization without zonation. The tunica is two-layered with uniformly densely stained rectangular cells. Subjacent to the tunica is present an irregular group of densely stained cells representing the corpus (Fig 1). The data presented here is accord to the theory of that angiosperm SAMs have a stratified structure composed of the tunica which comprises surface and subsurface layers, and the corpus which comprises the underlying mass of cells[12].

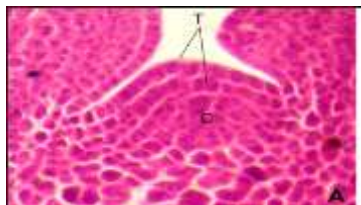


Figure 1: Median longitudinal section of the embryonal shoot apex in *A. catechu*(x100)
Abbreviation:t-tunica, c-corpus

Experimental

Embryonal shoot apices were collected from overnight water-soaked mature dry seeds of *A. catechu* Willd. and were fixed in FAA, maintained with 70% alcohol, dehydrated through TBA series and embedded in paraffin wax. Serial longitudinal sections cut at 5-7 micrometer on a rotary microtome and affixed to the glass slide using Haupt's adhesive. Dried sections passed through xylene series and stained with general morphological stains and mounted in DPX. Photomicrographs of selected median longitudinal sections were taken using a Nikon E-400 (Anti-fungus type) microscope. Measurements of apices were taken using an oculometer.

Conclusion

The data presented here shows the presence of two zones i.e. tunica and corpus in the embryonal shoot apex of *A. catechu* Willd.

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Composition Formula and its Application

Beena Bundela

Department of Mathematics, JECRC University, Jaipur, Rajasthan, India

beena.bundela@jecrcu.edu.in

Abstract

In this paper we new interesting composition formula for a general class of fractional integral operators involving the product of a incomplete elliptic-integral, polylogarithm of order P and generalized Mittag - Leffler function in an elegant form. Next, we obtained two relations involving ${}_3F_2$ -function, Meijer G-function, Fox H-function and H-function of two variables with the help of a special case of composition formula.

Introduction

The generalized Mittag- Leffler function is defined by [5], [8, p.8, eq.(9)]

The polylogarithm of order P is defined by [1,p.30, eq.(14);2,p.315,eq(1.9)]

The family of **incomplete elliptic integrals** used in the paper is defined and represented in the following form [4, pp.1178-1179, eqs. (1.12&2.6);7, p.89, eq.(6.4.4)]:

Fractional integral operators

$$I_x^{v,\lambda;\lambda_0:\lambda_1,\lambda_1:\lambda_2}_{z_0,\phi,\gamma;z_1,P;z_2,\rho,\alpha,\beta}[f(t)] = I_x^{v,\lambda}[f(t)] \\ = x^{-v-\lambda-1} \int_0^x t^v (x-t)^\lambda H\left(\phi, z_0 \left(1-\frac{t}{x}\right)^{\lambda_0}; \gamma\right) F\left(z_1 \left(\frac{t}{x}\right)^{\lambda_1} \left(1-\frac{t}{x}\right)^{\lambda_1}, P\right) E_{\alpha,\beta}^\rho\left(z_2 \left(1-\frac{t}{x}\right)^{\lambda_2}\right) f(t) dt$$

where $f(t)$ occurring in above eq. belong to the class of functions A for which

$$f(t) = \begin{cases} O\{|t|^\zeta\}, & \max\{|t|\} \rightarrow 0 \\ O\{|t|^{w_1} e^{-w_2|t|}\}, & \min\{|t|\} \rightarrow \infty \end{cases}$$

and provided that the following conditions are satisfied.

$$\left. \begin{aligned} \operatorname{Re}(v + v_1 + \zeta) &> -1, \operatorname{Re}(\lambda + \lambda_1) > -1, \left(\frac{1}{2} - \gamma\right) \neq 0, -1, -2, \dots \\ \gamma \in \square, \min[(\lambda_0, \lambda_2, \alpha)] &\geq 0, (\text{not simultaneously zero}) \end{aligned} \right\}$$

$$J_x^{v,\lambda;\lambda_0:\lambda_1,\lambda_1:\lambda_2}_{z_0,\phi,\gamma;z_1,P;z_2,\rho,\alpha,\beta}[f(t)] = J_x^{v,\lambda}[f(t)] = x^v \int_x^\infty t^{-v-\lambda-1} (t-x)^\lambda H\left(\phi, z_0 \left(1-\frac{x}{t}\right)^{\lambda_0}; \gamma\right) \\ F\left(z_1 \left(\frac{x}{t}\right)^{\lambda_1} \left(1-\frac{x}{t}\right)^{\lambda_1}, P\right) E_{\alpha,\beta}^\rho\left(z_2 \left(1-\frac{x}{t}\right)^{\lambda_2}\right) f(t) dt$$

where $f(t)$ occurring in eq.(8) belong to the class of functions A and the following conditions are satisfied.

$$\left. \begin{aligned} \operatorname{Re}(w_2) > 0 \text{ or } \operatorname{Re}(w_2) = 0 \text{ and } \operatorname{Re}(v + v_1 - w_1) > 0, \left(\frac{1}{2} - \gamma\right) &\neq 0, -1, -2, \dots \\ \operatorname{Re}(\lambda + \lambda_1 + 1) > 0, \gamma \in \square, \min[(\lambda_0, \lambda_2, \alpha)] > 0, &(\text{not simultaneously zero}) \end{aligned} \right\}$$

Composition formula for the fractional integral operators

Main Result

$$I_x^{v,\lambda} \left[J_y^{v^1,\lambda^1} \{f(t)\} \right] = \frac{1}{x} \int_x^x g\left(\frac{t}{x}\right) f(t) dt + \int_x^\infty \frac{1}{t} g^*\left(\frac{x}{t}\right) f(t) dt$$

where

$$g(t) = \sum_{r=1}^\infty \sum_{r^1=1}^\infty \frac{(z_1)^r (z_1^1)^{r^1}}{r^P (r^1)^{P^1}} \frac{\sin \phi \sin \phi^1 \Gamma(1+v+v^1+v_1 r+v_1^1 r^1)}{4\pi \Gamma(1/2-\gamma) \Gamma(1/2-\gamma^1) \Gamma(\rho) \Gamma(\rho^1)} (t)^{v+v_1 r} (1-t)^{1+\lambda+\lambda^1+\lambda_1 r+\lambda_1^1 r^1}$$

where

$$A^{***} = \left(\frac{1}{2}; 1, 1, 0, 0, 0, 0, 0\right), \left(\frac{1}{2}; 0, 0, 1, 1, 0, 0, 0\right), \left(-\lambda^1 - \lambda_1^1 r^1; 0, 0, 2\lambda_0^1, 0, 0, \lambda_2^1, 1\right),$$

and $g^*(t)$ stands for the function obtainable from the function $g(t)$ occurring in above eq. on interchanging the parameters with superscript 1 with those without superscript 1, the composite operator defined by the left hand side of given conditions exists.

Relations

First Relation

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$$+ \frac{\Gamma(v^1)\Gamma(1+\lambda)}{\Gamma(2+\lambda+v^1+\lambda^1)\Gamma(2+v+\lambda+v^1)} {}_3F_2 \left[\begin{matrix} (v^1), (2+v+\lambda+v^1+\lambda^1), (1+\lambda) \\ (2+\lambda+v^1+\lambda^1), (2+v+\lambda+v^1) \end{matrix} ; 1 \right] .$$

Second Relation

$$\begin{aligned} & \frac{\Gamma(2+v+v^1+\lambda^1+\lambda)\Gamma(1+\lambda)\Gamma(1+\lambda^1)}{\Gamma(2+\lambda^1+\lambda)\Gamma(1+v+v^1)} G_{3,2}^{1,2} \left[\begin{matrix} 1 \\ \omega x \end{matrix} \middle| \begin{matrix} 1, 1-v^1, 2+v+\lambda \\ 1+v, -v^1-\lambda^1 \end{matrix} \right] \\ &= H_{1,1;2,2;0,1}^{0,1;1,2;1,0} \left[\begin{matrix} -1 \\ \omega x \end{matrix} \middle| \begin{matrix} (-v:1,1) & : & (-1-v-v^1-\lambda^1-\lambda,1), (-\lambda^1,1) \\ (-2-v-\lambda-\lambda^1:1,1) & : & (0,1), (-1-v-v^1-\lambda^1,1) \end{matrix} ; \begin{matrix} - \\ (0,1) \end{matrix} \right] \\ &+ H_{1,1;2,2;1,0}^{0,1;1,2;0,1} \left[\begin{matrix} -1 \\ (\omega x)^{-1} \end{matrix} \middle| \begin{matrix} (1-v^1:1,1) & : & (-1-v-v^1-\lambda^1-\lambda,1), (-\lambda,1) \\ (-1-v^1-\lambda-\lambda^1:1,1) & : & (0,1), (-1-v-v^1-\lambda,1) \end{matrix} ; \begin{matrix} (1,1) \\ - \end{matrix} \right] \end{aligned}$$

where $\operatorname{Re}(v) > -1, \operatorname{Re}(\lambda + \lambda^1) > -2$

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In Vivo Evaluation of Aqueous Extract of *Zingiber officinale* Rhizomes for Its Protective Effect against Dichlorovos Induced Hepatic Toxicity

¹Bhawana Vasishth and ²S.C. Joshi

¹*S.S. Jain Subodh Girls PG College, Sanganer, Jaipur, Rajasthan, India*

²*Reproductive Toxicology Unit, Department of Zoology, University of Rajasthan, Jaipur, India.
bmvasishth@gmail.com*

Abstract

Environmental pollution from pesticides is an imperative issue that attracts widespread public concern, due to the prevalent use of pesticide in agriculture and in public health programs. Organophosphate (OP) pesticides are among the most widely used synthetic chemicals for controlling a wide variety of pests. Dichlorovos is a household and agricultural pesticide used for the protection of grains and stored products. Dichlorovos is reported to cause toxicity of brain, pancreas, liver, kidney and spleen, the reproductive system and immune system. *Zingiber officinale* is a traditional medicine against various disorders including liver diseases. The aim of this study was to assess the hepatoprotective activity of the aqueous extract of rhizomes of *Z. officinale* against dichlorovos-induced liver toxicity and oxidative stress in male rats.

Four groups of male wistar rats have been used. In Group I served as control. Group II, III and IV were treated with aqueous extract of *Zingiber officinale* (200 mg /kg bwt); dichlorovos 30 mg/kg bwt (1/20 LD₅₀); dichlorovos (30 mg/kg bwt) plus *Zingiber officinale* (200 mg/kg bwt) respectively. Rats were orally administered with their respective doses daily for 45 days. Hepatic damage was assessed grossly and microscopically for all of the groups. Dichlorovos administration to rats resulted in significant reduction in body weight and elevation in liver weight compared to control. Dichlorovos caused significant elevation of serum transaminases (AST & ALT), alkaline phosphatase (ALP), total protein, total bilirubin and decrease of serum albumin. Furthermore, significant depletion of hepatic superoxide dismutase (SOD), catalase (CAT), glutathione reduced (GSH) and elevation of lipid peroxidation (LPO) expressed as malondialdehyde (MDA) content were noticed in dichlorovos treated rats. Oral administration of dichlorovos induced various degenerative histological changes in the liver. All these parameters were attenuated by co-administration of dichlorovos with aqueous extract of *Zingiber officinale* by scavenging hydroxyl radicals and superoxide anion and reduce oxidative stress. The results of the present work indicated that *Zingiber officinale* (ginger) possess protective effect against liver damage induced by dichlorovos possibly due to its antioxidant activities.

Keywords: Dichlorovos, *Zingiber officinale*, Lipid peroxidation, Liver, Oxidative stress, Histological changes.



Current Scenario of Water Pollution in Three Selected Water Bodies of Udaipur City, Rajasthan

**¹Bhoopendra Kumar Verma, ²Sharma Madhu Sudan,
³Vipul Sharma and ¹P.C. Meena**

¹Assistant Professor, Department of Zoology, Government College Karauli, Rajasthan, India

²Principal Investigator MRP, Mohanlal Sukhadia University, Udaipur (Raj) India

³Deputy registrar Research, University of Kota, Rajasthan, India

vermabhoopendra87@gmail.com

Abstract

Observations were made during the period of two years with special reference to analyze the water quality parameters the Gorana dam, the Pichhola lake and the Udaisagar lake. During the present study, limnological parameters such as air and water temperature, depth of visibility, pH, dissolved oxygen, total alkalinity, hardness, electric conductivity, TDS, chloride, nitrate, silicates, phosphate and primary production were studied. On the basis of limnological parameters the Gorana dam, the Pichhola lake and the Udaisagar lake were categorized as oligo-mesotrophic, meso-eutrophic and eutrophic water bodies respectively. The Water Quality Index (WQI) of the Gorana dam, the Pichhola lake and the Udaisagar lake was noticed as 55.094, 90.32944 and 189.747426 which indicated that the historical aforesaid lake *i.e.* Udaisagar and the Pichhola lake are polluted and this could be riffled by decreasing anthropogenic activities. The most affected parameters are alkalinity, DO, EC, TDS and phosphate which were not within the desirable limits whereas other parameters namely pH, chloride and nitrate were near to permissible level as recommended by different agencies. Although these water quality conditions are most appropriate for fish culture hence major carp and cat fish culture be promoted with instance stocking. This would be also helpful to improve water quality conditions as nutrients would be channelized in to productive food chains leading to high fish production.

□□□

Effect of lead (Pb) stress on germination and seedling growth of fodder crops alfalfa (*Medicago Sativa*) and bajra (*Pennisetumglaucum*)

Chandra Prakash Sharma and Soumana Datta

*Department of Botany, University of Rajasthan, Jaipur
sharmachandraprakash485@gmail.com; soumanadatta@gmail.com*

Abstract

Heavy metal contamination of soil, water and air has caused serious hazards to the environment due to industrialization and urbanization. Heavy metal accumulate in soil become nutrient deficient and barren which is one of the major problems. Heavy metal toxicity affect plant growth. Pb, Cd, Cu, Zn, Ni, Co, Cr, and As are the heavy metals which are non-essential elements for plants and adversely affect plant growth. Current study was done to check effects of lead (Pb) toxicity on seed germination of *Medicago Sativa* (Alfalfa) and *Pennisetumglaucum* (Bajra). These are nutritious fodder crops used to feed animals in Rajasthan. The concentration of lead 50, 100, 300, 500, 700 and 1000 ppm were used to induce heavy metal effect. The seed germination and seedling growth were significantly affected by lead at exposed concentrations. The effects of heavy metal lead on oat, bajra and alfalfa resulted in growth inhibition, structure damage and decline of physiological and biochemical activities. Due to heavy metal stress there is change in morphological, phenotypical and ecological aspects. Amelioration of contaminated soils is therefore urgently required for growing safe food.

Keywords: Heavy metal, Fodder, Lead, Alfalfa, Oat, Hazards, Germination.



Detection of Caffeine Content in Tea (*Camellia sinensis*)

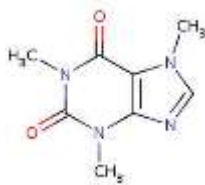
¹Chetna Sharma and ²Nisha

*Department of Science, Biyani Girls College, Jaipur Rajasthan
sharche09@gmail.com*

Abstract

Caffeine is a chemical substance found in coffee, tea, soft drinks and other drinking products. Caffeine is most commonly used as stimulants in sportsmen. Caffeine is used to improve mental

alertness, ADHD, OCD, also detect oxygen level in blood due to parkinson's disease, hepatitis C, breathing and lungs problems. Tea (*Camellia sinensis*, Tilliaceae) is extracted from leaves and leaf buds of tea plant. It is an aeromatic beverage. Tea is the highly consumed drink in the world. It has cooling, slightly bitter and astringent. The loose deep soil is best to grow tea at high altitude and mostly can grow in subtropical regions. Caffeine concentration in different in tea. Green tea have 30mg/ gm of caffeine, oolong tea have the highest concentration of caffeine around 50-60 mg/gm. The important drink content have micronutrients, Some of which have proven bioactivities and host of other effect. The potential of tea extract as a source of natural antioxidants stress with consequent health benefits.



(caffeine)

□□□

Traditional Water Purification Methods used in Rural Area

Deepa Verma

Assistant Professor in Zoology, Government science college, Sikar

Abstract

Water is the most essential component of life and is vital for sustenance. It is the key component in determining the quality of our lives and is a universal solvent. A safe and convenient water supply plays a vital role in public health and wellbeing of the society. Water purification is the process of removing undesirable chemicals, biological contaminants, suspended solids, and gases from water. The goal is to produce water fit for specific purposes. Most water is purified and disinfected for human consumption (drinking water), but water purification may also be carried out for a variety of other purposes, including medical, pharmacological, chemical, and industrial applications. There are numerous conventional water treatment technologies available in rural areas of developing countries. The rural communities have adopted some simple rudimentary water treatment technique that can serve individual

household. Basically all such techniques aim to remove suspended impurities from water. Traditional water purification methods include boiling, filtration, sedimentation and solar radiation.

Keywords: Water purification, Rural Area, essential, biological contaminants, pharmacological.



YouTube in Higher Education

Deepak Rawal

*Assistant Professor, Department of Zoology, Mohanlal Sukhadia University, Udaipur, Rajasthan, India
deepakrawal5@gmail.com*

Abstract

Recently the role and impact of YouTube on higher education became more prominent and it became important tool of learning in higher education. YouTube allows users to upload, view, share, like and download videos. With the ease of internet access its use is continuously increasing specially in metropolitan areas. Nowadays many YouTubers establish themselves as Edupreneurs. With introduction of monetization of videos Edupreneurs are seeing it as a potential market. Since most YouTube videos are free and open access, revenue generation is through advertisement within the videos and other marketing strategies. Many YouTubers are orienting towards making videos related to higher education because of publicity and monetization associated with it. For some YouTubers it became popular method to express their knowledge and talent and for some it is self satisfying and to prove themselves. With introduction of MOOC's and other open online courses it became basic platform for all educators. Instead of many drawbacks, the benefits are overwhelming and YouTube learning will probably replace class room learning in near future. This study clearly shows the probability that YouTube will be a milestone in higher education in upcoming years.

Keywords: YouTubers, Edupreneurs, MOOC's, Higher education.



Ovicidal Activity of Some Biopesticides on Spodopteralitura

¹Deepali Lall, ²Sudha Summarwar, ³Nisha Sharma, ⁴Kalpana Sharma and ⁵Rashmi Sharma

¹HOD, ALB Fellow P.G. Department Zoology, ²UGC-PDF, FICCE Fellow, ³Associate Professor Department Botany, S.D. Govt. College Beawar (Raj), ^{4,5}Associate Professor, Department of Zoology, SPC Govt. College, Ajmer

Introduction

India is basically an agriculture based country and more than 80% of Indian population depends on it. Agricultural productivity influences the Indian economy. Insect pests are known to cause significant damage to crops. Spodopteralitura (Fabricius) the common cutworm is an economically important noctuid moth which is a polyphagous pest causing considerable economic loss to many vegetables and field crops the major ones being tobacco, cotton, rice, maize, cabbage, lettuce, tea etc. It is able to destroy a vegetable crop and particularly prefers vegetables within cabbage family. Management of Spodopteralitura (Fabricius) population using synthetic insecticides has proved futile as it has developed resistance to several classes of insecticides. Moreover an increased awareness of potential dangers of synthetic pesticides as well as a permanent increase in pest resistance, resurgence, residual toxicity, and environment deterioration etc. during past three decades has led the scientists to examine the possibility of using less persistent, biodegradable, and economical and ecofriendly alternatives including plant-derived insecticides. The tobacco cutworm can quickly spread throughout the crop if it has a suitable environment. Spodopteralitura has been reported to attack 112 plant species belonging to 44 families, of which 40 species are known from India [1], [2]. Spodopteralitura has shown resistance against all the insecticidal groups [3], [4], [5]. including the newly synthesized lufenuron [6]. Plants are the storehouse of a wide array of bioactive chemicals that are used in defence against herbivores. These phytochemicals, which are mainly terpenes, alkaloids, steroids, phenolics, tannins etc can control pest due to their multiple modes of action. These compounds are deleterious to insects in multiple ways, such as through acute toxicity, affecting insect behavior, disrupting growth and development of insects and acting as repellents, anti-feedants and oviposition deterrents. The use of botanical pesticides for protecting crops from insect pests has assumed great importance in recent years. Numerous plant species have been reported to possess pest control properties but only a few of them have been successfully registered as an insecticide in recent years. The plant-derived insecticides show variable effect against different insect species. Thus in the present scenario, the finding of specific plant-derived pesticides is inevitable and is need of the hour. [7] In the present study the ovicidal effect of leaf extracts of A. indica, C. roseus and O. sanctum and seed extract of A. indica was evaluated against Spodopteralitura.

Materials and Method

a. Experimental Insect

Spodopteralitura (Fabricius) (Lepidoptera: Noctuidae) commonly called tobacco caterpillar or cutworm was selected for the proposed investigation. *Spodopteralitura* is a polyphagous pest of large host range including tobacco, cotton, cabbage, groundnut, maize, jute, lettuce etc. For laboratory rearing the egg masses of *Spodopteralitura* were procured from Agricultural Research Station, Durgapura, and Jaipur. Rearing was done at the temperature of $27 \pm 20^\circ\text{C}$, $75 \pm 5\%$ RH and 10: 14 hrs of Light: Dark period. The eggs were surface sterilized with 0.02% sodium hypochloride solution, dried and allowed to hatch.

b. Experimental Plant Material

Three plants namely, *Azadirachta indica*, *Catharanthus roseus* and *Ocimum sanctum* were selected for the evaluation of their insecticidal, growth regulating and behaviour disrupting activities against developmental stages and adults of *Spodopteralitura*.

Result

The ovicidal action of plants was evaluated by treating the eggs of *Spodopteralitura* with leaf extracts of *Azadirachta indica*, *Catharanthus roseus* and *Ocimum sanctum* and seed extract of *Azadirachta indica*. Observations were taken daily till the larvae hatched out from the eggs.

Azadirachta indica

Leaf Extract

A significant reduction in egg hatching was observed in eggs treated with the leaf extract of *Azadirachta indica* by both contact and egg-dipping methods (Table 1). Reduction in hatching was highest of 87.08 percent and lowest of 16.27 percent when eggs were treated by egg-dipping method at 2% and 0.1% concentrations respectively. When treated by contact method eggs showed highest reduction of 86.36 percent and lowest of 17.59 percent at 2% and 0.1% concentrations respectively.

Mortality in newly hatched larvae was recorded as 11.42, 15.33, 30.48, 58.18 and 66.66 percent when eggs were treated by contact method and 16.98, 23.33, 33.23, 69.83 and 83.83 percent when eggs were treated by dipping method at the concentrations of 0.1, 0.5, 1.0, 1.5 and 2.0% respectively.

Seed Extract

Maximum reduction in egg hatching was observed when eggs were treated by dipping method at the concentration of 2% (90.74) (Table 2). This was followed by a reduction of 88.02 percent at 2% when eggs were treated by contact method. Minimum reduction of 33.65 and 25.02 percent in

hatching was recorded at 0.1% concentration when eggs were treated by egg-dipping and contact methods respectively.

Mortality in the newly emerged larvae from treated eggs was highest of 100% at 2% concentration in both types of treatments. At 0.1 % of extract mortality in larvae was recorded as 46.90 and 21.93 percent in egg-dipping and contact treatments respectively.

OcimumSanctum

Leaf Extract:

Maximum reduction of 88.35% in egg hatching was observed when eggs were treated at the dose of 2.5% by egg-dipping method and 87.33% reduction in hatching of eggs occurred when treated by contact method (Table 4). Percent reduction was 15.23 and 14.33 in eggs exposed to the concentration of 0.1% by contact and egg-dipping methodsrespectively.

Percent mortality in newly hatched larvae was 68.00 and 72.22 at 2.5% extract when eggs were treated by contact and dipping methods of treatmentrespectively.

Discussion

The results show that all the three plants induced mortality in the eggs, however the efficacy of plants varied. Results obtained in present investigation show that seed extract of *Azadirachta indica* was most effective and caused highest mortality in treated eggs. Leaf extract of *A. indica* was also effective, although the ovicidal effect was slightly less than the seed extract. The study observed that extracts of neem and bakain caused maximum adverse effects on fecundity and hatching when the adults were fed on extract containing sucrose diets [9]. Their results showed that egg laying was completely inhibited at the concentrations of 6, 8 and 10% neem extract concentrations. Similar results were obtained in the present work where 2 % seed extract of *A. indica* caused 94.66 percent egg mortality.

Ocimum sanctum showed moderate ovicidal activity against *S. litura*. Leaf and seed extracts evaluated in the present study caused mortality in the newly emerged larvae. Highest mortality within 48 hours of hatching was observed in larvae emerged from eggs treated with leaf and seed extracts of *A. indica* at the concentration of 2 % (83.82 and 100 percent respectively).. *Ocimum sanctum* showed moderate mortality in hatched larvae. Death in newly emerged larvae may be due to feebly sclerotised cuticle which leads to penetration of extract in larval body leading to toxicity and also results in aborted hatching .

Conclusion

From the results it is evident that crude extracts of plants *A. indica*, and *O. sanctum* are highly effective against *S. litura*, an important agricultural pest. Although azadirachtin, the active compound

isolated from *A.indica* have been successfully commercialized as an insecticide, but several factors such as short supply of raw material of neem fruits, high cost of isolation, possibility of resistance development due to continuous use, difficulty in its synthesis due to its complex structure etc. make it economically less desirable. High potency shown by crude extract suggest that although azadirachtin content is low in crude extract but other chemical compounds present show cumulative effect and show high insecticidal, growth regulating and behaviour disrupting activities.

Doses %	Percent Egg Mortality		Percent Egg Hatching		Percent Reduction in Egg Hatching		Percent Mortality in 1st Instar Larvae within 48 hrs	
	Treated Substrate	dipping Method	Treated Substrate	dipping Method	Treated Substrate	dipping Method	Treated Substrate	dipping Method
	Mean ± SE	Mean ± SE	Mean ± SE	Mean ± SE			Mean ± SE	Mean ± SE
0.1	18.66 ± 0.33	29.33 ±0.22	81.33 ±0.31	70.33 ±.66	17.59	16.27	11.42 ±0.47	16.98 ±0.38
0.5	30.66 ±0.25	34.99 ±0.33	66.66 ±0.3	65.33 ±0.4	21.22	23.98	15.33 ±0.55	23.33 ±0.33
1	48.00 ±0.33	56.00 ±0.25	52.00 ±0.33	44.00 ±0.33	40.9	46.6	30.48 ±0.33	33.23 ±0.41
1.5	58.66 ±0.42	73.33 ±0.33	41.33 ±0.25	26.66 ± 0.25	53.04	67.66	58.18 ±0.38	69.83 ±0.33
2	88.00 ± 0.33	89.33 ±0.25	11.00 ± 0.33	12.00 ± 0.33	86.36	87.08	66.66 ±0.35	83.83 ±0.38
Control	12.33 ± 0.15	10.58 ±0.33	87.67 ±0.21	89.62 ±0.15	Nil	Nil	8.33 ±0.25	1.55 ±0.25
F-Value	233.38	333.64	238.6 8	252.5	238.52	330.64	252.4	258.3
CV at 5%	3.61	3.61	3.61	3.62	3.58	3.61	3.61	3.61

Table 1 : Effect of Leaf extract of *Azadirachta indica* on eggs of *Spodopteralitura*

Doses %	Percent Egg Mortality		Percent Egg Hatching		Percent Reduction in Egg Hatching		Percent Mortality in 1st Instar Larvae within 48 hrs	
	Treated Substrate	dipping Method	Treated Substrate	dipping Method	Treated Substrate	dipping Method	Treated Substrate	dipping Method
0.1	17.33	24.66	82.67	75.34	15.23	14.33	31.66	34.41
0.5	44	46.66	53.33	54.66	33.33	31.7	43.00	46.32
1	52	52.66	42.66	41.33	42.23	45.35	5.66	51.54
1.5	65.33	66.66	34.66	33.33	51.76	58.35	61.33	63.88
2	84	81.33	16	13.33	80.95	83.35	66.00	69.44
2.5	88	89.8	10.66	9.33	87.33	88.35	68.00	72.22
Control	12	12	88	88	nil	nil	14.28	13.65
F-Value	145.8	189.38	262.04	186.9	262.04	303.36	405.3	190.38
CV at 5%	3.61	3.61	3.84	3.84	3.84	3.61	3.61	3.84

Table 2 : Effect of Leaf extract of *Ocimum sanctum* on eggs of *Spodopteralitura*.

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Organic Farming for Sustainable Development

Deepika Yadav and Ritu Gupta

Asstistant Professor, Department of Science, Biyani Girls College, Jaipur

Abtract

Organic farming is the use of fertilizers of organic origin such as compost manure, green manure, and bone meal and places emphasis on techniques such as crop rotation and companion planting. Organic agriculture sustains the health of soils, ecosystem and people. One of the major technique used is integrated pest management that uses pest control methods. The four principles of organic farming include-Health, fairness, ecological balance and care. Organic farming helps in providing better nutrition, help in maintaining our health, toxicless substances and enhances the taste of food. It is now widely understood that living healthy healthy soil provide the foundation for successful farming. Organic Agriculture is Knowledge intensive. Application of organic principle enables employment of local resources like seed varieties and manure. The goal of farming is particularly poverty reduction effort in face of climate change and improve health owing to less chemical exposure.

Keywords: Intensive, Companion planting, Crop rotation.



Enhanced Photocatalytic Degradation of Methylene Blue and Methyl Orange by ZnO Nanoparticles

Deepti Sharma, Ajay Saini and Veena Dhayal

Department of Chemistry, Manipal University Jaipur, Dehmi Kalan, Jaipur
dhayal21v@gmail.com, deepsm1984@gmail.com

Abstract

Nanostructured materials trying to solve technological and environmental issues. Among the most widely used nanostructured metal oxides, ZnO is considered as one of the most important metal oxides with unique properties as high-surface energy, high-electron mobility, cheap, and environmentally nontoxic.

Zinc oxide nanoparticles (ZnONPs) were prepared using zinc chloride and acetoxime by sol gel method. The obtained materials were characterized by XRD, FTIR, TGA X-ray diffraction result shows that synthesized ZnO was hexagonal phase with an average crystallite size of ~15 nm, which confirm with TEM analysis. The Photocatalytic activity of the synthesized ZnONPs was examined for the degradation of methylene blue (MB) dye and methyleorange (MO) under Sunlight and in total, 99.8% of MB and 55.42% of MO were degraded within 160 min of irradiation the results shows it is a good photocatalytic materials as shown in figure.

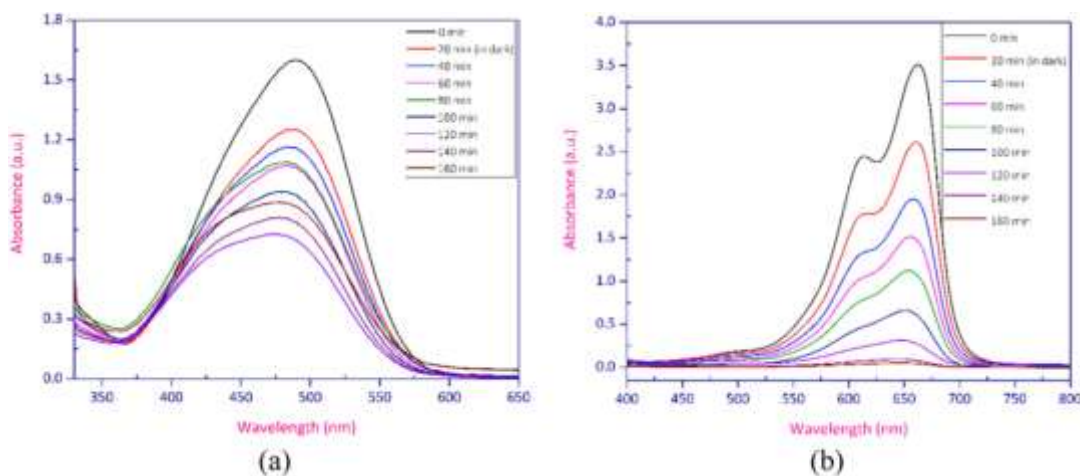


Fig : Time-dependent UV-Vis absorption spectra of photocatalytic degradation of (a) MO and (b) MB dyes using ZnO NPs

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Antifungal Potential and Partial Mechanism of Action of 2-thioxo-2, 3-dihydro-1H-quinazolin-4-one Derivatives against Aspergillus Species

Desh Deepak Singh

*Amity Institute of Biotechnology, Amity University Rajasthan, India
ddsbms@gmail.com*

Abstract

Aspergillus infections have become an important health problem with the increasing number of patients. Available antifungal drugs are lack with their spectrum, toxic or immunosuppressive in nature, so that need to develop new compound with high efficacy. To evaluate antifungal efficacy of synthesized compound and to identify the protein profile of *Aspergillus fumigatus* treated with antifungal. Clinical isolates of *A. fumigatus*, *A. flavus* and *A. Niger* were cultured and efficacy of compound were conducted by Disc Diffusion Assay (DDA), Microbroth Dilution Assay (MDA). Percent of spore germination inhibition assay (PSGI), Time kill analysis and toxicity assay. The culture filtrate containing secretory proteins was collected after 24 h growth and expression of downregulated proteins were identified. We developed a new and useful quinazoline derivatives expected to antifungal activity. The result of anti-*Aspergillus* evolution revealed that one of the 3-(4-Phenyl-thiazol-2-yl)-2-thioxo-2, 3-dihydro-1H-quinazolin-4-one (4Q) exhibited appreciable activity. The potency of compound was found concentration of 3.125 µg/disc by disc diffusion assay (DDA) and 15.625 µg/ml. by Microbroth Dilution Assay (MDA). The compound was nontoxic up to concentration 625 µg/ml and its lysed only 35.9% of human erythrocytes, at the highest dose tested. It's observed that the treatment of pathogen with 4Q targeted the expression of

four proteins having molecular weights 18 kDa 37 KDa and 43 KDa proteins was completely inhibited or down regulated by the compound the extra cellular. The novel compound 4Q, having antifungal activity Can be exploited further to develop new ideal antimycotic drugs.



Technical Facets and Future Research Directions of Sustainable Manufacturing

¹Dharmendra Hariyani and ²Sanjeev Mishra

¹Research Scholar, Department of Mechanical Engineering, University Department, Rajasthan Technical University, Kota – 324009, Rajasthan, India

¹Associate Professor, Department of Mechanical Engineering, Swami Keshvanand Insitute of Technology, Management & Gramothan, Jaipur, Rjasthan, India

*² Professor, Department of Mechanical Engineering, University Department of Teaching, Rajasthan Technical University, Kota, Rajasthan, India
dhariyani12002@gmail.com*

Abstract

Due to scarcity of resources and rising energy prices, responsibility of manufacturers has extended to manufacture the sustainable products in sustainable manner focusing on product and process waste during their life cycle. Sustainable manufacturing strategy improves their financial, market, social, environmental performance. This paper identifies various technical facets of sustainable manufacturing so that strategic planning may be done for its adoption. This paper also outlines and Future Research Directions for sustainable manufacturing.

Keywords: Sustainable manufacturing, sustainable products, technical facets, financial, market, social, environmental performance.

Introduction

Due to scarcity of resources and rising energy prices, manufacturers focus on sustainable manufacturing of sustainable products so that product and process waste during their life cycle can be minimized.

Technical facets of sustainable manufacturing:

Technical facets of sustainable manufacturing are lean manufacturing for economic sustainability dimension, and 6R methodology (Reduce, Reuse and Recycle, Recover, Redesign and

Remanufacture) for planet sustainability dimension, and corporate social responsibility for social and employees' sustainability dimension (Jayal et al. 2010).

Lean manufacturing is associated with value-added manufacturing. Non-value added activity is called Muda. Muda are the seven types of waste in any manufacturing plant and it consider transportation, inventory, motion, waiting, overproduction, over-processing and defect as a waste (Bhamu and Sangwan 2014; Melton 2005; Shah and Ward 2003).

Green manufacturing is early steps towards sustainability, which focus on reduce, reuse and recycle of process waste, Fig. 6 (Florida R. et al, 1998; Sarkis J., 1998).

Organization must focus on design for manufacturing, design for functionality, design for resource utilization and economy, design for environment, design for recyclability, remanufacture, design for social impact with the total lifecycle and total value focus (Haapala, Zhao, and Camelio 2013; Jawahir et al. 2006; Jayal et al. 2010; Rosen and Kishawy 2012; Taisch and Milano 2012).

For developing the world-class quality products organizations have to use six sigma quality level. Six sigma improves process capability. Six Sigma quality level generates only 3.4 defective parts at the most in a million products (Linderman, 2003).

For sustainable manufacturing, management must involved employees, customers, suppliers and its various stakeholders in the system planning and design process.

Fig. 1 shows the mindsets of various manufacturing strategy in brief.

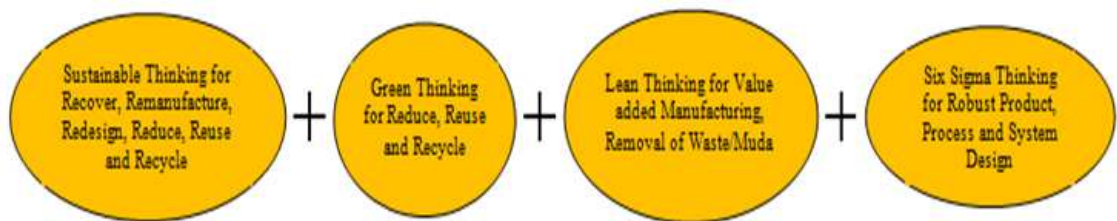


Fig. 1 : Mindsets of Various Manufacturing Strategy

Along with sustainability organizations should also focus on corporate social initiatives for social and employees' wellbeing (Arendt and Brettel 2010).

Sustainable manufacturing strategy improves firm's financial, market, social, environmental performance (Joung et al. 2012; Rusinko 2007; Yang, Hong, and Modi 2011).

Future areas for research

It is observed through literature review that process design, product design, personal elements and manufacturing planning are always key elements of sustainable manufacturing. For successful implementation of sustainable manufacturing, organization has to strategically plan and implement

various enablers. Herein, a few issues of sustainable manufacturing which requires further research exploration

- Design and development of sustainable product and processes.
- Design and development of sustainable supply chain.
- Design and development of benchmarking practices.
- Design and development of evaluation system to measure the system performance.

Conclusion

In this paper, we reviewed the literature for technical facets of sustainable manufacturing. The literature shows that along with technical facets strategic facets are also important for successful implementation of sustainable manufacturing and getting desired outcomes. It is also observed that stakeholders' values will be maximized through the sustainable manufacturing system than individual practices alone.

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□□□

Phytochemical Role of Hibiscus Sabdariffa in Antiglycaemic Activity

Divya Lalwani, Farheen Shakir, Rakesh Gupta and Deepa Gupta

Lal Bahadur Shastri College of Pharmacy, Uday Marg, Jaipur, Rajasthan, India

Abstract

Hibiscus sabdariffa is a species of hibiscus the hibiscus leaves are a good source of polyphenol compound. The major compounds are chlorogenic acid (ester of caffeic acid). Its calyxes are used to make beverages and have been used in folk medicines and effective as diuretic, stomachic, aphrodisiac, antiseptic, and antihypertensive agents. The major pigment is hibiscin has been identified as daphniphylline.

Keywords: Polyphenol Compound, Chlorogenic acid, Hibiscin

Introduction

Diabetes mellitus (DM) is a metabolic disorder signified by the presence of hyperglycemia. Hyperglycemia is mostly caused by a functional deficiency of insulin action which can be due to a decrease in insulin secretion by the β -cells of pancreas or a decrease in responses to insulin by target tissues. Impaired β -cell function and possibly β -cell mass appear to be reversible, particularly at early stages of diabetes where the limiting threshold for β -cell mass recovery has probably not been overstepped.[1] Pharmacological activities of *H. sabdariffa* calyx extract is used for decreased

blood glucose. Recently, gallic and protocatechuic acids were identified using solvent extraction, column chromatographic fractionation, and nuclear magnetic resonance (NMR) spectroscopy as the antidiabetic and antihypertensive principles of the calyx. The pharmacological activities of hibiscus calyx extract are used for decrease blood glucose, decrease blood cholesterol, decrease blood pressure. [2] The flowers are rich in anthocyanin, red color in roselle possessed antioxidant capacity and reduced liver lesions induced by tert-butyl hydroperoxide. Hibiscus tea used to prevent hypertension, lower blood pressure, reduce blood sugar levels, keep your liver healthy, help with menstrual cramps, help with depression, aid digestion and help with weight management. Its rich in Vitamin C, contains minerals such as flavonoids and has laxative properties.

Result and discussion

Physicochemical characterisation studies of isolated mucilage are relevant as they could serve as useful data for enabling the utilisation of Hibiscus mucilage for food and pharmaceutical industry. Organoleptic characterisation of isolated mucilage showed that, it is a greenish brown powder, with characteristic odour and amorphous nature. The identity of mucilage was evident by the appearance of a white cloudy precipitate and was confirmed by the positive results with Molisch's test and Ruthenium red test. [3]

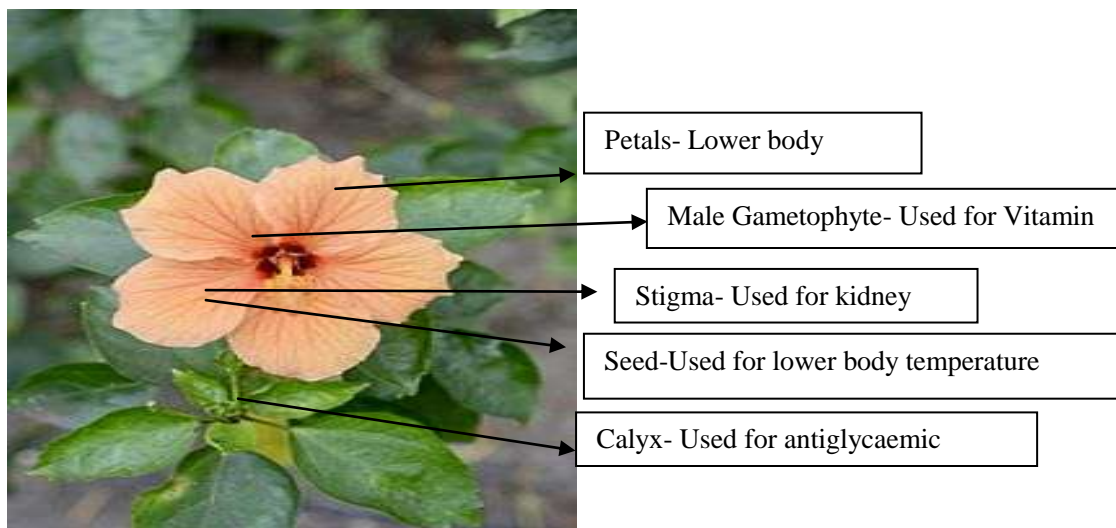
Experimental

Aim- To study the photochemical role of Hibiscus sabdariffa antglycaemic activity.

Methodology

Hibiscus sabdariffa commonly known as red sorrel and roselle. Roselle belongs to Malvaceae family. It is an erect, mostly branched, annual shrub. Stems are reddish in color and up to 3.5 m tall. Leaves are dark green to red, alternate, glabrous, long petiolate, palmately divided into 3-7 lobes, with serrate margins. Flowers are red to yellow with a dark center containing short peduncles. The parts of roselle including seeds, leaves, fruits and roots are used in various foods. They are added to curries as seasoning. They have acid, rhubarb like flavor. The leaves are antiscorbutic, emollient, refrigerant and sedative. The leaves are very mucilaginous and are used as an emollient and as a soothing cough remedy. They are used externally as a poultice on abscesses. The leaves and flowers are used internally as a tonic tea for digestive and kidney functions. Dried roselle calyces can be obtained in two ways. One way is to harvest the fruits fresh, decore them, and then dry the calyces; the other is to leave the fruits to dry on the plants to some extent, harvest the dried fruits, dry them further if necessary, and then separate the calyces from the capsules. Roselle calyces can be processed into sweet pickle. This is usually produced as a by-product of juice production. The quality of sweet pickle may require a special production process.

Description of flower (Hibiscus sabdariffa)



Conclusion

The extracts of *Hibiscus sabdariffa* revealed the presence of plants secondary metabolites in the form of photochemical, vitamins and vital minerals. The biologically active chemical substances have curative properties. These phytochemicals include tannins, saponnins, glycosides, phenols, and flavonoids extracted quantitatively and qualitative. It is postulated that *H. sabdariffa* interacts with diclofenac, acetaminophen by altering the pharmacokinetics. In healthy human volunteers, the *H. sabdariffa* extract was found to reduce the excretion of diclofenac upon co-administration. Additionally, co-administration of Karkade (*H. sabdariffa*), a common Sudanese beverage, was found to reduce chloroquine bioavailability.^[3] However, no statistically significant changes were observed in the pharmacokinetics of acetaminophen when administered with the Zobo (*H.sabdariffa*) drink.^[3] Further studies are needed to demonstrate clinical significance[4].

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Stereodivergent Azidation of Alkenes Employing Sulfonium Iodate (I) Reagent

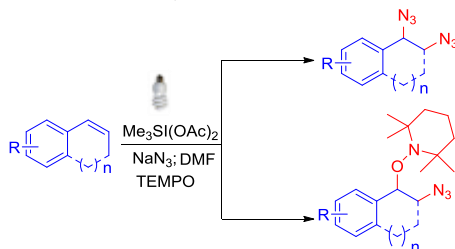
Dodla Sivanageswara Rao and Sudhir Kashyap

*Department of Chemistry, Malaviya National Institute of Technology (MNIT),
Jaipur, Rajasthan 302017, INDIA
Skashyap.chy@mnit.ac.in, 2016rcy9042@mnit.ac.in*

Abstract

The azide group containing have gained considerable attention due to their synthetic usefulness as key intermediates and valuable synthons in organic chemistry.^[1] In particular, diazidation represent an important subclass which have been widely involved as useful precursors in several attractive chemical transformations,^[2] vicinal-diazidation of olefins has gained considerable attention in recent years.^[3] In this context, several researchers actively pursued direct 1,2-diazidation of alkenes often catalyzed by transition metals in the presence of Cu/Fe/Pb/Pd/Mn or azidoiodine(III) oxidant as an azide source. Xu and co-workers developed Fe-catalyzed diazidation utilizing hypervalent iodine-based oxidants and tridentate ligands.^[4] In previously reported a divergent electrochemical oxidative diazidation of alkenes with manganese involving azidyl transfer from active metal-N₃ species.^[5]

Herein, we developed a novel and efficient method of azidation of alkene using Sulfonium Iodate (I) electrophilic reagent under metal-free conditions. This stereo-divergent approach is amenable to a wide range of alkene substrates and demonstrates a diverse functional group tolerance resulting in synthetically valuable 1,2-diazidation and oxyazidation of alkenes in excellent yields (up to 97%).^[6]



Azidation of Alkenes with Sulfonium Iodate (I) Reagent

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Health Effects Due to Exposure and Interaction of Air Pollutants with Meteorological Parameters

Era upadhyay

Amity University Rajasthan, Jaipur, India

era.upadhyay@gmail.com

Abstract

Epidemiological studies have revealed positive associations between rising particulate matter concentrations and their harmful effects on human health. These pollutants may have different seasonal patterns and investigations were performed to understand impact of chemical interactions, meteorological changes on ambient concentrations of pollutants and consequent impact on health. The concentrations of particulate matter (PM_{2.5} & PM₁₀) from multiple monitoring sites of New Delhi (ITO, Civil Lines, Anand Vihar, RK Puram)) were analysed for the years 2016-2018. Analysis was also conducted to determine interactions between pollutants and weather variables for New Delhi for considered sites and years. The correlation between average daily maximum pollutants' concentration and meteorological variables was analyzed on a monthly basis and showed

negative correlation with temperature and relative humidity though the degree of correlation varied seasonally. Temporal relationships among pollutants and weather variables in the context of air pollution health effects showed a varying extent of inter correlations, and these correlations also varied throughout the seasons. Associations between these air pollutants and health effects were analyzed using epidemiological equations generated in previous studies based in Asia for the most recent three years over Delhi.

Keywords: Particulate Matter, Health effects, and Meteorological factors.



Bird Faecal Matter as Bio-indicator of Heavy Metal Contamination Asurvey of zoo birds of Jaipur, India

Fareeda Hasani

Subodh P.G. Girls College, Sanganer, Jaipur

Abstract

Most of the zoos which were once located away from cities and towns are now surrounded by urban settlements and heavy traffic. One of the results of this urbanisation process has been that air in the vicinity of zoos is contaminated with automobile emissions. The birds which are housed in cages are exposed to auto-exhaust. A survey of birds caged in Jaipur zoo surrounded by roads very close to the cages on which there is heavy traffic plying, was done using biomarkers. Analysis indicates contamination from metals among these birds. A non-invasive method has been suggested where faecal matter has been used as bio indicator. The study indicates that all 26 species of birds can rid the body of heavy metals through the faeces. Since the capturing and killing of birds is banned, faecal pellets provide an alternative to feathers or any other part of bird for the assessment of metal toxicity. Heavy metals have a serious impact on the ecosystem's stability, because of toxic nature of these metals at even a very minute concentration. Since zoos were exposed to air pollution, the bird section was also affected. However, the concentration of faeces of different birds varies although they are exposed to same quality of air. Apparently, the total concentration of metals depend on basic metabolic rate of species. Those who require more oxygen and have consequently higher ventilation have more concentration, sincelonger retention of food material in gastrointestinal tract induces comparatively higher retention of metals and also their absorption.



Biomarkers for Personalized Anticancer Drug: Knowing the Current and Predicting the Future

Farheen Shakir, Divya Lalwani, Deepa Gupta and Rakesh Gupta

LBS College of Pharmacy, Jaipur – 302004, Rajasthan, India

farheenshakir897@gmail.com

Abstract

Biomarkers are useful as personalized anticancer drug. With the advent of improved genomic and proteomic technologies such as DNA and tissue microarray and protein assays coupled with advanced bioinformatics tools, it is possible to develop biomarkers that are able to reliably and accurately predict outcomes during cancer management and treatment.

Keywords: Biomarker, bioinformatics, personalized medication.

Introduction

Cancer is a disease of uncontrolled growth and proliferation whereby cells have escaped the body's normal growth control mechanisms and have gained the ability to divide indefinitely. It is a multi-step process that requires the accumulation of many genetic changes over time.[1] A cancer biomarker refers to a substance or process that is indicative of the presence of cancer in the body. A biomarker may be a molecule secreted by a tumor or a specific response of the body to the presence of cancer.[2] Cancer biomarkers are useful in diagnosis. It is used to determine whether the cancer is benign or metastatic. To make this distinction, researchers can screen the chromosomal alterations found on cells located in the primary tumor site against those found in the secondary site. If the alterations match, the secondary tumor can be identified as metastatic; whereas if the alterations differ, the secondary tumor can be identified as a distinct primary tumor.[2] Biomarkers also have use in cancer medicine for disease prognosis, which takes place after an individual has been diagnosed with cancer. Biomarkers are used to predict the way of cancer treatment. Examples of such prognostic biomarkers include elevated levels of metalloproteinase inhibitor 1 (TIMP1), a marker associated with more aggressive forms of multiple myeloma, elevated estrogen receptor (ER) and/or progesterone receptor (PR) expression, markers associated with better overall survival in patients with breast cancer[2] Personalized medicine involves the selection of the safest and most effective pharmacological treatment based on the molecular characteristics of the patient. In the case of anticancer drugs, tumour cell alterations can have a great impact on drug activity and, in fact, most biomarkers predicting response originate from these cells.[3] We can also review the current challenges and opportunities for pharmacogenomics studies in oncology, as well as the clinically established biomarkers.[3] Biomarkers, by virtue of their potential to differentiate among disease states as well as patient characteristics, are essential for the realisation of personalised medicine and

provide a critical link in the bench-to-bedside research effort which translational medicine represents.[4] Therefore, diagnosis and personalized medication of cancer can be possible by biomarkers.

Result and discussion

Cancer biomarkers can be used for the accurate evaluation and management of the disease in different stages. Therefore, future of cancer management is expected to be profoundly dependent upon the use of biomarkers that will guide physicians at every step of disease management. Recently, the FDA has approved a small number of new urine-based biomarkers including bladder tumor antigen (BTA) and nuclear matrix protein-22 as diagnostic markers for bladder cancer and many more. Although few new markers have reached the clinic in recent years, technological advances in genomics and proteomics have produced candidate markers that may have potential for cancer screening. New discoveries provide hope for an increase in the number of new diagnostic markers, however the number of biomarkers approved in the past decade still vastly trails the number of new therapies that have been brought to the clinic in that time. Physicians still depend on invasive techniques including biopsy or radiologic methods such as mammography for early detection of disease. Biomarkers has distinct approaches for diagnosis and treatment of different cancer whether it is prostate cancer, breast cancer etc.

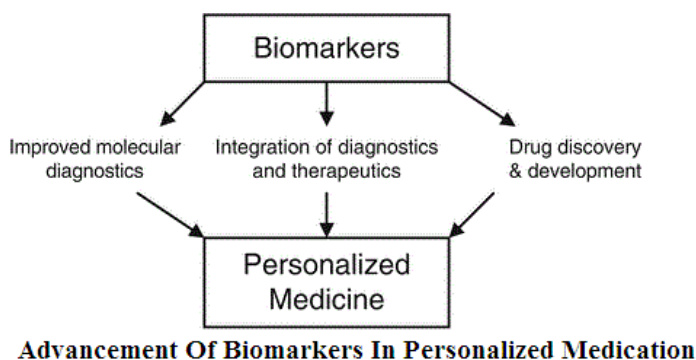


Fig 1: Advancement of biomarkers in personalized medication

Experimental

Aim: To predict the use of biomarkers as personalized anticancer drug.

Methodology

Cancer was produced in normal cell. DNA was transformed from cancer cell to normal cultured cell. Electron micrographs was scanned of normal cell and transformed 3T3 cells. Specific oncogene was identified and cloned. Specific oncogene was isolated. Retroviral transduction,

Insertional mutagenesis, Transfection assay, western blotting analysis and detection of apoptosis was done. Defective sequence of cell was identified and biomarker was evaluated. The sequence of biomarker was corrected and specific approach was made to get personalized medication.

Conclusion

Biomarkers can be used to identify disease in its early stages, to predict the treatment and chances of cancer recurrence after treatment has ended.

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Economic Importance of Chironomids (Diptera)

Gyata Prajapat

*Research Scholar, Department of Zoology, Mohanlal Sukhadia University Udaipur, India
gyatapiii8008@gmail.com*

Abstract

Chironomids are holometabolous insects having egg, larval, pupal and sexual dimorphic adult stages in their life cycle. Egg, larval and pupal stages are aquatic while adults are aerial cum terrestrial. As an abundant and omnipresent group of organism in aquatic bodies, they are major food source for aquatic invertebrates, amphibians, fishes and birds. Larval Chironomids plays as major link between

producers and consumers as benthos in aquatic food webs. As benthos they feed on sediment and push carbon and energy to higher trophic level. In other words, we can say that they are acting as earthworms at aquatic shorelines. They also release ammonia, nitrogen and phosphorus in aquatic bodies. Recently their use in aquaculture industry is increased as their larval forms are cultured and utilized as fish food and fish bait. The mouthparts and head capsule deformities indicate pollution of heavy metals and pesticides. Along with this heavy metal (lead, mercury, copper, aluminum, chromium, cadmium *etc*) pollution also cause chromosomal aberration and polymorphism in polytene chromosomes. Adult Chironomids having short life span have feeble mouthparts, so unable to bite. Sometimes Chironomids swarms causes nuisance and economic loss to the Lake front residents by clogging air conditioners and automobile radiators. Larval hemoglobin and epidermis of adults cause asthma, rhinitis, and conjunctivitis to sensitive peoples. Sometimes they act as pests for field crops including wheat, rice, maize, tomato, potato, lettuce and some horticultural crops.

Keywords: Chironomids, benthos, bioindicator, hemoglobin, polytene chromosome.

□□□

A Review on Peltier Module

Hemendra Pathak

S.t. Xavier's PG College Phagi, India

Abstract

In modern word, the air conditioner and refrigerator become the essential part of our life. The modern cooling system uses some harmful gases like Freon etc. These are harmful for environment. The Peltier Module can work both as an air conditioner and a refrigerator. It is based on Thermoelectric cooling method in which when electricity is converted to thermal energy for cooling or heating. It is a solid state device and does not use any fluid for cooling. This device is very useful to build portable cooling or heating device. This paper is to deal with some major problem arises in the process of cooling using peltier Module. If some correction in peltier design will helpful, Peltier cooling system will become cheapest.

Keywords : Peltier Module, Peltier Design, Thermoelectric Cooler.

Introduction

Peltier Module is made up of two dissimilar semiconductor materials. In which several p-type and n-type semiconductor joined electrically in series and thermally in parallel. When Electric Current flow from the circuit, one ceramic plate of the module become cold and while the other become hot as shown in figure 1. The heat evolved by peltier module is given by Q as $Q = \pi I$. Where π is known

as peltier coefficient and Q is the heat absorbed or evolved at the junction. The flow of heat between any two legs is given by $2K\left(\frac{a}{L}\right)\Delta T$. where k defines average thermal conductivity in watt/meter – Kelvin, L is the length of each leg, a is the area of base in m^2 and ΔT is the difference of temperature at the junction. If we increase the length of semiconductor material and decrease the area of cross-section as shown in fig. 2. The amount of heat absorbed in cooling process can be given as

$$Q_c = 2N \left[sIT_c - \frac{1}{2}I^2 \frac{\rho L}{A} - k \frac{A}{L} \Delta T \right]$$

Figure of merit as $Z = \frac{s^2}{\rho k}$

Where Q_c is the amount of heat absorbed at cold surface and ρ is electrical resistivity of semiconductor material.

Result and Discussion

On applying new fabrication technique in peltier following problem can be solved

1. It will make easier to apply peltier in modern refrigerators.
2. Since today there was a bigger problem to avoid overheating of peltier because there is small distance between cold and hot junction. If we keep distance between cold side and hot side the overheating damage problem can be solved.
3. Since there is a big issue to build a perfect adiabatic system because peltier both junction are at short distance so there is large possibilities of heat loss. This process also can be resolved because in new model there is sufficient space between both junctions.

Experimental

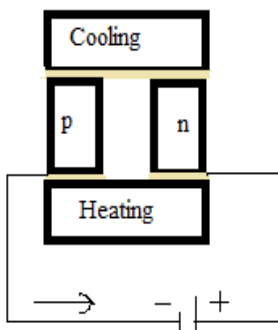


Figure 1: Peltier Module Block Diagram

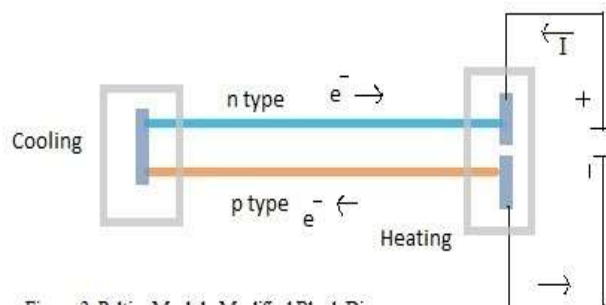


Figure 2: Peltier Module Modified Block Diagram

Conclusion

A modified peltier can be easily applied to any cooling devices. Even if this technique used in modern air conditioner system, it may reduce cost of the product.

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Impact of Industrial Waste Water on Seed Spermoderm Patterns of Crops Grown in Kota, Rajasthan

Jyoti Kumari Meena, K.C. Sharma and Manju Sharma

Department of Botany, University of Rajasthan, Jaipur, INDIA

Abstract

Spermoderm patterns of seeds collected from crops cultivated by irrigation with industrial waste water were studied. Spermoderm patterns were studied using Scanning Electron Microscope (SEM). Two plant used for this investigation are *Cicer arietinum* and *Glycine max*. Spermoderm patterns showed slight changes in seed size and primary sculpture of seeds. In both the plants size of seeds and hilum size decreased in industrial waste water irrigated plants. Results of this study showed changes in surface architecture pattern which becomes more clear and prominent in seeds of industrial waste water irrigated plants. Such changes may be correlated with the heavy metal stress condition.

Keywords : *Glycine max*, *Cicer arietinum*, Industrial waste water, Spermoderm pattern

Introduction

Seed coat is an outer layer of the seed which plays a fundamental role in maintaining the connection between the embryo and the external environment. Seed coat provides protection to the embryo against adverse biotic and abiotic factors (Souza and Marcos-Filho, 2001)[1]. Analysis of ultrastructural pattern of the seed coat under the Scanning Electron Microscope has been well recognised as a reliable process for assessing phenetic relationship and identification of species or taxa (Brisson and Peterson)[2].

Results and Discussion

From the table 1, it can be seen that in *Cicer* and *Glycine* seeds obtained from plants irrigated with tap water and industrial waste water revealed differences in seed size, hilum size and primary sculpture. In both the plant species size of seed and hilum size decrease in industrial waste water irrigated plants. Spermoderm features revealed scabrous type of primary sculpture with knotty small raised projections in *Cicer* control seeds whereas, *Cicer* industrial waste water seeds show deeply scabrous primary sculpture. In these seeds projections are very prominent, puffy, bordered by deep grooves and are covered with fine fibres. In *Glycine* seeds Primary sculpture of control seeds is smooth, undulating with continuously up and down having shape like waves whereas, in industrial waste water irrigated seeds the primary sculpture is prominently undulating with deep alveoli, thus giving a deeply pitted honey comb like appearance to seed surface (Fig. A-H). Spermoderm pattern study by SEM showed variation in its pattern at higher magnification. Both control (tap water) and industrial waste water irrigated crop seeds appear ellipsoid in shape and yellowish in colour. Size of hilum region was found slightly reduced in industrial waste water irrigated seeds (Fig. A-H). In *Cicer* and *Glycine* plants irrigated with tap water and industrial waste water, the shape of the seeds remain same whereas size of seed and hilum size is decreased in industrial waste water irrigated plants. Changes are also observed in surface architecture pattern which become more clear and prominent in waste water irrigated seeds. The results were in accordance with those reported by Saini *et al.*, (2014) in Spinach seeds where spermoderm patterns as revealed by SEM showed changes in primary sculpture in plants irrigated with treated and untreated industrial waste water as compared to ground water irrigated plant seeds [3].

S. No.	Seeds	Shape of Seed	Size of Seed (mm)	Seed color	Hilum size (mm)	Primary sculpture
1	<i>Cicer</i> Control	Angular obovoid	7.18 x 5.60	brown	0.909x0.779	Scabrous
2	<i>Cicer</i> Industrial waste water	Angular obovoid	6.18 x 4.60	brown	0.848 x 0.703	Deeply Scabrous

3	<i>Glycine</i> Control	Ellipsoid	8.03 x 5.27	yellowish	2.862 x 1.123	Undulating
4	<i>Glycine</i> Industrial waste water	Ellipsoid	5.87 x 3.84	yellowish	2.03 x 0.927	Alveolate/ honey comb like

Table:1 Showing seed characters and surface architectural patterns.

Materials and methods

Experimental plant:

1. *Cicer arietinum* (Chickpea) RUBL 211593
2. *Glycine max* (Soyabean) RUBL 211592

The study was conducted with waste water released from industries of Kota. Waste water samples were collected from common outlet point in Kansua nalla of combined effluents from industries of Kota. Effluent samples were collected in plastic container of 5-liter capacity. The seeds of *Cicer arietinum* and *Glycine max* were purchased from registered seed centre. Four plots of 5× 4.5 m² size were prepared. Seeds of *Cicer* were sown in two plots. One plot was irrigated with tap water and named as control and other with industrial waste water. Similarly *Glycine* seeds were sown in other two plots. Uniform irrigation schedule was followed for all plots throughout the growth of plants. Seeds from mature plants of both crops are collected and dried well. Seed surface patterns were studied by Scanning Electron Microscope (SEM). Seeds coated with gold were fixed and examined at various range of magnification in a EVO 18 Scanning Electron Microscope at USIC department, University of Rajasthan, Jaipur.

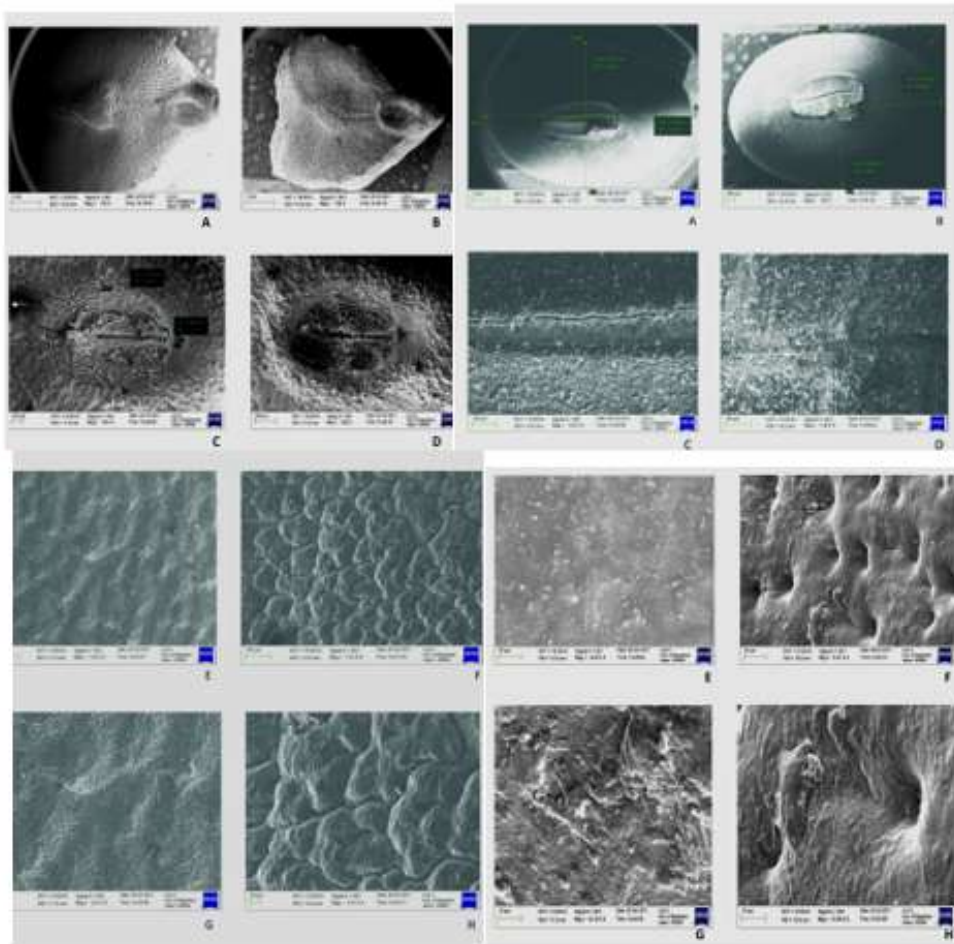
Conclusion

The spermoderm pattern study and data clearly showed that the growth and development of crop's seeds is affected by industrial waste water irrigation. Such changes may be correlated with the stress condition caused by presence of heavy metals in combined industrial effluents. This suggests that industrial waste water should be used after proper dilution before using for irrigation purpose.

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Cicer seed spermoderm pattern (A-H) Glycine seed spermoderm pattern (A-H)

□□□

Probing the Effect of Synthetic Gulal on Physiological Performance of Plants

Jyotshana Sharma and Vineet Soni

*Plant Bioenergetics and Biotechnology Laboratory, Department of botany
Mohanolal Sukhadiya University, Udaipur*

Abstract

'Holi' a festival of color celebrated in India, on this occasion applying gulal on friends and family members. Gulal have oxidized heavy metal such as cadmium, chromium, iron, lead, mercury, nickel, zinc etc. The discharge of the toxic colors in the soil and water has deleterious effects on plant growth and development. Plants exposed to heavy metals inhibit many metabolic and physiological functions such as photosynthesis induction of ROS, chlorosis and senescence. The present experiment was performed to investigate the comparative effects of holi color and herbal gulal on biophysical parameters of plants. It was observed that the photosynthetic rate was drastically reduced in plants exposed to synthetic gulal. On the other hand, herbal gulal enhanced the plant photosynthesis.

Key words: Holi, Heavy metals, ROS, chlorosis.

□□□

Structural analysis of the DNA replicative enzymes in Archaea

Keisuke Oki

Department of Bioscience and Biotechnology, Kyushu University, Fukuoka, Japan

Abstract

In our genome replication, template DNA is unwound by helicase, and nascent strands are synthesized by polymerase. I successfully visualized a archaea-specific replicative polymerase which was synthesizing a new strand. Moreover, my research uncovered the molecular mechanism of the interaction between helicase and polymerase.

Introduction

Our genetic information is encoded and stored in nucleic acids (DNA and RNA). Nucleic acids replication is a fundamental phenomenon, inherited in all life on earth: Eukarya (e.g. human), Archaea (*T. kodakarensis*; my target), Bacteria (*E. coli*) and Virus (HIV, SV40). This process is conducted by numerous enzymes, as represented by "helicase" and "polymerase". The domain "Archaea", is recognized to be the ancestor of Eukarya (including us) recently, however, archaeal polymerase is thought to be completely different from eukaryal one. Structural and biochemical

study was required to understand the mechanism of DNA replication in archaea, and the evolution of life.

Experimental, Results and Discussion

Archaeal replicative polymerase consists of 2 polypeptides, thus, biochemical analysis was conducted to know these interaction in vitro. Electron-microscopic analysis determined the 3D structure of the polymerase, structural conservation between archaeal and eukaryal polymerase was revealed. Next, the interaction between polymerase and helicase was also analyzed in vitro. Crystal structure of polymerase-helicase complex uncovered the detail. It is found that SV40-viral helicase, eukaryal helicase, and archaeal helicase interacts with polymerase using similar mechanisms.

Conclusion

Structure of the replicative DNA polymerase, and the binding site of polymerase-helicase were determined. The data suggested the evolutionary relationship between Eukarya and Archaea.

Keywords : Molecular biology, Genetic information, Microorganisms, Evolution of life

□□□

Response of Fertilizers and Manures on Biochemical Parameters of Sesame (*Sesamum indicum* L.)

Kusum Kurdiya and Manju Sharma

Department of Botany, University of Rajasthan, Jaipur
kusumkurdiya85@gmail.com

Abstract

A pot experiment was conducted during kharif season to evaluate impact of fertilizers and manures on biochemical parameters of sesame (*Sesamum indicum* L.). Biochemical parameters were taken to study the chlorophyll content, proteins, lipids, total soluble sugars (TSS), starch, total phenols and two antioxidant enzymes (peroxidase and catalase). Experimental results showed that chlorophyll-a, b, total chlorophyll, protein content, lipids and peroxidase were observed maximum in vermicompost treated plants. Total phenols were observed higher in biofertilizer treatment. Carotenoids, TSS, starch and catalase were found increased in control plants. Results from study showed that vermicompost application is more beneficial for increasing biochemical contents of sesame than inorganic fertilizers. Therefore, they can be used as an alternative of inorganic fertilizers under arid condition of Rajasthan.

□□□

Mutagenicity Assays to Test the Quality of Treated Hospital Waste Water at Low and High Concentrations

Kusum Rani, Priyanka Mathur and Pradeep Bhatanagar

*Department of Life Sciences, IIS (deemed to be University),
Gurukul Marg, SFS, Mansarovar, Jaipur- 302020
goyalkusum228@gmail.com, priyanka.1970@iisuniv.ac.in*

Abstract

Wastewater released from health care establishments without treatment may contain a variety of hazardous chemicals which pose a long term risk to human health and environment. Hospitals release numerous chemical and compounds in their wastewater, which may affect the environment and human health. When improperly disposed, liquid wastes interfere with the food chain, affect the aquatic environments and can be extremely dangerous for mankind, as they enter watersheds and pollute surface water. Our study is an attempt to provide an initial assessment of genotoxicity of treated wastewater at 10% and 100% concentration and to evaluate the efficacy of wastewater treatment plants (WWTP). In the present study mutagenicity assays i.e. Bone marrow chromosomal aberration (CA) assay and Bone marrow micronucleus (MN) assay were used. The results from the study showed that at 100% concentration damage increase significantly as compared to 10% concentration. High CA and MNPCE frequency in mouse bone marrow cells as compared to control group were observed. The increased frequency of occurrence of acentric chromosomes correlates with the increased frequency of micronuclei formed from aggregation of whole chromosomes as a result of aneugenic activity of the wastewater. This is an indication that there is an increase in the rate of aging of these erythrocytes from PCE to NCE, thereby decreasing their normal life span and increasing the risk of genotoxicity. This concludes that the treated hospital waste water of the selected hospital was showing less genotoxic effect at 10% concentration and high at the 100% concentration. The findings of present study suggested that all the health centers, hospitals and diagnostic laboratories should release their effluents after proper treatment, so that contamination of environment may be avoided.

Keywords: Waste water, Chromosomal aberration assay, Micronucleus assay.



Fertility Enhancing Potential of Pedaliummurex Drug Induced Infertility in Male Albino Rats

Mahima Sharma and R S Gupta

*Assistant Professor, SS. Jain Subodh Girls College, Sanganer, Jaipur
mahima.sharma06@gmail.com*

Abstract

Pedalium murex is extensively proficient in Ayurveda for the cure of sexual disorders and it's detoxifying nature. Therefore to explore, the efficiency of plant experiment was carried out. To evaluate the effect of P. murex, of methanolic fruit fraction was incorporated at the dose of 150 mg/kg b.wt, for 60 days against sulphasalazine (SSZ,) a drug that induce male reproductive disruption. Methanolic fruit fraction treatment reveal a significant ($p < 0.01$) enhancement in fertility, sperm motility and sperm density. Methanolic fruit fraction of P. murex administration bring back the serum LH, FSH, and testosterone levels to the normal range in a significant ($p < 0.01$) manner and also significantly ($p < 0.01$) changed biochemical factors in treated rats. Histological examination also demonstrated an enhancement in spermatogenesis and an improved testicular structure. It was concluded that the P. murex, of methanolic fruit fractions showed a major significant effects against SSZ drug induced infertility in male reproductive system and ensured it's spermatogenic nature.

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Effect of Heavy Metal on Seed Germination and Biochemical Profiling in Sorghum bicolor (L.) Moench

Manish Singh and Soumana Datta

*Department of Botany, University of Rajasthan, Jaipur
Shekhawatbanura91@gmail.com*

Abstract

Fodder grasses like Sorghum bicolor play a vital role in livelihood generation in arid and semi-arid areas of Rajasthan in India. Cadmium pollution from industries can affect soils in farmlands thereby playing havoc with health of humans and livestock. The present study was undertaken to study the effect of Cadmium salts on seed germination percentage, seedling growth and fresh weight

including various biochemical parameters of Sorghum bicolor. Seeds were treated with different concentrations (10, 50, 100, 200, 500, and 1000 ppm) of Cadmium sulphate along with control for 10 days. On the 10th day results were noted for above parameter. Seed germination percentage was recorded maximum at 10 ppm followed by 100 ppm. Both shoot and root length showed progressive decline with cadmium treatment. Fresh weight of seedlings was observed better than control for 10 ppm dose level. Further maximum amount of proteins and total soluble sugars were observed at 500 ppm dose level while starch and total phenols were found to be maximum at 100 ppm dose level. However in lipids there was constant decrease as compared to control with increase in treatment dose. Total chlorophyll was found to be maximum at 1000 ppm, carotenoids and MDA at in control. This result can be further developed as markers for field testing of cadmium polluted plants.

Keywords: Fodder, germination, chlorophyll, biochemical



Onion Husk as a Bio-absorbent for Removal of Dye

Manishita Das Mukherji

*Amity Institute of Biotechnology, Amity University Rajasthan, Jaipur, Rajasthan, India
mdmukherji@jpr.amity.edu*

Abstract

Water scarcity is one of the biggest challenges faced by the world today. This is attributed mainly to the lesser availability of cleaner water resources. Industrialization and urbanization both have contributed tremendously to the pollution of water bodies. The major water pollutants include dyes, agricultural runoff, emission of chemical loaded effluent etc. The Sanganer area of Jaipur owing to dyeing units, witnesses various water quality issues, owing to emissions from such units. The conventional treatment methodologies for removal of dyes from effluent are not economically viable. The search for a cheaper technique has led to the usage of biological components as bio-absorbents. In the current work onion husk is used as a bio-absorbent. The in vitro studies were conducted to check the removal efficiency of malachite green. The adsorption experiments were carried out with reference to contact time (5-120) mins under constant temperature of 27°C. The results indicated that the optimum conditions were adsorbent dose was 0.90 g per 50 ml dye solution with contact time of 90 mins.

Keywords: Bio-absorbent, Onion husk, Malachite Green.



Synthesis, Characterization and Antimicrobial Activities of Hg(II) Ternary Complexes of 2-Substituted Benzothiazoles Derivatives

¹Manmohan Singh Chauhan, ²Umesh Kumar and

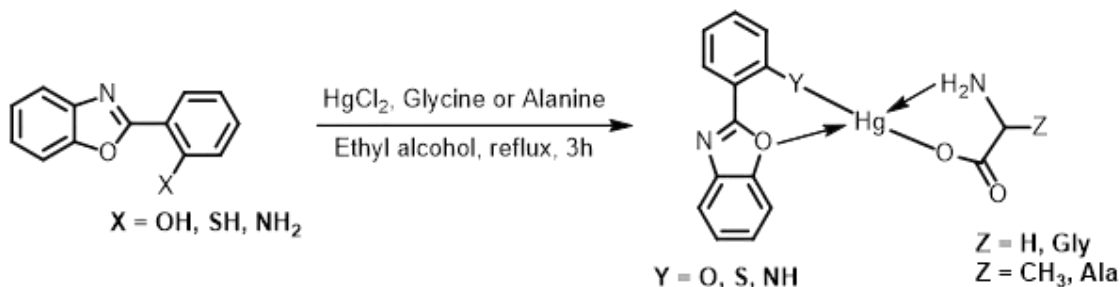
¹Narendra Pal Lamba

¹ASAS, Department of Chemistry, Amity University Rajasthan, Jaipur-INDIA

²Department of Chemistry, Bhaskaracharya College of Applied Science, Delhi-INDIA

Abstract

Biological important ternary complexes of type $[HgL(A-A)]$ [where L = 2-(2'-hydroxynaphthyl)benzothiazole (APBT), 2-(2'-hydroxyphenyl)benzothiazole (HPBT), 2-(2'-mercapto-phenyl)benzothiazole (MPBT)] (A = glycine or alanine) have been synthesized and characterized by m.w. determination, magnetic measurements, infrared and NMR studies. A tetrahedral geometry has been proposed for the present mercury(II) complexes. All the complexes are coloured, thermally stable, monomeric and non-electrolytic in nature. The ligands and their metal complexes showed biological activity against pathogenic fungi *Aspergillus niger* and *Fusarium oxysporum*. The antifungal activity data revealed that mercury(II) complexes are found more fungi-toxic than the parent ligands.



Scheme 1: Preparation of Hg(II) ternary complexes.

□□□

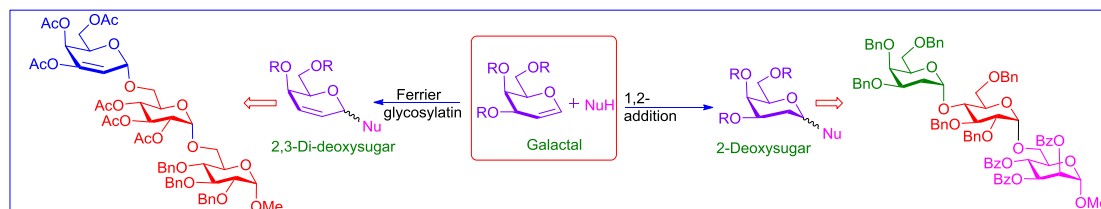
Oligosaccharides and Deoxyglycosides Synthesis From the Glycals

¹Manoj Kumar, ²Thurpu Raghavendar Reddy and ³Sudhir Kashyap

Department of Chemistry, Malaviya National Institute of Technology
(MNIT), Jaipur, Rajasthan-302017, INDIA
skashyap.chy@mnit.ac.in

Abstract

Deoxyglycosides are particularly important due to their usefulness as key intermediates in the synthesis of several biologically important molecules,^[1] such as antibiotics,^[2] oligosaccharides,^[3] carbohydrate derivatives. Deoxyglycosides are often found as components of a wider range of natural products having biological activity.^[4-6] As a part of our ongoing research towards the synthesis of glycosides and glyco-conjugates,^[7] we explore the possibility of using Lewis acid catalyst for stereoselective synthesis of deoxyglycosides with variety of *O*-nucleophiles. The current protocol involves stereoselective synthesis of glycoside with a variety of *O*-nucleophiles in presence of other sensitive groups. Scope of this method has been demonstrated for the nucleophiles comprising allylic, propargylic, natural products, carbohydrates, amino acid.



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Chemistry of Dactyloscopy

Mansi Singh and Poonam Hariyani

*Department of Chemistry, JECRC University, Jaipur
mansisingh2110@gmail.com*

Abstract

Dactyloscopy (technique of fingerprinting) comprises ACE-V (analysis, comparison, evaluation and verification) method to reach a determination on each print. It is performed to detect strong latent prints on interior and exterior of different coloured & non-coloured powdered latex and nitrile gloves, rubber household gloves *etc.* Ninhydrin, rhodamine, ardon, fluorescent dye stain mixture, cyanoacrylate and lightning blackpowder *etc.* are used for latent fingerprints.

Porous surfaces like wood, cardboard, paper or other types of cellulose behave as an absorbent where chemical techniques are used to detect the latent prints. While chemicals or powder techniques *viz.* cyanoacrylate by stains, fingerprints dust powders are employed for non-porous surfaces (metal, rubber, plastic, glass *etc.*) which are moisture repellent. The composition of fingerprint powders depends on the surface which consist of pigment (colloidal carbon particles or flakes of metal like Zn, Cu) and binders (gum-arabic iron powder and rosin). Pigments helps in comparison and binders helps the powder to stick.

Keywords: Ninhydrin, Absorbent, Pigments, fingerprint powder.

□□□

Role of Environmental Toxicology in Human Life

Medha Babel

Department of Chemistry, Kanoria Mahila Mahavidhalya, Jaipur

Abstract

Environmental toxicology is a multidisciplinary field of science concerned with the study of the harmful effects of various chemical, biological and physical agent on living organism. Environmental toxicology is the study of how toxic chemicals affect organisms and the environment. As toxic chemicals are widespread in the environment, there is a potential for these chemicals to cause significant damage and harmful effects on human health.

Keywords : Environmental Toxicology, organism potential.

Introduction

Environmental Toxicology is concerned primarily with the movement and impact of toxicants and their metabolites in the environment, in food chains and upon the structure and function of biological systems. The biological systems include any living organisms, human other mammals, plants etc. The environmental toxicology has assumed a greater role in understands the effects of the toxic chemicals on human.

Sources of environmental toxicology

There are many sources of environmental toxicity like inorganic and organic pollutants, pesticides and biological agents present in our food, water and air can have harmful effects on living organism like human. There are also many sources of contamination like diet, in home indoor air contaminates, take home contaminants from parent's work sites, child care, school neighborhood, disaster related exposures. Some metals like nickel may occur toxicity symptoms when too little or too much taken up [2,3].

Conclusion

Environmental toxicology caves a wide range of inter disciplinary studies. Environment toxicology is the branch of toxicology dealing with incidental exposure of biological tissue & human tissue. Environmental toxicology provide new means to evaluated complex biological systems and the impart of chemicals on living systems like human. Environmental toxicology may be applied to improve was species extrapolation is the analysis of chemical hazard, identify susceptible subpopulation, assess effects of early life exposure to chemicals and analyze biological effects of combined exposures.

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The Health and Environmental Management

¹Narendra Nirwan and ²Gayatri

*¹S. D. Govt. College, Beawar, India, ²S. P. C. Govt. College, Ajmer, India
nirwan21nk@gmail.com*

Abstract

The Environment is the greatest gift of God to man. Its abiotic components like air, water, light, etc., and its biotic living components like plants, animals, human beings, etc. are responsible for the survival and continuance of life on this planet. Environment plays an important role in the healthy living of human beings and regulating air and climate. For the healthy life, we need fresh air, clean water, food and surrounding. It is a beauty of the environment that basic needs of human such as food, clothes, air, water and medicines are provided by nature. Global warming, destruction of forest, natural calamities such as floods, earthquakes, tsunamis, wild fires, volcanoes and air, water, sound radiation pollution, more poisonous chemical discharge can cause damage to environment. The natural environment is a free gift of nature and we need to conserve it for the benefit of life in future. Therefore, it is our responsibility to take precautions against the pollution. India has played a major role in the development of environmental law for improvement and conservation of the environment.

Keywords: Climate, Environmental law, Global warming, Human health

Introduction

Environment is everything that is around us including living (biotic), non-living (abiotic) things and different interactions between animals, plants, soil, water, and other living and non-living things. Therefore, environment is very important for us to understand because it constitutes our surroundings and affects our ability to live on the earth. The preamble of the United Nations Declaration on human environment, adopted in Stockholm in June 1972 states, "Man is both creature and moulder of his environment, which gives him physical substance and affords him the opportunity for intellectual, moral, social and spiritual growth". Since everything is part of the environment of something else, the word environment is used to talk about many things. People in different fields of knowledge use the word environment differently. Electromagnetic environment is radio waves and other electromagnetic radiation and magnetic fields. The environment of galaxy refers to conditions between the stars. In recent years, scientists have been carefully examining the various ways by which people affect the 'Environment'. They have found that we are causing air pollution, deforestation, acid rain, and other problems that are dangerous both to the earth and to ourselves.

The need for protection and conservation of environment and sustainable use of natural resources is reflected in the constitutional framework of India and also in the international commitments of India.

Environmental protection is influenced by three interwoven factors: environmental legislation, ethics and education. Each of these factors plays its part in influencing national-level environmental decisions and personal-level environmental values and behaviors. An environmental policy is fundamentally a set of laws and administrative rules that regulate the relationships and conflicts between all the people concerned with the environment, as well as defining the relationships between people and the environment itself. The Honourable Supreme Court in *K. M. Chinnappa v. Union of India* defined “Environmental Law” as an instrument to protect and improve the environment and control or prevent any. These environmental policies may originate from local, national or foreign governments, and address an array of issues including air or water quality, fossil fuel extraction, energy conservation, habitat protection or restoration, pesticide use, storage/disposal of hazardous materials, recycling and trafficking in endangered species. In the Constitution of India, it is clearly stated that it is the duty of the State to “protect and improve the environment and to safeguard the forests and wildlife of the country”. It imposes a duty on every citizen “to protect and improve the natural environment including forests, lakes, rivers, and wildlife”. The Indian constitution has provisions for protect and improve the environment. Environment protection has always been important before and after freedom of India. We are described the British duration and Indian constitution environmental law.

- **Easement Act, 1882:** This law allows private rights to use a groundwater resource by viewing it as an attachment to the land. It also illumines that all surface water belongs to the state and is a state property.
- **Indian Fisheries Act, 1897:** This law erected two sets of penal infractions whereby the government can sue any person who uses any explosive substance in any way (whether coastal or inland) with intent to catch or destroy any fish or poisonous fish in order to kill.
- **The Indian Forest Act 1927:** This act is consolidates the law relating to forests with transit of forest-produce. This act provides protection and the conservation of the forests.
- **Factories Act 1948:** This act framed on 1948 and amended in 1987. It was first act to express guideline of healthy working environment for workers.
- **Part IVA -Art 51A-Fundamental Duties:** “Duty on every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.”
- **Part IV-Art 39(e), 47 and 48A(g)-Directive Principles of State Policies:** “The state shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.”
- **Part IV-Art 49:** The Directive Principles of State Policy provides for the obligation of the State to protect monuments, places and objects of national importance.

- **Part IVA-Art 36: Duties of state:** Principles are fundamental in the governance of the country and it is the duty of the state to apply environmental protection principles during the process of law making.
- **Part IVA-Art 51(c):** Directs the State to foster respect for international law and treaty obligations in the dealings of organized peoples with one another.
- **Part III-Art 21:** Right to pollution free environment and right to life.
- **Right to equality Art 14:** Article 14 considers guarantees to every person the right and the equal protection of the laws. This article also may be invoked to challenge governmental projects having adverse impact on the environment and its protection laws.
- **Art 19(1) (g):** This article provides freedom to all Indian citizens to select any profession but with environmental protection.
- **River Boards Act 1956:** This law empowers the states to enroll the central government in setting up an Advisory River Board to resolve issues in inter-state cooperation.
- **Merchant Shipping Act 1970:** This act provides the guidelines for waste arising from ships along the coastal areas within a specified extent.
- **The Wild Life Protection Act 1972:** This act framed on 1972 and amended in 1991. This act provides protection to birds, animals and all matters that connected to forests. This act expresses the strongly protection of the wild life by control poaching, smuggling and illegal trade in wildlife and its derivatives. This Act has made more stringent through amended in January 2003 by considered provision of punishment and penalty for offences.
- **The Water Act 1974:** This act provides prevention and control the water pollution and to preserve wholesomeness of water in the country.
- **Water (Prevention and Control of Pollution) Cess Act 1977:** This act provides guideline for the levy and collection of cess or fees on water consumption by industries and local authorities.
- **Water (Prevention and Control of Pollution) Cess Rules 1978:** This law has standard definitions and provisions of meters for every consumer of water.
- **The Forest Conservation Act 1980:** This act help to conserve the country's forests. It harshly restricts and regulates the use of forestland for non-forest purposes without the prior approval of Central Government.
- **The Air Act 1981:** This act provides the prevention, control and abatement of air pollution and views to implementation the abovementioned purposes by construct of boards at the central and state levels.

- **The Atomic Energy Act 1982:** This act provides the guidelines for use of the atomic energy without any misadventure.
- **The Environment Act 1986:** This act provides the protection and improvement of environment. The Environment Protection Act establishes the framework for studying, planning and implementing long-term requirements of environmental safety and laying down a system of speedy and adequate response to situations threatening the environment.
- **Public Liability Insurance Act, 1991:** This Act applies to all owners related to the production or handling of any hazardous chemicals.
- **Panchayats and the Municipalities Act 1992:** Constitution inflicts the duty to panchayats and the Municipalities to protect and preserve the environment by Act 1992 Seventy-third Amendment and the Act 1992 Seventy-fourth Amendment respectively.
- **National Environmental Appellate Authority Act 1997:** This act also provides the protection and improvement of environment. This Act has been formed to hear appeals with respect to restrictions of areas in which classes of industries etc. are carried out or prescribed subject to certain safeguards under the EPA.
- **National Environment Management Act (NEMA) 1998:** This act also provides guideline for the protection and improvement of environment.
- **The Environment (Siting for Industrial Projects) Rules, 1999:** This rule provides guideline relating to areas to be avoided for siting of industries, precautionary measures to be taken for site selecting as also the aspects of environmental protection which should have been incorporated during the implementation of the industrial development projects.
- **Noise Pollution (Regulation and Control) Rules, 2000:** There was no direct provision for 'noise pollution' under the any environment protection Act. The high noise levels in public places produces from various sources like industrial activity, generator sets, loud speakers, vehicular horns etc. have harmful effects on human health. It was a need of law, which would regulate and control noise pollution. Therefore, the Central Government framed 'The Noise Pollution (Regulation and Control) Rules, 2000'. The government has been set the ambient air quality standards and noise level for different areas such as industrial, commercial, residential areas and silence zones
- **The Ozone Depleting Substances (Regulation and Control) Rules 2000:** The main objective of this rule is protection of the Ozone layer by control production and consumption of ozone depleting substances. The rule restricts unauthorized sale, purchase, import, export and use of ozone depleting substance.

- **The Biological Diversity Act 2002:** This Act involved protection of biological resources and associated information as well as facilitating access to them in a sustainable manner.
- **The National Environment Policy of 2006:** This policy help to conservethecritical environmental resources, intra-generational equity-livelihood security for the poor,inter-generational equity,integration of environmental concerns in economic and social development,efficiency in environmental resource use and enhancement of resources for environmental conservation.
- **Recognition of Forest RightsAct 2006:** This act recognizes the rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers over the forest areas inhabited by them and provide a framework for according the same.
- **The National Green TribunalAct 2010:** This act expresses establishment of a National Green Tribunal (NGT) for the effective and expeditious clearance of cases relating to environment protection and conservation of forests and other natural resources.

Acts related to Hazardous Wastes Management

Management of the wastes is very important berceuse wastes are danger to health or environment.Several legislations directly or indirectly deal with hazardous waste management included the relevant legislations are the Factories Act, 1948, the Public Liability Insurance Act, 1991, the National Environment Tribunal Act, 1995 and rules and notifications under the Environmental Act. There are we discussed some of the rules dealing with hazardous waste management.

- **Biomedical Waste (Management and Handling) Rules, 1998:** This rule provides the guideline for proper disposal, segregation, transport, etc, of infectious wastes.
- **Municipal Solid Wastes (Management and Handling) Rules, 2000:** This rule provides the guideline for enabling municipalities to dispose municipal solid waste in a scientific manner.
- **Batteries (Management & Handling) Rule 2001:** This rule covenant with the appropriate and effective management and handling of lead acid batteries waste. This Act apply to all manufacturers, assemblers, re-conditioners, importers, dealers, auctioneers, bulk consumers, consumers.
- **Hazardous Wastes (Management, Handling and Transboundary) Rules, 2008:**This rule provides the guideline for manufacture, storage and import of hazardous chemicals and for management of hazardous wastes.The Ministry of Environment, Forest and Climate Change has formulated the draft Bio-Medical Waste (Management & Handling) Rules, 2015 (Draft BMW Rules).

- **E-Waste (Management and Handling) Rule, 2011:** This rule has been notified on 1st May, 2011 and came into effect from 1st May, 2012. The main objectives of this rule are alleviate the use of hazardous substances in electrical and electronic equipment by the specifying threshold for use of dangerous material and to channelize the e-waste produced in the country for environmentally sound recycling. This Rule apply to everyone that related to e-waste such as producer, consumer, collection Centre, dismantler and recycler etc.
- **Solid Waste Management Rules, 2015:** This rule provides the guideline for the solid waste management including it segregation at source, transportation of waste, treatment and final disposal.
- **Plastic Waste Management Rules 2016:** The Plastic Waste (Management and Handling) Rules 2011 notified in 2011. The Government has notified the Plastic Waste Management Rules 2016, in suppression of the earlier Plastic Waste (Management and Handling) Rules 2011. These rules provide the guidelines for use of plastics and plastic waste management. The Ministry of environment, Forest and Climate Change has amendment in Plastic Waste Management Rules 2016 as the Plastic Waste Management (Amendment) Rules 2018 on March 27, 2018.
- **Construction and Demolition Waste Management Rules 2016:** The Ministry of Environment, Forest and Climate Change notified the Construction & Demolition Waste Management Rules, 2016 on 29th March 2016. These rules are apply on every one who generates construction and demolition waste such as building materials, debris, rubble waste resulting from construction, re-modelling, repair and demolition of any civil structure of individual or organization or authority. Everyone who related to generate construction and demolition have duties of scientific management of construction and demolition waste.
- **Coastal Regulation Zone Notification 2019:** These norms issued under section 3 of the Environment Protection Act 1986. The aim of these norms are promote sustainable development based on scientific principles taking into account the natural hazards such as increasing sea levels due to global warming.

Conclusion

The human beings as well as animals need clean food, water and air it mean healthy environment. It is necessary to protect the ecosystem that makes survival possible. If we do not stop pollution, it is sure that the world will come to end. India has always been showing sensitivity for conservation and cleanness of the environment before and after freedom of India. Before the freedom, British-India was constructed the rules for the conservation of environment. After freedom, India has also played a major role in the development of environmental law for improve and conserve the environmental. It is also our duty to protect and improve the environment for the benefit of life in present and future.

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Amberlyst A-15: A Reusable Catalyst for Synthesis of substituted indolyimidazoles

Narendra Nirwan, Chandresh Pareek and Dushyant Pareek

*Heterocyclic Research Lab, Department of Chemistry, S.D. Govt. College, Beawar, India
nirwan21nk@gmail.com*

Abstract

The indolyimidazoles have shown various biological and pharmacological activities, such as anti-plasmodial, anti-depressants, protein kinase C inhibitor, interleukin-6 production inhibitor, Flt-1 and topoisomerase inhibitor, MRSA PK inhibitor, antimicrobial, antifungal, antibacterial, anti-urease, antioxidant and radio-sensitizing activities, cytotoxicity against murine tumour cells and P388 cells. In the current study, synthesis of 5-Substituted indolyimidazoles achieved by one-pot three-component condensation of benzil, indole-3-carbaldehyde and ammonium acetate under microwave irradiation using Amberlyst A-15 as a reusable catalyst. The key advantage of this process provides highly versatile, green, efficient one-pot, eco-friendly, very shorter reaction time, cost-effectiveness and reusability of catalyst, easy workup, and purification of product with excellent yields. All newly synthesized indolyimidazole derivatives were characterized by FT-IR, ¹HNMR and Mass spectral analysis.

Keywords: Eco-friendly, Reusable catalyst, Amberlyst-15, Microwave radiation



Synthesis of Chiral Ionic Liquid of CBS's catalyst for Asymmetric Reduction of Ketones

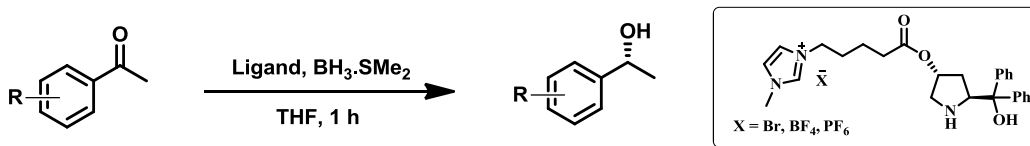
Narendra Pal Lamba and Manmohan Singh Chauhan

ASAS, Department of Chemistry, Amity University Rajasthan, Jaipur (INDIA)

Abstract

We have synthesized the chiral ionic liquid of CBS's catalyst with different anionic counter ions of ionic liquid. These ionic liquids have used for asymmetric reduction of acetophenone and their derivatives and provided 90% – 99% yield of relative alcohol with 48% – 87% ee. These ionic liquid was characterized by the NMR, IR, Mass and elemental analysis. The ionic liquid of CBS's

catalyst can be recovered and reused upto 5 cycles without significant loss in yield and ee of relative products.



Scheme 1: Asymmetric Reduction of aromatic ketones by I.L. attached CBS Catalyst

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Sustainable Management using Allelopathic Potential of Invasive Plants

Neerja Singh and M. K Saxena

Department of Botany, University of Rajasthan, Jaipur

neerjasingh03@gmail.com

Abstract

Alternanthera philoxeroides, *Eichhornia crassipes*, *Lantana camara*, *Parthenium hysterophorus*, and *Prosopis juliflora* are invasive plants of India. These invasive species are most productive due to their fast growing nature in non native regions. *Lantana camara* L. (family Verbenaceae) native to tropical and sub-tropical areas of America is an important invasive terrestrial plant. It encroaches natural ecosystem due to the presence of allelochemicals. *L. camara* possesses strong allelochemicals such as terpenoids, phenols and essential oils etc. Most of the invasive plants of India are allelopathic in nature. Biological control using allelopathy is an ecofriendly method of controlling pests viz., insects, mites, weeds and plant pathogens including fungi, bacteria and viruses causing various diseases. In this method the allelochemical potential of invasive species are used as a part of strategy for management of various ecosystems for sustainable protection of crops and useful plants. Biocontrol potential of invasive species can be used for sustainable management of agricultural ecosystems.

Keywords: Invasive, Allelochemicals, Allelopathy, Plant Pathogens, Biocontrol, Ecosystem

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Seedling Anatomy in Ipomoea purpurea of Convolvulaceae

Neetu Rawat and Kanchan Sharma

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India

Abstract

Primary tissue differentiation in two days old seedling was studied in *I. purpurea* of Convolvulaceae family. In the seedling of *I. purpurea* protophloem groups differentiate at alternate position to protoxylem groups and protophloem is first to differentiate followed by protoxylem group. There are four protoxylem groups alternating with the protophloem groups and differentiate at four different radii. Thus the root is tetrarch type with 4 exarch xylem and alternating phloem groups. In *I. purpurea* hypocotyls region is represented by four collateral vascular bundles. The cotyledonary node is unilacunar three trace type with split laterals.

Keywords *I. purpurea*, tetrarch, Unilacunar three trace, hypocotyls.

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Effect of Biosynthesized Silver nanoparticles in Wound Healing

Neha Saxena, Nidhi Gupta and Sreemoyee Chatterjee

Department of Biotechnology, IIS (deemed to be University), Jaipur

nh.saxena21@gmail.com

Abstract

Nanotechnology nowadays playing a dominant role in day to day life aspects. It deals with the production, manipulation and use of material ranging in nanometers. Recent developments in nanotechnology have shown that nanoparticles (structures smaller than 100 nm in at least one dimension) have a great potential as drug carriers. Because of their small sizes, the nanostructures exhibit unique physicochemical and biological properties. Among the metallic nanoparticles, silver nanoparticles (AgNPs) are a popular choice in disease management because of their specific interaction with and disruption of the mitochondrial respiratory chain. AgNPs disrupt mitochondrial function by inducing the generation of reactive oxygen species and suppressing ATP synthesis, which lead to DNA damage. With this view, the present study focused on the synthesis of silver nanoparticles by *Trachyspermum ammi* plant extract and application of this biosynthesized silver nanoparticles for the treatment of chronic wounds. In this study we focused on the biosynthesized nanoparticles due to a growing need to develop environmentally benign technologies in material

synthesis. Biomolecules present in plant extracts can be used to reduce metal ions to nanoparticles in a single-step green synthesis process. *Trachyspermum ammi* is a source of medicinally active compounds and have various pharmacological effects. The phytochemical investigation of this plant showed the presence of 50-55% essential oil, which contains active agents which have main influential role in the process of AgNPs synthesis. Although wounds are always problematic but chronic wounds as compared to acute wounds, are more troublesome. Chronic wounds are defined as wounds that fail to proceed through the normal phases of wound healing in an orderly and timely manner. In chronic wounds, bacterial colonization, biofilm production, and infection are huge global problems, compounded by the increased incidence of MDROs found in these wounds. Because variety of microorganism have developed the ability to survive exposure to an antibiotic. Antibiotic and antimicrobial resistance has become a crisis in health care so this alternative way to overcome the antibiotic and drug resistance of various microorganisms is needed desperately. Our study suggest that the TA-AgNPs loaded dressings act as a barrier to microorganisms and thus prevent secondary infections, while stimulating the wound-healing environment faster than the commercially available antiseptics.

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A Review: Emerging Sustainable Technique for Sea Water Treatment

Nisha Saini

*Kanoria PG Mahila Mahavidhyalya, Jaipur, Rajasthan
Missnishasaini1012@gmail.com*

Abstract

In this paper, a review of emerging sustainable technique for sea water treatment is presented. Water scarcity is one of the most serious global challenge of our time. The only methods to increase water supply beyond what is available from the hydrological cycle are desalination and water reuse. In this review, we assess the energy efficiency, the state of the technology, and the environmental challenges of seawater desalination.

Keywords: desalination, hydrological cycle, energy efficiency

Introduction

Desalination is a process that takes away mineral components from saline water. In general, desalination refers to the removal of salt and minerals from a target substance, as in soil desalination, which is an issue for agriculture. Salt water is desalinated to produce water suitable for human consumption or irrigation. Desalination is used on many seagoing ships and submarines.

Methods for desalination

There are several methods for desalination. The traditional process of desalination is distillation. Solar distillation, vacuum distillation, multi-stage flash distillation, multiple effect distillation, vapor compression distillation and reverse osmosis are common processes of desalination.

Limitations and challenges

Desalination is a possible solution but the projected expenditure for desalination equipment and system has been placed at \$ 15 billions over the next five years. The other problem is that most of companies that make desalination equipment see incredibly small profit margins, single digit in more cases, with a lot of competition.

Conclusion

As the world's population continues to grow, existing water supplies will become increasingly insufficient. As more and more water is required to meet mankind's needs, desalination of water will become an increasingly important source of useable water.

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Study of Avian Biodiversity around a Water Reservoir at Raipur District Pali of Rajasthan during Monsoon Period with Special Reference to Family Columbidae

¹Nisha Siroya and ²A. K. Siroya

¹*Assistant Professor, P. G. Dept. of Zoology, S. D. Govt. College Beawar (Rajasthan)
nishasiroya@ymail.com*

²*Associate Professor, P. G. Dept. of Zoology, S. D. Govt. College Beawar (Rajasthan)
(Affiliated with- M.D.S. University Ajmer, Rajasthan, India 305001)
dr.ashoksiroya@yahoo.com*

Abstract

Avian population also depends on water quality and plankton since it is an intermediate link between plankton and birds. Water is a prime natural resource, a basic human need and a precious national asset and hence its use needs appropriate planning, development and management. Hence quantitative study of avian biodiversity around a water reservoir at Raipur district Pali of Rajasthan during monsoon period with special reference to family Columbidae was conducted. This study of avian biodiversity are of great importance for all aspect, environmental as well as ecotourism development. Raipur is the tehsil headquarter of Pali district of the Rajasthan state. It is situated on National Highway No. - 14 and in the nearby area of Aravali mountain range. It is situated at 26.01714 latitude and 74.06450 longitude on the globe. Result revealed that area specified is rich in avian biodiversity having five species of Columbidae family.

Keywords: Avian Biodiversity, Columbidae and Water reservoir.

Introduction

Water is one of the most priceless gifts of nature on the Earth. It can be safely stated that water is the life line of our planet. The evolution of life on the Earth and the development of human civilization could have not been possible without water. Since the dawn of civilization, man had intimate relationships with water bodies. All the great civilizations of the world were centered around the water bodies. Avian population also depends on water quality and plankton since it is an intermediate link between plankton and birds. Water is a prime natural resource, a basic human need and a precious national asset and hence its use needs appropriate planning, development and management. Hence quantitative study of avian biodiversity around a water reservoir at Raipur district Pali of Rajasthan during monsoon period with special reference to family *Columbidae* was conducted, Urban biodiversity has received very little attention by conservation biologists as compared to natural and protected ecosystems thus the study of avian biodiversity are of great

importance for all aspect, environmental as well as ecotourism development for natural ecosystem. Raipur is the tehsil headquarter of Pali district of the Rajasthan state. It is situated on National Highway No. - 14 and in the nearby area of Aravali mountain range. It is situated at 26.01714 latitude and 74.06450 longitude on the globe and the water reservoir is located about 3 kms away from the populated area. Result revealed that area specified is rich in avian biodiversity having five species of *Columbidae* family. The health of reservoirs and their biological diversity are directly related to health of almost every component of the ecosystem.

Materials and methods

The observations were made usually early in the morning between 6 AM to 8 AM and in the evening between 5 PM, to 7 PM and occasional sightings of birds during non-birding trips were also included. Birds are the easiest of all animals to census as they are often brightly coloured, relatively easy to see and highly vocal. The bird census and monitoring is an extremely cost-effective way of monitoring the overall health of the ecosystem.

As per the status of birds in the wetlands, species were classified as:

Abbr.	Status
R	Resident
M	Migrates within the subcontinent
RM	Resident Migrant

Occurrence of birds in the study area was studied as different categories as:

Abbr.	Category	Number of birds sighted
VC	Very common	more than 10
C	Common	05 to 10
FC	Fairly common	02 to 05
UC	Uncommon	01 to 02

The identification of species was mainly based on the morphological observations and high-resolution close-up photographs using still and video, point and shoot digital camera using standard diagnostic keys.

Result and Discussion

Water is a prime natural resource, a basic human need and a precious national asset and hence its use needs appropriate planning, development and management. A study of avian biodiversity was conducted around a water reservoir at Raipur district Pali of Rajasthan during monsoon period of

2019 with special reference to family columbidae. An Annotated Checklist of Birds of Family Columbidae was prepared to enumerate the result. (Table-3.1)

Result revealed that area specified is rich in avian biodiversity having five species of Columbidae family viz: Rock Pigeon (*Columba livia*), Yellow Footed Green Pigeon (*Treronphoenicoptera*) Eurasian Collared Dove (*Streptopeliadecaocto*), Red Collared Dove (*Streptopeliatranquebarica*) and Laughing Dove (*Streptoelia senegalensis*). Out of these five species only single specie{ Red Collared Dove (*Streptopeliatranquebarica*)}was found Resident Migratory (RM) and rest were found Resident (R). Feeding habit of all species was peculiarly found Granivorous (G). According to the occurrence criterion first two birds were very common (VC), two were Common(C) and one was fairly common (FC). All species were found in all habitats, mainly undisturbed riparian habitat, some in scrub forest, and some in disturbed habitats.

Sr. No.	Systematic bird list	Status	Occurrence	Feeding Habits	Comments on habitat preferences
1	Rock Pigeon <i>Columba livia</i>	R	C	G	In all habitats, mainly undisturbed
2	Yellow Footed Green Pigeon <i>Treronphoenicoptera</i>	R	C	G	Mostly in riparian habitat, occasionally in scrub forest
3	Eurasian Collared Dove <i>Streptopeliadecaocto</i>	R	VC	G	Only in disturbed habitats
4	Red Collared Dove <i>Streptopeliatranquebarica</i>	RM	FC	G	Mostly in disturbed habitats
5	Laughing Dove <i>Streptoelia senegalensis</i>	R	VC	G	In all Habitats

Table-3.1Annotated Checklist of Birds of Family Columbidaearound a Water Reservoir At Raipur District Pali of Rajasthan during Monsoon Period

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Habitat preferences of Grey Jungle fowl and Aravalli Red Spur fowl in Southern Rajasthan

Pankaj Kumar Sen

*Aquatic toxicology and Wildlife research laboratory, M.L.S.U. Udaipur Rajasthan.
kumarsenpankaj86@gmail.com*

Abstract

The study area was limited to four protected areas (PA) of southern Rajasthan field surveys were carried out in all selected sanctuaries and its surroundings to collect information regarding presence and absence of both species *i.e.* Grey Jungle Fowl and Aravalli Red Spur fowl. The area was traversed on foot within the sanctuary and on vehicle along the road, on the periphery of the sanctuaries. This was done in order to get familiarized to the study area and to know the distributional limits of the species within the study area. In addition, a rapid assessment of different habitats was also carried out.

For study of habitat, all sites in study area were categorized into four types of forests according to density. These were: DDDF (Dense Dry Deciduous Forest), SDDF (Sparse Dry Deciduous Forest), TMF (Thorn Mixed Forest), MDF (Moist Dry Deciduous Forest). The average estimation of floral diversity, faunal diversity and pheasant diversity were done in each block of all PAs. Block wise land cover was also estimated in terrain and substrate used by both fowls regarding to their

population richness, to know their habitat preferences of habitat and land cover use. Common vegetation those were used by both species in all four PAs was also noted.

For analyzing microhabitat, all PA's were divided in five zones as- Upper, Middle, Lower zones on hills, Valley zone, and near human settlement. Wherever the species was encountered, a plot of 10 x 10 m dimension was laid to analyze microhabitat. In each plot, tree, shrub and grass species were recorded. Direct, calling and other evidences were also noted as percentage to know their habitat preference. Percentage of micro habitat zone preference in each Sanctuary was also determined.



Ecological Assessment and Management of Desert Biodiversity for Sustainable use

Partap Singh and Sharmila Chhallani

*Wildlife Laboratory, Govt. Dungar College, BIKANER 334001, Rajasthan
partapsk@gmail.com*

Abstract

The western Rajasthan known as the “Indian Thar Desert” is eastern extremity of the southeastern fringes of great Palaearctic desert extending from Sahara. Its geological boundary defined by Aravalli mountain range in east, plains of Indus of Pakistan in the west, the great Rann of Kachchh in south and by the Sub-Himalayan plains in north. Within the territory of India “Thar” forms a part of country's hot, hostile and harsh climatic zone. The Thar is one of the most populated deserts of world, where human population density is exceeds any other desert of the world. The region of sandy soil is recognized for several colourful ranges of trees and xeric vegetation. The forest cover in the region is less than one percent. In the faunal diversity it has a wide range of avian, reptilian and mammalian species. Despite all unfavourable climatic conditions, Rajasthan desert is a unique ecosystem having great diversity of desert adapted flora and fauna. The region is recognized for the richness of reptilian, avian and mammalian fauna. Among 65 mammal species found in the “Thar”, 32 species have Palaearctic affinities, 30 are Oriental and rest 3 species are endemic in their distribution. The great avifauna diversity in the Thar is due to its connection to Sahara (Persian and Arabian deserts), Palaearctic and Oriental bio-geographic regions. As many as 381 species of feathered creatures have been recorded from here. Due to recent ecological changes brought about by Indira Gandhi Canal and Global Climatic Changes, the diversity of the region is changing at a rapid pace. As many as 23 species of birds, reported by two English Naturalists in the late 19th

century, have vanished from the region and many mesic species are invading this fragile ecosystem. There are 5 species of frogs found in the Thar, but none of amphibian is endemic to the region. In Reptilian fauna, two Lizard species (*Phrynocephalus laungwalensis* and *Ablepharus grayanas*) and one snake (*Lytorchynchus paradoxus*) are endemic to the region. The dry climate of Thar was once considered very healthy but due to changed climatic conditions it has become a centre of many socio-economic, ecological and environmental problems. Thar desert attracts many birdwatchers and naturalists from all over the world and is an important eco-tourist destination. But due to changes brought about by changing environmental factors, many ecological problems are creeping in and these problems are working as a barrier for sustainable development of Thar. The fact is that Man is encroaching upon a unique habitat just to satiate its need and greed without taking into consideration its negative impact on sustainability of Thar.

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Water Purification Methods at Domestic Level

Prakash Chandra Dhabas and Narendra Nirwan

*S. D. Govt. College, Beawar
pkdabas2008@gmail.com*

Abstract

Water is the most essential natural resource for mankind. Water proposed for human expenditure should be both safe and nourishing. This has been distinct as water it means free from pathogenic agents, colour, odour and harmful chemical substances, pleasant to the taste and usable for domestic purposes. Without ample and safe drinking water, we cannot provide health care to the community. The various steps in a typical water purification system at domestic level involve Storage, Filtration and Disinfection.

Keywords: Nourishing, Chemical Substances, Domestic Purposes, Safe Drinking water

Introduction

Water is the most essential substance for survival of life. The availability of fresh and pure water on our blue planet is too short to fulfill our all needs. Such type of water is limited to 2.5-2.75% only of the total available water on the earth. Especially in our country this situation is more crucial as it is limited to only 4% of total available water. In case of our Rajasthan the situation is more severe as it is limited to below 1% only. Hence it is very essential to pay serious attention for Purification of water. There are various methods to purify water at both Small (Domestic) and large (Industrial) scale. Some most popular methods to purify Water at domestic level are as follows-

1. Boiling

Boiling is a very common method for destroying harmful organisms in water, and it is equally effective whether the water is clear or cloudy. It also removes hardness of water and soft water is produced. Boiling destroys all forms of harmful organisms usually encountered in water, whether they are bacteria, spores, cysts, or ova. The cost of fuel required to boil water varies with the type of fire, stove, and vessel. Under the conditions usually associated with the boiling of drinking water, it requires about 1 kg of wood to boil one liter of water (two pounds per quart). To be safe, water must be brought to a "rolling " boil. It is good practice to boil water in the same container in which it is to be cooled and stored. Boiling alters the taste of water because it drives out dissolved gases, particularly carbon dioxide. The frequent admonition to aerate water by stirring or by pouring from one container into another is badly founded, as this practice makes for a serious risk of recontamination in handling. Water left for a period of several hours, up to a day, in a partly filled container, where there is a good air surface exposed, even though the mouth of the container is covered, will lose most of the boiled taste. In any case, it is preferable to be reconciled to the innocuous taste of boiled water than to run the risk of drinking contaminated water.

2. Distillation

Distillation is also a good method of sanitization of water. Throughout this method all kinds of dissolved impurities can be removed even the volatile one as well. For this purpose first and last portion of the concentrate must be rejected because these portions may contain the volatile ingredients which may again contaminate the distilled water.

3. Filtration

Two types of filters are commonly used in the treatment of household water supplies. One is sand filter that is relatively coarse and second is ceramic filter that is of a finer texture. The household sand filter, removes cysts, ova, cercariae, and similar relatively large organisms, and strains out most of the crude and visible matter in suspension, although it may pass some fine turbidity or cloudiness. Sand filtration may be made more effective by first carefully treating the water with alum, as a result of which clear water can be obtained. Some household filters also contain charcoal. Charcoal has no purifying effect, its only function being to adsorb certain taste-producing compounds and to make the water "sweeter", but even this effect is lost unless the charcoal is frequently renewed. Household sand filters are not recommended unless the water is to be boiled or disinfected following filtration. With this reservation in mind, the household sand filter fills a definite place in water treatment. It can easily be made for household use wherever fine sand is to be found. The essential points in making a filter are, first, that the depth of sand through which water passes should be at least 60 cm (2 feet)-an additional 15 cm (6 inches) is, in fact, desirable-and, secondly, that the maximum rate of flow through the filter should not be greater than 3.6 litres per square metre per minute (4 gallons per square foot per hour). A simple filter can be constructed

from a steel drum 60 cm (24 inches) in diameter and 75 cm (30 inches) high, with the head cut out. Place the drum on a stand, with a container underneath, and drill a hole 2 mm (3/32 inch) in diameter in the bottom of the drum to serve as the filter outlet. Place a few centimetres of small stones, about pea-size, in the bottom of the drum and fill to within 10 cm (4 inches) of the top with rather fine sand. Make a hole in the side of the drum just below the top rim for an overflow, and insert a piece of pipe for an overflow line. To operate the filter, keep a continuous flow of water running into the top, just sufficient to keep the filter filled, with a slight overflow. It may be necessary to place a small disc on the surface of the sand under the inlet to prevent a hollow from forming in the sand.

A filter of these dimensions should deliver one litre per minute (12 gallons per hour) of clear water, suitable for chlorination. In operating such a filter, it is desirable to keep a continuous flow through the filter at all times. The rate of filtration may fall off in time, but the filter should be cleaned only at long intervals, possibly of several weeks or even months, since its efficiency depends on the biological growth on the surface of the sand. Trouble with green growths can be eliminated by covering the filter to keep it perfectly dark, since the green algae depend on light for growth. When it becomes necessary to clean the filter, a very thin layer, about 1/2 cm (1/4 inch) can be scraped off and discarded, following which the surface should be lightly raked or scratched to leave it loose. After several such cleanings, the sand should be restored to its initial level with clean sand after scraping the surface down to a clean level.

Ceramic filters

There are several types of ceramic filter, such as pressure filters, non-pressure filters, and filter pumps, and there is a wide range of ceramic media having different pore sizes. The heart of any of these is the filter candle, and the method of getting water through the candle is only a matter of convenience. Only clean water should be used with ceramic filters, otherwise, with cloudy or turbid water, the candles clog very quickly. Coarse-grained filter candles are useful in removing suspended matter, helminth ova, cercariae, and cysts. They may be only partially effective in removing the smaller disease organisms, and consequently water should be chlorinated or otherwise disinfected after passage through a coarse-grained or industrial-type filter. Porcelain filters are made with pore sizes from a radius of 50 μ or larger down to 0.30 μ . To be satisfactory for water purification, the maximum pore radius should be about 1.5 μ . Examples of such type filters are the Chamber land L2 and the scale 015. These and similar fine-grained porcelain filters will remove all disease organisms usually found in drinking water, and it is quite safe to use water after passage through such a filter without further treatment. Filters and their attachments should be carefully examined at frequent intervals to guard against cracks or leaks which might possibly permit unfiltered water to get by. Porcelain filters must be cleaned and boiled at intervals. If a filter gets coated or clogged, it should be scrubbed under running water with a stiff brush free from soap, grease, or oil, and then boiled for 15 or 20 minutes. Even if the filter does not clog, it should be cleaned and boiled at least

once a week. Another type of filter candle is known as the Kieselguhr, or infusorial or diatomaceous earth filter. Like the porcelain, this also is made with various pore sizes. The finer-grained types are efficient in removing all types of bacteria commonly found in water. Among the well-known Kieselguhr filters are the Berkefeld and Mandler filters. Their porosity is graded as V ("viel", or coarse), N (normal, or intermediate), and W 824 SMALL-SCALE PURIFICATION OF WATER ("wenig", or fine). The V filters are suitable only for the removal of suspended material, and following filtration with this type of candle, the water should be further treated to destroy the bacteria. The N filters remove the smallest bacteria, and it is safe to use water filtered through this grade without further treatment. The same care should be taken of Kieselguhr candles as of porcelain candles, except that they should be cleaned more frequently, at intervals of not longer than four or five days at the most. There is a special type of Kieselguhr candle, known as the "Katadyn" filter, in which the surface of the filter is coated with a silver catalyst in such a way that the porosity is not impaired, but the bacteria coming in contact with the surface are killed by oligodynamic action. Such a filter needs cleaning only when it becomes clogged. Filter candles can be mounted in a gravity-type filter, which consists of two reservoirs with the candle or candles attached to the upper one.

Water is simply poured in at the top, trickles through the ceramic candles, and is stored for use in the lower compartment. Another mounting is made where piped water is available under pressure. The candle is mounted in a pressure case which is attached directly to the water system, filtered water being drawn from the filter as needed. A third type is fitted with a hand pump. The suction tube is put into a vessel of water, and the pump is operated like a bicycle pump, the filter candle being inside. The filtered water is discharged through another tube. Any of these systems is satisfactory if suitable filter candles are selected. Water Storage No matter how much care is used in producing safe water, all the work will be nullified if the water is contaminated after treatment. Boiled or filtered water may be subject to immediate recontamination.

1. Chemicals

Various types of chemical agents used for disinfection of water are discussed as follows recontamination:

(a) Bleaching Powder (Chlorinated Lime):

Chemically it is CaOCl_2 . A fresh sample of bleaching powder contains 33% of available chlorine but on storage it loses chlorine content. Therefore bleaching powder is stored in dry, air-tight containers and at cool and dark places.

Roughly speaking 2.5 gm of a good quality of bleaching powder could be required to disinfect 1000 liters of water. Bleaching powder will not directly purify the turbid and polluted water. Therefore such water should first be treated with preliminary filtration and then subjected to chlorination.

(b) Chlorine tablets:

These tablets are good for disinfecting small quantities of water. They are available in different strengths for disinfecting various quantities of water. One tablet of 500 mg is sufficient for disinfecting 20 liters of water. These are available in the market under various trade names e.g. halazone tablets manufactured by the Boots company.

(c) Quick Lime (Calcium Oxide):

About 360 mg of slaked lime will disinfect 4.5 liters of water. It is cheap, easily available and quite effective. Therefore it is recommended for disinfecting wells and tanks in cholera outbreak. Disadvantage of quick lime is that large doses of it are required for disinfection of water i.e. 20 times than that of bleaching powder.

(d) High Test Hypochlorite (HTH):

It is a calcium compound and contains about 65 to 75 percent of available chlorine. This is much stable compound and 1 gm of HTH is needed for one cubic meter of water.

(e) Alum:

Although alum is not a germicidal yet It is used to purify muddy water and to remove turbidity. 60 to 240 mg of alum can purify 4-5 liters of water. Calcium carbonate which is present in all kinds of water also gets precipitated as calcium sulphate and aluminum hydrate. The suspended impurities as well as bacteria also get precipitated which are removed after filtration.

(f) Potassium Permanganate:

It is a strong oxidising agent and can kill cholera vibrios. It is used for disinfecting wells. Its dose is 0.5 parts per million (0.5 ppm). It is not suitable for disinfecting large volume of water. Its disadvantages are that it alters the taste, smell and colour of water thus treated.

1. Radiating water with ultraviolet rays

Ultraviolet lamps exude high-energy rays which kills harmful germs. Domestic water purifiers purify water in three stages. Water from the tap enters the purifier, where it gets filtered first through a candle and then through activated charcoal. The filtered water is finally irradiated by ultraviolet radiation to render it free from harmful microbes.

2. Water Storage

Water purification work will be nullified if the water is infected after conduct. Boiled or filtered water may be subject to immediate recontamination. Water treated with chlorine or iodine has residual defense which will deal with light recontamination for a considerable period of time. Even this residual effect eventually disappears, however, unless additions of chemical are made. It is very

important to keep the water clean. The principles are simple. Use clean vessels to store water; do not dip anything into the water; and keep the vessels covered to prevent the entrance of insects, dust, or other foreign substances. Cleanliness of the vessel involves periodic emptying, washing, and rinsing with scalding water, or with heavily chlorinated water, to prevent the accumulation of slime growths.

Conclusion

Water is most precious gift of God to us. We cannot imagine life without the water. Therefore, it is said that "Jal hai to Kalhai". This natural resource is limited and not easily renewable so this is our moral duty to have kept clean and keep conserve it to ensure sustainable development.

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New Inequalities among some Divergence Measures and Relative Arithmetic-geometric Divergence

Praphull Chhabra

*Associate Professor, Department of Mathematics, University of Engineering & Management, Jaipur
prf124@gmail.com*

Abstract

New information inequalities on new generalized f - divergence measure in terms of Relative Arithmetic- Geometric divergence and Renyi's entropy have been derived and further, some results for the Triangular discrimination, Chi- square divergence and Relative J - divergence have been obtained.

Keywords and phrases: New generalized f - divergence measure, Relative Arithmetic- Geometric divergence, Renyi's entropy, several means.



A Study on Air Quality Status during Diwali Festival at Ajmer City, Rajasthan

Praveen Mathur and Sushmita Choudhary

Department of Environmental Science, MDS University, Ajmer

Abstract

Diwali is the festival which is celebrating in India as a major festival. It is the festival of light and celebrated with lot of enthusiasm and the sky is illuminated by fireworks. These fireworks though create lot of air pollution in the atmosphere. The present study was conducted in order to understand the impact of crackers and related fireworks usage during Diwali festival. This paper tries to investigate the Air Quality changes during Diwali festival in Ajmer and compare it with the National Ambient Air Quality Standards. Hence in the present study PM₁₀, PM_{2.5}, SO₂, NO₂, were estimated at selected sites on Diwali, Pre Diwali and Post Diwali period. The concentration of PM₁₀ was found to be at a higher rate at Pre and Post Diwali period and the concentration significantly increase on the day of Diwali. On the day of Diwali, the levels of PM₁₀, PM_{2.5}, NO₂, SO₂ concentrations have been recorded as 137.39, 69.39, 7.75, 48.08 µg/m³ respectively.

Keywords: Diwali, PM₁₀, PM_{2.5}, Fireworks, Air pollution, Ambient Air Quality



Study of Isolation, Screening and Production of Lipase under Submerged and Solid-State Fermentation by the Fungus Isolated from the Soil Sample

Priya Chaudhary and Arun Kumar Sharma

Bansthali Vidhyapeeth University, Rajasthan

Abstract

In the present study, isolation of lipase producers was carried out from the five different soil samples and out of forty different fungal strains of different site soils, only the fourteen fungal isolates showed the lipase production on tributyrin agar media, rhodamine agar media, tween-20 agar media and phenol red agar media. Out of the fourteen isolates of fungi, the best lipase activity was shown by the one of the isolates of non-leguminous field soil sample i.e. 9.43 U/ml/min under the submerged fermentation condition after 72 hrs and 61.28 U/g/min under the solid-state fermentation conditions after 72 hrs. Statistical analysis of submerged and solid-state data by using

one-way ANOVA concluded that the value of F calculated was greater than the F tabulated so, the differences between the data was significant.

Keywords: lipase producer, submerged and solid-state fermentation, lipase activity, screening.



Toxicological Study of the Cadmium effects in Swiss Albino Mice

¹Priyanka Dadupanthi and ²Shilpa Bhargava

¹Head of Science Department, Biyani Girls College, Jaipur.

²Assistant Professor, Biyani Girls College, Jaipur.

hodscience@biyanicolleges.org

Abstract

Toxicity is an expression of being poisonous, representative the state of unfavorable effects cause by the interaction between toxicants and cells. The clinical usage of therapy is not acceptable without toxicity studies and clinical trial. Toxicology is the elementary science of poisons. In the present study, we determined the characterization of Cadmium induced toxicity in Swiss albino mice. Animals were divided into two groups, group A (Control) and group B (fed with Cadmium). Oral administration of 100mg/kg bodyweight Cadmium solution to Swiss albino mice for 10 weeks resulted in toxicity. For the duration of the experiment bodyweight and biochemical parameters (total cholesterol, total serum protein, serum creatinine and blood urea) were measured. Our study revealed that cadmium resulted in significantly increases in bodyweight, total cholesterol, creatinine, blood urea. However, total serum protein in cadmium fed mice group had significantly decrease as compare to control group. It is concluded from the experimental study that cadmium may increase of toxicity in Swiss albino mice.

Introduction

Toxicity is definite as any detrimental effect of chemical or a remedy on a target organism. Acute and subacute toxicities have been defined by a range of experts. The Organization for Economic Co-operation and Development panel of experts [1] defines acute toxicity as “the adverse special effects going on within a short time of administration of a single dose of a substance or numerous doses given within 24 hours and sub-acute toxicity as “the adverse effects occurring as a result of the continual daily dosing of chemical to experimental animals for fourteen days” [2]. Toxicity is

anphrase of being poisonous, representative the state of adverse effects cause by the interaction between toxicants and cells [3]. Toxicological studies are considered to be very vital in animals such as rats, mice, rabbits, monkeys, guinea pigs, dogs, and so on under different drug conditions to establish the safety and efficiency of a new drug. The decision whether a new drug can be used or not is dependent on toxicological studies. The clinical usage of remedy is not acceptable without toxicity studies and clinical trial. Toxicology is the fundamental science of poisons [4]. However, all substances are potential poisons since all of them can cause injury or death following excessive exposure [5]. On the other hand, all chemicals can be used undamaged if exposure of people or susceptible organisms to chemicals is kept below defined tolerable limits [6]. Suitable dose of a drug should be determined by preliminary studies of acute toxicity. Such studies are essential to prevent any overdose of drug which may interfere with results of experiment. Toxicity depends not only on the dose of the substance but also on the toxic properties of the substance. Cadmium (Cd) represents a carcinogenic metal [7] and it is a serious ecological and industrial pollutant. Industrial emissions, cigarette smoking and fertilization are a symbol of important source of cadmium revelation for humans. In the body cadmium accumulates predominantly in the liver, kidneys, reproductive tissues, etc. [8]. The adverse belongings of cadmium consist of oxidative damage in tissues. This effect is considered as an early sign of its toxicity and has been linked with carcinogenesis [9]. Cadmium (Cd) a everywhere heavy metal and an environmental pollutant, found in soil, water and air. On inhalation or ingestion, Cd has been establish to pose a potential threat and affects many systems in human and animals as an effect of environmental and industrial pollution. Cd has high influence in inducing toxicity over lungs, skeletal muscles by causing edematous emphysema, osteoporosis and osteomalacia, brain edema and hemorrhage and blood-brain barrier disruption [10, 11]. However, the likely acute effect of Cd on cerebral microvessel thrombosis and its link to systemic inflammation and oxidative stress has not been reported so far. The main objective of acute toxicity studies is to classify a single dose causing major adverse effects or life threatening toxicity, which often involves an estimation of the minimum dose causing lethality.

Material and Methods

Chemicals: Cadmium and all the chemicals used in the experiments were of analytical grade and purchased from Himedia Laboratories Private Limited. (Mumbai, India).

Animals: Swiss albino mice (6-7 week old weighing approximately 25-30 gm) were housed in polypropylene cages (3 animals per cage). The animals were kept during the experiment for full acclimatization in an air-conditioned animal room ($25 \pm 2^\circ\text{C}$) under a 12 h light/dark cycle. The animals had free access to standard pellet diet and water. All experimental procedure was performed in accordance with the recommendations found in the Guide for the Care and Use of Laboratory Animals and approved by the institutional Animal House and Use Committee of the Jayoti Vidyapeeth Women's University of Jaipur. Institutional ethical guidelines were also followed in all Experiments.

Induction of Cadmium in mice Cadmium was induced in Swiss albino mice by feeding 100 mg/kg body weight dose solution in water for 10 week that was prepared every day.

Experimental design The mice were divided into two groups comprising of 3 animals in each group as follow:-

Group I: - Control normal mice, received water and fed with standard pellet diet.

Group II: - Cadmium fed mice, fed with 100mg/kg body weight solution for 10 week.

Experimental procedure

Bodyweight Estimation: All animals were weighed every two weeks until the end of the experimental protocol.

Biochemical Estimation

The experiments were carried out for 10 weeks. During the experiment blood sample were obtained after the overnight from the tail vein of all the animals. Blood was left to clot and was centrifuged at 3000 rpm for 15 min. at 4°C for separating the serum which was frozen and stored at -20°C until biochemical analysis serum cholesterol (Zak's method), total serum protein (Lowry method); serum creatinine (Jaffe method) and blood urea level (DAM-TSC method) were performed.

Statistical analysis

All results are presented as mean \pm SEM. To determine the significant differences between the two groups were calculated using student t- test. *P* values of less than 0.05 were considered to be significant. All analyses were performed using IBM SPSS Statistics 20.

Results and Discussion

During the 10 week of experiment, the weight of Cadmium fed mice group significantly decreased from the first week until the end of the experiment when compared with control group. The mice fed cadmium showed a significant increase of cholesterol, serum creatinine and showed a significantly decrease of total protein as compared to the control group. Fructose induced mice were found to have significantly elevated blood urea level with the respect to the control group. The acute combined toxicity (LD50) test provided in sequence on the variety of doses that could be used in subsequent toxicity testing and estimate the therapeutic index of xenobiotics [12]. LDH is an index of the cell damage as well as hepatotoxicity and the endothelial disturbance in blood vessels. We observed an increase of LDH, although insignificant, is suggestive of the establishment of the cytolysis, which is a potential indication of membrane harm including the endothelial membranes in blood vessels [13].

Conclusion

Cd co-exposure had anstabilizer effect in the rats in the acute toxicity study. The sub-chronic oral toxicity study, in which a collective experimental animal model was created, showed that the main target organs of the toxic effects were blood, liver, kidneys, and testicle. Meanwhile, the changes of hematological and blood biochemical indicators were more sensitive in female animals.

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A Review: Waste Water Treatment

Priyanka Jangid

Kanoria PG Mahila Mahavidyalaya, Jaipur, Rajasthan

Priyankajangid88@gmail.com

Abstract

Waste water treatment is a process used to remove contaminants from waste water. The treatment of waste water is part of the field of sanitation. Biological process can be employed in the treatment of wastewater. There are four ways in which a water treatment plant can operate: effluent treatment, sewage treatment, common and combined effluent treatment and activated sludge treatment. Most industries produce some wastewater. Recent trends have been to minimize such production or to recycle treated wastewater within the production process.

Keywords: Waste Water Treatment, Sanitation, Effluent Treatment.

Introduction

Today, the world faces a water quality crisis resulting from continuous population growth, urbanization, land use change, industrialization etc. It is essential that waste water management be considered as part of an eco system based management.

Type of waste Water:

Waste water comes in three main types namely black water, gray water and yellow water. This is waste water that originates from toilet fixtures, dishwashers and food preparation sinks. It is made up of the entire thing that you can imagine going down the toilets, bath and sink drains.

Waste Water management: The aim of waste water treatment is to reduce the level of pollutants in the waste water before reuse or disposal into the environment, the standard of treatment required will be location and use specific.

Challenges in waste water treatment: There are many challenges facing waste water treatment plants, these are the four major topics – energy consumption, operators of waste water treatment, sludge production and reducing footprint.

Conclusion

Waste water can be reused to improve the scarce supply of fresh water and hold off future investment in water treatment plants. Waste water management should be done together with environmental and health risk management.

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Perception of farmers on the use of bio-pesticides – A survey in Ajmer region

¹Puja Dewanda and ²Sabiha Khan

¹*Department of Zoology, S.D. Govt. College, Beawar (Raj), India,*

²*Department of Zoology, Govt. College, Ajmer (Raj), India*

Abstract

Excessive use of chemical pesticides in farming is a serious matter of concern. The pesticide use has given rise to many alarming problems such health hazards, pesticide residue leaching in the food chain, threat to the biological controlling agents, adverse effects on the biodiversity, resistance developed by the pest against the pesticide and many more. The extensive and un-repairable damage caused to the ecosystem and biodiversity has urged the environment concerned researchers to find an alternative pest-management strategy. The potential of bio-pesticides for solving all the above mentioned problems has been known for many years. This paper investigates the perception of farmers on the use of bio-pesticides, especially those who are indulged in cauliflower cultivation. The study is based on a survey conducted in Ajmer district. Pest management and the problems developed due to extensive use of chemical pesticides were the focused points of the survey.

Keyword: biopesticides, survey, pesticides

Introduction

Cauliflower, *Brassica. Oleracea var. botrytis* is considered the most important, from agriculture point of view. 85.73 lakh ton of cauliflower was produced in India in the year 2014[1]. Farmers rely mainly on chemical pesticides and insecticides for the management of pest during agriculture practices[2]. Chemical pesticides are not only adversely affecting environment but also found to be alarmingly affecting human health and is responsible for causing fatal diseases like cancer, hypertension, neurological disorders, birth defects and many more. It is of serious concern that the farmer who grow crop for us, are always in direct contact with the pesticides and suffer the most. Perceiving the problem, The Ministry of Agriculture and the Department of Biotechnology of India, is encouraging researchers for developing novel bio-pesticides and its production. However, in spite of these efforts, in India the awareness and use of bio-pesticide is still lagging behind.

In Ajmer (Rajasthan) region, cauliflower is mainly cultivated in areas -Pushkar, Kishanpura, Bhagwanpura, Datanda, Makreda, Pisangan, Daurai, Tabiji, Khanpura and Pal Bichhla[3]. Keeping in mind, all the problems associated to pest management, a survey was conducted in and around Ajmer city especially in Khanpura and Pal Bichhla regions.

Method

The farmers were interviewed, using a questionnaire. The questions of the questionnaire were of “multiple choice type” and were focused on the pest management related problems encountered by the farmers. It also included question related to the eco- friendly options available to them. The outcomes of the questionnaire were tabulated, analyzed and percentage of the answers given was calculated to draw conclusion.

Result and Discussion

The survey revealed that 65.71% of the farmers of Ajmer, stated pest as the major problem encountered by them during cauliflower cultivation. Analysis of the questionnaire also showed that marked percent (85.72%) of farmers rely on chemical pesticides for combating the threat of *Plutella xylostella* – very notorious pest of crucifer (figure 1). But maximum of the farmers were not satisfied with the chemical pesticides in terms of monetary profit, as these pesticides cost a lot and reduces farmer’s profit [4]. Investigating health related problems associated to the pesticides, it was found that 12.86% of the farmers reported eye related problem while 62.86% of the farmers stated that they suffered skin related problems during the spray of chemicals in the farms. 97.14 % of the farmers welcomed the introduction of a cheaper and eco-friendly bio-pesticide for pest management.

The survey findings can be corroborated with the outcomes of the survey conducted by Sivaparnagasam and others [6], they concluded, that surveys are essential for developing a successful crop management strategy. A survey gives a picture of the attitudes and behavior and also the agricultural practices adopted by the local farmers. On health issues front, the investigation were in support to the findings of Patil, 2012 [5] who conducted a survey in the Sirol region of Maharashtra and reported that the agriculture labourers, who were spraying chemical pesticide in the farms experienced associated health issues.

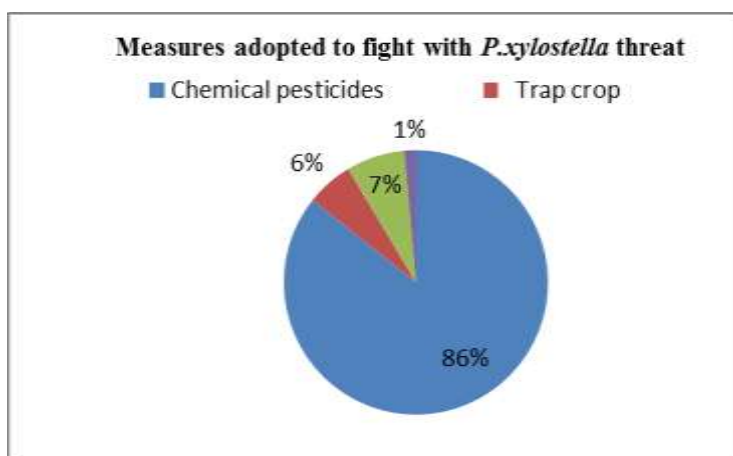


Figure.1

Conclusion

On the basis of the results of the survey, it may be concluded that farmers of Ajmer region are changing their perspective towards pest management strategies and are ready to welcome eco-friendly technologies. Biopesticides is among one of them.

Acknowledgement

We thank S.P.S., Govt. College, Ajmer, India, for providing facilities in the Department of Zoology, during this study. We gratefully acknowledge Research Fellowship provided by the University Grants Commission for this work.

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Impacts of Environmental Degradation on Human Health

Pushpa Mourya

Assistant Professor of Zoology, Government Science College, Sikar

Abstract

Environmental degradation can have a significant impact on human health. Estimates of the share of environmentrelated human health loss are as high as 5% for high-income OECD countries, 8% for middle-income OECD countries and 13% for non-OECD countries. Environmental degradation is the disintegration of the earth or deterioration of the environment through consumption of assets, for example, air, water and soil; the destruction of environments and the eradication of wildlife. Environmental degradation results from factors such as urbanisation, population growth, intensification of agriculture, rising energy use and transportation, climate change, pollutions arising from many sources such as technological activities. It is explored that as a result of the dynamic interplay of socio-economic factors and technological activities amongst many other factors, these have devastating consequences on human health. The article recommends that Human beings are entitled to right to health even as the environment needs to be protected from activities which cause environmental degradation

Keywords: Environment, Environmental Degradation, Right to Health, climate change



Performance Evaluation of an optical transmission system using DCF and EDFA amplifier

Raj Kumar Gupta

*Ph.D scholar, Dept of ECE, Rajasthan Technical University, Kota, India
guptarajkumar.19@gmail.com*

Abstract

When a signal travel through an optical fiber for a long distance it get attenuated and dispersed. Due to these problems original signal cannot be received. In this paper combinations of amplification and dispersion compensation techniques are used to overcome the problem. FBG (Fiber Bragg Grating) and DCF (dispersion compensation fiber) are used as dispersion compensation techniques and EDFA (Erbium doped fiber amplifier) and Raman amplifier are used for amplification. The results are compared in terms of bit error rate (BER) and Q factor with different combination. It is found that combination of DCF with EDFA gives good result in terms of PWRP (pulse width reduction percentage) with a better pulse quality.

Keyword: optical fiber, erbium doped fiber amplifier, dispersion compensation fiber, bit error rate.



Climate Change Impact on Agriculture, Livestock and Health & Education in Sahariya Tribal Community living in Baran, Rajasthan

¹Ramkaran Jat and ²Amit Kumar Poonia

*¹Ph.D. Scholar, MLSU, Udaipur, ²Ph.D Scholar, University of Delhi
ramkarancuraj@gmail.com, amit999poonia@gamil.com*

Abstract

In India drastic effects and trends of the climate change are seen in the last few years in the form of natural disaster, increased in pollution and raised sea level and change in the monsoon pattern etc. In Rajasthan around two third of its population (56.5 million) is still dependent on agricultural activities for their livelihood. Only 34.5 per cent of the net sown area is irrigated. Climate change is

one of the greatest challenges of our time. Fossil fuel burning and deforestation have emerged as principal anthropogenic sources of rising atmospheric carbon dioxide (CO₂) and other green-house gases and consequential global warming. Proxy records of variability in temperature, precipitation, sea level and extreme weather events provide collateral evidence of global climate change.

Keywords: Climate change, Impact on Agriculture, Health & Education in Tribal Community

Introduction

In the present scenario climate change is a burning and debatable issue for every country of common concern. The scientists, scientific and environmental organizations and government of every country having prudent conscience, that the changing climate is a result of the human activities. And India is not left behind from getting the effects of climate change, although India is food self-sufficient country where agriculture is an important component of the economy.

Methodology

The aim of the present study was to understand the impact of climate change on tribal community in Shahabad, Rajasthan. A qualitative research approach was adapted for the present study. The researcher visited 15 different village of Shahbad and conducted Focussed Group Discussion with the Sahariya tribal community residents of these villages. The impact of climate change was evaluated with the help of thematic analysis on different themes of life related to Agriculture, livestock, livelihood, education and health etc. Due to change in climate their crop yield of wheat, mustard, gram, maize and soyabeans has decreased. So to cope with crop failure they have changed their crops and even some of them stopped farming like Fenugreek, Groundnut crop yield is very much affected. Scanty of rainfall and increase in the days of summer, no fodder and grasses are left on the bank of the river and in the pasture land for animals to feed due to which milk production is decreased. Buffaloes are yielding from 1 to 2 kg and cows are 500 gm to 1 kg. A greater impact is seen on the education on tribal community.

Results

The tribal people consider education as useless, as they are trained in hunting and gathering the food. During the past six decades as deforestation has been occurring, in the name of development many tribals were displaced and consequently forced migration occurred. Overwhelming evidence shows that climate change presents growing threats to public health security - from extreme weather related disasters to wider spread of such vector-borne diseases as malaria and dengue. The impacts of climate on human health will not be evenly distributed around the world. The Third Assessment Report (Intergovernmental Panel on Climate Change-2001) concluded that vulnerability to climate change is a function of exposure, sensitivity, and adaptive capacity.

Conclusion

In light of the above information and discussion it is suggested that proper facilities for living must be provided by the government. The contractors who engage these people in labour works should provide proper shelter, health accessibility, and education for children and many other facilities under their CSR practices. The Govt. of Rajasthan should have a wider role in preparing policy for protection and help of these people.

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Enviornmental Accounting: An Essential Component of Business

Ramswroop Bhambi

*Assistant professor, S.D. Govt. College, Beawar
bhambiramswroop@gmail.com*

Abstract

Environmental accounting is a field that identifies resource use, measures and communicates cost of a company's or national economic impact on the environment. Costs includes cost to clean up or remediate contaminated sites, environmental fines, penalties and taxes, purchase of pollution prevention technologies and waste management costs. Environmental accounting is an important tool for understanding the role played by the natural environment in the economy. Environmental accounts provide data which highlights both the contribution of natural resources to economic well-being and the cost imposed by pollution or resource degradation. Environmental accounting is frequently used within the accounting and environmental management literatures. Environmental accounting is broader term that relates to the provision of environmental performances related information to Stake holders both within and outside, an organization. In this paper environment accounting its position, costing, role, applications and necessities has been discussed.

Keywords: contaminated sites, waste management, resource degradation, costing.

□□□

Improvisation in Plant Breeding by Using Mutagenesis as Genetic Tool

Reema Srivastava and Yogita Solanki

Assistant Professor, Department of Botany, Kanoria PG Mahila Mahavidyalaya, Jaipur

Abstract

Plant breeding began as early as 10,000 BC during the Neolithic revolution, when tribes of hunter-gatherers started their shift towards a sedentary and agrarian society. Domestication of crop plants seems to have taken place simultaneously in several subtropical regions, across Central Africa, Western South America, Southeast Asia and the Mediterranean during this period. During crop evolution there has been a continuous reduction in genetic diversity as breeders have increasingly focused on so called "elite" cultivars. This genetic erosion eventually became a bottleneck and various techniques to induce mutations and artificially increase variation emerged in the middle of the last century. Mutagenesis, a key of genetical research occupies prime position in biological research from viruses to the plants, animals and humans in every country not only because of the understanding of the mechanism of mutation and factors that has help to elucidate the basic aspects of life phenomenon but also because it has profitably been utilised in raising a large number of economically superior and desirable genotypes big crop plants. The application of mutagenesis in agriculture for improving the crop plants presentated a new departure from the conventional breeding method. Mutation breeding helps in greater magnitude of variability in various plant traits in a comparatively shorter time. Only through a careful screening and programs the magnitude of genetic variability induced by physical and chemical mutagens could be exploited for obtaining the desirable lines. Mutation provide an opportunity to create hitherto unknown alleles so that the plant breeders does not remain handicapped because of limited allelic variation at one or more gene loci of interest. The induction of mutation has been accepted as a useful tool in the plant breeding programme. The success in plant improvement programs depends basically on controlling and directing the induced mutation process for the production of desired mutations. Mutation breeding is also used to improve a single feature in a variety. It is also a creation of genetic variability which enhances the scope for selection.

□□□

Host-Guest Chemistry: A Strategy of Sustainability

¹**Rekha Vijay**, ²**Barkha Shrivastava** and ³**Poonam Hariyani**

^{1,2}*Department of Chemistry, Jaipur Engineering College & Research Centre, Jaipur*

³*Department of Chemistry, JECRC University, Jaipur
poonamgck.09@gmail.com*

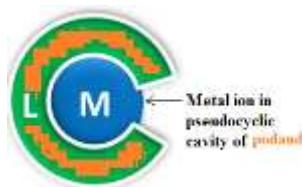
Abstract

Host-guest chemistry deals with development with biology and physics. It provides the framework for the design of molecules with interactive properties. The engineering and molecular approach can be used to incorporate the extensive properties using nanotechnology viz. conductivity, magnetism, polarizability, molecular recognition, catalytic activity *etc.*

Keywords : extensive, nanotechnology, catalytic

Introduction

The key feature of supramolecular chemistry is its ability to reorganize and exchange molecules till the correct combination of building blocks is selected from a collection of different molecular components for the development of thermodynamically and kinetically favored supramolecular entity. Within the general class of supramolecular ligands and host compounds, the alignment of donor atoms in an open-chain framework is the structural feature of a podand.



The first step in ionophore tailoring/designing is a clear definition and careful consideration of the target viz. electronic and size complementarity, enthalpy and entropic contributions, cooperativity and chelate effect, hydrophobic effects *etc.* Due to these cooperative interactions (non-covalent) or cooperativity, the free energy change (ΔG) is either decreased or increased.

Conclusion

The fabrication of supramolecular materials has the applications in nanomedicine, sensors, green chemistry *etc.* Molecular modeling is done by computational approach at atomic, molecular and supramolecular behavior to generate the information about any number of properties. Newton-Raphson method, Ab initio method, semiempirical methods are based on minimum energy, density functions and neglect of diatomic differential overlap (NDDO) approximation respectively.

Molecular machines are capable of showing controlled repetitive motion and function at the nanoscale. Thus, such materials have great potential in the field of nanotechnology.

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□□□

Morphology Related Toxic Symptoms in Swiss Albino Mice Exposed to Acrylamide

Renu Sharma

S. S. Jain Subodh Girls PG College, Sanganer, Jaipur

Abstract

Acrylamide is a common chemical which is used in both industrial and laboratory processes and also has its occurrence in heated starchy foods. The co-polymers and polymers of acrylamide have a wide range of applications, e.g. treatment of drinking water, waste water, soil and sand; processing of crude oil, paper, minerals, concrete and textiles. In present study mice (*Mus musculus*) were divided in 3 groups and exposed to 0.01%, 0.03% and 0.05% of acrylamide via drinking water. No mortality was observed in all groups. Toxicity related morphological and behavioral symptoms like weakness, crossing, dragging and splaying of hind limbs, sluggish movements, bizarre behavior were well prominent in all experimental animals. Other symptoms included deformed abdomen, tumor on eye and body, reduced body size, irritation, erectness in tail, hair loss, blood spots, cuts and lesions along with redness on skin. A continuous reduction in body weight gain was also noticed in each experimental group with advancement of exposure.

□□□

Soy Infant Formula: Experiment on Child Health

¹Renuka Verma and ²Arun Sahu

*¹HOD of Science, Tirupati College, ²Assistant Professor Mathematics, Tirupati College
renuka.verma@hotmail.com*

Abstract

Soy infant formula initially developed for lactose intolerant infants, this formula is completely free from cow milk protein. Recent research shows soy infant formula is an experiment with our child's health because it contains 4,500 times phytoestrogen compared to breast milk or cow's milk. We spoil their childhood and taking them towards adulthood.

Keywords: Soy infant formula, phytoestrogen.

Introduction

The biggest reason for using soy infant formula is who are lactose intolerant or cannot digest breast milk. But in today's modern life women have made them addicted to this formula, without knowing their harmful effect on child's health. Soy infant formula contains isoflavones. Soy isoflavones have been shown to bind and activate estrogen receptors and responsible for early adulthood in child. Soy isoflavones also called phytoestrogen because they are not true estrogen but act like that. It may be responsible for reproductive system cancers in early exposure children. Infants who consume that may suffer from diarrhoea and indigestion, because it is very hard to digest by infants. Research shows that children used it by their childhood may reach early to puberty stages. According to IlraTesta et al, early exposure of soy protein in infants may be fatal to their life and shown modest increase in breast tissue in 2 years of age, early puberty and longer menstrual period.

Methods

Searches were conducted with different keywords such as soy infant, elemental diet and phytoestrogen. Original research papers, online survey reports of health organization and review articles from peer-reviewed journal were chosen for review study.

Conclusion and future aspects

These differences are slightly small but it is alarm for us, stop experimenting with child health and save their childhood before it was a history. No formula can replace breast milk. Health professional suggested these for some special cases not for all. Further studies are needed to evaluate the problem.

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Biopurification using Natural Coagulant for Waste Water Treatment

Rinku Kumari, Vipul Dev Beniwal and Sushma Jain

*Department of Zoology, Vidya Bhawan Rural Institute, Udaipur, Rajasthan
sushma1830@yahoo.com*

Abstract

Majority of population in India still lives in villages and small towns. This people obtain water supply from unprotected sources. We used *Prosopis cinraria* and *Osimum sanctum* (seed and leaf powder) to purify polluted water. Tulsi leaf extract have great potential as antimicrobial agent for the treatment of water. *Prosopis cinraria* known for its antimicrobial and anticoagulant property. The endosperm portion of *prosopis* seed contains galactomannan gum, these gum have capability to act as thickening agent. Galactomannans can act as Coagulant, flocculent agent for treating waste water. We used plant extract to purify water. These purification method help all the people who lives at villages, where latest purification system is not available and this method have no cost.

Key Words: water pollution, natural coagulant, plant extract,



Isolation and Screening of Extracellular Amylase Producing Fungi from Soil

Ritika

Research Scholar, Banasthali Vidyapeeth, Rajasthan

Abstract

Amylases are the hydrolytic enzyme that catalyzes the degradation of starch and related polysaccharides to simpler sugar. They are widely distributed among plants, animals, microbes and commercially important in saccharification processes in brewing, in pharmaceuticals, food, textile and detergent industries. The objective of present study was to isolate amylase producing fungi from different soil samples. Among 17 fungal isolates, only 3 fungal isolates demonstrated zone of hydrolysis around the colonies on starch agar plate. Six isolates were not able to grow on starch agar plates and nine isolates were growing without amylase production.

Keywords: Amylase, starch agar media, fungi.



Microbial Transformation: Characteristics and Techniques

Ritu Saharan

*Department of Chemistry, University of Rajasthan, Jaipur, 302004, India
ritu.saharan84@gmail.com*

Abstract

Microbial transformation is an ecofriendly technology. Microbial assisted reactions are green, takes place at mild temperature and neutral pH, economical viable, have regio, chemo and stereoselectivity. Microbial catalysts are used to synthesize drug analogs and then evaluation has been done for their antimicrobial, pharmacological activity, drug toxicity and pharmacokinetics by comparing with parent compounds. Microbial transformation is also used to evaluate drug metabolism in mammalian species.

Keywords: Microbial transformation, ecofriendly, stereo selectivity, pharmacological activity

Introduction

In recent years, microbial biotransformation is growing significantly role in green chemistry and synthesis of pharmaceutical products [1-2]. The involvement of enzymes and microorganisms in biotechnology field can hindered unwanted side reactions and offer a reduced amount of hazardous & toxic products compared to chemical catalysts. Now a days, bioconversion has a large number of applications [3-4]. Microbial catalysts are highly specific in their nature and boost rate of reaction than chemical catalysts and under mild reaction conditions offer high reaction rates. The microbial biotransformation is recognized as significant synthesis tool in chemical and pharmaceutical industries [5].

Characteristics of microbial transformation

Microbial transformation has certain characteristics which are

- I. Reaction Specificity:** These reaction are specific. No side product is produced i.e. homogeneous product is obtained.
- II. Stereospecific Reaction:** Theracemates have been resolved by use of enzymes as they convert exclusively one of the existing enantiomers. The stereo chemical arrangement / configuration of the substituent are directed in such a manner that only one of the potential enantiomer is formed. As a result the optically active product with high enantiomeric excess is obtained.
- III. Regiospecific Reaction:** If in a reaction, several functional groups having similar reactivity are present, a biocatalyst only attacks at specific functional group or position of substrate.
- IV. Mild Reaction Conditions:** Microbial transformations are carried out in mild conditions and in universal solvent water without toxic chemicals. In biocatalytic reduction isopropanol, ethanol, glucose, sucrose etc. are taken instead of explosive hydrogen gas. The activation energy of microbial transformation is lowered due to formation of enzyme-substrate complex which results enhance catalytic activity.
- V. Natural catalysts:** In microbial transformation, the biocatalyst is green as it can regenerate or biodegradable in nature. Therefore does not cause environmental pollution. This make these reactions to be ecofriendly.

Technique of microbial transformation

Numerous microbial transformation have effectively been performed by using microbial catalysts that are commercially accessible, such as a number of extracted enzymes & free cells of active microorganisms. Microbial transformation methodology involves-

- i) The Starting Material / Substrate:** In reduction reaction, substrate's structure affect enantioselectivity. In an effective biotransformation there should be interaction between

the substrate and the enzyme. Generally a culture of biological entity or a disinfected concentrated solution in organic solvents / water is used to feed the substrate.

- ii) **Selection of the microbial catalysts:** In microbial transformation, substrate is converted to a desired product by using microorganisms. In this process purified enzymes can also be used but it introduces numerous steps to obtain purified enzymes.
- iii) **Solvent selection:** Microbial transformation can be performed in various solvents such as water, glycerol benzene etc. & altered products are obtained in each solvent.
- iv) **Reaction condition optimization:** The dried mass of cells of biocatalyst has been stored for a long time and when necessary, this dried cell mass can be used in microbial catalysis. The acetone dehydration is used to dehydrate cell mass. The enantioselectivity of a chemical reaction has been affected by temperature.
- v) **Product Isolation:** Filtration or centrifugation has been used to separate the biomass (cell mass) from reaction medium and products are obtained from the supernatant or from whole broth. Product isolation can be done using adsorption on polymeric resins, ion exchange, extraction, precipitation and distillation methods. The raw product has been purified by drying, crystallization, aerated distillation and chromatographic techniques such as High Performance Liquid Chromatography (HPLC) and preparative gas chromatography.

Biotechnical development work: For fruitful design of chemical and biotechnological synthesis, there should be deep collaboration between chemist and biotechnologist. The selection of suitable microorganism has been carried out by extensive screening in order to develop a new reaction sequence in microbial transformation. Biotechnical development work includes the following steps:-

- To optimize microbial transformation conditions such as medium of reaction, pH, temperature, agitation, feeding of substrate and cultivation of biomass.
- Genetic engineering or conventional methods for improvement of strain.
- Development engineering such as design and production of suitable manufacture skill.
- Expansion of an effective isolation of product.
- Design of cost effective products.
- Scaling up.

Conclusion

The area of research focused on microbial catalysis is in emerging phase and deals with significant role of microbial catalysis to synthesize organic compounds. Microbial transformation is a pronounced ideal scheme to offer medicinal and bioactive compounds. Various techniques of optimization i.e. reaction medium, pH, temperature, agitation, cultivation of biomass have to be opted for successful and economical viable microbial transformations. In future, genetic engineering

or conventional methods for improvement of strain, design and production of suitable manufacturing skill and product optimization, in alter microbial synthesis via. biocatalyst or microorganisms will offer cost effective biosynthetic processes.

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Effect of MHD with Free Convective Flow through Heated Vertical Channel Partially filled with Porous Medium in the Presence of Thermal Radiation

Ruchi Saboo

*Department of Mathematics, S. S. Jain Subodh P.G. MahilaMahavidhalya, Jaipur
ruchisaboo@gmail.com*

Abstract

The objective of the present research is to analyze the effect of thermal radiation on fully developed free convective flow of electrically conducting viscous incompressible fluid through the heated vertical channel with the existence of transverse magnetic field. The geometry of the channel is investigated analytically with one clear region and other region filled with a porous medium. The effect of various physical parameters on flow rate, fluid temperature are obtained and shown graphically. In addition, Skin-friction coefficient and rate of heat transfer are also considered at both the walls of the channel.

Keywords: MHD, free convection, porous medium, vertical channel.

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Water Pollution: Impact on Health and Treatment Techniques

Rukshar

*Department of Chemistry, Kanoria Mahila Mahavidyalaya, Jaipur, Rajasthan
rukchem1990@gmail.com*

Abstract

Water is very important for the life on earth. Most of the body contains water. Even our planet earth also contains only 30% land, all the other part is having water. Water helps to digest food and also increase metabolism in our body. It is also essential for the growth of farm crops and farm stock and is used in the manufacture of many products.

But nowadays water is contaminated by chemical waste by industries, inadequate sewage collection and treatment, increase in fertilizers to produce more food. In human infectious diseases can be spread through contaminated water. It also kills organism that depend on these water bodies. Pollution disrupts the natural food chain as well. water pollution can be treated by various techniques.

Keywords: water pollution, effect on health, waste water treatment

Introduction

Availability of pure water control the major part of the world economy .The sufficient water supply is necessary for human health, agriculture and industry But water contamination is a common problem to all over the world. Water pollution is the contamination of water bodies, usually as a result of human activities. Water bodies include lake, rivers, oceans, aquifers and groundwater. Water is polluted by waste and sewage, industrial waste, fossil fuels, sewer line leaks, fertilizers, pesticides, plastics.

Effects of water pollution

Sewage discharged into coastal waters can wash up on beaches and cause a health hazard people who bath or surf in the water can fall ill if they swallow polluted water. Polluted water also poisoned the water animals. People can get diseases such as hepatitis by eating sea food that has been poisoned. In many poor nations, there is always out break of cholera and diseases as a result of poor drinking water treatment form contaminated waters.

Water treatment technologies

Nowadays, recent attention has been focused on the development of more effective, economically feasible methods for waste water treatment. A number of methods such as coagulation, membrane

process, adsorption, dialysis, osmosis photo catalytic degradation and biological methods have been used for the removal of toxic pollutants from water and waste water.

Conclusion

Therefore, water pollution is indeed a very serious problem because it not only has an impact on health but also can have negative effect on various industries agriculture. Solutions are to educate youngChildren about the issue, cleaning projects and more natural resources.

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Male Contraceptive Drug from plant Cassia tora

¹Samiya Khan and ²Pratap Chand Mali

¹Lecturer, Department of Zoology, ¹S.S.Jain Subodh Girls College, Sanganer, Jaipur, Rajasthan

²Associate Professor, Reproductive Biomedicine and Natural Product Lab, Reproductive Physiology Section, Centre for Advanced Studies, Department of Zoology, University of Raj., Jaipur
mailtosamiya@gmail.com

Abstract

The projected population growth will cause severe competition for existing resources, not to mention the issue of overcrowding of the planet and additional greenhouse gases that will have an adverse effect on the ecological health of the planet. Male and female hormones are produced in both sexes. It is easier to regulate the production of millions of fertile spermatozoa every day in men than to control a monthly event of ovulation in women. Thus, the contraceptive options for men have not changed in decades and are still limited to the use of condoms, a timely withdrawal/pulling

out (coitus interruptus) or vasectomy, a minor surgical procedure in which the vas deferens is occluded to prevent the release of spermatozoa during ejaculation. Our intention is to discuss the details of three similar approaches that will provide safe, affordable and reversible contraception for men and are close to being approved for use by millions of men around the globe. The availability of safe, reversible and reliable male contraceptives will allow men and women to take full control of their fertility in family planning. There are some methods of birth control that are specifically for boys, some that are specifically for girls, and abstinence (not having sex), which anyone can practice. Hormonal methods of birth control use hormones estrogen or progesterone, to prevent ovulation. Hormonal male contraception uses injected, implanted, or taken orally hormones to stop sperm production, but this would reverse when the contraception is no longer used. Androgens play an important role in development of male secondary sexual characteristics, and androgen deficiency may result in structural abnormalities. *Cassia tora* fruit and seed extracts treatment effects show androgen suppressive effect on spermatogenesis. Thus the significant reduction appeared in androgens, in sperm motility and reduced fertilizing ability of sperms of extracts treated rats at different dose levels support antispermatogenic activity of plant *Cassia tora*.



Development and Treatment of Textile Waste Water by Using Microbiological Processes and Root-Bed Treatment in Jhunjhunu, Rajasthan, India

Sandeep Kumar and Sushil Kumar Barolia

Department of Biotechnology, Shri Jagdishprasad Jhabarmal Tibrewala University Jhunjhunu, Rajasthan, India

Abstract

Textile wastes often have an intense color, with high concentrations of dyes, dyeing of various chemicals, additives, and some are non-biodegradable and toxic, mutagenic or carcinogenic. Therefore, it is essential to treat the waste water from the tissues to eliminate these substances before discharging them into the environment. In the present and in the last decades, in-depth research has been conducted on the elimination of dyes from different waste waters using chemical and biological treatment technologies or a combination of both. However, little is known about the microbial ecology and microbial communities in wastewater treatment plants (WWTPs) that treat textile wastewater and the efficiency of these systems to eliminate recalcitrant dyes. In this study

the components of the model were studied, different aspects that contribute to a better understanding of the degradation of the dye and its elimination of textile wastewater and represent the majority of all dyes used in the textile industry, so they are very suitable for this study. First of all, several molecular tools available to evaluate the composition of the microbial community and some important genetic functions in the active mud (tissues) have been implemented and evaluated. However, despite these efforts, little is known about the composition of the microbial community and its functioning in the active sludge of textile wastewater treatment systems. Therefore, the goal was to study the microbial community in the active tissue that worked well compared to the municipal for two seasons (winter and summer) sludge, and explain the differences observed by environmental variables bacterial taxonomy, phylogenetic tree, Chloroflexi, Chloroid and Acidobacterias were more abundant in active sludge textile samples. In addition, reducing exfeated bacteria detected almost exclusively in the textile industry, while nitrification and denitrification of bacteria and phosphate accumulation bacteria were more abundant in the city. It was also clear that the textile microbial communities were more different than municipal, perhaps due to a wider variety of environmental stress to which microbial communities are subjected in textile purification plant. High salinity, high organic loads and a higher water temperature have been found as important variables that guide the composition of the microbial community.

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Biosorption: A Cost Effective Technique for Removing Heavy Metals from Aqueous Solutions using Microorganisms

¹Sarla Kumari and ²Sonraj Mosalpuri

¹*Department of Chemistry, S.P.C. Government College, Ajmer (Raj.)*

²*Department of Chemistry, S.D.Government College, Beawar (Raj.)*

sarla.ajmer@yahoo.com.

Abstract

Industrial effluents containing heavy metals may consider a major source of contamination causes serious environmental problems. Heavy metals associated with environmental contamination such as lead, chromium, zinc, arsenic, cadmium, silver and nickel are potentially hazardous to ecosystems. Apart from being hazardous to human health, they also have adverse effects on the plants and they are non biodegradable in nature. A number of methods have been developed for removal of these metal ions from wastewaters which are expensive. Application of microorganisms (specifically algae, yeasts and fungi) as biosorbents for heavy metal removal have received growing interest due

to high surface to volume ratio, large availability, rapid kinetics of adsorption and desorption and low cost. The biosorption strategy is based on the high metal binding capacity of various biomolecules, which can remove heavy metals from contaminated water with high efficiency. Metal binding by biomolecules of structural component depend on attributes of the metal ion as well as on reactivity of provided ligands. The functional groups such as carboxylate, phosphate, hydroxyl, amine, sulfhydryl and imidazole contained in these biomolecules offer a range of metal binding sites of distinct affinities. Micro-organisms accumulate metals by a number of different processes such as membrane transport, biosorption etc. Therefore, studies show that microorganisms play an important role in the uptake of metals and that this action involves accumulation or resistance.

Keywords: Heavy metals, micro-organisms, biosorption.

Introduction

Most of the effluents which are discharged into the environment especially water bodies contain toxic substances especially heavy metals. The presence of heavy metals in the environment is of major concern because of their toxicity, bio-accumulating tendency, threat to human life and the environment (Horsfall and Spiff, 2005). Heavy metals are among the conservative are not subject to degradation process and are permanent additions to the marine environment. As a result of this, their concentrations often exceed the permissible levels normally found in soil, water bodies and sediments. Hence, they find their way up the food chain. When they accumulate in the environment and in food chains, they can disrupt biological processes.

Heavy metal toxicology

Metals can be toxic to microbes at sufficiently high concentrations. However, some metals such as silver, mercury, cadmium and copper are markedly more toxic even at very low levels. The chemistry and toxicology of these heavy metals are complex. For example, chromium has both beneficial and hazardous properties. Two stable oxidation states of chromium persist in the environment, Cr(III) and Cr(VI). Hexavalent chromium, Cr(VI), is the toxic form of chromium released during many industrial processes. Trivalent chromium, Cr(III), is an essential element required for normal carbohydrate and lipid metabolism. Its deficiency leads to increase in risk factors associated with diabetes and cardiovascular diseases. The most severe form of Cd toxicity in humans is "itai-itai", a disease characterized by excruciating pain in the bone (Yasuda et al., 1995). Other health implications of Cd in humans include kidney dysfunction, hepatic damage and hypertension (Klaassen, 2001). It has been shown that Zn and Cu competitively inhibit Cd uptake by cells. The recommended daily intake of Zn is between 4 and 16 mg depending on age, sex and physiological state (FNB, 1974). Zn is an essential element to man, being a cofactor of many enzymes (Ukhum et al., 2005). It has been reported to competitively inhibit Pb uptake in cells (Lou et al., 1991). Pb is a heavy metal poison which forms complexes with oxo-groups in enzymes to affect virtually all steps in the process of hemoglobin synthesis and porphyrin metabolism.

(Ademorati, 1996). Copper, one of the most widely used heavy metal, is mainly employed in electrical and electroplating industries, and in larger amounts is extremely toxic to living organisms. The presence of copper (II) ions, cause serious toxicological concerns, it is usually known to deposit in brain, skin, liver, pancreas and myocardium (Davis et al., 2000). Arsenic affects the skin causing skin cancer in its most severe form. Arsenic occurs mainly as As(III) and As(V). The oxy-anions of arsenate (V) can exist in four different arsenate species. Nickel toxicity in man is yet unknown. Therefore, a complete understanding about noxious effects caused by the release of toxic metals into the environment and the emergence of more severe environmental protection laws, have encouraged studies about removal/recovery of heavy metals from aqueous solutions using biosorption.

Biosorption processes

Biosorption consists of a group of applications which involve the detoxification of hazardous substances instead of transferring them from one medium to another by means of microbes and plants. This process is characterized as less disruptive. Biosorbents are prepared from naturally abundant or waste biomass. Due to the high uptake capacity and very cost-effective source of the raw material, biosorption is a progression towards a perspective method. Most studies of biosorption for metal removal have involved the use of either laboratory-grown microorganism or biomass generated by food processing industries. The mechanism by which microorganisms remove metals from solutions are: (i) extracellular accumulation; (ii) cell-surface sorption; and (iii) intracellular accumulation. Although living and dead cells are capable of metal accumulation, there are differences in the mechanisms involved. The physiological state of the organism, the age of the cells, the availability of micronutrients during their growth and the environmental conditions during the biosorption process (such as pH, temperature, and the presence of certain co-ions) are important parameters that affect the performance of a living biosorbent. The efficiency of metal concentration on the biosorbent is also influenced by metal solution chemical features.

Conclusion

We have studied the sources and toxicology of heavy metals as well as the reason why they need to be removed from our environment. Conventional methods of removal are expensive, hence the use of low cost, abundant environmentally friendly biosorbents have been examined. Although biosorption is promising, its mechanism is not well elucidated. This knowledge is essential for understanding the process and it serves as a basis for quantitative stoichiometric considerations.



Effect of Ascorbic Acid in a Regenerable Organogenic Callus Induction in *Pongamia Pinnata*

Savita Sangwan

Department of Chemistry, JECRC University, Jaipur
savita.sangwan@jecrcu.edu.in

Abstract

Ascorbic acid is a water soluble vitamin occurring naturally in some plant species and is also produced synthetically. It is known to eliminate the toxic effects of various hormones. Besides, it also affects the metabolism of phenolics. During the present studies, ascorbic acid was incorporated to the media at concentration varying from 10.0 – 100 mg/L. However, it was observed that ascorbic acid at a concentration of 50 mg/L in *Pongamia pinnata*, exhibited antioxidant property showing less browning and reduced the amount of leaching in the medium. Moreover, it showed a synergistic effect in callus induction and its development. In course of present study, it was observed that when in of *P. pinnata* combination of NAA(4.0 mg/L) , BAP (3.0 mg/L) and TDZ (2.0 mg/L) were tried with 50 mg/L of ascorbic acid, light brown little friable callus was obtained. This Callus demonstrated faster growth rate and possessed high regenerative capacity, was then subcultured on fresh MS medium of same hormonal concentration at regular interval, resulting in the formation of mass stock callus.

Key words: *Pongamia pinnata*. Ascorbic acid, Mass stock callus, Antioxidant.

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Biological Properties of Benzimidazole Derivatives: A review

Shaily Sharma, Omveer Yadav and Sonu Pareek

Department of Chemistry, JECRC University, Jaipur
sonu.pareek@jecrc.edu.in

Abstract

Benzimidazoles are an important class of compounds which consist of heterocyclic aromatic ring. It is a formed by the fusion of benzene and imidazole ring. It shows wide pharmacological and medicinal property. Drugs containing benzimidazole binds to a variety of targets thus exhibits broad spectrum. A series of benzimidazole derivatives can be synthesized by single - step process by

reacting o-phenylenediamine and appropriate acid or aldehyde. They are effective compounds and their pharmacological activities confirms that they are effective against various micro-organisms. Benzimidazole are used in therapeutic activities such as analgesic, anti-fungal, anti-viral, anti-cancer, anti-oxidant, anti-ulcer, anti-hypertensive. Review is summarized with the synthesis of different derivatives of substituted benzimidazole along with pharmacological activities.

Keywords: Benzimidazole, Pharmacological activities, Medicinal drug.



Triple Integral Involving Aleph function and Struve function

¹Shalini Shekhawat, ²Akanksha Shukla and ³Kanak Modi

¹Swami Keshwanand Institute of Technology, Jaipur
²Biyani Girls College, Jaipur, ³Amity University, Jaipur

Abstract

In this paper authors first evaluate three integrals of triple order involving Struve function and Aleph function. Further as an application of these integrals three theorems are presented. These theorems involved product of Struve function and two Aleph function in their integrand. Both of these functions are quite general in nature hence a variety of different special cases can be formed by setting the parameters.

Keywords: Fractional Calculus, Triple integral, Aleph function, Struve function

Introduction

Fractional calculus plays an important role in science and technology. It is an eminent branch of mathematics. It represents the different phenomenon of Differential and integral equations and shape the subject in new gaze. Fractional calculus is the generalization of ordinary differentiation and integration from linear to non-linear order. Many results are determined by using integrals and different function such as Mittag Leffler function, Aleph function, Struve function etc.

Aleph- Function

$$\aleph(z) = \aleph_{p_i, q_i, c_i, r}^{m, n} = \aleph_{p_i, q_i, c_i, r}^{m, n} \left\langle z \left| \begin{matrix} (a_j, \alpha_j)_{1, n} ; [c_i(a_{ij}, A_{ij})]_{n+1, p_i, r} \\ (b_j, \beta_j)_{1, m} ; [c_i(b_{ij}, B_{ij})]_{m+1, q_i, r} \end{matrix} \right. \right\rangle = \frac{1}{2\pi\omega} \int_{\Im} \Omega_{p_i, q_i, c_i, r}^{m, n}(s) z^{-s} ds$$

for all $z = 0$ where $\omega = \sqrt{-1}$ and

$$\Omega_{p_i, q_i, c_i, r}^{m, n}(s) = \frac{\prod_{j=1}^m \Gamma(b_j + B_j s) \prod_{j=1}^n \Gamma(1 - a_j - A_j s)}{\sum_{i=1}^r c_i \prod_{j=n+1}^{p_i} \Gamma(a_{ji} + A_{ji} s) \prod_{j=m+1}^{q_i} \Gamma(1 - b_{ji} - B_{ji} s)}$$

The integration path $\Im = \Im_{\omega r \infty}$, $r \in \mathbb{R}$ extends from $\gamma - \omega\infty$ to $\gamma + \omega\infty$ is such that poles of the Gamma functions. $\Gamma(1 - a_j - A_j s)$, $j = \overline{1, n}$ do not coincide with the pole of the Gamma function $\Gamma(b_j + B_j s)$, $j = \overline{1, m}$. The parameters p_i, q_i are non-negative integers satisfying $0 \leq n \leq p_i$, $0 \leq m \leq q_i$, $c_i > 0$ for $i = \overline{1, r}$. The parameters A_j, B_j, A_{ji}, B_{ji} are positive numbers and a_j, b_j, a_{ji}, b_{ji} are complex.

Struve functions $H_n(x)$, are solutions $y(x)$ of the non-homogeneous Bessel's differential equation. The complex number n is the order of the **Struve function**, and is often an integer. The customized **Struve functions** $L_n(x)$ are equal to $-ie^{-i\pi/2} H_n(ix)$.

Conclusion

Three triple integrals have been evaluated and as application part we can formed many integrals by assigning different values to unknown function. Also a wide range of functions can be obtained by reducing Aleph function and Struve function.

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Abrus Precatorius: Diseases Diagnose and Therapeutic Uses

Shefali Jain

Department of Botany, Rajasthan University, Jaipur, INDIA

Abstract

Traditional medicine has been used by the majority of the world population for thousands of years. The World Health Organization (WHO) reported that an estimated 80 % of the population in developing countries depend on traditionally used medicinal plants for their primary health care. The use of plants to cure several kinds of human diseases has a long history. Various parts of plants such as leaf, stem, bark, root etc. are being use to prevent allay system or revert abnormalities back to normal. The search for and use of drugs and dietary supplements obtained from plants have

interested in recent years. Scientist such as pharmacologists, microbiologists, botanists and phytochemists are combing the earth for phytochemicals and clues that could be developed into medicines for various diseases treatment. *Abrus precatorius*, commonly known as Rosary Pea, is an ornamental plant native to India. *Abrus precatorius* belongs to family fabaceae. The plant inhabits in subtropical climate. The most poisonous part of the plant is the seed. The seed contains the toxic poison abrin which is close relative to ricin. The roots, stems, and leaves also contain glycyrrhizin. The seeds were also used to treat diabetes and chronic nephritis. The plant is also used in some traditional medicine to treat scratches and sores, and wounds caused by dogs, cats and mice and are also used with other ingredients to treat leucoderma. They are ground with lime and applied on acne sores, boils, and abscesses. The plant is also traditionally used to treat tetanus, and to prevent rabies. The present review attempt is to strengthen the data regarding active potent compounds present in *Abrus precatorius* and compile updated information on pharmacognostic characteristics, traditional uses, phytochemistry and pharmacological actions of the plant and its therapeutic effects.

Key words: *Abrus precatorius*, Seeds, Roots, Leaves.

Introduction

Abrus precatorius plant has been used in Hindu medicine from very early times, as well as in China and other ancient cultures. In certain tribal regions people chew leaf of *Abrus precatorius* for the relief of the mouth ulcer [13]. It also contains tri-terpenoidsaponins and used in the treatment of inflammation, ulcers, wounds, throat scratches and sores. Plants are rich in a wide variety of secondary metabolites such as tannins, alkaloids and flavonoids, which have been found in vitro to have antimicrobial properties. For thousands of years, natural products have been used in traditional medicine all over the world and predate the introduction of antibiotics and other modern drugs.

The leaves of the herb are used to cure fever, cough and cold. The roots are used to treat jaundice and haemoglobinuric bile. Paste of roots is used to cure abdominal pains, tumors and also for abortion. Root is chewed as a snake bite remedy. Hot water extract of fresh root is an anti-malarial and anti-convulsant. Decoction of dried root is used to treat bronchitis and hepatitis. For graying of hair, a paste of leaves and seeds is applied. Dry seeds of *A. precatorius* are used to cure worm infection. In veterinary medicine, it is used in the treatment of fractures. The seed contains the toxic poison abrin which is close relative to ricin. Ingested seeds can affect the gastrointestinal tract, the liver, spleen, kidney, and the lymphatic system. Infusion of seed extracts can cause eye damage after contact. The most poisonous parts of the plant involved in poisoning are the small, scarlet seeds that have a black eye at the hilum. The roots, stems, and leaves also contain glycyrrhizin. The seeds were also used to treat diabetes and chronic nephritis. The plant is also used in some traditional medicine to treat scratches and sores, and wounds caused by dogs, cats and mice and are also used with other ingredients to treat leucoderma. They are ground with lime and applied on acne sores, boils, and abscesses. The plant is also traditionally used to treat tetanus, and to prevent rabies. Various African tribes use powdered seeds as oral contraceptives [10]. Boiled seeds of *A.*

precatorius are eaten in certain parts of India. The objective of this research was to evaluate the potentiality of *A. precatorius* on standard microorganism strain and clinically important bacteria [3]. Seeds have also the potential of good insecticide and antimicrobial activity.

Plant description

Family : Fabaceae (Leguminosae)
Common Names : Rosary pea, crab's eyes, precatory pea, licorice vine
Origin : India, and perhaps other parts of tropical Asia

Chemical constituents

Seed - The seeds contain toxic protein; abrusic acid, abrine alkaloid, abraline a glucoside; haemagglutinin, some urease and glycine-like active abrinalbuminoid. Seeds potency gets inerted when they are boiled.

Root – The roots contain glycyrrhizin 15 percent and glycerol B present.

Leaf – The leaves contain glycyrrhizin 10 percent and abrin.

Seed coat - The seeds coat contains a red colouring substance.

Therapeutic uses

Abrus has been used for centuries by the Hindus, who employ the seeds as an external application in skin affections, ulcers, and to excite artificial inflammation in fistulae. Sanskrit authors mention both the white and red seeds, and describe the root as an emetic. The roots of this plant are used to induce abortion and relieve abdominal discomfort. The extract of entire plant is used for the treatment of venereal diseases, headache and snake bite. The leaf decoction is used for the treatment of coughs, constipation, colic and general pains [12]. The plant has been shown to possess anticonvulsant activity [11] and anti plasmodial activity [7]. Aerial parts were found to possess anti-inflammatory activity [2]. Molluscicidal activity of *Abrus precatorius* reported by [16]. Seed extracts possess sperm antimotility properties [14]. Seed extract shows agglutinin activity, antibacterial, antifungal and antiviral activity.

Abrus seeds are said to have been used for centuries in Brazil as a popular remedy for granular lids and pannus, and attention was called to this practice in Europe in 1862, without apparently leading to any experiments with the drug. In Brazil Leaves and stem are said to be toxic when eaten by cattle [4]. Water extract of dried leaves and root is taken orally as a nerve tonic [5].

In India seeds are used as a poultice in the vagina in Ayurvedic, and Unani medicine as an abortifacient. Seeds are boiled in milk, and taken orally by males in Unani and Ayurvedic medicine as an aphrodisiac. It is claimed that the boiling destroys the toxic action of 'Abrin'. The oil extracted from seeds is said to promote the growth in human.

Antibacterial Activity

The ethanol extracts of seed testas of *Abrusprecatorius* along with other plant for antibacterial properties using the agar diffusion method [1]. The extracts showed antibacterial activity against *Escherichia coli*, *Klebsiella aerogenes*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Streptococcus faecalis*. Plant extracts and fungal microorganisms for biocontrol of sugarcane red rot disease (*Colletotrichum falcatum*) using sugarcane (*Saccharum officinarum* L.) cultivar in pot and field experiments [6]. Leaf extracts of *Abrusprecatorius* and *Bassia latifolia* and the rhizome extract of *Curcuma longa* reduced *Colletotrichum falcatum* mycelia growth by 80%, 58% and 57% respectively. *Abrusprecatorius* in pot experiments had the lowest incidences of red rot 24.2%, none of the plant extract were effective in the field.

Anticancer Activity

In *Abrusprecatorius* seeds have the poisonous protein abrin, it is effective in reducing solid tumour mass development induced by Dalton's Lymphoma Ascites (DLA) and Ehrlich's Ascites Carcinoma (EAC) cells. DLA cell line was more sensitive to abrin than EAC [15]. Seed extract of *Abrusprecatorius* could protect the kidney against alcohol-induced parenchymal injury. *A. precatorius* aqueous extract has hepatoprotective properties which are probably mediated by antioxidant activity in rats [8]. According to [9] *Abrusprecatorius* leaves contain oleanane type triterpenoids (Abruslactone A). The ethanolic extract of leaves exhibits greater cytotoxic effect against hepG2 (liver cancer cell).

Conclusion

From the birth of humans, the plants are being employed by the people for their therapeutic uses and still we tend to have faith in there. *Abrusprecatorius* Linn.) is taken into account as a toxic plant, it has been used for thousands of years in Ayurvedic medication after purification. In the Ayurvedic medicine, leaves of *Abrusprecatorius* are laxative, expectorant and aphrodisiac medicines. Seeds are said to be purgative, emetic, tonic, antiphlogistic, aphrodisiac and antiophthalmic. For the indigenous people they are potent phytomedicines; (many of them in mixtures with other plants) as in Ayurvedic tradition. Development of synthetic drugs reduced the importance of medicinal plants. In the last few decades, however, interest in medicinal plants has increased considerably because of the success with the antibiotics, and other plant drugs such as 'rauvolfia' (for the treatment of mental diseases), 'podophyllum' (a cathartic, as well as for curing cancerous tumors in mice), aloe (a cathartic, as well as for the treatment of atomic radiation burn) and Abrin (toxic against tumor cells). However, only a few works have been done on this plant and there is a large scope of investigation for researchers. Hence, it is required to explore its potential in the field of medicinal research and therapy sciences for novel and fruitful applications of medicinal plants.

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Electrochemical Properties of Different Carbon Nano Materials

¹Shikha Chander and ²Meenu Mangal

¹*Department of Chemistry, St.Francis College for Women, Hyderabad 500007, Telengana, India.*

²*Department of Chemistry, Poddar International College, Mansarovar Jaipur 302020Rajasthan, India.*

drmeenumangal@gmail.com, shikhachander23@yahoo.co.in

Abstract

The present article is focused on study of possible ways of increasing the energy density of super capacitors and bridging the gap between super capacitor and battery. Carbonnanomaterial's have unique physical and chemical properties which can be tuned as desired, since carbon materials are light and environmental friendly. Due to above properties of carbon it can be used as energy storage device. For future development devices super capacitors which has many applications in the field of research, electronic, sensors, catalysts and energy conversions are newly developed device for electrochemical storage of energy. Insuper capacitors electrode materials used are mostly from carbon fibers, nanospheres, nanotubes and graphene.Chemical fictionalization of carbon nanomaterials which are used as as electrode materials as well as novel aqueous electrolyte with the electrochemical window of 1 v can be used .Graphene oxide on chemical and thermal reduction forms reduced grapheme oxide with increased interlayer spacing have been detected as having high performance supercapacitors.The reduced graphene oxide was confirmed through XRD, SEM, TEM and Raman techniques. After optimization of experimental conditions the electrode when checked for electrochemical performance by cyclic voltammetry and impedance spectroscopy.

Introduction

The distinct properties of nanomaterials make them a very special used in various materials [1]Super capacitors are the new energy storage system to meet the demand in general and in electronic devices in particular this is because of energy storage mechanism is simply charge separation. [2] The increase in capacitance of super capacitors are due to electric double layer that separates the opposite charges, and highly porous electrodes[3] which has very high surface area. Due to electrical conductivity the physical and chemical characteristics of carbon electrodes has high power and energy storage capacity.[4-5] There are mainly three main categories of electrochemical capacitors, carbon/carbon, metal oxides and electronically conductive polymers.[6] Electrical double layer capacitors are called super capacitors, ultra capacitors and electrochemical capacitors. [7-8]the energy storage capacities of super capacitors are several orders of magnitude higher than those of conventional dielectric capacitors, but are much lower than those of secondary batteries. They typically have high power density, long cyclic stability and high safety. [9-10] Novel

carbon materials have high surface area, high electrical conductivity as well as range of shapes, sizes and pores. There are many applications of super capacitors including in the smart materials, grids and for storage devices. The energy storage capacitors magnitude is lower than secondary batteries, which have high safety, density and stability and is better than rechargeable batteries. [11] From materials point of view Carbon materials for the electrochemical storage of energy in capacitor. The electrochemical storage of energy in various carbon material [12] (activated carbon aerogels, xerogels, nano structures) used as capacitor electrodes is considered. Different types of capacitors with pure electrostatic attraction or pseudo capacitance [13] effects are presented. Evaluation of capacities performance by different techniques example. Voltameters impedance spectroscopy and charge discharge characterization.[14] Carbon due to different allotropes grapheme, diamond, fullerenes nanotubes owing to degree of graphitization, a rich variety of dimensionality from 0 to 3d and ability for existence under different forces from powder to fibers, foams, fabric and composites represent a very affordable material for electrochemical applications especially for storage of energy.

Carbon electrodes are well polarized though its electrical conductivity depends on the thermal treatment, micro texture [15] hybridization including the amphoteric character of Carbon allows use of rich electrochemical property of the element from donor to acceptor state and above all carbon materials are environmentally friendly.

During the recent years a great interest has been focused on application of carbon as electrical material for their accessibility and relatively low cost, [16] they are thermally stable in different solution acidic or basic and tolerate wide range of temperature. Additional characteristic like large surface area and controlled distribution of pores determines the electrode//electrolyte interface of electrochemical application. [17-20] Due to all mentioned characteristics carbon as material for storage of every in electrochemical capacitor is extremely attractive. [21] The electrochemical capacitor from carbon are of two types depending on the kind of accumulated energy, the EDLC, where only a pure electrostatic attraction between the ions and charged surface of an electrode takes place and super capacitors based additionally on Faradaic pseudo capacitance. Electrochemical capacitors provide a mode of electrical charge and energy storage and delivery, complementary to that of batteries. [22] In energy storage and harvesting applications, when high power delivery is needed. Improvement in performance has achieved through recent advances in charge storage mechanisms and with the development of advanced nanostructure materials. [23] The use of carbon annotates has advanced electrochemical capacitors, enabling flexible and adaptable devices to be made which will be the key for designing high energy devices. Capacitance is proportional to the surface area of the electrical double layer. Therefore using activated carbon which has large surface area for electrodes, enables EDL

Ctohave high capacitance. [24-25]

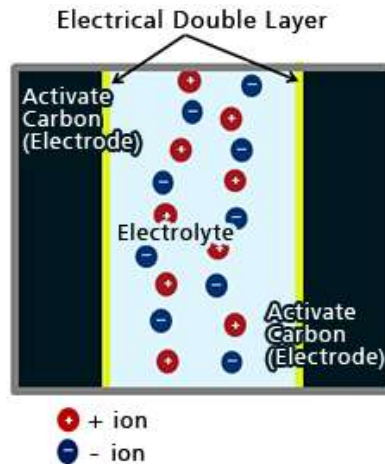


Figure 1: Principle of Electrical Double Layer Capacitor

The mechanism of ion absorption and desorption to the electrical double layer contributes to charge and discharge of EDLC. By applying voltage to the facing electrodes, ions are drawn to the surface of the electrical double layer and EDLC is charged. Conversely, they move away when discharging EDLC. This is how EDLC is charged and discharged.

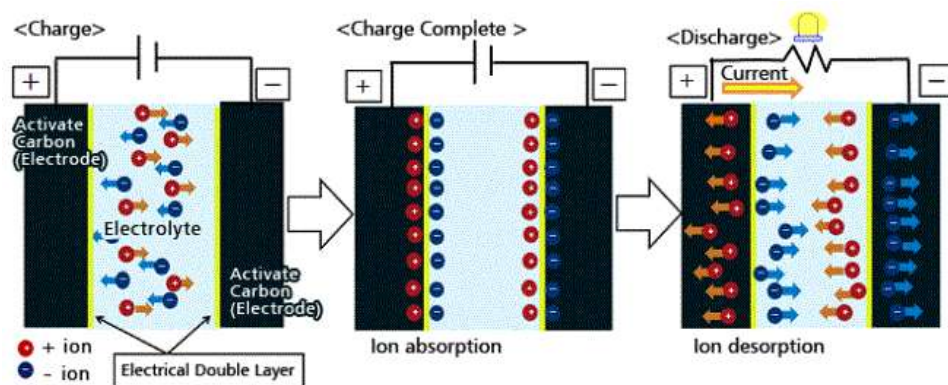


Figure 2: Charge and Discharge of EDLC

Structure of EDLC

EDLC consists of electrodes, electrolyte (and electrolyte salt), and the separator, which prevents facing electrodes from contacting each other. Activated carbon powder is applied to electricity collector of the electrodes. The electrical double layer is formed on the surface where each powder connects with an electrolyte. In review of metal oxide based materials for electrochemical supercapacitor electrodes are reviewed in detail together with brief review of carbon materials and

conducting polymers.[26]. Carbon is one of the most lightweight ,flexible ,and wearable electronic devices in our society when compared with other energy storage devices its advantages in power and energy densities and unique properties with low-cost and environmental friendly capacitors with different carbon materials show a recent research in carbon fiber, consisting of micro fiber and nano fiber networks, Carbon nanotubes and Graphene coatings are some promising materials for great potential applications in flexible electrochemical capacitors^[27] The trends and challenges in the development of carbon based electrode materials for flexible electrochemical capacitors are analyzed by TEM,SEM, and XRD and their electrochemical performance can be measured by cyclic voltammetry, galvanostatic charge discharge and potentiostatic electrochemical impedance spectroscopy.

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Urbanization's Impact on Health: Current Status of India

Shikha Mathur

Department of Zoology, MDS University, India

Abstract

Urban communities have increased and expanded rapidly worldwide over the past two centuries. Cities are sources of creativity and technology, and they are the engines for economic growth. In any case, they are also sources of poverty, imbalance, and health hazards from the environment. Beyond the traditional risks of diarrheal disease and respiratory infections in the urban poor and the adjustment of different vector-borne contaminations to urbanization, the urban condition presents different physicochemical risks. These incorporate introduction to lead, air contamination, traffic dangers. As the quantity of urban shoppers and their material desires rise and as the utilization of petroleum derivatives builds, urban communities add to the enormous scale weights on the biosphere including environmental change. We should create arrangements that enhance the current, and as a rule inconsistent conveyed urban ecological wellbeing dangers and bigger scale natural issues. A perfect domain is fundamental for human wellbeing and prosperity. Be that as it may, the connections between the earth and human wellbeing are profoundly unpredictable and hard to evaluate. This utilizes the prudent guideline especially valuable. The best-known health impacts are related to ambient air pollution, poor water quality and insufficient sanitation.

Keywords: urban health; urban population; urbanization; environmental health; environmental pollution; Diseases

Introduction

Urbanism potentiates numerous changes in human behaviour that affect disease risks. For instance, urban areas are characterized by elevated amounts of tobacco smoking, traffic injuries, fatalities and adult obesity. The increase in the frequency of obesity illustrates several aspects of urban living. Among city dwellers, it mirrors the combination of easier access to energy-dense processed foods and a decrease in physical action at work, at home, and recreationally. Typical urban living thus entails an imbalance in the energy budget that leads to obesity, and this greatly increases the risk of high blood pressure and type II (adult onset) diabetes. In developing countries infant mortality is typically four or more times higher in poorer segments of urban populations than in more extravagant portions. There are also large differences between richer and poorer populations in the incidence of environmentally related infectious diseases such as tuberculosis, typhoid and cholera, and in exposure to local air pollution and indoor air pollution. Psychosocial health problems are also related to income including depression, alcohol and drug abuse, suicide, violence and murder. In huge urban areas all over the place, poor people are the main victims of

property crime, assault, rape and murder. Accordingly, the more extravagant individuals raise higher blockades and utilize greater security monitors. The vulnerability of poor people then increases further because the adaptive behaviours of crime and violence are inevitable with large amounts of joblessness and neediness. The advanced urban condition consolidates industrialization, swarming, squander age, and thick transport frameworks. This combination, compounded by the periurban poverty that surrounds many cities in developing countries and the poverty of inward urban zones in urban communities in the developed world, introduces many environmental health hazards. These may be overt, as in the cases of road trauma or the increase in asthma attacks that occurs during episodes of high air pollution, or more insidious, as with exposure to environmental lead.

The larger dimensions of urban impact on environmental health

There is a larger framework within which to consider health in an urban environment. Worldwide, poorer residents of large cities bear the brunt of the adverse health consequences of environmental degradation. Industrial activities are often concentrated near impoverished communities living on the fringes of urban areas where the implementation of ecological benchmarks is weakest. Urban populations assume a dominant role in the mounting pressures on the universes biological systems. Girardet says that urban areas are likewise immense of food, fuels, and the many raw materials that feed a civilization.

Conclusion

Populations in the urban areas of less developed countries typically experience the double environmental health jeopardy of the traditional risks from infectious diseases and the physical and chemical hazards that accompany poorly regulated industrialization, substandard housing, traffic hazards, and social violence. Urban around the globe are pressing the common habitat. Arrangements require radical social and mechanical changes. These arrangements incorporate growing the arrangement of instruction and preparing; the worldwide exchange of fitting innovation; an improved job for the state as an advanced, effective and straightforward organization; an increasingly equivalent redistribution of salary, particularly inside creating nations; global easing of obligation; and a genuine universal responsibility to sharing the universes regular property assets, (for example, the air and the sea fisheries). This last goal could be accomplished by means of a focused on union giving equivalent access per individual, globally, to the biospheres sources and waste-retaining sinks. (Both the 1987 Montreal Protocol and the 1997 Kyoto Protocol, for obliging the discharge of ozone- pulverizing gases and ozone depleting substances, individually, point toward possible intercountry assembly in per-individual barometrical emanations.) In the 21st century we will without a doubt change the plan and utilization of our urban communities. City planners will most likely create ways to deal with enable us to live in high-thickness urban towns isolated by parklands, entertainment offices and nursery plots, and associated by light-rail transport. Urban greenery, nurseries and cultivation will

subsequently be restored. Urban people group structures and offices will be reproduced on a human scale. Earth considerate advancements for vehicle and creating vitality will be taken up. In particular, both social value and environmentally feasible methods for living will be looked for. Urban communities have turned into the incredible contemporary central purposes of human environment. They are a support that permits incredible influence in reshaping how mankind lives. Environmentally maintainable urban communities, in light of low-sway advances, social illumination and sharing, are a fundamental piece of our future endurance.

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Assessment of Protective Role of Quinoa against Sodium Fluoride Induced Skeletal Deformities in Mice Fetuses

Shilpa Choudhary and Priyanka Mathur

*Department of Life Sciences, IIS (deemed to be University),
Gurukul Marg, SFS, Mansarovar, Jaipur - 302 020, Rajasthan, India.
schoudharychopra@gmail.com, priyanka.1970@iisuniv.ac.in*

Abstract

Rajasthan has the highest number of habitations where groundwater contains fluoride specifically in the region of Thar Desert. Infact Pan India is affected by fluoride problem, but Rajasthan is the only state where almost all the districts are affected by high fluoride. High Fluoride concentration in drinking water has been shown to cause skeletal and dental abnormalities, besides others such as osteosclerosis. It has been shown through medical research that almost all the vital systems and organs in the body including thyroid, kidney, cardiovascular, gastrointestinal, endocrine, neurological, reproductive, developmental, molecular level, immunity etc. gets affected by concentration of Fluoride when it exceeds WHO standard values. This finding facilitated us to go in further and find the effect of Sodium Fluoride when given to pregnant mice through drinking water at various fetal developmental stages with focus on study of developmental pattern of the skeletal system of growing fetuses followed by a protective role of Phyto materials against it. In this study Quinoa seed, were selected because of its high nutritive value and latest findings indicating its antiteratogenic nature. The study was planned in such a way that females in question were subjected to fluoride treatment prior to mating, during pregnancy and post partum period when weaning process is on. The observations clearly indicate that post Sodium fluoride treatment there was a reduction in size and general body weight of fetuses. Besides this, there was an increase in the number of immature fetuses. Various skeletal anomalies were also observed, such as partially ossified ribs, reduced skull ossification, reduced sternebrae etc. Chenopodium Quinoa, also called Superfood due to its high quality of protein and wide range of minerals and vitamins was used for its protective role as mentioned earlier. In this study NaF along with Quinoa seeds were administered to treated animals. These animals showed improvement in maternal weight, increase in body weight and size of fetuses as well as bone ossification. These findings suggest that Quinoa seeds possibly have a protective effect against Sodium Fluoride induced teratogenicity.

Keywords: Skeletal anomalies, Skull ossification, Teratogenicity, Quinoa, Sodium Fluoride.



Advances in Stem Cells Regenerative Therapy

¹Shipra Goyal and ²Ratna Saxena

Department of Zoology, Kanoria PG Mahila Mahavidhyalya, Jaipur

Abstract

Stem cells are undifferentiated cells that are present in the embryonic, fetal, and adult stages of life and give rise to differentiated cells that are building blocks of tissue and organs. The major characteristics of stem cells are: (a) self-renewal (the ability to extensively proliferate), (b) cloning ability (usually arising from a single cell), and (c) potency (the ability to differentiate into different cell types). These properties may differ between various stem cells. For example, embryonic stem cells (ESCs) derived from the blastocyst have a greater ability for self-renewal and potency while stem cells found in adult tissue have limited self-renewal since they would not proliferate extensively and can only differentiate into tissue-specific cells.

There are several sources of stem cells with varying potencies. Pluripotent cells are embryonic stem cells derived from the inner cell mass of the embryo and can differentiate into tissue from all 3 germ layers (endoderm, mesoderm, and ectoderm). Multipotent stem cells may differentiate into tissue derived from a single germ layer such as mesenchymal stem cells which form adipose tissue, bone, and cartilage. Oligopotent stem cells are formed from terminally differentiated cells of a specific tissue.

Stem cells are an important tool for understanding both the organogenesis and the continuous regenerative capacity of the body. They can be used in cellular therapy to replace damaged cells or to regenerate organs. Disease-specific cell lines can also be propagated and used in drug development. In addition, stem cells have expanded our understanding of development as well as the pathogenesis of disease. They also offer the possibility of developing biological models for the study of new pharmacological agents. To date, many research protocols, preclinical studies, and clinical trials are being published. Although, several clinical studies have already reported encouraging results for the development of new therapeutic strategies in cell-based medicine, there are a number of risks and obstacles. Despite the significant advances in stem cell biology, issues such as ethical controversies with embryonic stem cells, tumor formation, and rejection limit their utility. However, many of these limitations are being bypassed and this could lead to major advances in the management of disease. There is ongoing research and development that gives us great optimism about regenerative medicine

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Tailoring the Kinetic Properties of KSiH_3 by the Addition of Ti-based Catalysts

¹Shivani Agarwal, ¹Shashi Sharma, ¹Anil Sharma, ²Takayuki Ichikawa and ²Ankur Jain

¹Department of Physics, JECRC University, Jaipur, INDIA

*²Natural Science Center for Basic Research & Development, Hiroshima University, JAPAN
shivaniPHY@gmail.com*

Abstract

Potassium Silanide has been proposed as promising hydrogen storage material, however, the high activation energy of hydrogen absorption and desorption doesn't allow to realize its practical operation at room temperature. The present work focuses on the alteration of its kinetics by the addition of Ti-based catalysts.

Keywords: Potassium Silanide, Metal Hydride, Kinetics, Activation Energy.

Introduction

KSiH_3 has 4.3 wt% hydrogen which makes it a promising hydrogen storage material, but due to the lack of proper crystallographic data, the hydrogen storage properties were unknown until a recent report by Jean-Noël Chotard et al in 2011 [1]. The thermodynamic parameters ($\Delta H = -28 \text{ kJ/mol H}_2$) allow its room temperature operation, however higher activation energy creates a kinetic barrier and the hydrogen absorption / desorption can take place only above 100°C . Recently Jain et al [2, 3] has shown an improvement in the sorption kinetics by the addition of metals and metal oxides as catalyst. This work is focused to observe the effect of Ti-based catalysts on the sorption properties of KSiH_3 .

Result and Discussion

The DSC result suggests the onset temperature of hydrogenation as 60°C for TiF_4 added KSi sample (fig. 1), whereas, the desorption could be started at 120°C . The activation energy is found to be reduced down to 87 kJ/mol H_2 for TiF_4 added KSi system.

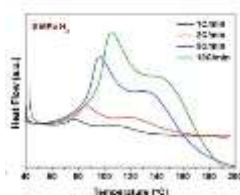


Figure 1: DSC of KSi-10\%TiF_4 under 5 MPa H_2 .

Experimental

The parent alloy was prepared by heat treatment of the constituent elements i.e. K & Si (purity >99.5%) as given in ref. [2]. The addition of catalyst was carried out using planetary ball milling (Fritsch P7) under 1 bar Ar. The hydrogenation properties were measured using TG-DTA- MS technique in a temperature range 25 – 350°C.

Conclusion

TiF₄ is found to be most effective catalyst, which reduce the activation energy to 87 kJ/mol from 130kJ/mol for KSi without catalyst. The formation of KF is found responsible for this improvement.

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A Study on Antioxidant Capacity of Various Cucurbits Fruit Peels

Shivani Khatana and Rekha Vijayvergia

Rajasthan University, Jaipur-302004.

shivani.khatana0407@gmail.com

Abstract

Cucurbits are among the major edible fruits and vegetables. Peel is generated as a major kitchen waste from the vegetables and fruits. Besides being a waste cucurbits peels are a good source of many value added compounds which shows a great antioxidant and antimicrobial potential. Antioxidant capacities of various cucurbits peels was assessed by using the FRAP Assay and the DPPH Assay. The study showed that the peel part of these fruits contains more antioxidant capacity than the pulp. It indicates that the peel can be used as a great source of antioxidants.

Keywords: antioxidant, peel, cucurbits.

□□□

Screening of Anti Obesity Activity of Plant Extracts with Crude Fungal Lysate

Shreya Rao

Research Scholar, Banasthali Vidyapeeth

Abstract

Lipases bring out the catabolism of fats and oils by cleaving the ester bonds. Lipases contribute a broad range of application in detergent industry, sewage treatment, cosmetics and oleo chemical industry. Seed extract of *Trianthema portulacastrum* in pet ether exhibited maximum inhibition (73.8%) with 27.12% residual enzyme activity, stem extract in ethanol exhibited highest inhibition of lipase activity (98%) with 2.22% residual enzyme activity, (73%) inhibition of lipase obtained from root extract in water solvent with 26.05% residual activity and leaf extract in benzene exhibited highest inhibition of lipase activity (76.6%) with 27.88% residual activity as compared to (0%) lipase activity with 100% residual activity. Seed extract of *Tribulus terrestris* in chloroform (92.5%) inhibited maximum lipase activity with 6.56% residual activity, stem extract in benzene demonstrated maximum inhibition 98.9% of activity with 3.05% residual activity, root extract in ethyl acetate demonstrated maximum inhibition (96.4%) with 6.87% residual activity and leaf extract in ethanol exhibited maximum inhibition (98%) with 4.80% residual activity as compared to (0%) lipase activity with 100% residual activity. Both plants exhibits anti-obesity effects by the inhibition of lipase activity therefore, can be used in the treatment of obesity.

Keywords: Solvents, inhibition, *Trianthema portulacastrum*, *Tribulus terrestris*, anti obesity.

□□□

Antifungal Activity of selected Medicinal Plants Extracts against Isolated Phytopathogenic Fungal Pathogens on Aegle Marmelos

Shruti Ojha and Mamta Goyal

Microbiology Laboratory, Department of Botany, Samarat Prithviraj Chauhan Government College, Ajmer, Rajasthan, India.

Abstract

The plant parts of *Catharanthus roseus* and *Calotropis procera* were screened against *Alternaria* and *Curvularia* isolated from *Aegle marmelos*. Flower extracts showed comparatively positive results

than leaves and stem. The bio-fungicides showed a wide scope as an alternative to commercial fungicide (controls) for inhibition of fungal growth on *Aegle marmelos*.

Keywords: Antifungal, bio-fungicides, plant extracts.

Introduction

Indian medicinal plants including herbs and shrubs play an important role in the treatment of various diseases. Plant diseases across the globe represent a critical problem and require prime attention to increase the quality and abundance of crops. Medicinal plants contain several active components which are toxic to fungal pathogens. When extracted from the plants and applied on infested crops, these components are called botanical fungicides or botanicals. Standardized methods of extractions and in vitro antimicrobial efficacy has been tested to explore active plant products as an alternative to synthetic fungicides.

The plant parts of *Aegle marmelos* were collected randomly from their natural habitat of Ajmer city, Rajasthan, India in the month of September-October 2016. The infected plant parts of *Aegle marmelos* were subjected to isolation and identification of fungi in Potato dextrose agar medium.

The extracts were prepared from stem, leaves, and flowers of *C. roseus* and *C. procera*. Ethanol was used for the preparation of plant extraction. The plant materials were subjected to centrifugation for 10 □ 15 min (at 10000 rpm). The supernatant was collected after filtration and made to a known volume by adding sterile ethanol stored for further antimicrobial screening purpose.

The antifungal activity for the selected plant extracts was studied by the disc diffusion method (Perez et al. 1990). Sterile discs of equal size (5mm) were prepared of autoclaved Whatman's filter paper, infused with different plant extracts overnight. The discs were placed on Czapek dox agar media already poured with the test fungal broth. The A similar protocol was followed for the commercially selected fungicide fluconazole for seven days and zone of inhibition (mm) was measured. A comparative study of both plant extracts and commercial fungicide was subjected to antifungal bioassay.

Results and Discussion

Antifungal activity of two medicinal plant extract prepared in ethanol was studied by the disc diffusion method. The results obtained showed positive to neutral effect on the growth inhibition of fungal pathogens isolated from *A. marmelos* plant parts. Among the ethanol plant extracts studied, the ethanol extract of *Calotropis procera* showed 100% antifungal potential against fungal pathogen *Curvularia*. *Catharanthus roseus* flower and *Calotropis procera* leaves showed positive results with 26 mm and 24 mm diameter zone of inhibition. However, ethanol plant extracts of *C. roseus* leaves showed similar results of 6 mm diameter zone of inhibition with fluconazole (control).

Conclusion

Bio-fungicides are cheaper and comparatively more effective in inhibiting the growth of the fungal pathogens found on plants.

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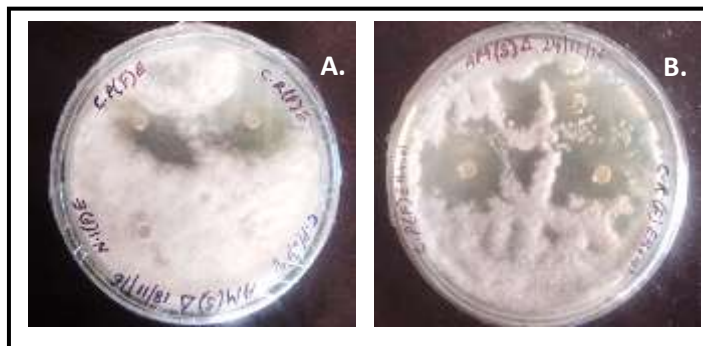


Figure 1. Antifungal activity of plant extracts. A, B. antifungal activity of plant extracts prepared from *C. procera* and *C. roseus* against fungal pathogens

□□□

Comparative Analysis and Significance of Photosynthesis in Yellow and Green Regions of *Codiaeum Variegatum*

Shubhangani Sharma, Shivani Sharma and Vineet Soni

*Plant Bioenergetics and Biotechnology Laboratory, Department of botany
Mohanlal Sukhadiya University, Udaipur, India*

Abstract

Leaf variegation is a complex biological process, which is regulated by extra-chromosomal DNAs. Therefore, in order to understand the physiological basis of leaf variegation, efforts were done to perform comparative analysis of photosynthesis in yellow and green regions of *C. variegatum*. A wide variation in chlorophyll fluorescence (Fm- maximum fluorescence) was observed between green and yellow regions of leaves of *C. variegatum*. Green regions showed high value of fluorescence, whereas low fluorescence was detected in yellow patches of leaves of *C. variegatum*.

It may be due the low concentration of chlorophyll molecules. A significant variation in all parameters of photosynthesis was observed in green and yellow regions. Similar value of Fv/Fm indicates that appearance of yellow patches is not a stress for the plant. Leaf models clearly show low concentration of chlorophyll pigments and PS II reactions in yellow regions of leaves. Rate of electron transfer as denoted by blue arrow, was also found low in yellow patches. On the basis of comparative analysis of photosynthesis in yellow and green regions of *C. variegatum*, it is hypothesized that the variegation in leaves is a complex biological process which was developed during evolution to attract pollinators for reproduction process, or these variegated patches act as sink for photosynthesis in croton plants.



A case controlled Study showing Association of CFTR Gene Mutations in onset and Severity of Asthma and Chronic Pancreatitis

Shweta Singh

Department of Medical Genetics, SGPGIMS, Lucknow 226014, India.

Electronic address: shwetasinghpgi@gmail.com

Abstract

Cystic fibrosis transmembrane conductance regulator (CFTR) gene accounts for an autosomal recessive condition called cystic fibrosis (CF). In the Indian subcontinent, CF and its related diseases are under-diagnosed by the medical community due to poor knowledge of the disease and its confounding diagnosis, and also due to poor medical facilities available for these patients, thus causing an increased infant mortality rate with a low life expectancy in general. The aim of the study was to conduct a case controlled study showing association of CFTR mutations in the onset and severity of asthma and chronic pancreatitis among the North Indian population. A total of 800 subjects including 400 controls, 250 asthma cases and 150 chronic pancreatitis cases were analyzed for 6 mutations (F508del, G542X, G551D, R117H, W1282X, and S549N) and IVS8 Tn polymorphism. Out of 800 subjects, 18% [asthma - 24% (n=250), CP - 29.33% (n=150) cases and controls - 9.3% (n=400)] were positive for heterozygous mutation, 0.8% of the (n=250) asthmatic cases (n=250) were homozygous for IVS8 T5 polymorphism while no subjects were found positive for W1282X mutation. T5 polymorphism was more common in asthmatic cases while F508del mutation in chronic pancreatitis cases. The carrier frequency of F508del, G542X, G551D, R117H, S549N and T5 was 0.015, 0.025, 0.02, 0.005, 0.005, and 0.022 respectively. The cumulative carrier frequency was 0.093. CFTR mutations were underestimated in Indian population. The results from

the present study indicates the need of genetic screening and prenatal setup for Indian population to have an assessment about prospective occurrence and suitable treatment of these twine diseases.

Keywords: CFTR, Mutations, Polymorphism, Asthma, Chronic pancreatitis



Biosynthesis of Nanoparticles by Plant Extract

¹Sonia Saini and ²Priyanka Mathur

¹Biyani Girls College, ²IIS University, Jaipur

Abstract

The nature, it seems is a large “bio-laboratory” composed of biomolecules that comprises of plants, algae, fungi, yeast, etc. These have been identified to play an active role in the formation of nano particles with distinct shapes and sizes thereby acting as a driving force for the designing of greener, safe and environmentally benign protocols for the synthesis of nanoparticles.

Plant-mediated biosynthesis is very easy and cost-effective method for production of nanoparticles. Moreover, methods used with plants avoid the time consuming steps of maintaining and preservation of cell cultures. Also, plant mediated biosynthesis is a simple and suitable method for large-scale production of nanoparticles without any contamination. A number of plants have been reported for biosynthesis of nanoparticles like aloe vera, alfa alfa, Mangifera etc. Many reports are available in which leaf extract have been used for production of silver nanoparticles due to easy and simple experimental design like leaf broth of *Azadirachta indica*, *Mentha piperita*, *Ocimum sanctum* etc.. Other parts of plants as an extract for the synthesis of silver nanoparticles have been also studied e.g. ethanolic extract of Marigold flower. Gold nanoparticles have been synthesized using *Garcinia mangostana* commonly known as mangosteen fruit peel. Biosynthesis of copper nanoparticles, gold-iron and silver iron core-shell nanoparticles using extracts of *Punica granatum* has also been reported and characterized using UV-Visible spectroscopy, Fourier transform infra red spectrophotometer (FTIR) and TEM. Synthesis of nanoparticles can be confirmed by UV-visible spectrophotometer, X-ray diffraction (XRD) and scanning electron microscope (SEM).

Keywords: nanoparticles, biosynthesis, plant extracts



Changes in Biochemical Constitutes and Enzymatic Activity in Seeds of Pearl Millet [*Pennisetum Glaucum* (L.) R.Br] Naturally infected with *Pseudomonas Syringae* PV. *Syringae*

Sourabh Khorwal, Suraj Sharma, Nanda Ram and Kailash Agrawal

*Department of Botany, University of Rajasthan, Jaipur -302004
khorwalsourabh@gmail.com*

Abstract

Pearl millet [*Pennisetum glaucum* (L.) R.Br] is the 6th most important crop in the world. It can cope up with the harsh agro-climatic conditions. Pearl millet suffers from brown spot or bacterial brown spot bacterial diseases caused by *Pseudomonas syringae* pv. *syringae*. In the present study, 103 seed samples of pearl millet were collected from the major growing districts of Rajasthan viz Barmer, Jodhpur, Jaisalmer, Pali, Jalore and Nagaur. Among this 61 seed samples showed 3 to 64% incidence of *P. Syringae* pv. *Syringae* on Kings-B medium. The pathogen was identified based on cultural, biochemical, molecular characterization and pathogenicity tests. Biochemical profile of seed samples of pearl millet naturally infected with *Pseudomonas syringae* pv. *syringae* were studied by using various standard methods. It was found that these seed samples expressed lower content of crude fat, crude fibers, total carbohydrate, total soluble sugar, ash and moisture content and higher content of crude protein and phenols. Enzymatic activity of poly-phenol peroxidase and peroxidase were found higher in infected seeds as compared to healthy seed samples. The increased polyphenol content and enzymatic activity may be attributed to defence mechanism in infected seeds against the pathogen.

□□□

Effect of Bt Cotton leaves Adversely affected next Rabi crop in the field in Dual Cotton-wheat Cropping system in Hanumangarh District

¹Sudhir Kumar and ²Manjula K Saxena

*Department of Botany, University of Rajasthan, Jaipur (Raj.), India
tonysidhu302@gmail.com; manjulaksaxena@yahoo.com*

Abstract

Genetically modified crop have indirect undesirable effect on natural and agroecosystem function viz., on crop diversity, biodiversity of wild relatives, non target soil organism, weed, land use, non target above ground organism and area wide pest suppression. Bt cotton are genetically modified crop to express insecticidal protein to control pink bollworm pest that feed on cotton. A comparative study on Bt and non Bt cotton in the field of Hanumangarh District revealed low yield of next rabi crop, wheat after the harvest of Bt cotton. Bt cotton showed adverse impact on wheat crop when grown on the same plot probably due to persistence of Bt toxin in the soil. There are reports of alteration in microbial activity, i.e. decline in bacterial count, enzymatic activity such as acid phosphatase, phytase, nitrogenase and dehydrogenase. Further work is in progress.

□□□

Eco-friendly Waste Water Treatment using Cow Dung powder as Bio-absorbent

¹Sunil Chaudhary and ²Pratibha Dwivedi

*Department of Science, Biyani Girls College, Jaipur, Rajasthan
sunilghosly@gmail.com, dwivedi.pr2269@gmail.com*

Abstract

Water pollution is a crucial problem faced in present era by the world, as only less than 1% of total water is available for drinking purposes. Developing Countries like India is facing waste water treatment procedures more challenging as these treatment procedures are very expensive and need expertise in this field. It also has been observed that these waste water treatment procedures produce

other environmental pollutants. Cow dung manure can be used as an alternative and very eco-friendly as well as economical process to be used for the same purpose. Microorganisms present in cow dung powder have properties to degrade different type of chemicals and wastes present in waste water. It also has been observed that some microorganisms can degrade non-degradable compounds which generally cannot be degraded by other procedures. The persistent nature of these xenobiotic compounds creates critical problems to our environment. It also has been noticed that activated carbon present in cow dung manure are used to treat sewage waste water. These activated carbon and microorganisms work as bio-absorbents which have capacity to absorb and degrade different type of pollutants present in water effluents discharged from different industries and domestic inhabitants.

Keywords: Bio-absorbents, Xenobiotic compounds, waste water effluents, cow dung powder.



Effects of Ecotourism on the Distribution and Population Status of Black-headed Ibis (*Threskiornis melanocephalus*) in Southern Rajasthan

Pratibha Dwivedi, Sunil Chaudhary and Chhavi Bhalothia

Department of Science, Biyani Girls College, Jaipur Rajasthan.

sunilghoslyia@gmail.com, dwivedi.pr2269@gmail.com, bhalothiachhavi@gmail.com

Abstract

Birds as a great and valuable group of vertebrates which is an intimate part of evolutionary process and known as best ecological service provider and recognized as good bio-indicators of the world's ecosystems. The Black-headed Ibis is the member of family Threskiornithidae of order Ciconiiformes, sociably frequenting shallow habitats, is declining throughout its entire range and categorized as 'Near Threatened' by IUCN due to anthropogenic threats such as ecotourism, hunting and habitat destruction. Ecotourism helps to protect many habitats, but may also have negative impacts on waterbirds. In recent years southern Rajasthan has transformed the environmental conditions by changing the ecological indicators, lack of food, displacement, prevent access to resources, and reduce reproduction and survival. It leads to the development of wetlands as tourist spots and encourages construction of foot pavements around wetlands. Now days it is becoming very popular, especially in protected areas. In southern Rajasthan it is also the fastest growing sector and negatively affecting the flora and fauna. Almost all the lakes and dams of southern Rajasthan have eco-trails as per high demand of ecotourism; these regions are highly disturbed by

human activities which ultimately affect the distribution, population status, breeding behavior, reproductive success, roosting, foraging and migration of Black-headed Ibis. The main aim of this study was to examine the Effects of Ecotourism on the Distribution and population status of Black-headed Ibis (*Threskiornis melanocephalus*) in Southern Rajasthan. The research method was analytically and descriptively aided by direct field observations, and it was conducted by using questionnaires methods, satellite images of water body and climatic parameters.

Key words: Black-headed ibis, wading, waterbirds, foraging, ecological indicators

□□□

Probing the Responses of Wheat Genotypes (*Triticum aestivum* L.) by Chlorophyll Fluorescence OJIP under Drought Stress

Sunita Parihar and Vineet Soni

*Plant Bioenergetics and Biotechnology Laboratory,
Department of Botany, Mohanlal Sukhadia University, Udaipur-313001, Rajasthan, India.
sunitagoyal.udr@gmail.com*

Abstract

Drought induced loss in crop yield by inhibiting photosynthesis. Plants display a variety of physiological and biochemical responses at cellular levels. The main objective of this study was to evaluate the effects of drought on two varieties of wheat (*Triticum aestivum* L.) KRL-1-4 and HI-1500. PS II photochemistry (F_v/F_m) parameter was found more sensitive to drought stress in KRL-1-4 when compared to HI-1500. Study of other parameters included chlorophyll content, initial fluorescence (F_0), maximum primary yield of photochemistry of photosystem II (F_v/F_0), maximum quantum yield of photosystem II (F_v/F_m) and density of active reaction centers indicates the higher potential of drought tolerance in HI-1500.

Key words: Drought, *Triticum aestivum* L., Chlorophyll fluorescence, PSII.

□□□

Effect of *Pseudomonas Syringae* infection on Biochemical Constituents of Seeds of Barley (*Hordeum vulgare* L.)

Suraj Sharma, Sourabh Khorwal, Indu Singh Sankhla and Kailash Agrawal

*Department of Botany, University of Rajasthan, Jaipur- 302004
sharsuraj86@gmail.com*

Abstract

Barley (*Hordeum vulgare* L.) is one of the good grains to feed and malting. Rajasthan occupied the highest area and production of barley in India. The production of barley is adversely affected by bacterial kernel spot and basal glume rot caused by *Pseudomonas syringae*. Out of 146 seed samples of barley belonging to 10 districts of Rajasthan viz. Jaipur, Tonk, Ajmer, Dausa, Sawai Madhopur, Bhilwara, Sikar, Jhunjhunu etc. studied, 91 samples revealed association of a *Pseudomonas syringae* on Kings-B agar medium with an incidence of 9 to 72%. The pathogen caused seed discolourations and affected the seed quality adversely. The biochemical changes caused by *P. syringae* in the constituents of seeds of barley was studied using standard methods. Mean content of moisture, crude fat, total carbohydrate, crude fibre contents were found lower in infected samples as compared to healthy (check) seed samples. In other hand mean Protein, ash and phenol contents were high in infected seed samples as compared to healthy seed samples of barley. The mean enzymatic activity of peroxidase, polyphenol oxidase were found higher in infected seed samples as compared to healthy seeds.

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High-Performance Liquid Chromatography

Swati Sharma and Nidhi Bansal

JECRC University, Jaipur

Abstract

Chromatography is defined as a set of technique which is used for the separation of constituents in a mixture. The chromatography term is derived from the Greek words namely Chroma (color) and graphein (to write). There are different types of chromatography techniques: paper chromatography, column chromatography, thin-layer chromatography. High-performance liquid chromatography (HPLC) is an advanced form of chromatography generally used in biochemistry and analysis to separate, identify and quantify the actual compounds. HPLC refers to the process of isolation and

purification of compounds. In HPLC, the focus is to obtain the information regarding our samples. There are many pharmaceutical applications like quality control, study on drug dosage, ingredients of drug forms. This setup is useful for very small particle size for the column packing. The principle of separation in normal phase mode and reverse phase mode is adsorption. This allows the much better separation of the components of mixture. Reverse phase HPLC is the most commonly used form of HPLC. In RP-HPLC there is the same sized column but the silica is not modified to make it non-polar by joining long hydrocarbon chains to its surface either 8 or 18 carbon atoms. A solar solvent for example a mixture of water, alcohol such as methanol.

Keywords: Chromatography, Isolation, Purification, Adsorption.



Microorganisms and their Significant Role in accomplishing the UN's Sustainable Development Goals (SDGs)

**¹Tarun Kumar Kumawat, ²Anima Sharma,
³Seema Bhadauria and ⁴Vishnu Sharma**

¹Biyani Bio Solutions Pvt. Ltd., Jaipur, Rajasthan, India

²Department of Botany, MDS University, Ajmer, Rajasthan, India

³Department of Botany, University of Rajasthan, Jaipur, Rajasthan, India

⁴Department of Botany, Mehta PG College, Jaipur, Rajasthan, India

tarun_kumar14@ymail.com

Abstract

The 17 Sustainable Development Goals (SDGs) and 169 targets of the 2030 agenda have been set by the United Nations to accomplish all three dimensions of sustainable development, *i.e.*, economic, social and environmental growth through green and cleaner technologies. Sustainable development goals and their targets constitute a worldwide vision for the advancement of human well-being and advancement towards a secure, just and sustainable space for all people to flourish on the planet. Our contemporary methods, such as uncontrolled waste generation, haphazard use of chemicals, and increased employment, have posed a major threat to environmental sustainability. Increased waste products and the continual depletion of natural resources have diverted human attention to effective techniques of green and clear production. In this view, microorganisms, a treasure in itself, can play an important role in maintaining life on earth. These are an extremely important part of the biogeochemical cycles that are essential to our sustainability. Living without

greater organisms is possible, but there is no life without microbes. Microbes are essential in green technologies and biodegradation, ranging from biogeochemical cycles to numerous industrial products. Although the most attention is often given to microorganisms that cause disease, it is important to understand that there are countless beneficial microbes that do not cause disease. If microbes are used sensibly, they can make a drastic contribution to sustainable development. For humans, animals and agriculture, microorganisms produce numerous biotechnological compounds. These microbes are the source of various bio-products such as antibiotics, bio-pharmaceuticals, single-cell protein, organic acids, bio-fertilizers, bio-pesticides, enzymes, pigments, vitamins, bio-fuel, and so much more. If society is sufficiently informed about how microbes can impact our life, and if microbes are used intelligently, then some of today's serious problems, including food, health, well-being, and green energy, can be appropriately resolved.

“Microorganisms are very much our past and our future”.

Keywords: Microorganisms, Sustainable Development Goals, Green technology, Human, Environment



Analytical Study of MHD Natural Convective Flow through an Inclined Channel in the Presence of Viscous Dissipation and Heat Source

¹Tarun Sharma, ²Pooja Sharma and ³Navin Kumar

¹*Assistant Professor, Department of Science, Biyani Girls College, Jaipur-302039*

²*Associate Professor, Department of Mathematics and Statistics,
Manipal University Jaipur, Jaipur-303007,*

³*Principal, Indian Military Academy, Dehradun-248007, Uttarakhand, India
tarunsharma.sharma52@gmail.com*

Abstract

The key objective of the present paper is to study the MHD natural convective, viscous incompressible electrically conducting fluid flow through an inclined channel filled with the porous medium in the presence of viscous dissipation and heat source effects. The governing equations of fluid velocity and temperature distribution have been derived and solved with the help of perturbation method, in the continuation, rate of heat transfer and skin friction coefficient are also calculated and discussed numerically for the pertained flow parameters. In the present analysis, it is

noticed that high intensity of applied transverse magnetic field reduces the fluid velocity and temperature, whereas the rise in the inclination angle of the channel with horizontal axis, heat source, and buoyancy force parameter prop up the fluid motion and fluid temperature. The present investigation is useful in metallurgy science for filtration and separation process in the presence of a strong magnetic field.

Keyword: Heat Source, MHD, Natural Convection, Porous Medium, Perturbation Method.



A Comparison of Diurnal Activity Pattern and Budget of Sloth Bear (*Melursus ursinus*) between Winter and Summer in Captivity

Utkarsh Prajapati, Chhaya Bhatnagar and Vijay Kumar Koli

*Wildlife Research Laboratory, Department of Zoology, University College of Science,
Mohanalal Sukhadia University Udaipur (Raj.), India 313001
utkarsh41995@gmail.com, vijaykoli87@yahoo.in*

Abstract

Studies on captive animals provide information in terms of their welfare, health, management and exposition of natural behaviours. A comparative study on diurnal activity of a captive male Sloth bear (*Melursus ursinus*) between winter and summer was carried out from November 2016 to May 2017 at Sajjangarh Biological Park, Udaipur (Rajasthan), India. The daily activity pattern of Sloth bear exhibited two peaks; the first initial peak was between first hour of observation i.e. 1000-1100 hr, while second lower peak was between 0400-0500 hrs. Mid-day hours were reduced activity period. Most of activities showed similar daily routine in both seasons except basking, drinking and bathing ($P < 0.05$) and was seen related with thermoregulation of animal in summer. Animal was found more active during winter (41.85%) then summer (38.07%), while majority of time was spending in sleeping (29.1%) and walking (22.6%). Sleeping was accounted highest in summer while walking was highest in winter season. No stereotypic behaviours were observed during the study.

Key words: *Melursus ursinus*, activity, captivity, Sajjangarh Biological Park, winter, summer



Study of Copper (II) Complexes using ZnO as Catalyst in Photodegradation

¹Vandana Sukhadia and ²Rashmi Sharma

¹Dept. of Chemistry, S.D. Govt. College Beawar, ²Department of Chemistry, S.P.C. Govt. College Ajmer
vandana.vandana.sukhadia@gmail.com

Abstract

The photocatalytic degradation of copper(II) complex was studied under visible light using ZnO as semiconductor catalyst. This complex was prepared by using urea (ligand) as precursor for Copper soap complex with copper(II) mustard soap. ZnO has efficient photocatalytic activity for degradation of copper mustard urea complex. The effect of various parameters like pH, the concentration of complex, amount of catalyst and light intensity on the rate of degradation was also studied. It can be a promising method for wastewater treatment.

Keywords: Copper (II) Mustard Urea complex, Zinc oxide as semiconductor, Photocatalytic degradation.

Introduction

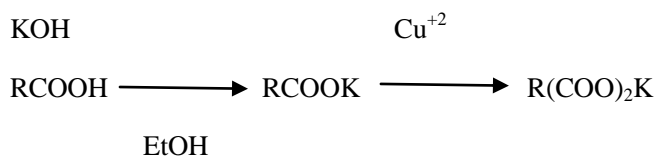
Water is the most important source for the life of all living organisms, but water is becoming polluted. Today, people are facing a major problem of water pollution. The industrial effluents are toxic sources of water pollution. Many industries are producing a large variety of harmful compounds through their effluents. Dyes are most common pollutants, which cannot be easily degraded. There is an increasing demand of clean water all over the globe. Different types of method have been used for degradation of colored water but also require an urgent eco-friendly solution for treatment of waste water. AOPs are widely used for the removal of pollutant by eco-friendly method. This article recalls and demonstrates the photocatalytic degradation of Copper Mustard Urea complex by heterogeneous photocatalytic process using ZnO as semiconductor. Heterogeneous photocatalysis on semiconductor surfaces has attracted a lot of attention due to application like water disinfection, degradation and complete mineralization of organic contaminants in waste water and purification and water splitting for hydrogen production ⁽¹⁻³⁾ Photocatalytic techniques may prove to be faster and more economical than the traditional techniques of treating pollutant. Paliwal *et al.*, [4] reported the degradation of malachite green using CuO/Al₂O₃ composite as a semiconductor.

Experimental

Photocatalytic Process: The photocatalytic activity of the catalyst was evaluated by measuring the rate of degradation of copper mustard urea complex. Photodegradation was measured by a spectrophotometer (systronic model 106).

Copper soap complex was exposed to a 200 W tungsten lamp. About 25 ml solution of complex in non polar solvent benzene was taken out at an interval of 2 hours and absorbance (A) was measured at $\lambda_{\text{max}} = 680 \text{ nm}$. A water filter was used to cut off thermal radiations. The intensity of light was varied by Suryamapi. The absorbance of the solution was measured at various time intervals with the help of a spectrophotometer (Systronics Model 106).

Formation of complex: Firstly copper soap was prepared by using direct metathesis.



The prepared soap derived from edible oil was refluxed with ligand urea to get its complex. Complex was prepared by using soap and ligand in 1:1 ratio for 1 hour.

Results and Discussion

Copper mustard urea complex- (CMU)

Rate of the reaction was calculated using the following equation:

$$K = 2.303 \times \text{slope}$$

Effect of concentration of soap complex: -

A perusal of the results may suggest that Copper and ligand (Urea) bond may degrade easily at first step. Polyunsaturated segment of CMU complex at second step and then saturated segment undergoes degradation. This observation suggests that the rate of degradation of metal ligand bond increases with increasing concentration of CMU and further increase in the complex concentration results in decrease in the rate of degradation.

Light intensity - 32 mW cm^{-2}

Solvent - Benzene

Amount of ZnO - 0.02 gm

[CMU complex] - Concentration of Copper Mustard Urea Complex

[CMU complex] in M	$K_1 \times 10^{-5} \text{ sec}^{-1}$	$K_2 \times 10^{-5} \text{ sec}^{-1}$	$K_3 \times 10^{-5} \text{ sec}^{-1}$
.0004	16.4	1.91	1.03
.0005	19.8	8.31	8.6
.0006	21.1	15.35	14.09
.0007	22.09	3.35	1.5
.0008	4.37	4.05	4.47
.0009	16.95	3.67	9.91
.0010	3.67	9.27	2.48
.0011	13.75	3.19	1.35
.0012	3.85	3.1	4.05
.0013	2.87	1.27	1.06

Figure 1: Structures of functionalized amide **1**, sulphonamide **2** and target prototype **3** and **4**.

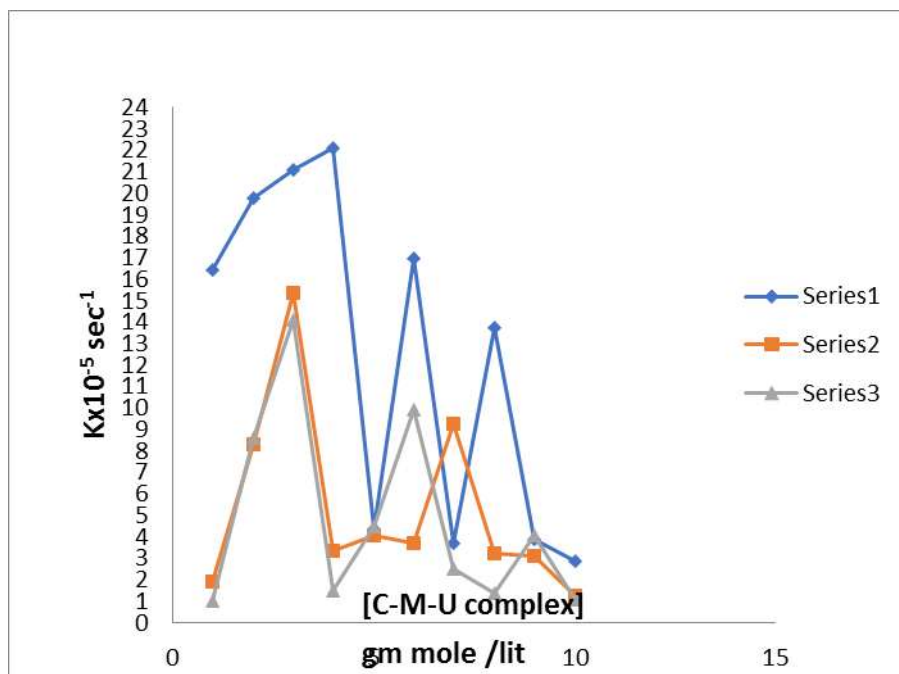


Figure 2 : Effect of Concentration of Copper Mustard Urea Complex

Here: Series-1 = $k_1 \times 10^{-5}$, Series-2 = $k_2 \times 10^{-5}$, Series-3 = $k_3 \times 10^{-5}$

Percent- degradation of CMU complex:

Percentage of complex degradation was estimated by the following equation [5]

$$\% \text{ degradation} = \frac{A_0 - A_t}{A_0} \times 100$$

Conclusion

Present study suggests that variation in rate constant may be due to increase in aggregation of macromolecules in solution which decreases the probability and the rate of degradation including various steps of metal ligand breaking, unsaturated segment and saturated segment bond breaking of complex respectively.

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Design, Synthesis and Biological Potential of Synthetic Aporphines

**^{1,2} Vashundhra Sharma, ¹Pradeep Kumar Jaiswal
and ¹Sandeep Chaudharya**

*¹Department of Chemistry, Malaviya National Institute of Technology,
JLN marg, Jaipur-302017, India*

²Department of Chemistry, Biyani Girls Collage, Vidhyadhar Nagar sector-4 Jaipur

Abstract

A large number of aporphine alkaloids have been isolated either from several plant species (such as Hernandiaceae, Lauraceae, Annonaceae, Menispermaceae, Monimiaceae etc.)¹ and many others have been synthesized also. Both natural as well as synthetic aporphine alkaloids displayed wide range of pharmacological activities and also serve as leads for the development of potential drug discovery scaffolds. For example, naturally/synthetic aporphines have been identified as antimicrobial, antiviral, acetylcholinesterase inhibitors, antimalarial, CNS receptor ligands, anti-Alzheimer and potent dopamine

D1/D2 agonist.² In our effort to develop novel bioactive molecules; several natural as well as semi synthetic analogues were reported to show excellent antioxidant^{3a} as well as antiplatelet activities^{3b} (Figure 1). On the other hand, several amides **3** as well as sulphonamide **4** analogues display promising antioxidant.^{4a} as well as antiplatelet properties^{4b} (such as: Aspirin, tirofiban, sulfipyrazone, clopidogrel etc.

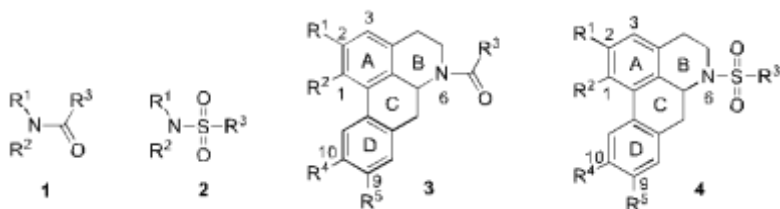


Figure 1: Structures of functionalized amide **1**, sulphonamide **2** and target prototype **3** and **4**.

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Digital Alternatives to Dissections in lifeSciences: Sustainable Research

Vikas Saxena

*Assistant Professor, Zoology, S.D. Government College, Beawar, India.
vikassaxenacv@gmail.com*

Abstract

The effect of implementation of guidelines of UGC, the Committee for the Purpose of Control and Supervision of Experiments on the Animals (CPCSEA) on the utilization of the laboratory animals in educational institutions for academic purpose was analysed. A revolution in research and Teaching started when, Jennifer Graham, 15- year-old girl student of lifesciences, from California in 1987 refused to dissect an animal and asked her school to seek an alternative study option, whereupon the state of California, USA, granted that right to all high school students, to be followed by other States in the US and later other countries as well, who revolutionized animal dissection. Russell and Rex Burch were the ones to revolutionise the approach to animal experiments with their book *The Principles of Humane Experimental Technique*, published in 1959, wherein they demanded a humane approach to animal experimentation and introduced the 3Rs concept (replacement, reduction and refinement), which has come to be known as the concept of “*Alternatives*”. Three Rs Declaration of Bologna, was adopted in 1999 by the Third World Congress on Alternatives and Animal Use in the Life Sciences and strongly endorsed and reaffirmed the principles of the 3Rs (Akbarsha, M. A., & Pereira, S. (2010). In 1996, both the Central Board of Secondary Education and the Indian Council of Secondary Education stopped the use of animals in teaching life sciences in secondary schools in India. However, with regard to higher education and research there was an awakening only after the turn of the century when organisations like People for Animals, India (PFA), I-CARE and the CPCSEA. The Purpose of Control and Supervision of Experiments on Animals, Govt. of India), began a campaign for non-animal methods of teaching and learning in life sciences. The Mahatma Gandhi-Doerenkamp Center for Alternatives to the Use of Animals in Life Science Education (MGDC) has been established as a national centre for alternatives in India at Bharathidasan University, Tiruchirappalli, Tamil Nadu, a renowned university under the University Grants Commission of the Government of India. The mandate of the centre is to introduce the Gandhian Philosophy of ‘Ahimsa’ or ‘non-violence’ into the teaching /research of life sciences

Keywords : Ahimsa ,digital dissections, Alternatives to dissection Mahatma Gandhi, life science, biomedical education, India, e-learning, CPCSEA

Introduction

Science and research uses animals for dissections (Animals killed to study the anatomy and physiology), vivisection (using live animals for drugging, irradiating, blinding, killing, burning, cutting other Animal experimentation). Varied animals are used in laboratories like earthworm, mice, frogs, lizards, fishes, Herdmania etc. Medical sciences use dead human bodies as Cadavers for study of Human anatomy. According to Rosse (1995), dissection is destructive process that destroys many of the specimen structures and their spatial relationships precluding re-examination by the students. Rollin, 1990 says that dissection is too focused on the acquisition of facts while failing to teach students to conceptualise and synthesize. It is ironic that zoology/lifesciences teachers on one hand emphasize the importance of biodiversity wildlife conservation but on other hand practice dissections in education (Sathyanarayana, 2009). The Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) was constituted by the central government under the sections 15 to 20 of the Prevention of Cruelty to Animals Act 1960 in the year 1996². The guidelines of CPCSEA were implemented in the year 1998. Focus of the latter guidelines was to control and supervise the experiments on the animals that are used in bio-medical institutions, veterinary research institutions and research laboratories for education and research purpose. The CPCSEA uses 4Rs concept such as replacement, reduction, refinement and rehabilitation of experimented animals to promote human care of affected animals. It was the effort of W.M.S. Russell & R.Burch (1959) that produced the 3R concept/Principle (Reduction, Replacement & Refinement). The animal records maintained by PeTA & others were used, which says that more than 6 million frogs are killed for dissection each year. for academic training, conducting pharmacological and physiological experiments either as *in vivo*, *ex vivo*, *in vitro* or *intact* models. Infact when dissections were not banned, a single supplier of animals may catch upto 3000 frogs per month, if we just calculate that on the world level, we can imagine the loss of biodiversity. in the practical syllabus of pharmacology and toxicology subject of the undergraduate pharmacy course by the health sciences university in the year 2002. The results showed that the implementation of CPCSEA guidelines in pharmacy institution decreased the number of laboratory animals utilised for academic purpose. The history of dissections dates back to 1800 A.D. when no other means were available to study the anatomy, later huge advancements were made in the way of computer simulations, three dimensional modelling and with these technologies digital dissection software's were made, so in this new era the teachers do not solely rely now on animal dissection for the purpose of study, so the computer multimedia based simulation experiments are slowly becoming the tool in hand to the life sciences faculty. In the biomedical educational field, United Kingdom and Netherlands have banned practising animal surgery in their medical schools, whereas in United States of America the ban on use of animals is limited to few states. At national level, Indian National Scientific Academy opines that usage of animals in bio-medical research, testing and teaching though essential and unavoidable, should be governed by strict laws as per the best international practices and standards to ensure humane treatment of animals. To spread awareness

about the guidelines and use of non-animal simulated models among the bio-medical research institutions, veterinary research institutions and research laboratories, government and private sectors, CPCSEA under the Ministry of Environment and Forests, Government of India, organised many workshops and conferences in metropolitan cities in. Theme of such awareness was on promoting the use less number of animals in education and research. Following UGC, CPCSEA guidelines implementation, some biomedical institutions and research laboratories immediately started following guidelines for academic and research purpose. However, substantial institutions were slow in this process for academic purpose. This was perhaps due to controversy on the implemented guidelines. That is whether these guidelines help students actual learning of research skills and secondly, limited knowledge on use of non-animal methods for academic training of undergraduate and graduate students

Methodology

The animal records from various sources and reports were used. The details such as the registered breeders, procurement, laboratory animals, experiment, institutional animals' ethics committee (IAEC) approval, euthanasia and disposal procedures, in-charge faculty were documented in these records as per CPCSEA guidelines (Form-D). The type and number of animals utilised and experiments conducted on them either as *in vivo*, *ex vivo*, *in vitro* or *intact* animal models in subjects such as physiology and pharmacology for academic training of undergraduate students from bachelors of pharmacy course was noted. (Dr. Mahesh- IMPACT OF 'CPCSEA' GUIDELINES ON LABORATORY ANIMALS USE)

Results and Discussion

Focus of this study was to assess whether the guidelines of CPCSEA was able to bring about the change in the animals use in institution. Animals' records were used to analyse retrospectively the animals use for academic training of the students

In laboratory, alternative approaches such as simulated computer experiments, sharing of animals/organs and demonstration were frequently used. This indicates that the CPCSEA guidelines has positive effect in reducing the overall animals use. Use of Ex-Pharm software completely replaced rabbits use. Experiments such as effect of mydriatics, miotics and local anaesthetics were studied on the rabbit eyes. This results reflects that the simulated computer model can completely replace the experiments on rabbits. DigiFrog is computer simulated dissection and anatomy study tool. The use of alternative non-animal models can significantly reduce as well as replace the animal experiments for education purpose. It is also equally important to use an alternate method which has been validated for its reliability and reproducibility in the area of interest⁷. Recently, medical council of India and pharmacy council of India stated that the live animal experiments must be replaced with sophisticated non-animal experiments using computer aid technology for bio-medical education of undergraduate and graduate students' In this context, other alternative methods such as

magnetic resonance imaging, microelectronics, fibre optics and laser technology to study the effect of chemicals/drugs in whole animals were recommended⁷. In other parts of the world, animal activists are asking scientists to gain sufficient knowledge about the non-animal experiments that were conducted similar to those of animal experiments, which are planned for potential biomedical research. This helps to eliminate duplication of animal experiments. In addition, smallest number of animals must be utilised for quality research⁷. Currently, Indian animal welfare act 2011 strongly opines to put penalty for either experimentation on animals without permission or breach of protocol approved. Scientists opine the need for thorough discussion before imposing fine for breach of protocol as it is accepted in USA due to counter productivity of experiments⁸. These views show that the CPCSEA guidelines, having replaced animal use with non-animal models for education purpose, are going to be strict further on the unnecessary use of animals for biomedical research.

Conclusion

Its high time for universities to seek avenues that will minimise animal use for teaching purposes (Surendaran and Easwarmohan, 2009). The alternatives available for education & research purpose have evolved significantly to replace the dissections and vivisection, instead of completely banning dissections, it should be made elective, i.e. if any student project needs and the student has a penchant to study the anatomy in details can go for dissections, so that other student who do not wish to do that will not waste the animal and can study the details using software. Implementation of the guidelines of UGC & committee for the purpose of control and supervision of experiments on animals significantly decreased utilisation of laboratory animals in research institution for academic purpose. We should promote the use of Non-invasive animal alternatives resources available to us now and start promoting students to study animals in nature. With the advent of modern technology educators should frame curricula that expose the students to the acquisition of knowledge through observation rather than through the archaic method of dissecting animals (Sathyanarayana, 2009). Out of all the students who are going for dissections very few continue to remain in the field, so as such during all his schooling and graduation days he has killed animals for dissections and never used that knowledge when he chooses another field, so it's better to use live zoology projects, biodiversity fairs, bird fairs, ethological study tools to make the students aware about biodiversity and to help them develop a bond with nature and propagate the message further. This will help in biodiversity conservation.

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Use of Biosorbents and Nanosorbents for Removal of Malachite Green: A Review

Vinod Singh Gour

Amity Institute of Biotechnology, Amity University Rajasthan, Jaipur- 342002, India

vkgaaur@jpr.amity.edu; vinodsingh2010@gmail.com

Abstract

Malachite green is a cationic dye used in various industries. The effluent of these industries has to be treated properly to ensure safe discharge of water. Adsorption is one of the most user-friendly and cost effective methods to remove the dye from aqueous waste. In present review, the effects of malachite green on ecosystems and the use of biosorbents along with their efficiency have been discussed in detail. Similarly, new generation adsorbent- nanosorbents have also been discussed. Critical view for judicious selection of adsorbents and their efficiency has also been offered. It will certainly help researchers and end users in one or other way to select the adsorbent to treat effluent containing malachite green.

Key words: Adsorption; biosorbents; nano material; sustainable method and water pollution.



An Approach of Sustainability to Piezoelectricity

Vishal Sukhnani, Nandini Soni and Poonam Hariyani

Department of Chemistry, JECRC University, Jaipur

vsukhnani10@gmail.com

Abstract

Sustainable development is that meets the needs of the present, without compromising the ability of future generation to meet their all needs. The concept of sustainable development can be interpreted in many different ways but as its core is an approach to development that looks to balance different and often competing needs against an awareness of the environment, social, economic limitations we face as a society. This topic piezoelectricity highlights various methods in which we can use the concept to harness the energy is a green way using some simple designs which can be used in the daily life.

Keywords : Sustainable, environment, social, economic.



Protective Impact of Aloe vera on Cartap and Malathion Induced Hepatotoxicity in Wistar Rats

Vivek Kumar Gupta and Bechan Sharma

*Department of Biochemistry, Faculty of Science, University of Allahabad,
Allahabad-211002, U.P. India.*

Abstract

Exposure to the pesticide/mixture of pesticides in agricultural practices may cause serious threat to nontarget animals. The cartap and malathion both are known to induce oxidative stress and inhibit the acetylcholinesterase (non-covalently and covalently, respectively). The present work was designed to evaluate the synergistic effect of cartap and malathion on rat liver followed by impact of leaf extract A. vera, which was not known. The wistar rats were divided into eight groups. Each contained six rats: Group 1 - control, Group 2- treated with leaf extract of A. vera, Group 3- cartap treated, Group 4- malathion treated, Group 5- treated with combination of cartap and malathion, Group 6- cartap treated with the pretreatment of Aloe vera leaf extract, Group 7- malathion treated with the pretreatment of A. vera leaf extract, Group 8- treated with the mixture of cartap and malathion with the pretreatment of A. vera leaf extract. After the end of treatment regimen (for 15 days with the 24 h interval) the animals were sacrificed. The biochemical studies in the rat liver demonstrated significant perturbations in the levels of non-enzymatic (GSH, MDA) and enzymatic (SOD, CAT, GST) antioxidative indices. The histopathological examination of liver also revealed serious congestion in central vein and the disorganization of hepatic cords due to pesticide treatment. The administration of leaf extract of A. vera was able to markedly protect the rat liver from the pesticides induced toxicity. The data indicated that pesticides were able to significantly induce oxidative stress which was substantially ameliorated by the plant extract.

Keywords: Pesticide, Oxidative stress, Antioxidants, Hepatoprotective, Histopathology



First Principles Calculations: Electronic Structure and Magnetic Properties of Ti_2FeSb Heusler Alloy

¹Vivek Kumar Jain and ²N. Lakshmi

¹Assistant Professor, Biyani Girls College, Jaipur, Rajasthan 302039, India

²Professor, Department of Physics, Mohanlal Sukhadia University, Udaipur, Rajasthan, 313001, India
vivek.jain129@gmail.com

Abstract

Calculation of electronic structure and magnetic properties of Ti_2FeSb were performed using the full potential linearized augmented plane wave (FP-LAPW) method implemented in WIEN2k code based on DFT. The Perdew–Burke–Ernzerhof generalized gradient approximation (PBE-GGA) was used for the exchange correlation function, energy threshold between the core and the valence states was set to -6.0 Ry, $R_{\text{MT}} \times K_{\text{Max}}$ set to 8 where R_{MT} is the smallest of the MT sphere radius and K_{Max} is the largest reciprocal lattice vector used in the plane wave expansion and the magnitude of the largest vector in charge density Fourier expansion G_{Max} was 12 (a.u.)^{-1} . The energy convergence criterion was set to 10^{-5} Ry and 3000 k-mesh points taken in the irreducible part of Brillouin zone integration. We have calculated the energy vs. volume curve using Murnaghan's equation of state in Hg_2CuTi -type structure. The equilibrium lattice constant of Ti_2FeSb is 6.32 \AA . The bulk modulus and its pressure derivative are 125 GPa and 7 GPa respectively.

Total DOS shows semiconductor in both majority spin and minority spin. Fermi level is mainly due to the 3d states of the Ti[A], Ti[B] and Fe. In majority spin at Fermi level, contribution of the Ti[B] 3d states is small compared to the Ti[A] and Fe 3d states. The calculated total magnetic moment of the Ti_2FeSb is $2.99 \mu_B$ in the unit cell. The individual atomic moments are $1.40 \mu_B$ for Ti[A], $0.41 \mu_B$ for Ti[B], $0.81 \mu_B$ for Fe and $0.02 \mu_B$ for Sb. The magnetic moment of Ti[A] is more than magnetic moment of Ti[B] due to the different surrounding environment of the atoms. This is because the Ti[A] atom is surrounded by four nearest Ti[B] atoms, four nearest Sb atoms and six next-nearest Fe atoms, while the Ti[B] atom is surrounded by four nearest Ti[A] atoms, four nearest Fe atoms and six next-nearest Sb atoms (Fig.1).

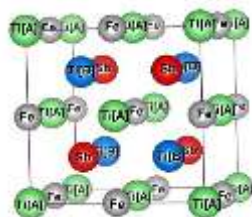


Figure 1. Crystal structure view of inverse Heusler alloy Ti_2FeSb

The band structure diagram of Ti_2FeSb Heusler alloy for majority spin and minority spin band shows an indirect band gap of 0.14 eV in the majority spin along Γ -X band lines and direct band gap of 0.55 eV along Γ band in conduction band above Fermi level. While in the minority spin, indirect band gap of 0.94 eV along Γ -L band lines and direct band gap of 1.59 eV along Γ band line calculated by difference of maximum of valence band (VBM) and minimum of conduction band (CBM). Since the VBM lies 0.66 eV below E_F at Γ point, the energy gap of 0.66 eV between VBM and Fermi level shows a spin-flip gap, which represents the minimum energy required to flip a minority spin electron from the valence band maximum to the majority-spin at E_F . The non-zero spin-flip gap indicates that the Ti_2FeSb compound is a true half-metallic. The atomic magnetic moments of Ti[A], Ti[B] and Fe are parallel to each other which shows half metallic ferromagnetic nature of the Ti_2FeSb Heusler alloys.

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Challenges to Sustainable Health of the Artisans in Jaipur City

Vrinda Chauhan

*Research Scholar, Department: Department of Sociology, The IIS University, SFS, Jaipur-302020
chauhan.vrinda18@gmail.com*

Abstract

The history of rich tradition, culture and heritage is old back in ages in India glorified with distinctive cultural identities and so is a signature remark in Jaipur city. The contribution for this lies within the eminent works of artisan who make things with their hands and beautify them with their creativity. As a part of concern, to continue with the efficiency of work it is necessary for the artisans to get the awareness updated regarding sustainability of health. A sustainable health is a personal awareness of a being to commit, maintain and take responsible measures through proactive means for their health. The work of artisans in handicrafts industry is a high risk occupation. According to the research, some artisans work with various cancer causing chemicals and dyes and so they are prone to skin diseases and breathing problems; some work in the environment of wood dust and stone dust and again suffer from breathing problems; where some work with sharpened instruments and face injuries, as some artisans face problems with their eye-sights because of continuously doing detailed work. They are not even aware of the existing problems and risks in their working sector. In such patterns the problems that can be identified is illiteracy and lack of awareness of sustainable health that leads them to suffer many health risk factors and proper precautionary methods while working. Thus, this paper seeks to analyze that how lack of awareness of sustainable health can become a health risk factor and why sustainability becomes an important part to get concerned with along with fulfilling the functional obligations by the artisans.

Keywords: Sustainable, Health, Artisans

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Robust Synthesis of Sugar-coumarin based Fluorescent 1, 4-disubstituted-1, 2, 3-triazoles using Highly efficient Recyclable Citrate Grafted β -cyclodextrin@magnetitenano Phase transfer Catalyst in Aqueous Media

¹Yachana Jain, ²Mitlesh Kumari, ³Deepika Yadav and ⁴Ragini Gupta

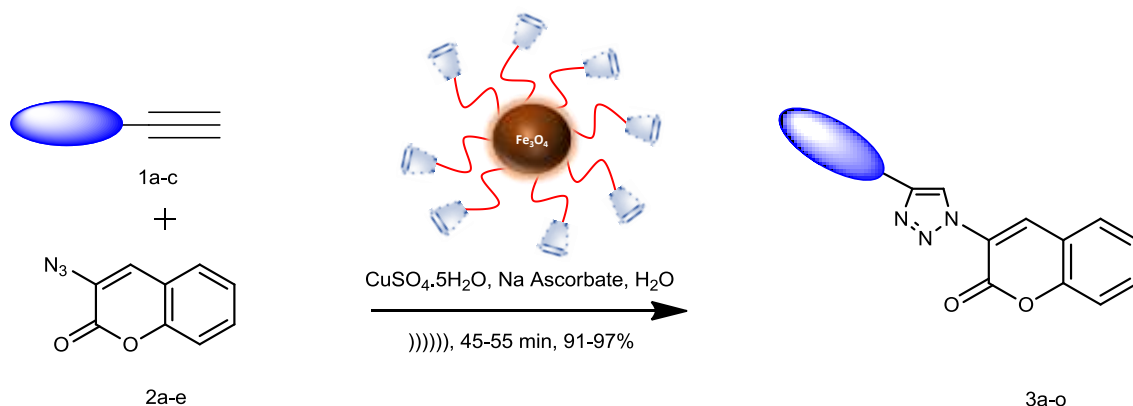
^{1,3}Biyani Girls College Jaipur 302039, India

^{2,4}Department of Chemistry, Malaviya National Institute of Technology Jaipur 302017, India

⁴Materials Research Centre, Malaviya National Institute of Technology Jaipur 302017, India
yachanajain@gmail.com

Abstract

Green synthesis of fluorescent 1,2,3-triazoles *via* well-known click reaction using nano magnetic Fe_3O_4 core decorated with cyclodextrin-citric acid ($\text{Fe}_3\text{O}_4@\text{CD-CIT}$) acting as a nano phase transfer reactor with low copper loading under ultrasonication, in water is described. Functionalization the surface of magnetite with cyclodextrin (CD) avoids its agglomeration and at the same time, CD offers a hydrophobic niche for lipophilic reactants whereas its outer hydrophilic core makes the reaction possible in water yielding almost quantitative yield of desired products. Magnetic separation, recyclability and reuse (7 times), without appreciably loss the % yield of the products are its other attractive attributes.



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Advancements in Textile Industries and its Counter Effects

¹Yogita Madan and ²Sayoojyaa Ani

¹Department of Chemistry, Amity School of Applied Sciences, Amity University Rajasthan, Jaipur

²Amity Institute of Biotechnology, Amity University Rajasthan, Jaipur

Abstract

Nanotechnology has undergone an exponential growth in the past 40 years. In the textile industry, it has been transforming the way fabrics are created. Amidst this growth, the concern is also growing, textiles generally tend to lose about 5 to 20 percent of total weight at the time of washing which occurs in case of nano-textiles. It also releases individual nanoparticles into the environment via waste water. This uncontrolled release of nanoparticles to the environment may have a negative impact on the ecosystem as a whole. When compared to the conventional counterparts, the unique properties of nanoparticles may be toxic to all living things. It was found that textiles containing nano-silver lose up to 35 percent of silver in the first wash. The individual nano-silver particles are hazardous for all types of aquatic organisms and the helpful micro-organisms in the soil. This paper will explain a brief review of use of nanoparticles and its effects and how to get these effects down.

Keywords: Nanoparticles, Textile Industry, Environment, Aquatic Life



Inhibition of the DNA Polymerase Activities of HIV-1 Reverse Transcriptase and HIV-1 Replication by *Brasenia schreberi* (Junsai)

¹Yuto Tsutsumi, ¹Keiko Ishizuka, ¹Misato Baba, ²Kosaku Nishimura, ³Keishi Hata, ³Saori Takahashi, ⁴Shozo Sakuda, ¹Kenji Kojima and ¹Kiyoshi Yasukawa

¹Division of Food Science and Biotechnology, Graduate School of Agriculture,
Kyoto University, Sakyo-ku, Kyoto 606-8502, Japan

²Toyo Institute of Food Technology, 4-23-2, Minami-Hanayashiki, Kwashishi, Hyogo 666-0026, Japan

³Akita Research Institute of Food and Brewing, 4-26 Sanuki, Arayamachi, Akita 010-1623, Japan

⁴Graduate School of Science and Engineering, Teikyo University,
1-1 Toyosatodai, Utsunomiya, 320-8551, Japan

Abstract

Human immunodeficiency virus type 1 (HIV-1) reverse transcriptase (RT) possesses two distinct enzymatic activities, RNA- and DNA-dependent DNA polymerase and RNase H activities. We previously reported that ethanol- and water-extracts of *Brasenia schreberi* (Junsai) inhibited the DNA polymerase activity of HIV-1 RT [Hisayoshi T et al. (2014) *J Biol Macromol***14**:59-65]. We also found that ethanol- and water-extracts of *Brasenia schreberi* strongly inhibited not only the DNA polymerase activity to incorporate dTTP into poly (rA)-p(dT)₁₅ but also the RNase H activity to hydrolyze the RNA strand of an RNA/DNA hybrid. In addition, these three extracts inhibited HIV-1 replication in human cells with EC₅₀ values of 1 to 2 g/ml¹. We have been doing study to identify HIV-1 RT inhibitory components in the extracts of Junsai. The fractions with strong inhibitory activity were obtained from the boiled water-extracts of Junsai by reversed phase liquid chromatography (Sep-Pak and Capcell-Pak C18). The DNA polymerase activity was measured by counting the amounts of ³H-labelled dTTP incorporated into the template-primer in the reaction with or without Junsai extracts. Five compounds (named A to E) were detected only in the fractions with strong inhibitory activity in LC-Q-Tof/MS. The structure of compounds D and E were estimated to be gallotannin. Compound E, which is 1,3,6-Tri-*O*-galloyl-β-D-glucose and was commercially obtained from Sigma. However, it did not inhibit the DNA polymerase activity of HIV-1 RT.

1) T. Hisayoshi *et al.* (2015) *J. Nat. Med.***69**: 432-440

Keywords: *Brasenia schreberi*, HIV-1, inhibitor, reverse transcriptase

□□□

Water Reservoirs and Biodiversity are the Major Attractions for Ecotourism in Ajmer, Rajasthan

A. K. Siroya and Nisha Siroya

Associate Professor, P.G. Dept. of Zoology, S. D. Govt. College Beawar (Raj.)

dr.ashoksiroya@yahoo.com

Abstract

Ecotourism in the world of tourism has become increasingly important, particularly when we talk about the sustainable tourism in our country. Ecotourism Involves those products which are based on nature, Plays an important role in the conservation of biodiversity, give emphasis on local participation, ownership and business opportunities, particularly for rural people and cooperation with all stakeholders involved, as well as the importance of sustaining the well being of local people and it also involves responsible action on the part of tourists and the tourism industry. Ajmer was the centrally governed city of the India during British period. It is located centrally in Rajasthan (India) hemmed in all sides by Aravalli hills. Two well known water reservoirs are there in city and nearby place Pushker. It is abode of certain flora and fauna that are particularly endemic to semiarid and are specially adapted to survive in the dry waterless region of the state. Biodiversity and their habitat play a vital role in ecological and biological processes that are essential to life itself. It is a significant place with great potential in Rajasthan for the attraction of tourist and sustainable tourism that is ecotourism. Thus the tourists are well attracted by water reservoirs and avian biodiversity at a measurable level at Ajmer in Rajasthan. Also attempts are made to reveal contribution of biodiversity for tourism.

Keywords: Ecotourism, Water reservoir and Biodiversity.

Introduction

The term “*Ecotourism*” is derived from 'eco' on tourism comes from the Greek word 'oikos' meaning 'house'. The origin of the word is unknown but the literature suggests that it was first coined by Dr. Nicholas Hetzerin 1965. It has been developed in commercial terms through the 1970s and 1980s with the environment movement and the first formal definition of ecotourism is said to have been from Ceballos-Lascuráin in 1987. The use of term ecotourism was increased largely in the 1990s. The first user of this term was American conservation NGOs (WWF 1990) but later on it has been spread to all over the globe, with the help of certain organisations like “The International Ecotourism Society” (1991) and a number of conventions such as “The Earth Summit” in Rio de Janeiro in 1992 or the “Berlin Declaration on Biological Diversity and Sustainable Tourism” in 1997. The term Ecotourism has been defined in various ways but according to the

World Tourism Organisation (WTO) eco-tourism is “*all forms of tourism in which the main motivation of tourists is the observation and appreciation of nature, which contributes to its conservation, and which minimizes negative impacts on the natural and socio-cultural environment where it takes place*” (WTO, 2002). In last twenty years the role of Ecotourism in the world of tourism has become increasingly important, particularly when we talk about the sustainable tourism in our country. Ajmer was the centrally governed city of the India during British period. It is located centrally in Rajasthan (India) hemmed in all sides by Aravalli hills and the runoff of this catchment area goes to *Anasager Lake*. The *Dargah of Khawaja MoinuddinChisti* is holiest shrine next to *Mecca* in the world for Muslim community and International fame holy *Pushkar Lake* for Hindu community which is away from the city about 7 miles, it is created by the touch of Lord Brahma. Ajmer has cold bracing winter and hot dry summer. The winter extends from November to mid march and summer extends from mid March to June followed by rainy season till September. The temperature varies from 2-45°C in extreme winter and summer respectively, in rest of the period it remain pleasant 20-30 °C around the year.

Methodology

The data are collected from primary sources and are based on personal surveys. The detailed questionnaires along with interviews were applied for the generation of primary data. This way of data generation does not depend on any type of institutional machinery. It is the channel through which the identification and differentiation of pilgrims, tourists and visitors can be managed with the help of their habit and behavior and thus it results in collection of data and information as well. Personal surveys as well as sample surveys are carried out for collection; generation and gathering of detailed behavioral, experience and observational information. The replies of the visitors and tourists at the time of arrival, in leisure and at the departure vary a lot. Therefore, one should keep in mind that the time of the surveys for data collection affects greatly the replies of the visitors. The replies of the visitors at different time interval show the pre-generated, ongoing and reconstructed image of the tourist place.

Discussion

Ecotourism is a form of nature based tourism, which plays an important role in sustainable tourism, due to its ability to inform people about sustainable principles. By the above mentioned places of Ajmer it is evident that it is a place with great potential in Rajasthan for the attraction of tourist and presently the ecotourism concept is not so popular in the state due to lack of attention in this field by government and stakeholders. Since Ajmer has good connectivity of road route and railway route and recently an airport near Kishangarh also become operational so by connectivity point of view it is well connected by all mode of transport. Therefore it seems to be a significant spot of ecotourism in Rajasthan state of India.

Recommendations and Suggestions

1. The interviews or surveys for this purpose must be conducted in the leisure duration, so that data can be received with greater accuracy by good understandings of interviewer and visitor.
2. There is a dearth of trained manpower to cater and making concern about the local biodiversity status to the ever increasing needs of both the domestic and foreign tourists. Considering these aspects various short term open courses should be started at the college and University levels.
3. The water reservoirs and public places must be maintained in clean with the help of local self government and NGOs.
4. There is need for extensive research on this issues and investigation of other places experiencing tourist pressure. Research is alsoneeded to determine on whatextent and rate these tourists triggers negative impact on water reservoirs and biodiversity.

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POSTER PRESENTATION

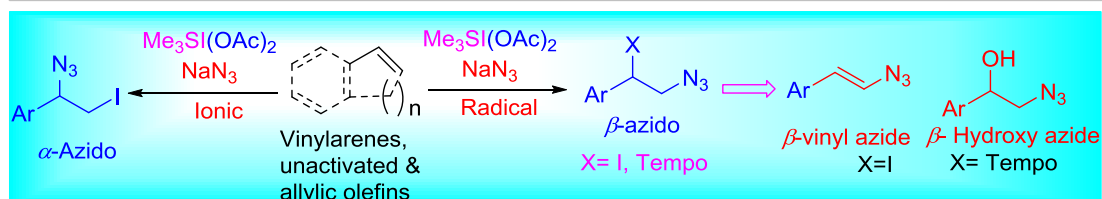
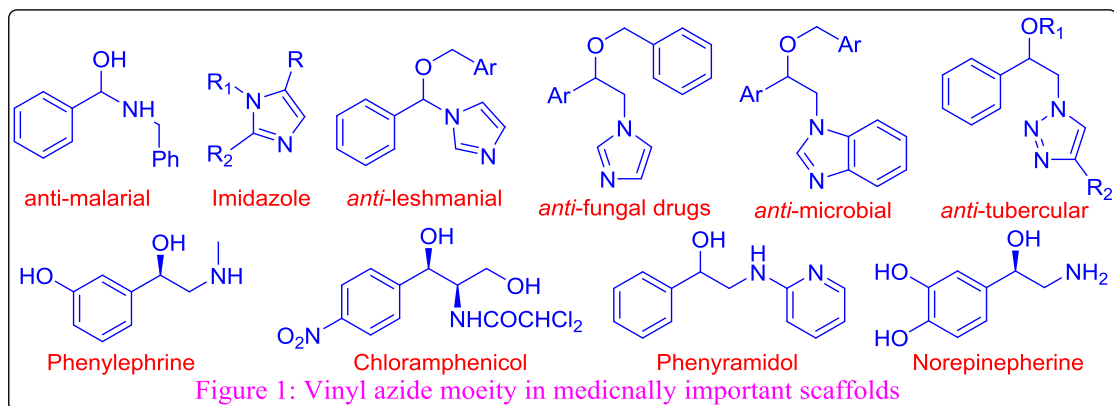
Sulfonium Iodate Mediated Vicinal Oxo Azidation and Iodoazidation of Vinyl arenes

Aakanksha Gurawa, Thurpu Raghavendar Reddy, Dodla Sivanageswara Rao and Sudhir Kashyap

*Department of Chemistry, Malaviya National Institute of Technology (MNIT)
Jaipur, Rajasthan-302017, INDIA
skashyap.chy@mnit.ac.in*

Abstract

Organic azides are highly important compounds, which act as a coupling partner in azide/alkyne cycloaddition resulting 1,2,3- triazoles which possess wide spectrum of biological activities.^[1] The resulting azides can readily be transformed into versatile intermediates such as vinyl azides, amines, lactam etc which display *anti*-tuberculosis, antibiotic, anticancer, immunostimulating, and *anti*-HIV activities(Fig 1).^[2-5] Vinyl azides are molecule that features both alkene and azide motifs synthesized by 1,2-bifunctionalisation of olefins. Vicinal azido hydroxy functional groups are recurrent in drugs, natural products and synthetic materials and find tremendous utility in the synthesis of biologically active amino sugars, nucleosides and in the chemistry of peptidomimetics and pseudopeptides.^[6] In this context, we devised a novel reagent system for regioselective azidation of alkenes, the combination of $\text{Me}_3\text{SI}(\text{OAc})_2$ and NaN_3 has been found to be an efficient, simple and inexpensive metal free reagent system for 1,2-bifunctionalization of alkenes.^[7,8] Sulfonium iodate reagent promoted the iodoazidation of alkene providing α -azidoiodo derivatives through ionic mechanism (Markonikov addition), whereas in presence of reducing agent and a radical promoter β -azido derivatives are obtained (Scheme 1). A variety of synthetically useful functional groups are compatible with our mild reaction conditions. This protocol enables the straightforward synthesis of various functionalized azides in good to excellent yields.



Scheme 1: $\text{Me}_3\text{Si}(\text{OAc})_2$ promoted regioselective azidation of alkenes

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Identification of Halo-Tolerant and Plant Growth Promoting Bacteria and Studying Its Effect on *Oryza sativa* under Saline Conditions

¹Agrima Bhatt and ²Shalini Tailor

*¹Student, Biyani Girls College, ²Assistant Professor, Biyani Girls College
agrima2010@gmail.com*

Abstract

Plant Growth Promoting Bacteria (PGPB) are a unique class of bacteria which are located near the root zone of plant that can be utilized to induce strong plant responses against various environmental stresses. Rice (*Oryza sativa*), one of the most commonly used staple foods for a big portion of the world's people, is extremely susceptible to salinity, particularly in Asia. Soil salinity is a rapidly growing problem which impacts many crop types and their productivity which leads to a rapid declination in meeting growing requirements of food demands. The introduction of PGPB in rhizosphere of crops can increase the production rate as well as improve the defence mechanism of plants against various pathogens which will further lead to sustainable agricultural practices and can be used as promising biofertilizers in organic farming. The work discusses about halo-tolerant bacteria *Serratia marcescens*, *Enterobacter cloacae* and their effect under different percentage of NaCl concentration. The effects of climate change factors i.e., increasing CO₂, drought and temperature on plant-microbes interactions are increasingly being explored. This study focuses on Sustainable Developmental Goal No. 13 i.e.; climate action.

Keywords: *Oryza sativa*, Soil, Salinity, Biofertilizers, *Serratia marcescens*, *Enterobacter cloacae*



Vector-borne Disease

¹Arti Prasad and ²Ankita Kumari

*¹Professor and Head Department of Zoology, UCOS,
Mohanlal Sukhadia University, Udaipur, Rajasthan, India*

*²Research Scholar, Laboratory of Public Health Entomology, Department of Zoology, UCOS,
Mohanlal Sukhadia University, Udaipur, Rajasthan, India
ankitabochldaji@gmail.com*

Abstract

Vector-borne diseases are the scourge of man and animals since the start of your time. Historically, these area unit the diseases that caused the nice plagues like the 'Black Death' in Europe within the

ordinal Century and therefore the epidemics of infectious disease that infested the development of the New World. Others, such as Nagana, contributed to the lack of development in Africa for many years. At the flip of the twentieth Century, vector-borne diseases were among the most serious public and animal health problems in the world. For the most part, these diseases were controlled by the middle of the 20th Century through the application of knowledge about their natural history along with the judicious use of insecticide (dichlorodiphenyltrichloroethane) and different residual pesticides to interrupt the transmission cycle between invertebrate and vertebrate host. However, this success initiated a amount of self-complacency within the Nineteen Sixties and Nineteen Seventies, which resulted in the redirection of resources away from prevention and control of vector-borne diseases. The Nineteen Seventies was additionally a time within which there have been major changes to public health policy. Global trends, combined with changes in animal husbandry, urbanization, modern transportation and globalisation, have resulted in a global re-emergence of epidemic vector-borne diseases affecting both humans and animals over the past 30 years. Malaria has robust linkages with agriculture, and farmers in malarious regions have a central position in creating or controlling the conditions that favour disease transmission. An knowledge base and integrated approach is required to involve farmers and quite one sector up to speed efforts. It is urged that protozoal infection management will take pleasure in a complementary intervention in rural development, the Farmer Field college (FFS) on Integrated tormenter Management (IPM). This is a kind of education that uses experiential learning strategies to create farmers' experience, and has proven farm-level and empowerment effects. The benefits of incorporating protozoal infection management into the IPM course of study area unit mentioned.

An example of a combined health agriculture course of study, labeled Integrated Pest and Vector Management (IPVM), developed in Sri Lanka is presented. Institutional possession and support for IPVM may doubtless be cover many public sectors requiring a method for institutional learning and reform.

Keywords: Arbovirus – Arthropod – Arthropod vector – Parasite – Tick – Vector competence – Zoonosis.



Assessment of Nitrosative Stress as well as Cytokines and their Correlation with the Severity of Sepsis and Organ Dysfunction

Anupam Jyoti

*Amity Institute of Biotechnology, Amity University Rajasthan, Amity Education Valley, Kant Kalwar,
NH-11C, Jaipur-Delhi Highway, Jaipur
ajyoti@jpr.amity.edu*

Abstract

Previous study from this lab has discerned an imbalance between oxidant-antioxidant and their role in the severity of sepsis. The present study was undertaken to further assess the status of nitrosative stress as well as pro-inflammatory cytokines and their correlation in severity of sepsis and organ dysfunction. The study was conducted on 110 patients with sepsis (in whom a disease severity score (APACHE II) and assessment of organ failure score (SOFA) were determined) and 55 healthy volunteers. Blood was collected from control volunteer and sepsis patients followed by separation of plasma and purification of neutrophils. Neutrophil inducible nitric oxide synthase (iNOS) expression at mRNA and protein level were estimated by real time PCR and immuno-precipitation followed by Western blotting respectively. Nitric oxide (NO) content was evaluated in neutrophils by confocal microscopy. Plasma total nitrite content was measured using Griess assay. Expression of inflammatory cytokines (TNF- α , IFN- γ , and IL-8) were estimated by ELISA (in plasma) and real time PCR (in neutrophils). In total, 50 patients with sepsis and 30 healthy volunteers were enrolled in this study. Plasma total nitrite and cytokines content were correlated with severity of sepsis and organ dysfunction. Augmented level of neutrophil iNOS expression, NO content, plasma total nitrite content and pro-inflammatory cytokines were observed in sepsis patients as compared to healthy volunteers. Pearson's correlation coefficient demonstrated a direct relation between total nitrite and cytokines with physiological score (APACHE II), organ failure assessment (SOFA) and organ dysfunction.

Keywords: iNOS, NO, Nitrite, Pro-inflammatory cytokines, Sepsis, Organ dysfunction

Conclusion

Our findings suggest that neutrophils iNOS expression, NO content, plasma nitrite and cytokines levels play role in severity of sepsis and organ toxicity.

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Survey of container Breeding Aedes Albopictus Larva in Udaipur City Rajasthan

Asha Ram Meena

*Department of Zoology Mohan Lal Sukhadia University Udaipur (Rajasthan)
meena05ar@gmail.com*

Abstract

A survey on container breeding sites of mosquito larvae was carried out in the Udaipur city. The seasonal entomological survey was conducted in urban and peri-urban area to observe larval breeding sites. Larval collections were conducted from January 2017 to December 2018. Sampling was carried out by dipping using pipette. *Aedes albopictus* breeding juvenile stage of *Aedes albopictus* were found in pre-monsoons, monsoons and post monsoons seasons as 2.15%, 5.91%, and 5.70% respectively. *Aedes albopictus* were mainly inspected in urban and peri-urban area. This study main focused discarded tires lying in the households and store are the main sources of *Aedes albopictus* breeding in the urban area of Udaipur city.

Keywords- Container breeding, mosquitoes larva, *Aedes*, Udaipur city.

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Comparative Analysis of Growth in Vignaradiata and Vignaaconitifolia in Chemical and Organic Waste Soil and Performing TLC

Bhoomika Sharma and Shalini Tailor

*Biyani Group of Colleges, Vidhyadhar Nagar, Jaipur 302023, India
bhoomikasharma5599g@gmail.com*

Abstract

In India, different modern farming organizations continue to develop organic farming. Organic standards are specifically designed to promote the use of naturally occurring substances while prohibiting synthetic substances. The use of organic fertilizers such as compost manure and green manure etc. is defined. It also facilitates some process such as rotation of crops and planting companions. The haphazard use of chemicals in agriculture have severe long-term impacts such as

soil compaction, erosion and decreases in general soil fertility, along with health issues in human beings. The sustainability of natural resources and biological diversity is a core principle of organic production. The growth of mung seeds (*Vigna radiata*) and moth seeds (*Vigna aconitifolia*) will be analyzed through the use of organic and chemical soil and the identification of amino acids through TLC. *Vigna radiata* is a legume family plant species with a high source of protein, fiber, antioxidants and phytonutrients. *Vigna aconitifolia* has drought resistant qualities, its ability to fight soil erosion and high protein content, moth bean has been identified as a potential food source. The hypothesis considered for the experiment is that the organic soil yield of growth is better than normal soil yield. The excessive use of synthetic chemicals, which contaminate the environment considerably, as well as the mechanical disturbance and irrigation of the soil, has led to generation of resistant insects, fungi, weeds, etc. Chemical accumulation in crops and soil, consequently pollute the environment and also leads to the greenhouse effect and global warming to some extent. The organic farming systems rely primarily on prevention due to the best use of environmental goods and services. Organic waste can be a valuable fertilizer for agricultural soils, such as biogas residues and compost. They can serve as a plant nutrient source and can also improve the quality of the soil and also enhance water retention capacity of soil. In addition, there is a probability that the use of either organic waste could not detect any negative effects.

Keywords: *Vigna radiata*, *Vigna aconitifolia*, TLC, Organic waste, Organic Farming, Environment.



Probing the Effect of Continuous Light on Photosynthetic Machinery of *Vigna Radiata* L

Deepak Kumar, Hanwant Singh and Vineet Soni

*Plant Bioenergetics & Biotechnology laboratory, Department of Botany,
Mohanlal Sukhadia University, Udaipur-313001, Rajasthan, India*

Abstract

The rapid increasing of artificial lighting through the world has negatively caused interruption to biological clocks of plants, microbes and animals. Artificial light during night-time triggers various physiological responses in plants and alter their growth and development through affecting their phenology and various biological processes including photosynthesis. In the present research work, efforts were done to understand the effects of artificial light on photosynthetic potential of *Vigna radiata*. A significant increase in chlorophyll contents was observed in plants growing under continuous exposure of light. On the other hand, electron transfer rate and Fv/Fm (quantum yield of photosynthesis) was declined several fold in plants subjected to continuous light. The results

clearly show that artificial lighting during night adversely affect on plants photosynthesis and finally inhibits plant growth and development. City administrations should take care during the installation of road-lights to minimize these adverse effects.

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Isolation and Characterization of Active Molecules from Fruit Pulp of Cassia Fistula

Deepa Hada

*Department of Botany, Creative Girls College, Gangapur city-322201 (Rajasthan) India
deepahada.hada52@gmail.com*

Abstract

In the present study column chromatography of chloroform extract and TLC fingerprinting of column fractions were also done. Column fractions were screened for antifungal activity and fraction showing best activity was further subjected to GC-MS analysis for the purification and identification of structure of active compound. Result suggested that eight fractions obtained from column chromatography and fraction no. 2 (FPF-2) showed maximum inhibition i.e. 98.25% against *Alternaria solani*. Rf values of TLC bands of column fractions were found between the range from 0.60 to 0.97cm. GC-MS analysis reveals the presence of butanoic acid, 2-methyl-, Penthiophane (2H-Thiopyran, tetrahydro) and Isopropylacetate (Acetic acid, 1-methylethyl ester). These three compounds are responsible for antimicrobial activity of Cassia fistula fruit pulp.

□□□

Importance of Reynolds Number in Fluid Dynamics

¹Deepika Khichar, ²Milan Yadav and ³Tarun Sharma

^{1,2} M.Sc. Mathematics Student, Biyani Girls College, Jaipur

³ Assistant Professor, Department of Science, Biyani Girls College, Jaipur-302039

*deepikakhichar71@gmail.com, milanyadav10111999@gmail.com ,
tarunsharma.sharma52@gmail.com*

Abstract

Fluid dynamics and its applications play an important role in the field of industries and engineering. The use of dimensionless parameters defines the flow characteristics and flow behavior in the field of hydrodynamics and its subfields. The Reynolds number is an important flow parameter, which

define as the ratio of inertia force to the viscous force, and due to this characteristic, the governing flow can be classified into three categories as laminar, transitional and turbulent flow. The small value of Reynolds number verifies the fluid motion in laminar pattern, whereas high value of Reynolds number shows the turbulent flow due to dominance for viscous force and inertia force respectively.

Keywords: Reynolds number, Inertia force, Viscous force, Dimensionless parameter.

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Mach Number and Classification of Flow Regimes for Flights

¹Ekta Mundotiya, ²Chetna Jangir and ³Tarun Sharma

^{1,2} M.Sc. Mathematics Student, Biyani Girls College, Jaipur

³Assistant Professor, Department of Science, Biyani Girls College, Jaipur

ektamundotiya.em@gmail.com, chtna70277@gmail.com,

tarunsharma.sharma.52@gmail.com

Abstract

The dimensionless physical parameters play an important role for understanding the dynamical similarity of flows. In the air dynamics, the ratio of velocity of moving object to the velocity of sound is known as the Mach number. It characterizes the various flow regimes such as: sonic, subsonic, supersonic and hypersonic etc. It analogous with dimensionless physical parameter Reynolds number of fluid dynamics. The designing of various high-speed objects, aircrafts etc. are the major real-world applications of Mach numbers.

Keyword: Mach number, Dimensionless Parameter and Reynolds number.

□□□

Determination of Caffeine Content and Antioxidant Activity of Green Tea, Coffee and Beverages

Harina and Shilpa Bhargava

Science Department, Biyani Girls College, Jaipur.

Abstract

Caffeine is also used in food additive in time by Federal Food and Drug Administration (FDA). Caffeine is supplementary artificially too many others, together with a multiplicity of beverages.

Caffeine is an as expected happening substance found in the plant parts like leaves, seeds or fruits. There are 63 plant species worldwide. It is an alkaloid of methyl xanthenes family. Pure caffeine occurs as odorless, white, fleecy masses, glistening needles or powder. The most important sources of caffeine are coffee, tea, green tea, cocoa, soft drinks etc. Medically, caffeine is useful as cardiac stimulant and also a mild diuretic (it increases urine production). Recreationally, it is used to provide a boost of energy or a feeling of heightened alertness. Caffeine has concerned the interest of consumers and health professionals alike due to its wide utilization in the diet by a large % of the population and its pharmacological effects in humans. The human's saliva caffeine level, which demonstrates the extent of adsorption, peaks around 40 minutes after caffeine consumption. The amount of caffeine found in these products varies, the amount of caffeine present in coffee is 40mg, green tea usually contains around 25 mg of caffeine and tea contains 11 mg. Caffeine is added to soft drinks as a flavoring agent like in Pepsi, mountain dew, diet coke etc. and the caffeine content in these soft drinks are 37.6mg, 55mg and 3.83 mgs respectively. Antioxidants are compounds that inhibit oxidation and caffeine has the ability to show antioxidant activity.

Keywords: Caffeine, Antioxidant activity, Green tea, Coffee and Beverage.



Morphology of Chironomids (Diptera)

Himani Verma

*Research Scholar, Department of Zoology, Mohanlal Sukhadia University Udaipur, India
hvhimani@gmail.com*

Abstract

Chironomids, often called non-biting midges or blind mosquitoes, are abundant and widespread aquatic insects. These insects spend the greatest part of their life cycle in larval form, occupying a wide range of habitats. Chironomids are one of the most dominant, widespread and diverse aquatic invertebrate taxa in freshwater systems. Chironomids are closely related to mosquitoes (Culicidae) and biting midges (Ceratopogonidae). Unlike Culicidae and Ceratopogonidae, female Chironomids do not bite due to the absence of elongated mouthpart and they lack wing scales too. The larvae of most Chironomids hatch out from the eggs and usually lead bottom dwelling life forming tubes with the help of silk secreted from the salivary glands taking and taking of clay particles and organic matters from the substratum. Photographs and morphological descriptions of different life stages of Chironomids were given. Larvae are red in color with well developed, non-retractile head capsule with prognathous mouthparts. The larval head capsule is dark colored sclerotized structure composed of frontoclypeal apotome. Pupal stage is short lived stage in which metamorphosis occurs. Silk secreted by larval salivary glands wrap the larva and make cocoon. Pupa hangs beneath

water surface. Pupa is comma shaped with swollen cephalothorax and dorsoventrally flattened abdomen. Adults look similar to mosquitoes. Adult head is rounded with shortened non biting mouthparts. The antenna is with well-developed flagellomeres. The antenna is sexually dimorphic: male have a plumose antenna.

Keywords: Chironomidae, Diptera, Udaipur, Chironomids, Mentum.



Effects of Clomiphene Citrate On sperm Quality After Cadmium - Induced Reproductive toxicity in Male Swiss Albino Mice

Isha Tank and Lata Shahani

*Department of Zoology, The IIS (deemed to be University), Gurukul Marg, SFS,
Mansarovar-302020, Jaipur, Rajasthan, India
ishatank87@gmail.com*

Abstract

Clomiphene citrate is an orally active non-steroidal fertility drug capable of interacting with estrogen-receptor-containing tissues, including the hypothalamus and pituitary. It is a selective estrogen receptor inhibitor in the hypothalamus. It acts by inhibiting negative feedback of estrogen on gonadotropin release, leading to the up-regulation of the hypothalamic-pituitary-gonadal axis. It leads to stimulation of testosterone levels and sperm production.

Objective

Our study attempt to evaluate the effects of clomiphene citrate on the sperm parameters to cadmium chloride induced reproductive toxicity on male Swiss albino mice. **Material and Methods:** Fifteen adult male albino mice were divided into 3 groups **Control** (given distilled water only); **Clomiphene citrate** (10 mg/kg); **Cadmium chloride** (2 mg/kg). Sperm count, viability, motility and morphology were estimated after oral administration of Clomiphene citrate and cadmium chloride for 30 days. Data were analyzed using ANOVA at $p < 0.05$.

Results

Cadmium chloride treatment significantly decreased ($p < 0.05$) sperm count and viability when compared with control group and abnormal and dead sperm number were significantly increased ($p < 0.05$) in the Cd group compared with controls. Clomiphene citrate treatment significantly

increased ($p < 0.05$) sperm counts and viability when compared with the group given cadmium chloride.

Conclusion

The present study suggests that administration of clomiphene citrate improved sperm quality against cadmium chloride-induced reproductive toxicity.

Keywords: clomiphene citrate, reproductive toxicity, cadmium chloride, sperm count.



Species Complex of Primary Vector of Malaria

¹Arti Prasad and ²Kanishtha Acharya

*¹Professor and Head Department of Zoology, UCOS,
Mohanlal Sukhadia University, Udaipur, Rajasthan, India*

*²Research Scholar, Laboratory of Public Health Entomology, Department of Zoology, UCOS,
Mohanlal Sukhadia University, Udaipur, Rajasthan, India
kanishtha4499@gmail.com*

Abstract

Malaria is a mosquito born disease caused by parasite of the genus Plasmodium. Nearly three billion people are at risk of malaria worldwide. It is not easy to control malaria by controlling protozoan but is easy to control vector through various vector control programme but the success of any vector control programme relies on knowledge of vector species and their bionomics. There are growing evidences that the members of species complexes differ significantly in biological characteristics that are vital for malaria control point of view such as vectorial potential, host-preference, resting behaviour and response to insecticides. My review reveals that all primary vectors of malaria except *An. stephensi* are species complexes and were identified using different molecular techniques. Knowledge about the sibling species help us to know about their biological characteristics i.e. their breeding site, their resting behavior, feeding preference of mosquito larva, etc. which greatly help us in vector control management and use of biocontrol measures.

Keywords: Anopheles, complex, species.



Ameliorative Effect of Pumpkin Seeds on Male Reproductive Toxicity: A review

Karuna Agrawal and Lata Shahani

Department of Zoology, IIS (deemed to be University), Gurukul Marg SFS, Mansarovar, Jaipur- 302020, Rajasthan, India

Abstract

Use of herbal medicines in different formulations has been recommended for the treatment of various diseases. Over the years, male fertility parameters have been on the decline with factors responsible being environmental and congenital. Pumpkin seeds have been implicated in providing many health benefits, which are attributed to their macro- and micro-constituent composition. Pumpkin is one of the well-known edible plants and has substantial medicinal properties due to the presence of unique natural edible substances. It contains high levels of natural potent phyto-constituents belonging to the categories of alkaloids, flavonoids, and palmitic, oleic and linoleic acids with great promise for immunomodulation, reproductive health and has therapeutic advantage over a wide range of disease conditions. Pumpkin is proposed for both the prevention and treatment of infertility in male animals. The pumpkin seeds are used to treat sperm disorders, dysfunctioning of the libido, sexual asthenia and erection (Mohammadi et al., 2013). Pumpkin seeds can potentially reduce lipid peroxidation and enhance fluidity of cell membranes. The seeds have many health benefits due to lower cholesterol and antidepressant qualities (Dhiman et al., 2009). Some important medicinal properties of Pumpkin seeds include anti-diabetic, antioxidant, anti-carcinogenic, anti-inflammatory, anti-parasitic, anti-microbial, hypotensive and hepato-protective (Yadav et al., 2010). Pumpkin seeds contain L-tryptophan, omega-6 and -3 fatty acids and very high concentration of vitamin E. Pumpkin seed oil was used by Hashemi in year 2013 for the treatment of male patients who suffered from infertility due to oxidative stress induced by sodium valproate. Pumpkin oil contains high levels of tocopherol which is capable of reducing lipid peroxidation and act as an antioxidant (Van Hoed et al., 2009). The antioxidative properties of pumpkin seed extract could also improve fertility and it helps to prevent arteriosclerosis, high blood pressure and heart disease (Akwaowo et al., 2000 and Kreft et al., 2002). Pumpkin seeds are also an excellent source of magnesium, phosphorus, manganese, copper and iron in healthy amounts in addition to zinc which is a nutrient vital to healthy functioning of the male reproductive system (Alan, 2006).

The purpose of the present article is to discuss various medicinal and biological potentials of pumpkin seeds on male reproductive system.

Key words: Pumpkin seed, male mice, reproductive toxicity, oxidative stress



Chemistry of Heterocyclic Drug Compound

**Kiran Jeengar, Yogita Budgujar, Mahima Sharma, Monu Malee
and Meenu Mangal**

*Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, INDIA
jeenegarkiran@gmail.com*

Abstract

Heterocyclic chemistry is the branch of organic chemistry dealing with the synthesis properties and application of heterocycles. Heterocycles are organic compound containing C-chain along with non C-atoms (heteroatom). Heterocyclic chemistry constitutes about 60% of organic chemistry. Heterocyclic compound are widely distributed in nature as they plays vital role in metabolism of all living cells and thus essential to life. Heterocyclic compounds are used in pharmaceuticals and agrochemical industries. They are used as sanitizers, developers, corrosions, antioxidants, inhibitors, copolymers, dyes etc. Heterocycles also plays an active role in inflammatory and anti tumour drug therapy. Even some natural products like naturally occurring antibiotics (penicillin), alkaloids (vinblastine, vincritin), and naturally occurring drugs (morphine) also have heterocyclic moiety. The main reason of vital application of heterocycles is that its structure can be subtly manipulated to achieve required modification in function.

Keywords: Heterocycles, Heteroatoms, Pharmaceuticals, Penicillin, Alkaloids, and Vinblastin

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Antibacterial Activity of *Murraya Koenigii* and *Terminalia Arjuna* Leaf Extract Against *Escherichia Coli* and *Staphylococcus Aureus*

¹Komal Gupta and ²Tarun Kumar Kumawat

¹Department of Biotechnology, Biyani Group of Colleges, Jaipur, Rajasthan, India

*²Biyani Biosolutions Pvt. Ltd. Jaipur, Rajasthan, India
komalgupta30337@gmail.com*

Abstract

An antimicrobial is a substance that kills microorganisms such as bacteria, fungi, protozoans, etc.,

or inhibits their development. Now days we people are focusing on alternative sources of antibiotics to kill pathogenic microbes that gain resistance to conventional antibiotics and kill the other bacteria in our body. We therefore need to create new techniques to kill these pathogenic microbes by using medicinal plants that do not have any side effects on us that are naturally present, such as *Murraya koenigii* and *Terminalia arjuna*. *Terminalia arjuna* has pharmacological activities that include antioxidant property, antimicrobial activity, reducing property, diarrhea activity, phagocytic activity, antidiabetic activity, cytotoxic activity, and many more medicinal value. With countless health advantages, *Murraya koenigii* leaves are natural flavoring agents. They comprise several anti-diabetic, antioxidant, antimicrobial, anti-inflammatory, anti-carcinogenic and hepato-protective characteristics. Both plants' leaves are left dried and converted into a powder used to prepare the sample using methanol, ethanol, acetone, and warm and cold distillation water to assess the antimicrobial activity on *Staphylococcus aureus* and *Escherichia coli* using the technique of well diffusion and disc diffusion. *E. coli* causes many prevalent bacterial diseases such as UTI, diarrhea, neonatal meningitis, pneumonia, and *S. aureus* causes the most damaging bacterial disease in the globe today, such as MRSA disease. The aim of the study is to evaluate antimicrobial activity and to determine the zone of inhibition of extracts on bacterial and fungal strains. These plants can be used to discover natural products that may serve as leads in the development of new pharmaceuticals research activities.

Keywords: Antimicrobial, *Murraya koenigii*, *Terminalia arjuna*, *Escherichia coli*, *Staphylococcus aureus*

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Chronic Health Effects of Pesticide on Human Life

**Kritika Yadav, Sakshi Sharma, Shivani Shekhawat,
Anita Yadav and Nirmala**

Department of Science, Biyani Girls College, Jaipur, Rajasthan, India- 302039

Abstract

The production of pesticides started in India in 1952 with the establishment of a plant for the production of a benzenehexachlorid (BHC). Positive impacts of pesticide include enhanced economic potential in terms of increased production of food and fiber amelioration vector borne diseases, then their negative impacts have resulted in serious health implications to man and his environment. Pesticides such as chlorpyrifos, imidacloprid, bescalid etc. entered in human body through inhalation, oral and dermal exposure and also through ingestion. Pesticide can cause

harmful effects over an enhanced period, usually following repeated and continuous exposure at low levels. Chronic health effects include cancer and other tumors; brain and nervous system damage; birth defects; reproductive problems; and damage to the kidneys, liver, lungs and other body organs. To avoid the contamination of food with pesticides, farmers should use alternative methods like integrated pest management, crop rotation or organic farming. Consumers should also consume organic food products to escape from the harmful effects of pesticides.

Keywords: Pesticides, contamination, organic farming, health effects.



Development of Novel Sorbent Materials for Removal of Radionuclides from Water

¹Manish Sharma, ¹Satendra Singh Yadav, ²Yachana Jain, ²Mitlesh Kumari, ³Kanupriya Sachdev and ^{1,2}Ragini Gupta

¹Materials Research Centre, Malaviya National Inst. of Technology-302017, Jaipur, Rajasthan, India.

²Department of Chemistry, Malaviya National Institute of Technology-302017, Jaipur, Rajasthan, India.

*³Department of Physics, Malaviya National Institute of Technology-302017, Jaipur, Rajasthan, India.
rgupta.chy@mnit.ac.in*

Abstract

Water is one of the most precious source without which life is not possible on earth. But, the quality of drinking water is very important for health. The contamination of drinking water with radionuclides such as cesium, strontium, uranium and also the radioactive degraded products during the nuclear war is another emerging threat to both military as well civilian populations. The main source of these radionuclides is radioactive wastes from nuclear power plants, research facilities and the use of radioisotopes in industry and diagnostic medicine. The drinking of radionuclide contaminated water can lead to irreversible damage to the entire living beings. Therefore, the removal of radionuclides from water is a necessary requirement. There are several methods such as precipitation, filtration, evaporation, nano filtration, ion exchange using organic resins and adsorption for the removal of radio nuclides from drinking water. However, their routine application is limited both by the high operational cost and production of great amount of slurries. Adsorption is a commonly used method to remove radionuclides from waste water due to its low cost, high efficiency. The adsorption/desorption ability of the functionalized nano magnetite (both natural and synthetic) is being used. It is well known that magnetic separation provides important advantages

such as being a rapid and efficient way for removing and recycling magnetic particles by applying an external magnetic field. The major problem of bare MNPs is the agglomeration due to their hydrophobic surface resulting big cluster hence reducing their surface energy by Surface functionalization of MNPs with biocompatible organic and inorganic materials which protects them from being oxidized and provides them stability against damage during or after being used in adsorption of radio nuclides. Synthesized nanoparticles are characterized by using XRD, SEM, TEM and FTIR techniques.

Keywords: Functionalization of MNPs, adsorption, aqueous solutions, separations, XRD, SEM, TEM and FTIR.

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Sorghum Bicolor(L.) Moench: A Model System to Study Drought Tolerance in Plants

Manisha Rathore and Vineet Soni

*Laboratory of Plant Bioenergetics and Biotechnology, Department of Botany, Mohanlal Sukhadia University, Udaipur-313001, Rajasthan, India
Manii.rathore5@gmail.com*

Abstract

In nature, plants are continuously exposed to various types of abiotic stress and it adversely affects the growth and development of plants. Drought is the main restrictive factor affecting agriculture and is considered as the most important cause of yield reduction in crop plants. *Sorghum bicolor* (L.) Moench is a drought tolerant crop and is an excellent model plant for evaluating drought resistance mechanisms. The drought tolerant characteristics of sorghum make it one of the most important food and feed crops in the regions with low rainfall. In future it will become more important in arid regions all over the world as global warming trends and the demand for limited fresh water is increasing day by day. Therefore, it is considered as a model crop for characterizing drought tolerance.

Keywords: Abiotic Stress, Sorghum Bicolor, Drought

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Nanotechnology for Mosquito Control: Emerging Technique for Disease Control

¹Arti Prasad and ²Manoj Joshi

¹Professor and Head Department of Zoology, UCOS, Mohanlal Sukhadia University, Udaipur, Rajasthan, India

*²Research Scholar, Laboratory of Public Health Entomology, Department of Zoology, UCOS, Mohanlal Sukhadia University, Udaipur, Rajasthan, India
Joshimanoj011@gmail.com*

Abstract

Mosquitoes are vectors for many pathogens that cause human diseases like malaria, dengue, Japanese encephalitis, Chikungunya and many more. Aedes is a smart vector because of the adaptive fitness, ecological plasticity, invasive behaviour, host specificity and high reproductive potential along with expanded immune gene repertoire property at the genetic level. Aedes aegypti and Aedes albopictus are involved in transmission of dengue, Chikungunya and many more. Vector control programs are facing operational challenges with the emergence and development of insecticide resistance in dengue vectors. The plant synthesised Nanoparticles are playing a major role in mosquito control. Nanotechnology is a cheap, safe and green tool for the control of vector. The green synthesis of Nanotechnology is more advantageous over chemical and physical methods. Large number of plant fabricated Nanoparticles has been studied for their high efficiency against mosquito control. Many studies have shown Silver Nanoparticles against Aedes albopictus so more study on different Nanoparticles is required to estimate the proper efficacy of Nanoparticles as Aedes albopictus control. If in case the Nanoparticles will be synthesised using metals like Copper, Silver and Iron which are eco friendly and safe for use. The Nano technology control strategy against Aedes albopictus would be efficient.

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Garbage Enzyme (Bio Enzymatic Cleaners) **[Manufacturing and Application of Garbage Enzyme]**

Manya Sharma, Rubina Bano, Pinky Samota and Kavita Sharma

Biyani Girls College, Sector-2, Vidhyadhar Nagar, Jaipur, Rajasthan, 302039 India
manyakhandal@gmail.com

Abstract

In garbage enzyme conversion of “pre-consumer waste” from supermarkets and house hold like vegetable and fruits residue which are disposed to landfills into value added products. To achieve this goal is through the fermentation of pre-consumer waste to produce a solution known as bio-catalytic garbage enzyme. This fermentation creates natural chains of proteins, mineral salts, organic acids, alcohol, and enzymes. Eco enzyme is prepared by 3 months long fermentation of a mixture of brown sugar or jaggery, pre-consumer waste and water in the ratio of 1:3:10. The fruits and vegetable residues must contain appropriate moisture. Subsequently the characterization of enzyme was conducted based on pH, total solids (TS), total dissolve solid (TDS), chemical oxygen demand (COD) and enzyme activities. The garbage enzyme contains bio-catalytic enzymes such as Amylase, Protease, Cellulose and Lipase. During fermentation gases like ozone (O₃) –useful for atmosphere, Nitrates (NO₃) - useful for plants, Carbonates (CO₃) - useful for sea plants are also formed. Eco enzyme used as bio cleaners, organic fertilizers, detergents, insecticides, medical and industrial application. Eco enzymes are beneficial in future also by following ways- 1) Anti global warming effect, 2) Anti green house effect , 3) Reduce temperature, 4) Reduce ozone depletion, 5) Reduces harmful chemical activities.

“Care For Earth”

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Wildlife Conservation –Present Scenario

¹Meena Godha and ²Utkarsh Sharma

¹Associate Professor, Jaipur National University, Jaipur

²Scholar, Jaipur National University, Jaipur

Abstract

Wildlife extinction is the most important issue of this review highlighting conservation of endangered species. Most important factor necessary to study in the present scenario is about protection and conservation of wildlife at an international level. Biodiversity conservation is the root solution of habitat protection and development. Lots of efforts are being made to encourage reforestation and habitat protection at various national and international levels. New practices of wildlife protection are being introduced in many areas of concern. Public awareness is being increased by using several tools and laws viz; applying laws to discourage indiscriminate hunting of marine populations, discouraging animal trade and overshooting, etc.

Keywords: Conservation, Biodiversity, Improving Habitat, Wildlife Extinction.



Floatation Technique Use for Wastewater Treatment

**Monika Bala Malviya, Asha Choudhary, Poonam Khandelwal,
Manoj Yadav and Meenu Mangal**

*Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, INDIA
110298manojyadav@gmail.com*

Abstract

The treatment of aqueous or oily effluents is one of the most serious environmental issues faced by the minerals and metallurgy industries. Main pollutants are residual reagents, powders, chemicals, metal ions, oils, organic and some may be valuable (Au, Pt, Ag). The use of flotation is showing a great potential due to the high throughput of modern equipment, low sludge generation and the high efficiency of the separation schemes already available. It is concluded that this process will be soon incorporated as a technology in the minerals industry to treat these wastewaters and, when possible, to recycle process water and materials. In this paper, the use of flotation in environmental

applications is fully discussed. Examples of promising emerging techniques and devices are reported and some recent advances in the treatment of heavy metal containing waters and emulsified oil wastes are discussed.

Keywords: Pollution; Flotation bubbles; Environmental; Waste processing



Defluoridation Technology for Drinking Water and Tea by Green Synthesized $\text{Fe}_3\text{O}_4/\text{Al}_2\text{O}_3$ Nanoparticles Coated Polyurethane Foams for Rural Communities

Monika Yadav and Suphiya Khan

*Department of Bioscience and Biotechnology, Banasthali Vidyapeeth, Banasthali,
Tonk, Rajasthan- 304022, India
suphiyakhan@gmail.com*

Abstract

Fluoride (f) contaminated ground water poses a serious public health concern to rural population with unaffordable purification technologies. Therefore, development of a cost-effective, portable, environment and user-friendly defluoridation technique is imperative. In the present study, we report on the development of a green and cost-effective method that utilizes Fe_3O_4 and Al_2O_3 nanoparticles (NPs) that were synthesized using jojoba defatted meal. These NPs were impregnated on to polyurethane foam (PUF) and made into tea infusion bags. The Al_2O_3 NPs-PUF displayed a higher water defluoridation capacity of 43.47 mg g^{-1} of F as compared to 34.48 mg g^{-1} of F with Fe_3O_4 NPs PUF. The synthesized Al_2O_3 -PUF infusion bags removed the F that was under the permissible limit of 1.5 mg L^{-1} . The sorption experiments were conducted to verify the effect of different parameters such as Ph, contact time, size of PUF and initial F concentration. The different properties of adsorbent were characterized using a combination of FESEM, EDX, XRD and FTIR techniques, respectively. The calculated total cost per NPs-PUF pouch developed is as low as US \$0.05, which makes the technology most suitable for rural communities. This paper will be beneficial for researches working toward further improvement in water purification technologies.

Keywords: Fluoride; Defluoridation; Nanoparticles; PUF (Polyurethane foam); Tea bags



Effect of Fe₃O₄ NPs Application on Fluoride (F) Accumulation Efficiency of Prosopis Juliflora

Neha Singh and Suphiya Khan

*Department of Bioscience and Biotechnology, Banasthali Vidyapeeth, Banasthali,
Tonk, Rajasthan- 304022, India
suphiyakhan@gmail.com*

Abstract

Fluoride (F) pollution is a major worldwide problem affecting approximately 200 million people. Hyperaccumulator plant *Prosopis juliflora* has been used for the removal of F from contaminated soils; however its low F accumulation efficiency and low biomass limits the phytoremediation efficiency. Present study deals with enhancement of F uptake efficiency of plant *P. juliflora* through iron oxide nanoparticles (Fe₃O₄ NPs) application for remediation of agricultural soils. For the study, Fe₃O₄ NPs were synthesized through green route using waste jojoba leaves. The application of Fe₃O₄ NPs significantly increased the shoot and root length of plant *P. juliflora*. Fe₃O₄ NPs treatment also promoted the F accumulation in shoot and root tissues upto 28.43 and 34.64 mg kg⁻¹, respectively. Microscopic (FESEM and light microscopic) and EDX spectrum analysis of plant tissues confirmed the accumulation and translocation of Fe₃O₄ NPs and F in plant tissues. This nanophytoremediation approach could be a better option for F remediation for agricultural and commercial purpose.

Keywords: Cost-effective; Fluoride (F); Phytoremediation; Plant; Iron oxide nanoparticles

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In Vitro Evaluation of Antibacterial Activity of Aqueous Leaves Extract of *Murraya Koenigii*

Parul Sawariya and Shilpa Bhargava

Science Department, Biyani Girls College, Jaipur

Abstract

Microbial infections are the sources of a large number of diseases and bacteria are listed in the first location among the widespread microorganisms responsible for opportunistic diseases. Remedy of bacterial infections is a numerous problems due to the appearance of bacterial strains resistant to

numerous antibiotics. In rising countries, bacterial infections are wide-ranging due to reduced sanitation and unhygienic circumstances. Infectious diseases are the world's primary roots for premature deaths, killing almost 50,000 people day after day. Human infections, mainly those linking with skin and mucosal surfaces constitute a serious problem, particularly in tropical and subtropical developing countries. Antimicrobial activity refers to the progression of killing or inhibiting the disease causing microbes. Antimicrobial agents are fundamentally important in reducing the global encumber of infectious diseases. Antibiotics in modern therapeutic system have remarkable effect in calculating the infectious diseases. However, the advent of escape mechanism adapted by most of the pathogens certainly needs a suitable replacement of the presently available antibiotics. Moreover, many antibacterial and antifungal agents are known to show evidence of serious untoward belongings on host tissues leading to the system toxicity. Scientific experiments on the antimicrobial properties of plant mechanism were first documented in the 19th century. The use of in progress microbiological techniques demonstrates that medicinal plants normally exhibit significant strength against human bacterial and fungal pathogens. In India, medicinal plants are extensively used by ancient people as folk remedies but in this recent year these herbal drugs are widely using in the pharmaceutical preparations of modern medicines. *Murraya koenigii* is a plant which has central uses in traditional system of medicine in eastern Asia. Based on ethno remedy, *M. koenigii* is used as stimulant; the leaves, root, & bark are tonic, stomachic, & carminative. Leaves are used on the inside in dysentery also checking vomiting and applied externally to bruises and eruption. The herbal drug *M. koenigii* has exhibited important clinical and pharmacological movement. A range of types of studies, that *M. koenigii*, reveal that it is a tremendous drug, which could be a good medicine for various ailments of human beings.

Keywords: Bacterial Infections, Medicinal Plant, Antimicrobial Activity



Antibiotics Producing Microorganisms in the Environment

Pooja Kumawat

*Department of Biotechnology, Biyani Girls College, Jaipur - 302039
poojaasiwal747@gmail.com*

Abstract

Microbes are everywhere in the biosphere and their presence invariably affects the environment in which they grow. In terms of human measure or observation, the impacts of microorganisms on their environment may be useful or detrimental or inapparent. Soil is a complex and very diverse

environment that provides a versatile source of organisms producing antibiotics. A tea-spoon of soil includes hundreds to a billion active bacteria in each acre of the soil. Antibiotics are most significant secondary metabolites that are commercially used, generated by many soil microorganisms, *i.e.* bacteria and fungi. Most of today's major antibiotics are of microbial origin. Antibiotics are low molecular weight (non-protein) molecules and play a main role in the management of infectious diseases in humans, animals, livestock, and aquacultures all over the world. While many antibiotics are known to exist (like polymyxin, bacitracin, penicillin, bacillomycin, mycobacillin, etc.), efforts to discover new antibiotics still continue. The demand for new antibiotics increasing day by day due to the emergence of multiple pathogens that are resistant to antibiotics cures for formerly life-threatening diseases.

Keywords: Microorganisms, Antibiotics, Environment, Soil, Diseases



Biodegradation of Diesel by *Pseudomonas Stutzeri* DBT15 Strain Isolated from Contaminated Soil of Mathura

¹Pooja Pandey, ¹Hardik Pathak and ²Saurabh Dave

¹*Department of Biotechnology, School of Science, JECRC University, Jaipur, Rajasthan, 303905*

²*Department. of Chemistry, School of Science, JECRC University, Jaipur, Rajasthan, 303905*

Abstract

A bacterial strain was isolated from petroleum contaminated soil of Mathura. Total 5 soil samples were collected and 20 diesel-oil degrading bacteria were isolated. On the basis of different biodegradation capabilities of different bacterial species, *Pseudomonas stutzeri* DBT15 was selected using 2, 6 dichlorophenol indophenol (DCPIP) assays. The biodegradation potential was evaluate by gravimetric method and residual oil was analyzed using gas chromatography/mass spectrometry (GC/MS) analysis. 96.18% degradation was observed for M15 bacterial strain in 35 days of incubation by gravimetric analysis. Molecular characterization was performed by 16SrRNA nucleotide sequencing and it was identified as *Pseudomonas stutzeri* DBT15 strain.

Key words: GC-MS, *Pseudomonas stutzeri*, 2, 6 dichlorophenol indophenols



A Review on Laser Application in Biomedical Field

**Pooja Verma, Bhavya Sarswat, Manisha Kumari, Namita Meena,
Shivani, Vivek Kumar Jain and Umesh Kumar Singh**

*Department of Science, Biyani Girls College, Jaipur
umesks@gmail.com*

Abstract

There is a particular focus in the field of medicine, for diagnosis, therapies and as a research tool in biology. Its use is well-displayed in ophthalmologic and dermatologic treatments, surgery. The most captivities aspect of laser technology in the field of biology emerged in the late 1990's with the development of devices which are able to perform fine cutting up on biological tissues using a laser beam. Laser –associated micro dissection offers a rapid precise method of isolating and removing targeted cells or groups of cells from complex biological tissues. Laser light amplified stimulated emission radiations. Unlike a standard light beam, it is a source of monochromatic, coherent, and unidirectional light. The first laser being built in 1960. Today we all have laser in our homes, offices, CD, DVD players, laser printers, barcode scanners. We send and receive emails over the internet signals that lasers fire down fiber-optical cables.

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Air Pollution Tolerance of Trees of Jaipur District

Poonam Sharma and Kalpana Agarwal

Department of Botany, The IIS University, Jaipur, India.

Abstract

Pollution is the introduction of contaminants into the natural environment which causes adverse change. Pollution can be in the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Plants play an important role in monitoring and maintaining the ecological balance and also provide enormous leaf area for impingement, absorption and accumulation of air pollutants. The exposure of the leaves to these pollutants cause a great reduction in the concentration of their photosynthetic pigments viz., chlorophyll and carotenoids, which severely affects the plant productivity, germination of seeds, length of pedicles, and number of flowers inflorescence. Plants have been classified on the basis of their degree of sensitivity and tolerance toward various air pollutants. Sensitive plant species are not able to survive the deleterious effect of pollutants and thus serve as bioindicators. Tolerant species too vary in their level of tolerance index. In the study the air pollution tolerance index of *Polyalthia longifolia*, *Ficus religiosa* (Peepal), *Thevetia peruviana* (Peeli Kaner), *Azadirachta indica* (Neem) was evaluated.

Keywords: Pollution, air pollution tolerance index.



Keratinous waste: A Threat to Nature and its Degradation Strategies

¹Preety Sharma, ¹Nirat Kandwani and ²Tarun Kumar Kumawat

¹Department of Biotechnology, Biyani Group of Colleges, Jaipur, Rajasthan, India

²Biyani Biosolutions Pvt. Ltd. Jaipur, Rajasthan, India

nksoami@gmail.com

Abstract

Keratinous wastes are posing a great harm to the nature and resulting in very serious consequences. These wastes are produced in large quantities from leather industries, textile industries, wool industries, poultry farms and slaughter houses. Keratinous waste contains the keratin protein, which

is tough and fibrous protein that belongs to the scleroprotein group. The population is increasing day by day with increase in food demands also and thus a large section of this community is depending on poultry industry. According to a study about 50 billion of the chickens are slaughtered every year. The keratinous wastes are openly dumped, landfilled, buried and incinerated. These all actions are the main reason of soil, water and air pollution as in environment as well as health implication on people. So, we need to take proper measures for disposal of these wastes. Recently, biological methods are coming into great significance. Very few microorganisms are able to break down and utilize the keratin protein as a source of nutrition. These microbes are called as Keratinophilic microflora (bacteria and fungi). The Keratinophilic microflora degrades the keratinous waste by secretion of keratinase enzyme (enzymatic degradation). Microorganisms' preliminary consume the lipids (non-keratinous elements) initially and then start the keratin decomposition. Keratin degradation comprises two major actions, *i.e.*, sulfitolysis (breakdown of disulfide bonds) and proteolysis (proteolytic attack). Microbial degradation of keratinous waste by *in-vitro* will definitely reduce the environment pollution and can be used as animal feed, biofertilizers and in paper and pulp industry.

Keywords: Keratinous Waste, Biological, Microorganisms, Keratinase, Environment



Guar: A Green Crop as Modern Drug

¹Priya Kumari Jain and ²Shilpi Rijhwani

¹*Assistant Professor of Botany, Jaipur National University, Jaipur*

²*Associate Professor of Botany, IIS deemed to be University, Jaipur*

Abstract

Cyamopsistetragonoloba is an annual herb belonging to family Fabaceae and is grown in the semi-arid and arid zone of India. The seeds of Guar are used as food and fodder since time immemorial and at the same time is highly valued for industrial gum. The guar gum is a galactomanan or polysaccharide layer (mucilage) of seed which is used as an emulsifier, thickener and stabilizer in wide range of food and industrial applications. Guar is also used as a home remedy for the treatment of gastric problem, abdominal discomfort, asthma, inflammation, as laxative and as appetite depressor. This can be attributed to a wide variety of secondary metabolites like flavanoids- kaempferol, phenolic compounds- sinapic acid, chlorogenic acid, gallic acid, caffeic acid, ellagic acid, steroids- inositol, ethyl alpha d glucopyranoside, stigmaterol and some amino acid- glutamine, arginine, aspartic and luecin. It is also reported to possess antibacterial and antihelminthic properties. In this modern age where a large number of people are suffering from life style disorder high blood pressure, cholesterol level and diabetes guar may play an important

role for improving the serum biochemical profile of human and non-human primates reducing total serum cholesterol, triglycerides, cardio vascular risk and increasing the high-density lipoprotein cholesterol level and management of glycemic indices because of its rich phytochemical profile. Guar can be highly regarded as crop of the future because of its nutritional, chemical and medicinal properties.

Key words : Cyamopsistetragonoloba, antihelminthic properties, cardiovascular risks.

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Antipyrine Based Schiff Base as Reversible Fluorescence “off-on-off” Sensor for Sequential Detection of Aluminium and Fluoride Ions

**¹Priya Yadav, ²Harshita Laddha, ³Priya Sharma, ⁴Madhu Agarwal and
⁵Ragini Gupta**

^{1,2,3}Department of Chemistry, Malaviya National Institute of Technology, Jaipur 302017, India

^{1,5}Materials Research Centre, Malaviya National Institute of Technology, Jaipur 302017, India

*⁴Department of Chemical Engineering, Malaviya National Institute of Technology, Jaipur 302017, India
guptaragini@yahoo.com, rgupta.chy@mnit.ac.in*

Abstract

Aluminium is the third most abundant element in the earth's crust after oxygen and silicon. Aluminium is used in a huge variety of products including foils, kitchen utensils, paper industry, pharmaceuticals, water treatment through which aluminium enter directly in the environment. The impact of aluminium on human health and environment compels the detection and monitoring of aluminium. Herein, we report 4-aminoantipyrine derivative, as turn-on fluorescent Al^{3+} ion sensors. The compound was synthesized as simple Schiff base and characterized using UV-Visible, IR, ^1H NMR, ^{13}C NMR and Mass spectroscopy. The sensor exhibited highly selective and sensitive colorimetric and “off-on” fluorescence response towards Al^{3+} by naked eye color change from colorless to yellow and fluorescence enhancement in methanol. Stoichiometry of metal-ligand complexes were determined by job's plots titrations and further verified with HRMS data. Fluorescence studies proved that the formation of 1-Al^{3+} complex is fully reversible with F⁻. Thus, this chemosensor offers fluorescence “off-on-off” approach for the sequential detection of Al^{3+} and F⁻.

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Role of Catalyst in the Design, Development, and Implementation of Green Chemistry

Priyanka Prajapati, Akash Mangal, Deepali Tailor and Meenu Mangal

*Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, INDIA
deepalitailor06@gmail.com*

Abstract

Green chemistry is the design of chemical products and processes which reduce or eliminate the use and generation of hazardous substances. In the last decade, green chemistry has been recognized as a new approach to scientifically based environmental protection. Catalysis has manifested its role as a fundamental tool in pollution prevention. While catalysis has long been utilized in increasing efficiency, yield, and selectivity, it is now also recognized as accomplishing a wide range of green chemistry goals.

Keywords: Catalyst, Green chemistry, Environmental protection

□□□

Rapid and on-site detection of heavy metals in drinking water of Rajasthan using DEPSOR

^{1,2}Radhika Biyani, ²Arpita Vaishnav, ²Anjali Pandit, ²Pooja Agarwal and ¹Manish Biyani

¹Dept. of Bioscience and Biotechnology, JAIST, 1-1 Asahidai, Nomi City, Ishikawa 923-1292, Japan

²Biyani BioSolutions Pvt. Ltd., R-4, Sector 3, Vidhyadhar Nagar, Jaipur 302023, India

Abstract

Increased industrialization is leading to development on a large scale, however it might have slow, progressive and long-term effect on the environment. The Information and Communication Technology (ICT) has led to the exponential growth in the global production of electronic devices which has proportionally increased the amount of e-waste in the environment. In India, these e-wastes are dumped and landfilled. E-waste cannot decompose and as result it seeps deep into the ground resulting in its polluting the groundwater and affecting the lives of all those consuming this water. The major pollutant is Lead (Pb) as it has very adverse effects on human health leading to

hazards in people of all age groups. This has created a need for the technology that is simple, affordable, portable and capable of rapid in-house and on-site detection of heavy metal concentrations. In the following work, the screen printed electrochemical based 'DEP-On-Go' system was extended onto a handheld and ready-to-use sensing device, called 'DEPSOR'. This is a simple and rapid tool for determining the concentration of pollutants in drinking water. In this study, Lead (Pb) and Zinc (Zn) concentrations were determined in drinking groundwater samples collected from over 16 sites in Rajasthan (India). The result showed a borderline level of Pb in 4 samples and 3-fold high level of Pb (36.1 ± 5.8 ppb) in 1 sample. Permissible limit for Pb given by WHO is 10 ppb. The study concludes that using 'DEPSOR', the current concentration of heavy metal contamination can be estimated on-site and this early detection can thus prevent from various diseases with appropriate action taken against it on time.

Keywords: E-waste, environment, WHO, drinking water, DEPSOR.

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Heavy Metal Bioremediation using EPS of *Pseudomonas Aeruginosa*

Ravneet Chug

*Amity Institute of Biotechnology, Amity University Rajasthan,
Amity Education Valley, Kant Kalwar, NH-11C, Jaipur-Delhi Highway, Jaipur
rchug@jpr.amity.edu*

Abstract

Pseudomonas aeruginosa is a Gram negative, ubiquitous bacterium and the extracellular polymeric substances (EPSs) produced by this organism have a significant role in heavy metal bioremediation owing to the presence of a variety of functional groups like carboxyl, methyl, hydroxyl, phosphoryl, etc.

Purified extracellular polymeric substances (EPSs) were first extracted from *P. aeruginosa* and subsequently employed to find out their competence in heavy metal removal in aqueous system. Present study highlights the heavy metal binding sequestration potential of EPS of *P. aeruginosa* in view to emphasize their role in heavy metal bioremediation

Keywords: *Pseudomonas aeruginosa*, EPS, Heavy Metals

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Inventorization of the Wild Flora of Kho-Nagorian Village of Jhalana Forest

¹Reenu Agarwal and ²Shilpi Rijhwani

¹Assistant Professor, Dept. of Botany, IIS (deemed to be University), Jaipur, Rajasthan, India

²Associate Professor, Dept. of Botany, IIS (deemed to be University), Jaipur

reenu.agarwal@iisuniv.ac.in

Abstract

Wild Plants are in fact used as source of food, medicine, fodder, construction and other financial incomes. The present study was carried out in the Kho-Nagorian village of Jhalana forest, Jaipur. The study came to document nearly 19 species of plants in wild. The information was collected through focus group discussions and key informant interviews. The methods employed in the study were designed with the purpose of providing baseline information on the use of plant species in local system through village surveys and field visits to various areas in the village. The documented species belong to 18 genera and 16 families. Analysis of habits of the 19 plants documented in study area shows that trees share the largest proportion with 11 species (58%), followed by shrub with 6 species (31%) and herb with 2 species (11%). The analysis emphasized the potentials of sustainable utilization, conservation initiatives, and urgent need to document ethnobotanical knowledge for sustainability and scientific validation to prevent their losses.

Keywords: Wild Plants; Ethnomedicinal; Sustainable Utilization

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Adsorption of Heavy Metal from Wastewater

Renu Dahiya, Neha Khandelwal, Pooja Kumari and Megha Sharma

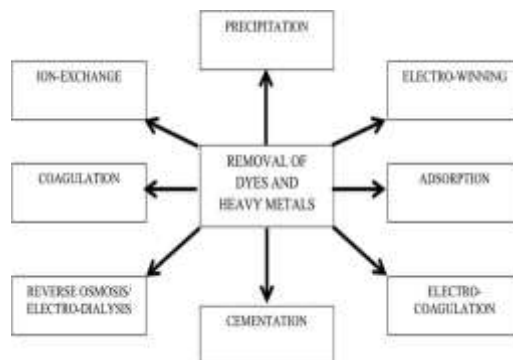
Department of Science, Biyani Girls College, Jaipur, Rajasthan-302039

Abstract

Environmental pollution especially from various toxic components such as heavy metal, oil, dyes, paint in waste water is a major concern in India. Due to large anthropogenic activities like industrial operations particularly mining, agricultural activities and disposal of industrial waste material, their concentration has increased dangerous levels. Heavy metals in industrial waste include nickel, chromium, mercury, uranium, lead, zinc, gold, silver, selenium, arsenic and cadmium. The main threats to human health from heavy metals are associated with exposure to lead, cadmium, mercury,

arsenic. Acute heavy metal intoxication may damage central nervous function, the cardiovascular, gastrointestinal system, lungs, kidney, liver, endocrine glands, and bones. Chronic heavy metal may increase the risk of some cancers. The major techniques practiced of heavy metal removal such as chemical precipitation, ion-exchange, reverse osmosis, ultra filtration, nano-filtration, flocculation, floatation, coagulation etc. amongst all of the existing methods adsorption is one of the most effective, efficient, and simple, economical and versatile technique for the removal of heavy metals. There is use of various readily available natural materials such as adsorbents of heavy metals from industrial waste water. Various adsorbents which are used are activated carbon, activated alumina, iron acetate, activated silica gel, hydro gels, and magnetic graphene oxide. And also various low cost adsorbents has been used like sand, used tea leaves, eggshells, rice husk, activated carbon ,olive stones ,wood saw dust, etc.

Keywords: heavy metals, adsorption, activated carbon, silica gel, hydro gels, low cost adsorbents, activated alumina.



Synthesis, Characterization and Antibacterial Activity of Citrus Sinensis Peel Silver Nanoparticles

Richa Bhardwaj and Smita Purohit

*Assistant Professor, Department of Botany, The IIS University, Jaipur
richa.bhardwaj@iisuniv.ac.in; richa.bibt@gmail.com*

Abstract

Plant extracts provides simpler, eco-friendly and cost-efficient method for synthesizing nanoparticles. Biosynthesis of silver nanoparticles (AgNPs) was achieved by a novel, simple green

chemistry procedure using *Citrus sinensis* peel extract as a reducing and a capping agent. The presence of ascorbic acid, flavonoids and polyphenols helps to reduce the Ag⁺ ion into silver nanoparticles. The successful formation of silver nanoparticles has been confirmed by UV-vis, FTIR, SEM analysis and their antibacterial activity against *Escherichia coli*, *Pseudomonas aeruginosa* (Gram-negative), and *Staphylococcus aureus* (Gram-positive) has been studied. The results suggest that the synthesized AgNPs act as an effective antibacterial agent.

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Next generation farming & fuel

Richa Dwivedi

*NIMS University, Jaipur
scientificricha@gmail.com*

Abstract

There is a growing demand for the use of alternative clean energy as against fossil fuel in the whole world in today's era & there is also lot of environmental issues (deficiency of water) and economical problem are faced by farmers in hilly areas or at higher altitude or in cold region. In trying to meet these demands and solving such issues, researchers or scientists are investigating various approaches. Therefore a review work on delivering affordable clean energy, decreasing the environmental issues and creating a profitable financial path for farmers by using or applying Nanotechnology for microalgae prevention in hilly areas or in cold region or at higher altitude.

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A Potent Biofertilizer- Cyanobacterium

Rincy Yesudas

*Jayoti Vidyapeeth Women's University, Vedaant Gyan Valley, Village-Jharna, Jaipur-303122,
Rajasthan (INDIA)
rinncyesudas@gmail.com*

Abstract

Cyanobacteria play a broad range of exceptional roles in the manufacturing of polysaccharides, energy, biofertilizer, biochemical, food, fodder, environmental as well as pharmaceutical change, and so on. Cyanobacteria are able to fasten atmospheric nitrogen into ammonium and increase plant

growth in turn. They are an option to chemical fertilizers that is environmentally friendly. Biofertilizers can be algae, bacteria, fungi, bacteria inoculants on their own or in the form of many mixtures. When the beneficiary fungi and bacteria are included in the biofertilizers, they enhance the soil's biological and chemical properties, leading to improved agricultural manufacturing. To make it accessible to crops, microbes transform complicated nutrients into simpler ones. If biofertilizers are the cause of extra nutrients, crop output can be enhanced by 30-40%. Four algal manufacturing methods have been reported in specific. Due to the irreparable soil damage by chemical fertilizers, biofertilizers become a rage. The technology can easily be adopted by farmers to multiply at their own level.

Key words: Cyanobacteria, Biofertilizer, Nutrients, Soil, Environmentally friendly.



Sustainable Development for Safe Water and Health

Rishi Kesh Meena

Department of Botany University of Rajasthan Jaipur

rishi_1180@yahoo.com

Abstract

“International Decade for Action: Water for Life” Was marked in the year 2005 and renewed effort to achieve the Millennium Development Goals (MDGs) to reduce by half the proportion of the world's population without sustainable access to safe drinking water and sanitation by 2015. Currently, UNICEF and WHO estimate that 1.1 billion people lack access to improved water supplies and 2.6 billion people lack adequate sanitation. Providing safe water and basic sanitation to meet the MDGs will require substantial economic resources, sustainable technological solutions and courageous political will. Five major challenges to providing safe water and sanitation on a global basis: (1) contamination of water in distribution systems, (2) growing water scarcity and the potential for water reuse and conservation, (3) implementing innovative low-cost sanitation systems, (4) providing sustainable water supplies and sanitation for megacities, and (5) reducing global and regional disparities in access to water and sanitation and developing financially sustainable water and sanitation services. For good health a safe, reliable, affordable, and easily accessible water supply is essential. Yet, about a billion people in developing countries have not had a safe and sustainable water supply. It has been estimated by many researchers that a minimum of 7.5 liters of water per person per day is required in the home for drinking, preparing food, and personal hygiene, the most basic requirements for water; at least 50 litres per person per day is needed to ensure all

personal hygiene, food hygiene, domestic cleaning, and laundry needs. This domestic water consumption is dwarfed by the demands of agriculture and ecosystems, even in wealthy countries where per capita domestic water consumption greatly exceeds. To cover all these requirements and to avoid water stress, experts generally agree that about 1,000 cubic metres of freshwater per capita per year is needed. A key target of Millennium Development Goal (MDG) 7, which aims to ensure environmental sustainability, is “to reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation.



Heavy Metals Biosorption Capacity of Microorganisms and Plants

Ritu Singh Rajput

*Jayoti Vidyapeeth Women's University, Vedaant Gyan Valley, Village-Jharna, Jaipur-303122,
Rajasthan (INDIA)
ritusingh71213@gmail.com*

Abstract

The discharge of untreated wastewater containing toxic substances of heavy metals in the ecosystem is most important environmental issue. Many industries discharge their waste into rivers and ponds. They are harmful for the water ecosystem. Heavy metals are non-biodegradable and can be toxic to microorganisms. Several microorganisms have evolved to develop detoxification mechanisms to counter the toxic effects of these inorganic metals. This present review offers a critical evaluation of bioremediation capacity of microorganisms, especially in the context of environmental protection. Furthermore, this article discussed the biosorption capacity with respect to the use of bacteria, fungi, algae and plants. Genetically engineered microbes, and immobilized microbial cells are used for the removal of heavy metals. The use of biofilm has shown synergistic effects with many fold increase in the removal of heavy metals as sustainable environmental technology in the near future.

Key words: Heavy metal, Wastewater, Algae, Plant, Environment



Effect of Quizalofop-P-Ethyl (A Herbicide) on Different Models

Samiksha Shekhawat and Lata Shahani

Department of Zoology, IIS (deemed to be University), Gurukul Marg SFS, Mansarovar
Jaipur-302020, Rajasthan, India

Abstract

Herbicide is a double-edge sword, plays crucial role in increasing crop production but it also causes some negative effects. Herbicide is a chemical compound which control and kill weeds or pests in both agricultural and non-agricultural setting. Quizalofop is a selective, post emergence phenoxy herbicide. It is used to control perennial grass weeds in potatoes, soybeans, sugar beets, peanuts, cotton and flax. The indiscriminate use of herbicide in agriculture, justifies the evolution of toxicity. Studies investigated the potential of Quizalofop-p-ethyl to cause reproductive or developmental toxicity and repeatedly shown to affect liver. The uncontrolled and over the limit use of herbicides leads to various hazardous effects. Quizalofop-p-ethyl causes decrease in mitotic index in *Allium cepa*. In anaphase-telophase cells, the total percentages of different chromosomal aberrations like stickiness, bridges, ring chromosomes, c-mitosis delayed anaphase and micro nucleated cells were increased at different stages of cell cycle (Sharma *et al.*, 2012). Quizalofop-p-ethyl (0, 2, 20, 200 µg/L) for 30 days has disrupted the endocrine system of zebrafish in a sex-specific manner. Quizalofop-p-ethyl increases estrogen axis activity in males and decreases estrogen axis activity in females. The sex-specific manner may be explained by Quizalofop-p-ethyl regulating steroidogenesis or activating estrogen receptors (Zhu *et al.*, 2016). Increased concentrations of Quizalofop-p-ethyl in rats decreases food consumption, body weight, food efficiency, testes weight, and the organ coefficient of testes, the increase in the organ coefficients of brain, lung, liver, kidney were observed at the dose of 1300 mg/kg. The morphological changes of testes were found at the doses of 433 mg/kg and 1300 mg/kg (Jian-xi *et al.*, 2005). Quizalofop-p-ethyl in wistar rats given orally at a dose of (59.2 mg/kg) for 120 days show significant increase in total leukocyte count, neutrophil, eosinophil, lymphocyte, alkaline phosphatase, cholesterol and potassium. Increased weight in lungs and significant decrease in the weight of ovary. Swelling in intestine and liver tissue was also observed. (Deshmukh *et al.*, 2015). The continuous use of Quizalofop-p-ethyl in humans has caused moderate portal inflammatory infiltrates consisting of lymphocytes, polymorphonuclear cells and eosinophils plus moderate cholestasis, mild liver lobule thus indicating hepatotoxicity (Loanniset *al.*, 2007). The purpose of the present article is to discuss various toxic effects of Quizalofop-p-ethyl on different models.

Key words: Quizalofop-p-ethyl, reproductive toxicity, developmental toxicity, hepatotoxicity



Medicinal Plants with Potential Antifertility Activity

**¹Sandeep Dewal, ²Manish Kumar Sharma, ³Ravikant Meena and
⁴Suchitra Manjhu**

*¹Govt. College, Sojat City (Pali), ²Raj Rishi Govt. College, Alwar
sandeepdewal91@gmail.com*

Abstract

The Nature has been a source of medicinal agents for thousands of years and an impressive number of modern drugs have been isolated from natural sources. Plants as abortifacient and as contraceptive were well known to the ancient physicians of India. Various medicinal plant extracts have been tested for their antifertility activity both in male and female animal models activity and the active agents. Numerous herbs have been used historically to reduce fertility, and modern scientific research has confirmed anti-fertility effects in at least some of the herbs tested. Herbal contraception may never reach the level of contraceptive protection as the pill, but it offers alternatives for women who have difficulty with modern contraceptive options or who just want to try a different way. Very little is known about many of the herbs, or about long term side effects or safety concerns. Many herbal methods were tried with mixed results. People who are not interested in getting pregnant are usually not interested in mixed results. With any method of contraception, there is some risk of pregnancy. Most modern forms of birth control are 70% to 99% effective depending on the method chosen. For women who can't use modern forms of contraception, herbs can offer alternatives, and reducing fertility would be better than no birth control. Some herbal contraceptives have a cumulative effect in the body, they need to be taken regularly to maintain the contraceptive effect. Often needing a period of time to establish effectiveness, so a barrier method should be employed.

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Structural Studies of Naphthoate Synthase from *Enterococcus Faecalis*

Sanket Kaushik

*Amity Institute of Biotechnology, Amity University Rajasthan,
Amity Education Valley, Kant Kalwar, NH-11C, Jaipur-Delhi Highway, Jaipur
skaushik@jpr.amity.edu*

Abstract

Enterococcus faecalis(Ef) is a Gram positive coccoid, facultative anaerobic bacterium especially found in soil, water and as normal intestinal flora of humans and animals. It causes nosocomial

bacteremia, surgical wound infection and urinary tract infection, *etc.* As the range of infections caused by *Ef* has broadened, it has become a very important human infectious agent. *Ef* is also one of the major pathogen involved in hospital acquired infections. The occurrence of multi-drug resistance (MDR) and extensive-drug resistance (XDR) are now posing a major challenge to the medical community. In this regard, we have identified Naphthoate synthase (1,4-dihydroxy-2-naphthoyl-CoA synthase, EC: 4.1.3.36; DHNS) as an anti-*E. faecalis* target, as it is an essential enzyme for menaquinone (vitamin K₂) synthetic pathway in the bacterium. Inhibiting naphtholate synthase will block the bacteria's growth. We report here cloning, expression and structural studies of Naphthoate synthase along with binding studies of Naphthoate synthase with quercetin. Quercetin binding has also been validated by spectrofluorimetric studies in order to confirm the bindings of the ligand compound with *E/DHNS* at ultra-low concentrations. Reported studies may provide a base for structure based drug development of anti-microbial compounds against *E. faecalis*.

Keywords: *E. faecalis* naphthoate synthase; structural studies; *in-silico* modeling; docking; spectrofluorimetric studies.

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Anthropogenic Effect on Sacred Grove - A Review

Sarika Bhura and Vinay Kumar

University of Rajasthan, Jaipur

Abstract

Sacred grove are part of landscape containing trees, animal and other forms of life and geographical features that are conserved by human society because of their religious belief. These sacred sites are biodiversity rich area and we can obtain large number of medicinal plants, fuel wood, fodder, fruits and any more things from these areas. There are many factors which adversely affect these area includes overgrazing, over-exploitation and various anthropogenic activities. Study in Kathmandu valley, Nepal emphasized lack of awareness responsible for the exploitation of threatened plants. Study shows that the vegetation loss occurs due to encroachment on hilly area in India. Conservation of these sacred natural sites is the necessity of the society for sustainable development.

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Green Synthesis and Characterization of Silver Nanoparticles using *Enicostemmaaxillare* (lam.) Leaf Extract

Shani Raj, Suresh Chand Mali and Rohini Trivedi

*Department of Botany, Mohanlal Sukhadia University Udaipur-313001, Rajasthan
shaniraj1992@gmail.com*

Abstract

In the present article, the facile green synthesis of silver nanoparticles (AgNPs) using aqueous leaf extract of *Enicostemmaaxillare* (Lam.) has reported. This is a simple, cost-effective, stable for a long time and reproducible aqueous synthesis method to obtain a self-assembly Ag nanoparticle. The size and shape of Ag nanoparticles were characterized by XRD, TEM, and SEM-EDS. The formation and stability of the reduced silver nanoparticles in the colloidal solution were monitored by UV-Vis spectrophotometer analysis. Zeta potential was confirmed by DLS study. The mean particle diameter of silver nanoparticles was calculated from the TEM, SEM and the size of the particles was measured between 15 and 20 nm. TEM analysis revealed the spherical shape of the particles. Crystalline nature of the nanoparticles in the face-centred cubic structure are confirmed by the peaks in the XRD pattern corresponding to (111), (200), (220) and (311) planes. This study showed the biogenic, environmentally friendly and cost-effective synthesis and characterization of the silver nanoparticles.

Keywords: Green synthesis; *Enicostemmaaxillare*; Silver nanoparticles; Characterization.



Seasonal Variability of Aerosol over India: Analysis from Ground-based Observations and Global Model Simulations

Sonali Sharma

*Environmental Science, IIS (Deemed to be University), Mansarovar, Jaipur
sharmasonali0611@gmail.com*

Abstract

Aerosols are suspended liquid or solid particles in the air. They exhibit a wide range of compositions and shapes depending on the origins and associated atmospheric processes. Aerosol optical depth (AOD) is one of the primary optical properties that a measure of aerosol loading in the atmosphere. This study addresses the distribution, types, and concentration of aerosols over the

Indian region. The objectives of the study are to determine the Seasonal and Inter-annual variation of Aerosols over India using AERONET observations and chemistry-climate aerosol model ECHAM-6-HAMMOZT with long-term trends in Aerosol Optical Depth (AOD) and the distribution and concentration of Black Carbon (BC) and Organic Carbon (OC) aerosols over the Indian subcontinent. For this study, we choose stations in the Indo-Gangetic Plain (IGP) which accounts for 21% of the Indian subcontinent's area. In this study, 7 sites are selected for recognizing the aerosol optical depth over IGP viz., Kanpur (UP), Bareilly (UP), Bhola (Bangladesh), Dhaka (Bangladesh), Karachi (Pakistan), Lahore (Pakistan), and Delhi (Haryana). The analysis reveals that aerosols loading over Kanpur, Karachi, and Lahore are high compared to the other stations in the Indo-Gangetic-Plains. The model simulations found that IGP has the high AOD in summer season due to a high concentration of water vapors and sea salt spray come from the Arabian Sea as well as in winter season due to the emissions of aerosols from anthropogenic activities, Biomass burning, Industrial emissions remain in the boundary layer due to calm winds.

Keywords: Aerosols, Aerosol Optical Depth, Black Carbon, Organic Carbon, AERONET



Nanoparticle – Characterization, Properties and Application

Sunita Choudhary and Harish

*Department of Botany, Mohanlal Sukhadia University, Udaipur – 313 001 (Rajasthan) India
harish.botany1979@gmail.com*

Abstract

Nanotechnology is a nano-science and technology that can be defined as the synthesis, and application of nanosize materials (1-100nm). The present review aimed to explore the characterization and application of nanoparticles. Important properties of nanoparticles such as size, shape, crystal nature, surface properties, aggregation state, solubility, structure and chemical composition etc. play important role in defining their applications in biotechnological, biomedical and environmental fields. For characterization of nanoparticles advanced techniques are used such as– transmission electron microscopy, scanning electron microscopy, x-ray diffraction, fourier transform infrared spectroscopy, dynamic light scattering etc. In this communication we summarize the different characterization techniques revealing the important properties and application of nanoparticles. After analysing the data of these techniques can identify size, shape and crystal nature of nanoparticles.

Keywords: characterization, properties, Nanoparticle



Solvatochromic Study of A Supramolecular Amphiphile Based on Calix[4]Arene Connected to A Fluorescent Benzofurazan Moiety at Lower Rim: Evaluation of Ground and Excited State Dipole Moments

¹Sunita Joshi and ²Bhawna Uttam

¹*Amity School of applied sciences, Department of Physics,
Amity University Rajasthan, Jaipur, India*

²*Bioinorganic Laboratory, Department of Chemistry,
Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India*

Abstract

Photophysical properties of a supramolecular amphiphile of calix [4] arene having benzofurazan moiety at the lower rim, L has been studied. Based on the Solvatochromic method, the absorption and fluorescence spectra of the receptor L has been studied in 12 different solvents of varying polarity. The ground state and the excited state dipole moments of L were estimated from the Bakhshiev's and Bilot-Kawaski's equations. The dipole moment of excited state is four-fold higher than the ground state that is attributed to the more polar excited state. Scanning electron microscopy reveals that the aggregation of L is increased on going from the polar to non polar solvents.

Keywords: solvatochromism, benzofurazan, dipole moment; quantum yield, absorption, fluorescence

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Copper Oxide Nanoparticles Synthesis using Celastrus paniculatus Willd Leaf Extract and Characterization

Suresh Chand Mali, Shani Raj and Rohini Trivedi

Department of Botany, Mohanlal Sukhadia University, Udaipur-313001, Rajasthan, India

Abstract

Nanoparticles are particles with a size range of 1–100 nm. Present study revealed copper oxide nanoparticles (CuONPs) synthesis via simple and eco-friendly green route using leaf extract of *Enicostemma axillare* (Lam.). Biological synthesis is an environmentally friendly, cost effective, nontoxic approach for the production of nanoparticles. Synthesized CuNPs was characterized by

XRD, TEM, FTIR, SEM-EDS and DLS techniques. The characteristic absorption peak of CuONPs was in range 264nm in UV-Vis spectrum. Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) studies revealed the morphological and structural character of green NPs. The mean particle size was calculated to 30nm. Energy dispersive spectroscopy (EDS) showed high intense metallic peak of copper (Cu), oxygen (O) and low intense peaks of carbon (C), sulphur (S), phosphorus (P) elements due to the capping action of biomolecules of plant extract in CuONPs formation. The X-ray diffraction (XRD) pattern showed distinctive peaks corresponding to (200), (211) and (310) planes revealing the high crystalline nature of synthesized CuONPs with a primitive phase. Zeta potential and size distribution of synthesized green NPs was concluded by Dynamic light scattering (DLS) studies.

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Rehydration Induces Quick Recovery of Photosynthetic Apparatus in *Semibarbula Orientalis*

Upma Bhatt and Vineet Soni

*Plant Bioenergetics and Biotechnology Laboratory, Department of botany
Mohanlal Sukhadiya University, Udaipur, India*

Abstract

Many lower plant species have ability to survive under various abiotic stresses including desiccation-a more severe state of dehydration than drought. At this stage no liquid phase remains in the cellular system, but the plants subsequently recover normal photosynthesis within minutes or hours upon rehydration. In order to understand the mechanisms of rapid photosynthetic recovery in mosses upon rehydration, we investigated the kinetics of the photosynthetic recovery process in desiccation tolerant moss *S. orientalis* through polyphasic chlorophyll a fluorescence OJIP measurements. The maximal quantum efficiency of PSII (Fv/Fm) was increased from 0.09 to 0.5 within 6 min of rehydration. Results clearly reveal that the moss's ability for quick recovery upon rehydration is related to rapid biosynthesis of chlorophyll molecules, reorganization of light harvesting complexes (LHCs), and conservation of inactive PS II into active state.

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Beneficiary Effect of *Tinospora Cordifolia* against High-Fructose Diet Induced Abnormalities in Lipid Profile in Swiss Albino Mice

Vanshita Sharma, Shilpa Bhargava and Priyanka Dadupanthi

Science Department, Biyani Girls College, Jaipur

Abstract

Obesity is defined as extreme accretion of body fat that may damage health. It has developed into a worldwide epidemic. Obesity is acknowledged to be correlated to enlarge risks of coronary heart diseases, hypertension, noninsulin- dependent diabetes mellitus and certain type of cancer. The major factor contributing to obesity is difference between energy intake and outlay. One most important approach in the treatment of obesity includes the development of nutrient digestion and absorption inhibitors, in an attempt to decrease the energy intake from beginning to end gastrointestinal mechanisms without altering any central mechanisms. Obesity is the most common metabolic disorder of human being and one of the oldest recognized diseases. Overweight and obesity are the fifth most important risk for global deaths. Obesity has reached epidemic proportions in India in the 21st century, with morbid obesity upsetting 5% of the country's population. Therapeutic strategies include man-made drug and surgery, which may cause high expenditure and serious complication. At present, the potential of normal products for the treatment of obesity is still largely new and might be an outstanding alternative strategy for the development of protected and effective anti-obesity drug. *T. cordifolia* whole plant has been selected to evaluate its anti-obesity and interrelated complications. Leaves of this plant are rich in protein (11.2%), calcium and phosphorus. The whole plant of *T. cordifolia* has been experienced for its anti-obesity activity using in experiment model fed with high fat diet. As per earliest literature, the varieties of crude tracts of *T. cordifolia* were administered orally dose at 200 mg/kg b.w. (medium) and 400 mg/kg b.w. (High) for 30 days. In earlier reported that *T. cordifolia* contain α - glucosidase inhibitors. This plant extract inhibit pancreatic lipase activity, also prevent mechanisms of as well as stimulating thermogenesis, lowering lipogenesis, enhancing lipolysis, and diminishing the absorption. The extract of *T. cordifolia* may be explored additional for its potential in treatment of obesity. The herbal drug *T. cordifolia* has exhibited considerable clinical and pharmacological activity. *T. cordifolia* was found a safe drug without any known adverse effect and can be very useful in enhancing the anti-obesity activity. Various types of studies, that *T.cordifolia*, reveal that it is an excellent drug, which could be a good remedy for various ailments of human beings.

Keywords: *Tinospora cordifolia*, high fed diet, Obesity.

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Insilico Modeling and Protein-Protein Interaction Studies of Syntaxin Superfamily Proteins from Enteric Protozan Parasite *Entamoeba histolytica*

Vijay Kumar Srivastava

Amity Institute of Biotechnology, Amity University Jaipur, Kant Kalwar, NH-11C, JAIPUR, INDIA
vksrivastava@jpr.amity.edu

Abstract

Amoebiasis is caused by the protozoan parasite called *Entamoeba histolytica*. The disease commonly occurs in tropical regions that lack good sanitation. Amoebiasis was ranked second to malaria as the cause of mortality due to protozoan parasites and it is caused through disruption of the mucus layer, followed by binding to and destruction of epithelial cells. The membrane-trafficking system of eukaryotes enables critical functions such as secretion and endocytosis. An important component of this membrane-trafficking machinery is soluble *N*-ethylmaleimide-sensitive fusion protein attachment protein receptors (SNAREs). These proteins have been implicated in a variety of processes including vesicle tethering, docking, fusion as well as specificity of vesicular transport in the eukaryotic cell. SNARE proteins are architecturally simple, characterized by the presence of one copy of a homologous coiled-coil forming motif, termed as SNARE motifs approximately 60–70 residues in length. Elucidation of the types and functions of *E. histolytica* secretory proteins can further elaborate our understanding of the disease pathogenesis. However, the structural information and protein-protein interaction study of syntaxin protein is still not known in *E. histolytica*. In this paper we discussed the physiochemical profiling, modeling and protein-protein interaction study of the proteins containing SNARE and synaptobrevin domain. The modeled structures from this study and the key residues identified would give better structural and functional insights into these proteins and may aid in development of newer diagnostic assays and may help in developing new drug targets.

Keywords: *Entamoeba histolytica*, SNARE proteins, Insilico analysis, Protein-Protein interaction.



Use of Medicinal Plants in Therapy

**Vipin Yadav, Alok Saxena, Rekha Sharma, Varsha Acharya
and Meenu Mangal**

*Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, INDIA
raovipin11@gmail.com*

Abstract

One of the prerequisites for the success of primary health care is the availability and use of suitable drugs. Plants have always been a common source of medicaments, either in the form of traditional preparations or as pure active principles. It is thus reasonable for decision-makers to identify locally available plants or plant extracts that could usefully be added to the national list of drugs, or that could even replace some pharmaceutical preparations that need to be purchased and imported. This update article presents a list of plant-derived drugs, with the names of the plant sources, and their actions or uses in therapy.

Keywords: Drugs; Plant extracts; Pharmaceutical preparations; Plant sources

□□□

Physiochemical Parameter Study: Monitoing into Aquatic Ecosystem

Vipul Dev Beniwal, Rinku Kumari and Sushma Jain

*Department of Zoology, Vidhya Bhawan Rural Institute, Udaipur (Rajasthan)
sushma1830@yahoo.com*

Abstract

Water is an enormous resource of nature. It requires good quality water to live organism. The quality of water in any ecosystem provides significant information about the available resources for supporting life in that ecosystem. Quality of water resources depends on number of physiochemical parameters and biological characteristics. Certain physical and chemical parameters are monitored regularly for checking the quality of water. Our study play important role in to understand the water quality analysis of desert aquatic ecosystem where temperature is very high. Kot dam is located near to desert so the natural climatic condition in this region is very typical and extreme. In these

extreme climatic condition the survival of flora and fauna is difficult so diversity of zooplankton may be reduced.

Key words : physiological parameter, planktons, kot bandh



Envirnmental Pollution by Electronic Waste

**Vishnu Kumar Prajapat, Pallavi Jalendra, Monika Kumawat, Priya and
Meenu Mangal**

*Department of Chemistry, Poddar International College, Mansarovar, Jaipur-302020, INDIA
vishnu7742558091@gmail.com*

Abstract

In a world of technological advancement and countless gadgets, the quest to acquire the latest models is overwhelming: a slimmer desktop, new music system, televisions and so on. However the downside of the constant quest for better gadgetry is the rapidly piling hazardous wastes in our landfills. Discarded electronics are generated when users or owners of the products decide that they no longer want them. E-waste encompasses ever growing range of obsolete electronic devices such as computers, servers, main frames, monitors, TVs and monitor devices, telecommunication devices such as cell phones and pagers, calculators, audio and video devices, printers, scanners, copiers and fax machines besides refrigerators, air conditioners, washing machines and microwave ovens, E-waste also covers recording devices such as DVDs, CDs, floppies, tapes, printing cartridges, military electronic waste, automobile catalytic converters, electronic components such as chips, processors, mother boards, printed circuit boards, industrial electronics such as sensors, alarms, sirens, security devices, automobile electronic devices. In this manuscript impact of E-waste on health and environment, and various management strategies have been delineated.

Keywords : CFCs; Heavy metals; Health hazards; Environmental impacts; Renewable materials; Material management



Environmental Health: Problems and Prospects Sushmita

Vishnu Kumar Khandelwal

*JECRC University, Jaipur
vishnusc1974@gmail.com*

Abstract

Public health has benefited greatly from control of some major sources of environmental pollution, but newer and more subtle types of pollution have led to a major loss of public confidence. This has often been aggravated by the tendency of authorities to issue quite improper reassurances in order to protect their own interests, as well as by the failure of medical experts to explain risks in an intelligible way. Control measures have mainly been focused on protecting individuals from conspicuous or hazardous levels of exposure. This may be grossly insufficient if—as with radiation—the dose-response curve is considered to be linear or threshold-free: it is then the total emissions which need to be controlled, since many people exposed to a small risk may generate a large total of cases, albeit with no conspicuous risk to any one person or group. Unfortunately, it is generally impossible to measure these all-important low-dose effects. Environmental policy should take account of this uncertainty.

□□□

Impacts of Unconditional Threats in Modernization Plans of Jaipur City, India

¹Vishnu Sharma and ²Tarun Kumar Kumawat

¹Department of Botany, Mehta P.G. College, Jaipur, Rajasthan, India

*²Biyani Bio Solutions Pvt. Ltd., Jaipur, Rajasthan, India
vishnusharma666@yahoo.com*

Abstract

In India, smart city mission is the vision of ministry of urban development and Government of India that was launched to make the Indian smart cities. In this direction, Jaipur is stood on 3rd place and to approach smart cities mission, the Government of Rajasthan initiated the availability of care infrastructure and decent quality of life its citizens, a clean and sustainable environment and application of smart solution. With this thought, Jaipur Municipal Corporation has initiated the door to door collection of house wastes from all 91 wards of Jaipur city. In the management of city wastes, it is transported openly throughout the city and discarded at outward open dumping yards

developed at Sewapura, Lagadiyawas and Mathura-Das-Pura to be involved in production of compost or solid waste management. But unfortunately, it is burned without scrutinizing all. In the impact of this unplanned management of smart city mission, the ambient air quality of Jaipur is progressively deteriorated. The ambient air deterioration is also enhancing due to some anthropogenic sources like rapid urbanization, industrialization, uncontrolled increase of vehicles on poor road conditions, construction debris, lack of public awareness, domestic cooking/heating. This manmade environment is transforming into hazardous by addition of biological molecules, introduced through changes in the atmosphere. It is causing the respiratory disorders, allergies, cardiac attacks, nonfatal stroke and premature death of in citizens. To control the impacts of the present level of air pollution, Government of Rajasthan, as well as ministry of urban development and Government of India, should focus on the alternate method of recycling such as biological management of city wastes. With it, there is need to provide traffic diversions, provision of alternate routes, restricting heavy vehicles movement through residential roads, arranging for periodic vehicle maintenance, regular monitoring of equipment installed in various industries, public awareness and green plantation in the city and along highways.

Keywords: Smart city; Environment; Municipal Solid Waste; Air Quality



Air Pollution and the Related Health Hazards

Yogita Sharma

*Department of Science, Biyani Girls College, Jaipur-302032
yogitasharmays@gmail.com*

Abstract

Air pollution is a major concern of new civilized world, which has a serious toxicological impact on human health and the environment. According to the World Health Organization, six major air pollutants include particle pollution, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Long and short term exposure to air suspended toxicants has a different toxicological impact on humans including respiratory and cardiovascular diseases such as accelerated aging of the lungs, loss of lung capacity and decreased lung function, development of diseases such as asthma, bronchitis, emphysema, neuropsychiatric complications, the eyes irritation, skin diseases, and long-term chronic diseases such as cancer. Several reports have revealed the direct association between exposure to the poor air quality and increasing rate of morbidity and mortality mostly due to cardiovascular and respiratory diseases. Planting more and more trees,

reducing deforestation, strictly banning burning of any kinds of waste, using solar power and using simple ways like carpooling, using fuel efficient vehicles like CNG vehicles, public transport or bicycles are just the simplest of all ways one can contribute to a better world and a richer environment.

Keywords: Air Pollution, toxicological impact, human health, respiratory disorders, cardiovascular diseases, morbidity, mortality

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Prof. Manish Biyani

Organizing Chair, BICON-2019

Biyani Group of Colleges

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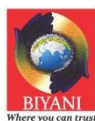
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September 25, 2019

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All papers of the present proceeding were peer reviewed by no less than two independent reviewers. Acceptance was granted when both reviewers's recommendation were positive.

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Designed by:

- Mr. Nilesh Sharma
- Mr. Sunil Saini

Welcome to India-Japan Fest-2019 and Pink City Jaipur, India!

This year we are celebrating the 14th Anniversary of India-Japan Fest at Biyani Group of Colleges, Jaipur. Since, the first conference in 2006, it has become an annual feature of our institution and has continued to grow. The institution is leaving no stone unturned in encouraging the spirit of research and innovations and strengthening the bilateral academic relationship between India and Japan. Every year, this event receives increasing number of participants from both the countries, India and Japan, and we continue to evolve, adapt and develop new collaborative programs between various institutions in India and Japan.

Biyani Group of Colleges is organizing this mega event in collaboration with partner institutes from Japan **Japan Advanced Institute of Science and Technology, Akita Prefectural University, Saitama University, Kyushu University and Well Group.**

The theme of **BICON-2019** is **Sustainable Development Goals** guided by different departments including Science, Commerce & Management, Information Technology, Social Science, Nursing and Law based on ‘multidisciplinary-to-interdisciplinary’ approach. This is an initiative to introduce and promote sustainable development among nations and identify the challenges hindering the same.

We are proud to announce that Biyani Shikshan Samiti has been empanelled as a **SENDING ORGANIZATION** by NSDC, MSDE, New Delhi. This program will provide opportunity to our technically qualified youth in enhancing their skills as well as getting placed in the top organizations of JAPAN. We are welcoming “WELL GROUP” as the placement partner for Technical Internship Training Program (TITP).

BICON-2019 has decided to call for Abstract of the paper to be published in the conference proceedings with ISBN numbers. The Technical Program Committee is charged with reviewing all abstracts to accommodate the growing number of paper submissions. In a rigorous and time-consuming review process, the committee members worked hard to ensure the continued high quality of accepted papers. There are 23 invited talks (11 Japan + 12 India) in BICON-2019.

The months of planning, hard work and team effort by dedicated staff has culminated into the success of this event for which we would like to thank the management committee who trusted us to organize this conference and contributed significant funds to support the event. We would also like to thank the Technical Program Committee and the reviewers for their excellent work in reviewing the abstracts as well as their valuable input and advice. We would also like to express our sincere thanks to all the dedicated BICON-Team members for their active role and support in all aspects of this conference from collecting abstracts, assisting in coordination, helping to plan the agenda, recruiting sponsors and assisting in organizing the conference. I want to thank all the conveners of each symposium : Dr. Priyanka Dadupanthi (Science), Ms. Tarawati Chaudhary (Nursing), Dr. B.N. Gaur (Commerce & Management), Er. Vivek Sharma (Information Technology), Ms. Malti Saxena (Social Science) and Dr. N L Gurjar (Law) and Graphic designer Mr. Nilesh Sharma and team for editing the conference proceeding in the last running moments and beautifully designing the brochure and other conference materials.

Finally, we want to express our sincere thanks to all the invited speakers, offline and online, who have joined us from India, Japan and other countries, for taking out time from their busy schedule to participate in this conference. It has been a great pleasure to interact with them and receiving their interest in collaborating in the future.

The venue of this conference is located in Pink City Jaipur and we have tried to promote a sense of the local culture and North-Indian cuisine to the attendees during this conference. We hope that this conference is intellectually stimulating, enjoyable, professionally satisfying and memorable for all the attendees.

With warmest regards,



A handwritten signature in black ink, appearing to read 'Manish Biyani'.

Dr. Manish Biyani
Organizing Chair

- Res. Director,
Biyani Group of Colleges, India
- Res. Asso. Professor, JAIST, Japan



A handwritten signature in black ink, appearing to read 'Neha'.

Dr. Neha Pandey
Convener
Vice Principal & Registrar
Biyani Group of Colleges



**CHIEF MINISTER
RAJASTHAN**

MESSAGE

I am pleased to know that the Biyani Girls College, Jaipur is organizing the 14th India–Japan Bilateral Conference (BICON–2019) from September 23rd to 25th, 2019 in Jaipur.

Rajasthan maintains special relation with Japan in terms of investment. This relationship has strengthened during the past years as investment made by the Japanese companies in the state has brought prosperity to the region.

I hope that this event will further strengthen bonds between the people of India and Japan

I wish the conference a great success.

(Ashok Gehlot)

Master Bhanwarlal Meghwal

Minister

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Date : 17-09-2019

Message

I am Pleased to know that Biyani Girls College is organizing 14th India-Japan Bilateral Conference (BICON-2019) on Sustainable Development Goals from 23 September to 25 September 2019.

Rajasthan maintains strong relationship with Japan in terms of Academic and Research Activities.

Your Organization is also publishing a souvenir on this occasion. I hope this souvenir will be inspiring for the young generation and promote further stronger relationship between India and Japan.

I wish all the best for the success to the conference.


(Master Bhanwarlal Meghwal)
Minister

Dr. Rajeev Biyani

Chairman

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Biyani Group of Colleges, Jaipur

I am very happy to hear that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September 23rd to 25th, 2019.

I am confident that this conference will attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes. Participation of the accomplished girls from Biyani College in this event shall Foster Women empowerment in our state.

I wish great success to the conference

Lalchand Kataria

Minister

Director

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अ.शा.पत्र क्रमांक

जयपुर, दिनांक 18.09.2019

मुझे यह जानकारी अत्यन्त प्रसन्नता हुई है कि बियानी ग्रुप ऑफ कॉलेज, जयपुर द्वारा "14 India - Japan International Conference on Sustainable Development Goals" का आयोजन किया जा रहा है।

मुझे आशा है इस सेमिनार में दोनों देशों के मध्य विकास की संभावनाओं पर व्यापक स्तर पर चर्चा होगी जो भविष्य में दोनों देशों के बीच संबंधों को ओर मजबूती देने के साथ ही हर क्षेत्र में उपयोगी होगी।

मैं इस सेमिनार के सफल आयोजन एवं इस अवसर पर प्रकाशित होने वाली स्मारिका के प्रकाशन पर हार्दिक शुभकामनाएं प्रेषित करता हूँ।

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Message

I am very happy to learn that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON – 2019) to be held in Biyani Girls College from September r, 23rd to 25th 2018.

I hope that this conference will attract bilateral academic / research agreements and promote further stronger relationship between Japan and India especially Rajasthan.

This event is organized to celebrate the bilateral research agreements and promote strong relationship between JAIST and Indian Institutes.

I wish Biyani Group of Colleges a great success for the conference.

(Bhanwar Singh Bhati)

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तकनीकी शिक्षा एवं संस्कृत शिक्षा (स्वतंत्र प्रभार),
विकिप्सा एवं स्वास्थ्य, आयुर्वेद और विकिप्सा,
विकिप्सा एवं स्वास्थ्य सेवाएं (ई.एस.आई.)
एवं सूचना एवं जनसम्पर्क विभाग

Message

I am happy to know that Biyani Group of Colleges, Jaipur is organizing 14th India – Japan Bilateral Conference (BICON-2019) between 23rd-25th September, 2019.

I am confident that the outcomes of the brainstorming sessions will be most fruitful, resulting in educating the masses and transforming common men into responsible citizens.

I extend my wishes to the organizers of the Conference for great success.



(Dr Subhash Garg)

कार्यालय : 6316, मंत्रालय भवन, शासन सचिवालय, जयपुर-302005 • फ़ोन : +91-141-2227925
ईमेल : mostechedu@gmail.com



जगरूप सिंह यादव, आई.ए.एस.
Jagroop Singh Yadav, I.A.S.



MESSAGE

राजस्थान सरकार
GOVERNMENT OF RAJASTHAN
जिला कलेक्टर एवं जिला मजिस्ट्रेट

DISTRICT COLLECTOR & DISTRICT MAGISTRATE
कलेक्ट्रेट, जयपुर-302016
Collectorate, Jaipur-302016

I am extremely delighted to know that Biyani Group of Colleges, Jaipur is organizing 14th International Conference on "Sustainable Development Goals" from September 23rd to 25th, 2019. It is indeed the need of the hour to focus on such issues of sustainable development.

This conference will certainly attract bilateral academic/ research agreements and promote further stronger relationship between Japan (Akita prefectural university, Saitama University, Kyushu University, Well Group) and higher level Indian institutes.

The prospects of such activities have much more scope for the younger generation to uncap their talents and touch greater heights of achievement.

I wish to convey Biyani Group of Colleges a great success in the event.

Best Wishes.


(Jagroop Singh Yadav)



Rajasthan ILD Skills University (RISU)

(Established under the Act No. 6 of 2017)

Dr. Lalit K. Panwar

IAS (R)

Vice Chancellor

Former Secretary, Tourism, GoI

Tel. No. +91-141-2361120

Mob. No. +91-9650687888



Message

It is a matter of great pleasure to know that Biyani Group of Colleges is organizing the 14th India-Japan Bilateral Conference (BICON 2019) during September 23-25, 2019.

Kindly accept my compliments and heartiest congratulations to Biyani Group of Colleges for organizing the 14th India-Japan Bilateral Conference (BICON 2019).

I am sure that this would definitely help in enhancing the bilateral relations between India and Japan particularly in the areas of academic and research activities and would certainly contribute tremendously in promoting Sustainable Development Goals between the two countries.

I wish the 14th India-Japan Bilateral Conference on Sustainable Development Goals a grand success.

(Dr. Lalit K. Panwar)

17.9.19

Khasa Kothi Campus, M.I. Road, Jaipur-302001, Rajasthan
E-mail : risujaipur@gmail.com, Website:- www.rajskills.edu.in

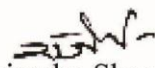


MESSAGE

I am glad to convey my warm congratulations to Biyani Group of Colleges on occasion of the 14th India-Japan Bilateral Conference (BICON-2019) on sustainable development, going to be organised from 23-25 September, 2019. It is remarkable that JAIST and other Institutes from Japan has been working with Indian Universities to enhance collaborative endeavour between India and Japan.

I am pleased to note that this event will promote India-Japan activities on sustainable development and hence mark out the hindering challenges. The launch of joint India-Japan activities for Technical Intern Training Program will provide immense opportunities for student's skill development.

I wish great success to Biyani Group of Colleges for their efforts to organize such prestigious event.


(Rajendra Sharma)
Registrar
Rajasthan Nursing Council,
Jaipur

Justice Govardhan Bardhar



JUDGE
RAJASTHAN HIGH COURT

Sept. 23rd, 2019

:Message:

I am delighted to know that the Law Faculty of Biyani Group of College is geared up for organizing the 14th India - Japan fest from 23 - 25th Sep. 2019.

I extend my heartfelt gratitude to the Group for their efforts at accelerating the potential of Indian youths by providing them with internship opportunities through the India - Japan Technical Intern Training Program.

I would like to convey my best wishes to Biyani Group and sincerely hope that with their relentless efforts many youth would be benefitted by becoming educated and employable in Japan.


(Mr. Justice Govardhan Bardhar)

Dr. Rajeev Biyani
Chairman
Biyani Shikshan Samiti
Sector-3 VDN Jaipur



सत्यमेव जयते

Residence : B-18-F, Todarmal Marg, Bani Park, Jaipur • Ph. : 0141-2207967

Justice K.S. Rathore

Judge

Rajasthan High Court, Jaipur

&

Executive Chairman

Rajasthan State Legal Services Authority

Jaipur-302001



Resi.: 338-339, Mansingh Enclave,
Nemisagar Colony, Vaishali
Queens Road, Jaipur (Raj.)
Ph.: (R) 0141-2352930
(M) 094133 55553



Message

I am very happy to learn that Biyani Group of Colleges, Jaipur is organizing 14th India-Japan Bilateral Conference (BICON-2019) to be held in Biyani Girls College September 23-25, 2019.

I hope that this conference will attract bilateral academic/research agreements and promote further stronger relationship between Japan and India especially Rajasthan.

This event is organized to celebrate the bilateral research agreements and promote strong relationship between JAIST and Indian institutes.

I wish Biyani Group of Colleges a great success for the conference.

K.S. Rathore

Karni Singh Rathore

Date : 18-09-2019

Justice V.S. Siradhana

Former Judge,
Rajasthan High Court
Jaipur 302005

A-3 Judges Bungalows
Gandhi Nagar, Jaipur
Rajasthan



:Message:

It is matter of splendid pleasure and pride to know that Biyani Shikshan Samiti, Jaipur (Rajasthan) India is going to organize and sponsor 3 days 14th Anniversary India - Jaipur fest BICON-2019 from 23 - 25 September, 2019. The theme of international conference on "**Sustainable Development Goals**" Drawn in 2015 with reference to conference by United Nations Organization. Which is to be achieve sustainable development are variable triangle among social equality, environmental protection and economic growth to be determined by all world countries upto 2030 and seventeen goals are determine by U.N.O.

I extent my good wishes and heartiest greeting for organizing this Bilateral Conference and lookforward that the budding research scholars, Academicians, students, and social scientists and other professionals across the world are benefitted by this conference, I wish and hope that this multidisciplinary, interactive, deliberative - discussions in this conference will proliferate the knowledge base of its various stakeholders - I congratulate specially to the organizing team of Biyani Law and social science department of this mega academic - research event.

I extent my best wishes for successful conduct of this international conference.



Justice V.S. Siradhana

JUSTICE JAINENDRA KUMAR RANKA

Former Judge
Rajasthan High Court



RANKA CHAMBERS, C-12A
SURYA PATH, NEW COLONY
NEAR PANCH BATTI, M.I.ROAD
JAIPUR-302001
(M) 9829010593 / 0141-2379203
rankajk@gmail.com

MESSAGE

I am happy and delighted to note that 14th Indo-Japan Bilateral Conference on "Sustainable Development Goals", BICON-2019 is being organized by Biyani Shikshan Samiti, Jaipur. The theme chosen for the bilateral conference is most apt and would go a long way in the process of further strengthening the relationship between India and Japan, as it is both countries are playing very important role in various sectors. Japan being world leader in majority of sectors has done laudable good work in creating infrastructure in our country and providing technology in various sectors.

I appreciate that a session has been specifically planned on "Health Care" with in depth discussions on HIV, HIV related infections, Drug, Discovery Research, Development and Vaccines etc. etc. which is very important in present scenario when, very many diseases are surfacing.

I am sure, the conference and its outcome would provide much needed impetus to take both the countries to higher level and achieving great heights.

I appreciate the efforts of the organizers for thinking in this direction which would play an important positive role in the right direction of "Sustainable Development".

I wish the conference a grand success.

A handwritten signature in black ink, appearing to be 'J. K. Ranka'.

(Justice J. K. Ranka)

Prof (Dr) Madhu Shastri

Amity Law School,
Amity University Rajasthan, Jaipur



Message

It gives me immense pleasure to know that the Biyani Shikshan Samiti Jaipur, Rajasthan has organized 14th India- Japan Fest in collaboration with its partner institute JAIST in Japan, BICON-2019, on September 23-25 on “SUSTAINABLE DEVELOPMENT GOALS”. The theme of the fest requires utmost importance and priority in the present National and International scenario. Preservation and protection of the environment and keeping the ecological balance unaffected is a mission for all of us. The preservation and protection of environment and natural sources is necessary for our future generation. A lot has been done legally and judicially to protect it, but still we are lacking far behind from our goal. It is an opportunity to come together and achieve the goal of “Sustainable Development” as envisaged by the U.N. Millennium Goals of 2000 and declared by the Rio de Janeiro- Summit on Sustainable Development (1992, 2012), the Johannesburg Conference on Sustainable Development (2002). The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. This is a pious, moral, social and legal obligation on every human being to protect our natural resources and it is an opportunity to come together and achieve the “Goals of Sustainable Development” as envisaged by UN..

I congratulate the organisers of the Fest for choosing such a burning and significant theme and also wish all the very best for it.

Professor (Dr.) Madhu Shastri

Dr.Sanjula Thanvi

Associate Professor of Law
University Of Rajasthan
Jaipur
e-Mail : drsanjulathanvi@gmail.com



MESSAGE

**"Development that meets the needs of the present without compromising
the ability of the future generation to meet their own needs"**

Ms.G.H. Brundland, Norway Prime Minister

It is a remarkable endeavor on the part of Biyani Shikshan Samiti, to bring out "BICON-2019"
The 14th anniversary India-Japan Fest, on the theme "SUSTAINABLE DEVELOPMENT".

Progress means the process of becoming something bigger, stronger, better or advance of
some other process, development comes through industrialization, which in turn brings
degradation of environment. To resolve the problem, the specialists worldwide have come
back up with a school of thought known as 'Sustainable Development', i.e. there should be
balance between development and ecology. In preserving development of society -Judiciary,
legislatures, executives and Academicians plays an important role. Academicians are meant to
create some change in society, sense the issues creating problems, respond to society and
influence the society.

I am sure this 14th India-Japan Bilateral Conference on "Sustainable Development" would be an
occasion for judiciary, lawyers, academicians, researchers, students and other professionals in
India & Japan to discuss the issue at hand and suggest the solutions to the sustain the
development in the various field . I wish all the best to organising team for their unique
approach towards the great issue.

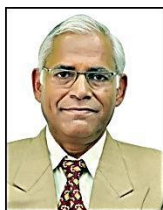
Dr. Sanjula Thanvi

FROM THE CONVENER'S DESK

It gives me great pleasure to extend to you all a very warm welcome on behalf of Department of Social Science and Law, Biyani Group of Colleges. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the BICON 2019.

SDG 4 Quality Education ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development. This goal ensures that all girls and boys complete free education and secondary schooling by 2030. We will discuss certain issues and challenges to achieve SDG 4's (Quality Education) and 16's (Peace, Justice and Strong Institution) target in the conference.

It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over. Once again, a very warm welcome to you all.



Dr. N.L. Gurjar
(Principal, Law)
Convener



Ms. Malti Saxena
(Head, Dept. of Social Sciences)
Convener

CORE COMMITTEE :

- Ms. Pushpa Biyani (Mentor)
- Dr. Rajeev Biyani (Chairman)
- Prof. Sanjay Biyani (Director-Acad.)
- Prof. Manish Biyani (Director-R&D)
- Prof. Neeta Maheshwari (Principal, BGC)
- Ms. Sujata Biyani (Asst. Director)
- Ms. Priyanka Biyani (Asst. Director)
- Dr. Madhu Biyani (Asst. Director)
- Dr. Neha Pandey (Registrar)
- Ms. Renu Tandon (HR Manager)
- Prof. (Dr.) N.L. Gurjar
- Ms. Malti Saxena

ORGANIZING COMMITTEE :

- | | |
|----------------------------|--------------------------|
| • Prof. (Dr.) N.L. Gurjar | • Ms. Malti Saxena |
| • Dr. Ramakant Gautam | • Dr. Rehana Khan |
| • Dr. Meenakshi Rathore | • Ms. Shubha Mathur |
| • Mr. Sunil Kumar Kumawat | • Mr. Deepak Sharma |
| • Mr. Mohit Rawat | • Ms. Madhuri Sharma |
| • Ms. Ritu Sharma | • Ms. Akanksha Rathore |
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| • Mr. Virendra Kumar | • Ms. Vandana Pareek |
| • Ms. Vijaya Laxmi Chauhan | • Ms. Pooja Sharma |
| • Ms. Megha Sharma | • Mr. Vishwanath |
| • Mr. Hridesh | • Ms. Kiran Jangid |
| • Ms. Sarika Gupta | • Ms. Akansha Srivastava |

PROGRAMME AT A GLANCE

Timing	Programme	
8:30-9:00	Registration	
9:00-11:05	Inaugural Session	
9:00-9:05	Lighting of the Lamp by Chief Guest, Guest of Honour & Special Guest: Hon'ble Higher Education Minister, Bhanwar Singh Bhati, Prof. Ashwini Kumar Bansal, Vice Chancellor, RBMU, Alwar and MSBU, Bharatpur; Dr. Lalit K. Panwar, Vice Chancellor, Rajasthan ILD Skills University, and Smt. Shruti Bhardwaj, Additional Commissioner, Land, JDA	
9:05-9:20	Floral welcome and introduction by Dr. Neha Pandey, BICON-2019 convener	
9:20-9:30	Opening remarks by Dr. Sanjay Biyani, Director (Academics), Biyani Group of Colleges	
9:30-9:40	Inaugural Address by Chief Guest Hon'ble Higher Education Minister Shri Bhanwar Singh Bhati	
9:40-9:50	Address by Prof. Ashwini K. Bansal, Vice Chancellor, MSBU University & RBMU University, Alwar	
9:50-10:00	Address by Guest Of Honour: Smt. Shruti Bhardwaj, Additional Commissioner, Land, JDA	
10:00-10:10	Souvenir unveiling	
10:10-10:30	Keynote address by Hon'ble Dr. Lalit K. Panwar, Vice Chancellor, Rajasthan ILD Skills University	
10:30-10:40	Presentation on skilling activities at Biyani Group of Colleges	
10:40-10:50	Invited Talk-1: Fumihiko Yokota, Kyushu University, Japan	
10:50-11:00	Mementos and group photo	
11:00-11:20	High Tea	
11:20-15:15	Invited Session	
11:20-11:45	Keynote	
11:45-12:05	Invited Talk-1 : Dr. S.S. Somra, Head, Dept of Economics, UOR, Jaipur	
12:05-12:30	Invited Talk-2: Dr. Sanjula Thanvi, Director, Five Year Law College, UOR, Jaipur	
12:30-12:40	Words of Wisdom by Guest of Honour Prof. (Dr.) Madhu Shastri, Amity School of Law, Jaipur	
12:40-12:55	Words of Wisdom by Special Guest Hon'ble Justice Karni Singh Rathore	
12:55-13:00	Mementoes and Group Photo	
13:00-14:00	Lunch Break and Poster Exhibition Display	
14:00-16:45	Technical Session	
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16:45-17:00	Prize Distribution Ceremony	
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17:30	Tea	

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Invited Lecture 1

Evaluating Mobile Health Check-Up Services to improve Factory Worker's Awareness, Treatment, and Health Behaviors of Non-communicable Diseases in Jaipur, India



Fumihiko Yokota.

Affiliation & Contact:

744 Motooka, Nishi-ku, Fukuoka-city, Fukuoka, 819-0395, JAPAN.

Tel: 092-802-6052

Fax: 092-802-6057

Email: fumihiko.yokota.2011@gmail.com

Research Interest:

Public Health, Social Epidemiology, International Health

Abstract

Evaluating mobile health check-up services to improve factory worker's awareness, treatment, and health behaviors of non-communicable diseases in Jaipur, India

Fumihiko Yokota¹, Manish Biyani², Rajshri Nagar², Deepak Tiwari², Suresh Yadav², Mariko Nishikitani¹, Kimiyo Kikuchi¹, Ashir Ahmed³, Rafiqul Islam Maruf⁴, Yasunobu Nohara⁴, Rieko Izukura⁴ and Naoki Nakashima⁴

¹*Institute of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan;*

²*Department of Nursing, Biyani Group of Colleges, Jaipur, Rajasthan, India;*

³*Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan;*

⁴*Medical Information Center, Kyushu University Hospital, Fukuoka, Japan*

Abstract

Objective: The study evaluates mobile health check-up services called Portable Health Clinic (PHC) to improve factory worker's awareness, treatment and health behaviors of non-communicable diseases.

Methods: Data were collected from 141 factory workers at Saras Dairy, Jaipur who completed both baseline and after 6 month endline mobile health checkup services and questionnaires in 2018. Data included basic socio-demographic, behavioral and health check-up information. McNemar tests were conducted to compare differences in participant's awareness, treatment, and health behaviors of their non-communicable diseases.

Results: Levels of participant's awareness on their hypertensive status increased significantly after 6 months (8.5% to 25.5%, $P < 0.001$). Percentages of participants who reported "Currently taking drugs" for hypertension and diabetes increased significantly after 6 months (5.7% to 17.7%, $P < 0.001$ and 6.4% to 12.8%, $P < 0.05$, respectively). The percentages of participants who reported "already trying to improve eating habits" significantly increased from 5.7% to 17.7% ($P = 0.003$). The percentages of participants who reported "already trying to improve excise habits" significantly increased from 3.5% to 12.1% ($P = 0.017$). The percentages of participants who reported "usually go visit private clinic when sick" significantly increased from 26.2% to 46.1% ($P < 0.001$) and the percentages of participants who reported "usually go visit government hospitals when sick" also significantly increased from 46.8% to 61.0% ($P = 0.005$).

Conclusions: Levels of awareness, treatment, and health behaviors related to non-communicable diseases among factory workers in Jaipur has been improved after 6 months when they received mobile health check-up services.

Keywords: Mobile Health Check-up, non-communicable diseases, prevention, factory workers, India



Invited Lecture 2

Issues and Challenges to Achieve Sustainable Development Goals in India



Dr. S.S. Somra

Affiliation & Contact:

Head & Associate Professor, Depart of Economics,
University of Rajasthan, Jaipur, Rajasthan
Phone : +91 9414654360
E-mail : drsssomra@gmail.com

Research Interest:

Development Economics, Indian Economics, Econometrics & Mathematical Economics

Education & Professional Career:

B.A. (Economics, Hons.), M.A.
M.Phil., UGC NET, Ph.D.

Member:

- Member of Senate (since 2018), University of Rajasthan, Jaipur
- Member of Academic Council (since 2017), Univ. of Rajasthan, Jaipur
- Dy. Director, 2013-2016, Social Sciences Research Centre (SSRC), Univ. of Rajasthan
- Vice Principal, 2013-16, University Maharaja College, Jaipur
- Member of BOS, Rajasthan Hindi Granth Academy, 2017-18, Jaipur
- Convener, Board of Studies (BOS) in Economics, 2017 onward, University of Rajasthan

- Worked as Rector, Proctor and Staff Secretary, 1999-2006. Department of Economics, Univ. of Rajasthan, Jaipur
- Worked as a member in various committees of the university and as a member of PG entrance test committee 2011-12
- As a member of BOS, Invited for syllabus committee member in different universities, CUR, SPPUJ, GVVUetc.
- Member of Editorial Board in a quarterly refereed journal of the society of technical and management professionals (STMP) Name of the journal is Interdisciplinary Journal of Management and Behavioural Sciences
- Managing Editor of Journal of Social Explorer (2013-16) SSRC, University of Rajasthan
- Chief Editor, Journal of Department of Economics, “Arthsoadh”, since April 2018

Abstract

Issues and Challenges to Achieve Sustainable Development Goals in India

Dr. S.S. Somra

Head, Department of Economics, University of Rajasthan, Jaipur

Abstract:

The United Nations Rio+20 summit in Brazil in 2012 committed governments to create a set of sustainable development goals (SDGs) that would be integrated into the follow-up to the Millennium Development Goals (MDGs) after their 2015 deadline. The idea of the SDGs has quickly gained ground because of the growing urgency of sustainable development for the entire world. As Indians, we can certainly be proud of the many achievements and successes that the country could make over the years since Independence. But, we cannot deny that there are also many challenges and unanswered questions still looming large in all spheres of economic as well as human development. The first Human Development Report in 1990 clearly mentioned that the Human Resource Development (HRD) is the process of increasing knowledge, the Skills and the capacities of the people in a society. HRD deals with all aspects of human development whether they relate to poverty, gender discrimination, denial of human

rights and liberty, impact of globalization and environmental concerns. The 2030 Agenda for Sustainable Development as reflected in the 17 Sustainable Development Goals (SDGs) and 169 targets, calls for global partnership to ensure peace and prosperity for people and the planet, now and into the future. It is recognized that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality and spur economic growth in a sustainable manner. India is committed to achieve these SDGs and a strong social infrastructure is key to achieve them. The Government has been focusing on provisioning of assets such as schools, institutes of higher learning, hospitals, access to sanitation, water supply, road connectivity, affordable housing, skills and livelihood opportunities. This gains significance given the fact that India is home to the world's youngest population as half of its population is below the age of 25. It has also been estimated that demographic advantage in India is available for five decades from 2005-06 to 2055-56, longer than any other country in the world (UNFPA, 2018). This demographic advantage can be reaped only if education, skilling and employment opportunities are provided to the young population. No doubt, the SDGs represent a major potential turning point in the future of humanity. For the first time in recorded history UN a set of goals and targets agreed upon by all UN countries, which include the full range of factors that contribute to equitable and sustainable wellbeing. India must not squander this opportunity to change the trajectory of humanity toward a more sustainable future. The basic issues and challenges for SDGs in India need to focus on expertise in line departments regarding projections for the milestones to be achieved by 2022-23 and by 2030. Need to access the validity and availability of data and metadata of different indicators and capacity building of state level master trainers etc. But with the help of a stable and long term policy platform these can be resolved. The present talk is an attempt to analyses the impacts of recent changes on economic and human development in light of the aforesaid things under the umbrella of SDGs with reference to India.

Keywords: Sustainable development



Invited Lecture 3

Peace as a Tool for Sustainable Development



Professor (Dr.) Madhu Shastri

Amity Law School, Amity University, Rajasthan

Abstract:

Peace plays an important role in the life of human being. It is important for the development of human being, society, nation, world and for the nature. Peace, stability, human rights, equality, security and good governance are indispensable principles for sustainable development. Peace and stability are important tools for sustainable development; all these are part of the same coin. Peace, stability and sustainable development are continuing process. The one of the purpose of sustainable development is to eradicate all types of violence, conflicts, terrors and emphasis on security.

The focus of old sustainable development agenda was on economic development, industrialization and social services. This idea did not fulfil the aims of welfare, sustainable economy and development of peace process. Therefore the new agenda of sustainable development of UN is based on to meet the needs of today without compromising the needs of future. New agenda is concept of sustaining peace negitivated the all types of violence and a step towards collaborating solutions and sustainable development. Thus it works towards positive peace outcomes.

If there are a continuous arm conflicts it effects the development of a nation. War and terrorism results in economic lose. It takes years to gather to recover and rebuilt lost nation systems and its institutions to the level of good governance. There are examples of such nations Libia, Sudan, Yeman, Somalia, Syria etc. Hence this is the need of time to uphold the norms that safeguard humanity, equality, stability, security and works towards sustainable development. To achieve this goal UN Assembly declared sustainable development Goals 2015 to be

achieved by all world nations by 2030. We all have pious, legal, social and moral obligation to work actively for agenda 2015 of sustainable development, so all human being live on the earth with harmony, fraternity and peacefully with dignified life in as Vasudhev kutumbum (whole world is one family).

The scholar wants to emphasis in this research paper on the need of peace, stability and sustainable development and they are woven with each other.

Keywords: Peace, stability, sustainable development and tool



CONTRIBUTED PAPERS

**Portrayal of Educated, Working and Professional Muslim
Women on Silver Screen**

Afifa Baig

Research Scholar, IIS University, India.

Abstract:

Cinema is one of the most popular source of influencing the attitudes and behavior of the society. Film leaves a long lasting impression on the minds of the audiences. Muslim women play a pivotal role and contributed a lot for Hindi Films. Bollywood has been dominated by males from long time. Muslim women also face this domination as their depictions on screen are stereotypical in most of the Hindi films. They are considered as sex objects or as a decorative thing on screen. Their space in films always gets lesser value than the male actors. Already women are suffering from problems like inequality, female foeticide, domestic violence and illiteracy. Education is one of the major reasons behind all these problems. In India 48.11percent (4.03crore), Muslim women cannot read and write even their names. In rural areas these conditions are worst with 54.43% of 5.06 crore having no capabilities of reading and writing.

In earlier times Muslim female characters depicted as passive, dependent and under veil. They were not showcases as working women. Their work limited only taking care of family and doing household chores. The other portrayals are of Courtesan, singers and Tawaifs in the films like Pakeezah, Umrao- Jaan and Bazaar. But as the time changes, modifications has been seen in the depiction of Muslim women character. The characters are more educated, saavy and independent in the films like Naam Shabana, Sultan, Raazi and Gully-Boy.

This is an intensive study of two selected films Ek Tha Tiger (2012) and Sultan (2016) that completely justifies that the representation of Muslim women are changing on silver Screen. The characters are more educated, working and more professional. The findings suggest that these two films showcase Muslim women characters that are not based on old existing patriarchy system. This study examines the modern Muslim women of 21st century who are equally participate not in the field of acting but in other fields like direction, script-writing, cinematography as well as in producing the films.

Keywords: Portrayal, Patriarchy, Muslim Woman, Hindi Cinema.

Introduction:

Hindi Cinema also known as silver screen considered as one of the most influential mass medium in disseminating information and entertainment. Films considers as a tool for social reforms. It also helps in articulating the changes taken place in the society. The art of portraying any character on silver screen leaves a long lasting impression on the minds of the audiences. Muslim women always play a prominent role in Hindi films. In earlier times portrayal of Muslim women on screen was limited to a shy lady hidden behind a veil and dependent on male character. Her roles were confined to a good housewife or a caring mother. But as the time changes, a shift has been seen in the roles from breaking the patriarchy to entering into modernism era.

“Education is a potent tool in the emancipation and empowerment of women, the greatest single factor which can incredibly improve the status of women in any society. Education enables women not only to gain more knowledge about the world outside of her hearth and home but helps her to get status, positive self- esteem, and self-confidence, necessary courage and inner strength to face challenges in life that social structure throws at her”, says Rad (2016). Earlier films showcases that after completing the education, women’s final destination is to get married. As the reforms took place in the society, where Muslim women goals shift from getting married to being independent and working, scenario has been changed. They are more bold, independent and strong and able to take their own decisions now. These transformations in the character of Muslim women have also seen in the Hindi films also. The objective of this research paper is to examine the portrayal of educated, working and professional Muslim women on silver screen. Researcher has chosen two films Ek Tha Tiger (2012) and Sultan (2016) that justifies this changing portrayal of Muslim women on silver screen.

Review of Literature:

Jalil (2011) in his article “**Educating Muslim Women in Modern India: Problems and Perspectives**” cites that number of illiterate Muslim women is higher in rural part of the nation. Less than 17% of Muslim girl is able to finish their eight years of study and less than 10% girls able to finish higher secondary education. About 60% of Muslims never attended school and this is very saddest part of his research. He further says, not only education only, the focus should also be on the quality of education too. Muslim girl also have to leave old patriarchy and shows the interest in getting education. Parag (2013) in his article “**Identity of Muslim Women in Hindi Movies**” explains that from starting of the Hindi cinema, films are directed from male point of view. This is one of the reasons of negative projection of Muslim women in films. Male domination always dominates the screen, women always remains disappear from it.

As the time changes films like Nikaah, Bazaar, Fiza and many more depicts some more bold and positive portrayals of woman which brings changes in representation of the Muslim women character.

Research Questions:

RQ.1- What are the changes found in the portrayal of Muslim woman characters in terms of education, working and professionalism on silver screen?

RQ.2- How the educated, working and professional portrayal of Muslim women breaks the existing patriarchy system prevails in the Hindi Films?

Result and Discussion:

Hindi Films under study: Ek Tha Tiger and Sultan

Sultan is a Hindi film released in 2016. It is directed by Ali Abbas Zafar. This film portrays a Muslim female character Aarfa played by Anushka Sharma. The portrayal of Aarfa differs from earlier characters of Muslim women represented in films. She depicts as a sports personality. She is a wrestler which was considered as a game of males as it needs physical strength. But Aarfa breaks this stereotypical mentality as her character showcases physically and mentally strong. She portrayed as educated and her career is more important than marriage. She is not represented as following existing patriarchy norms. She is independent as well as bold enough to take her own decisions. Her character is not bounded only up to a happy home-maker or obedient daughter. She strongly follows her dream of becoming a wrestler and also fulfills it too. She also portrayed as providing training to other boys wrestler which strongly breaks the old social norms where a woman has to be shy and passive in front of the men. This film justifies the objective of the research that Muslim women portrayal has been changing as more educated, working and professional on silver screen.

Ek Tha Tiger is a Hindi film released in 2012 and directed by Kabir Khan. This film represents Muslim women character as professional and working woman. Katrina Kaif played the role of Zoya who is an ISI agent. This film highlights new modern face of Muslim woman whose priority is her profession. This film showcases that it is not necessary to be a man to play a professional role that needs physical strength. Rad (2016) says, "There is a fundamental transformation in the position of women in modern India with the various reform movements and a gradual change in the perception of women in society. Clearly women have made great progresses towards equality in recent decades". Zoya portrays a character of an intelligent, sharp and brave woman. Her intelligence and working way is as equal or sometimes depicts as better than male protagonist. If anyone judges on the basis of working capability or mental

strength, no one able can able to differentiate between a male or female protagonist. These changes are only possible because of education.

Experimental:

In this study researcher analyze portrayal of educated, working and professional Muslim women on silver screen by applying content analysis approach. According to need, nature and objective of the research paper, researcher chosen narrative method to analyses the portrayal of educated, working and professional Muslim women on silver screen. Narrative method is part of qualitative research. Researcher analyses the content of both the films in narrative style as it is helpful in understanding the representation of a character and experiencing the feelings, images and changes occurring on the screen.

Conclusion:

After analyzing the content of both the films, researcher concludes that changes have been taken place with the time in Hindi cinema. The portrayal of Muslim women has been shift from a shy and passive to more educated, working and more professional on silver screen.

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Sustainable Development in Kautilya's Arthashastra and Relevance in Modern India

Ajeet Singh Choudhary

Assistant Professor, Department. Of History, S K Govt. Girls College, Sikar

Abstract:

The purpose of this seminal paper is to present the concept of sustainability in its purest form as conceived by Kautilya and bring out its relevance to the current issues and the areas of concern in the global perspectives. Sustainable economic governance requires effectual rules and policies and their effective implementation. Arthashastra written by Kautilya more than two thousand years ago discusses various best practices on governance of markets, economics and trade to ensure happiness and wellbeing of the subjects. Most of the wisdom of Arthashastra are still relevant and are being adopted knowingly or unknowingly by present day governments. This paper discusses the teachings of Arthashastra on critical economic policy areas and their key elements and tries to relate its application with present day scenario. The paper discusses how Arthashastra lessons on public finance, trade, taxation and administration have been or can be incorporated in Indian context to achieve the ultimate objective of sustainable economic governance. The paper further combines the key teachings on economic governance and presents a model which can act as a guide for good economic governance.

Keywords: Kautilya, Arthashastra, Sustainable, Welfare State, Trade

Introduction:

Even though India and Indians never forgot the Arthashastra, the study and practical applications of the book lost its importance since the British rule. Professor Shama shastry rediscovered the book in 1905, he wrote its first English translation. Ever since then, only two more translations that are English have been written. One by Professor Kangle and the other by Shari Rangarajan. The book has many principles and techniques that once applied can prove a tremendous improvement. Arthashastra, written by Kautilya is an ancient treatise dealing with the governance of a country. Kautilya was a very learned scholar at the Takshashila University, an ancient Indian university, located in present in Pakistan, and the acharya of Chandragupta Maurya. He had mastery over political science, economics, accounting, and governance, and he was the driving force behind the creation of the Maurya dynasty.

Arthashastra is a very famous treatise on ancient India. It was written around 300 B.C. The book deals with economics, administration, political ideas, ecology and various other topics. The book is divided into fifteen chapters. Apart from Arthashastra, Kautilya wrote several other

books such as Chanakya-Sutras (Rules of Science) and Chanakya-Rajanitisastra (Science of Government Policies). He is India's most illustrious political economist of all time. He was a true statesman who bridged the gap between experience and vision. For him, good governance was paramount. The discussion in Arthashastra is as relevant today as it was in Kautilya's time. He was well-versed with the characteristics of bureaucrats and statesmen and laid down rules to prevent misuse of power. He emphasized the importance of accounting methods in economic enterprises to properly measure economic performance. He explained that no amount of rules and regulations or auditing can prevent unethical behavior and that character-building and action-oriented ethical values were essential.

He explains the necessity of having strong government finances and an able army. It states that the moral duty of the king is to increase prosperity, ensure judicial fairness, and provide national security. The book also describes duties of other key positions in the government such as Police chief, Chief Justice, Treasurer, Defense minister, Commerce Minister and others. The Arthashastra predates any similar body of work from the Greek, Roman or Chinese civilizations and is the source of many modern practices such as double-entry book keeping method, audits, etc. In this paper I am going to take up some economic ideas of Kautilya which may be proved very useful in present era.

Welfare State:

Arthashastra lays the conceptual foundation for making India the first welfare state. He advocates welfare in all spheres. He did not talk only about human welfare but paid attention to animal welfare also. He states, "In the happiness of his subjects lies the king's happiness, in their welfare lies his welfare. He shall not consider as good as only that which pleases him but treat as beneficial to him whatever pleases his subjects" He advocates the protection of livelihood, of weaker section, consumer protection and even the welfare of prisoners also. The King's dharma is to be just, fair and liberal in protecting his people. His attitude to his people should be like attitude of a father towards his children. Kautilya defined the ideal ruler as one "who is ever active in promoting the welfare of the people and who endears himself by enriching the public and doing well to them."

Good Governance:

Governance generally encompasses all aspects of the way a country is governed, including its economic policies and regulatory framework. Kautilya had immense knowledge about various aspects of governance such as taxation, diplomacy, trade, business, administration etc. It is said that he had a fair knowledge of medicine and astrology as well. It is a treatise on political economy similar to Machiavelli's The Prince and hence he has been compared to Machiavelli

by some and Aristotle and Plato by others. Kautilya speaks of the way a state's economy is organized, how ministers should be chosen, war conducted, and how taxation should be arranged and distributed. Emphasis is placed on the importance of a network of spies and informers which function as a surveillance corps for the king, focusing on external threats and internal dissidence. He takes a holistic approach to governance and explains several areas critical to the functioning of a country in depth. The main sections deal with National security and Foreign Policy, Administration of Justice, Policies related to economic development, Taxation, Labor Management, and Financial Management. To him attainment of good governance requires that the objectives of the state are fulfilled and realized. This is possible through properly organized and guided administration. He suggests that good governance should avoid extreme decisions and actions. Decisions should be taken according to the situation. Picking on Kautilya's four-pronged approach to public finance and state planning, which was actually economics, monetarism and much more, based on "dharma, artha, kama and moksha," the experts agreed that understanding human welfare was the cornerstone of Arthshastra, said to be the oldest and most exhaustive treatise on governance and administration of state in the world, which set forth theories of state craft and monetarism and also a code of civil and criminal law still relevant today. The Arthshastra equates political governance with economic governance. The end is economic governance while political governance is the means. But as economic objectives are not realized in the absence of political ones, then political governance becomes an end and economic governance the means. 'The end justifies the means', this is supposed to be the basis of Kautilyan philosophy. Political power and material wealth are the means and ends of governance. And good governance - political or economic - depends upon justifying the ends and means as the socio, economic and political conditions.

According to Kautilya, to ensure good governance there must be a properly guided public administration, where the ruler should surrender his likes and dislikes in the interest of his subjects, and the personnel running the Government should be responsive and `lspensible. Kautilya further emphasized that for citizen friendly good governance there should be uniformity in the administrative practices as well as competent ministers and officials possessing qualities of leadership, accountability, intellect, energy, good moral conduct, and physical fitness, capable of taking prompt decision. According to Kaufmann and Kraay," the concept of Governance is not new. Kautilya presented key pillars of the art of governance emphasizing justice, ethics and anti autocratic tendencies. He further detailed the duty of the king to protect the wealth of the state and its subjects, to enhance, maintain, and it does also safeguard such wealth as well as the interests of the subjects." A ruler who administers justice on the basis of four principles: righteousness, evidence, history of the case, and the prevalent law, shall conquer the earth.

Growth Oriented:

Public Expenditure Kautilya advocated that most of the revenue generated from taxation should be spent on productive activities and public welfare. He discussed different items where state should incur expenditure such as on national defense, public administration and salaries of the ministers, government departments, maintenance of national store house and granaries, maintenance of armies and on the acquisition of valuable gems, stones and ornaments and whatever was left should be deposited to the treasury.

Relevance of Arthashastra in modern time:

Kautilya, also known as Chanakya or Vishnugupta is one of the most famous Indian political thinkers. Though he lived a long time ago, certain principles from his theory are still relevant in today's framework. The book, written in Sanskrit, discusses theories and principles of governing a state. Kautilya demonstrated an extremely vital imperative: governance, polity, politics, and progress have to be linked to the welfare of the people. Having discussed the some economic ideas of Kautilya, it can be said that even the terminology employed in Arthashastra may have changed but the nature and role of state in the economic system seem persistent in all settings. Covering various topics on administration, politics and economy, it is a book of law and a treatise on running a country, which is relevant even today. His ideas remain popular to this day in India. He provided valuable basis for economic science. It contains very useful economic ideas on foreign trade, taxation, public expenditure, agriculture and industry. Good governance and stability are inextricably linked. If rulers are responsive, accountable, removable, recallable, there is stability. If not, there is instability. This is even more relevant in the present democratic setup. Heavy taxation should be avoided. If tax rates are high, public will not be willing to pay the tax and find out the ways of tax evasion. Low rate of taxation will yield more revenue to the state. He was fully aware that terms of trade were not just depending on economics but also on various parameters. There is no autonomous mechanism that will ensure that a nation would benefit from trade in the absence of certain safeguards and policy measures. Social welfare is the centre point of Kautilya's economic ideas. The State was required to help the poor and helpless and to be proactive in contributing to the welfare of its citizens. The emphasis that Kautilya gave to human capital formation is relevant in current times because development is not possible without human capital accumulation. Apart from these ideas there are a number of things in Arthashastra which is very relevant such as conservation of natural resources. Arthashastra provides much basic knowledge about economics, and several of his ideas are still relevant.

Conclusion:

Kautilya's Arthashastra provides valuable basis for economy. It contains useful insights about economics. It can be used to glean of relevance to our time and can be useful to illustrate several

modern economic ideas. He offered a set of different economic policy measures to promote economic development in the economy.

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Environment and Health

Dr. Anita Upadhyay

Jasoda Devi T. T College, Rajasthan University

Abstract:

A clean environment is essential for human health and well-being as human is integral part of nature. However, the interactions between the environment and human health are highly complex and difficult to access. The usage of the environmental resources has been exceeding the capacity of nature to reproduce the resources. According to the report the day when the annual resources are exhausted is termed as 'World overshoot day' and for 2019 it is set to July 29. To combat such rash usage and careless attitude towards the environmental damage there is a need for behavioural change and spread of awareness at grass root level. Children, the future of the nation, should be educated to create a green and environmental blooming future.

Keywords: Pollution, International Treaties, Education reforms, Behavioural change.

Introduction:

A clean environment is essential for human health and well-being as human is integral part of nature. However, the interactions between the environment and human health are highly complex and difficult to access. This makes the use of the precautionary principle particularly useful. The best-known health impacts are related to ambient air pollution, poor water quality and insufficient sanitation. [2]

Result and Discussion:

Air pollution is a growing concern all over the world. There are various international agreements and treaties have been signed to curb the ongoing issue such as, Montreal protocol for hydro-carbons, Paris accord, etc. USA, China and India constitutes top most countries emitting pollutants. Major pollutants include chloro-floro-carbons, carbon dioxide, carbon monoxide, particulate matter, etc. Today's time air pollution poses a major threat to the human health, cities like New Delhi, Tokyo have air pollutants level that are capable causing non communicable diseases.

Air pollution's impact is not just limited to air but the pollutants when transferred to soil via acid rain and other natural phenomenon, it enters the food chain and goes through magnification impacting human health. Source of pollutants in food chain also include chemical affluent from factories disposed into water bodies, medical waste not disposed with care leading to superbugs problem.

The IPCC Special Report states the following ways in which one can take climate action with examples [3]:

- Implementing resource efficiency in buildings—Insulation, low carbon construction material.
- Adopting low-emission innovations—Electric vehicles, heat pumps, district heating and cooling.
- Adopting energy efficient appliances—Energy-efficient heating/cooling and energy efficient appliances.
- Adoption of renewable energy—Solar rooftops, solar water heaters.
- Energy saving behaviour—Walking or cycling for short distances, using mass transit, line drying for laundry; reducing food waste.
- Consumption of products with low Green House Gas (GHG) emissions—Reducing meat and dairy intake, buying local and seasonal food, replacing aluminium products by low-GHG alternatives. Organisation behaviour—Designing low-emission products, replacing business travel by video-conference when possible.

- Citizenship behavior—Engage through civic channels to push for low-carbon climate resilient development in the state

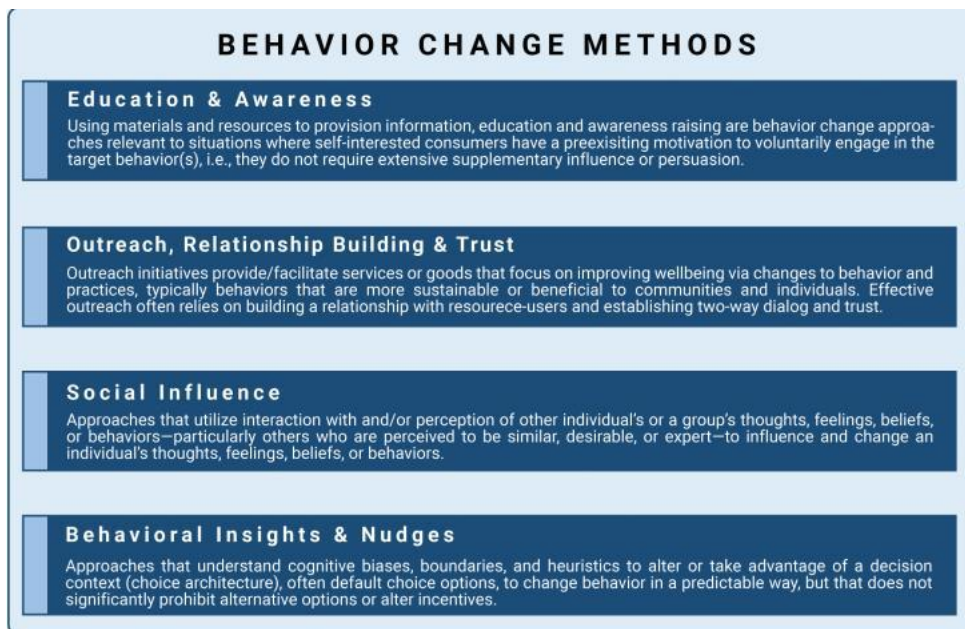


Figure 1: Infographic overview of selected behaviour change methods [1]

Conclusion:

The lack of understanding, at grass root level, about the implications of some regular activities is a dent on already damaged environment. The stubble burning on the outskirts of NCR is a catalyst in the air pollution in N. Delhi. The lack of awareness at the part of the farmers and leads to uncontrolled fire and smoke, which could be easily avoided. Similarly, the popularization and promotion of e-vehicles is not given as much importance as the impact on environment demands. There is a major divide between the theoretically taught subjects and the practical innovation requirement.

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Causes and Consequences of Child Labour in India

Dr. Anupama Goyal

*Assistant Professor, School of Life and Basic Sciences, SIILAS Campus, Jaipur National University,
Jaipur*

Abstract:

This paper focuses on various concepts and studies associated with child labour, their socio-economic issues, the World and Indian scenario of child labour. It analyses the driving factors responsible for child labour in India and World. The various forms of child labour and health hazards they are faced. Various causes of child labour like the curse of poverty, lack of educational resources, Social and economic backwardness, Addiction, disease or disability, the lure of cheap labour, Family tradition, Discrimination between boys and girls. Consequences of Child Labour such as General child injuries and abuses like cuts, burns, and lacerations, fractures, tiredness and dizziness, excessive fears and nightmares. Sexual abuse, particularly sexual exploitation of girls by adults, rape, prostitution, early and unwanted pregnancy,

Keywords: poverty, Illiteracy, health hazardous, sexual abuses.

Introduction:

Definitions of Child Labour: (i). Children who are engaged in work unsuitable for their capacities as children or in work that may jeopardize their health, education or moral development and whose age is below 14 years. Children who practice and engage in economic activities, on a part or full-time basis. (ii). The practice deprives children of their childhood and is harmful to their physical and mental development

Forms of Child Labour the worst forms of child labour are slavery and similar issues such as the trafficking of children, debt bondage, serfdom, children in armed conflict. Slavery is where one person is owned by and made to work for another person without having any say over what happened to them. In factories like carpet-making, lock-making, brassware, export-oriented garment units, gem polishing export industry, leather units and, diamond industry, etc.

- In Shops and small scale vendors
- In Household
- In farms
- In mines (Labour)
- Near furnaces, welding, hazardous materials

Causes of Child Labour:

The curse of poverty: The main reason for child labour in India is poverty. Most of the country's population suffers from poverty.

Lack of educational resources: Even after 72 years of our country's independence, there are instances where children are deprived of their fundamental right to education.

Social and economic backwardness: Social and economic backwardness is also the main reason for child labour in India. Socially backward parents do not send their children to receive an education.

Conclusion:

Child labour is a serious hindrance to the social and economic development of the nation. Children employed in various sectors fail to get the necessary education, virtually forced to lead a life of hardship and poverty. It also affects the overall health of a child, as children get exhausted easily and are not physically fit to work for longer durations under difficult conditions. Children employed in glass and firecracker industries work not only for longer hours but also under hazardous conditions, seriously compromising their health.

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Universal Youth and Adult Literacy

Dr. Minal Sharma

Assistant Professor, Kanoria PG Mahila Mahavidyalaya, University of Rajasthan, Jaipur

Abstract:

Adult education is a practice in which adults engage in systematic and sustained self-educating activities in order to gain new forms of knowledge, skills, attitudes, or values. It can mean any form of learning adults engage in beyond traditional schooling, encompassing basic literacy to personal fulfillment as a lifelong learner. In particular, adult education reflects a specific philosophy about learning and teaching based on the assumption that adults can and want to learn, that they are able and willing to take responsibility for that learning, and that the learning

itself should respond to their needs. Driven by what one needs or wants to learn, the available opportunities, and the manner in which one learns, adult learning is affected by demographics, globalization and technology. The learning happens in many ways and in many contexts just as all adults' lives differ. Adult learning can be in any of the three contexts, i.e. * Formal – Structured learning that typically takes place in an education or training institution, usually with a set curriculum and carries credentials; * Non-formal – Learning that is organized by educational institutions but non credential. Non-formal learning opportunities may be provided in the workplace and through the activities of civil society organizations and groups; * Informal education – Learning that goes on all the time, resulting from daily life activities related to work, family, community or leisure (e.g. community baking class).

Keywords: Universal Youth, Sustained, literacy, Demographics, Globalization

Introduction:

Education is a lifelong process. It does not end with schooling. John Dewey has rightly said that “life is development and that developing and growing is life.” Our country is a sovereign democratic republic and a secular and welfare state striving for establishing an egalitarian society. This is possible, when the life of an individual develops to its fullest extent and when he is able to perform his duties and responsibilities in accordance with his interests, abilities and efficiency. During last 60 years, we have slowly but steadily marched on the road of planned progress. As a result there are some revolutionary changes in the society.

Hence, the adult of today should have the need of an understanding of the rapid changing contemporary world and the grooving complexities of the modern society. Now attempts are being made to establish an egalitarian society which will ensure a good system of education to all the citizens and in which the evils of poverty, unemployment, illiteracy, ignorance and ill-health can be abolished. Recent interest in this system of education have been developed in order to create a learning society and to provide facilities for life-long learning for all. Now it is time to think about Adult Education.

Meaning

Adult education is the prime importance in eradicating illiteracy. Adult education has different nomenclatures in different countries. It is called fundamental education, workers education, mass education of the people and social education. Adult education is wide in scope. M.K. Gandhi has presented a comprehensive view of adult education. To him adult education meant education for life, through life and throughout life.

In the words of Kothari Commission -1966, "The Function of adult education in a democracy is to provide every adult citizen an opportunity for education of the type he wishes and which he should have for his personal enrichment, professional advancement and effective participation in social and political life."

From the above statement it can be concluded that:

1. In adult education, learning, working and living are inseparable.
2. Adult education includes all those activities that make the life of an individual peaceful.
3. Adult education includes both formal and informal education.
4. It enhances the working efficiency of the individual and helps him to progress in life.
5. The aim of adult education is to strive for a learning society in which life-long education is the cherished goal.

Adult education is imparted under two aspects:

1. Adult Literacy: It is the education for those adults who never had any schooling before.
2. Continuing Education: It is the education for those adults who had some schooling or education before.

Literacy and Further Education in Global and Indian Context:

The term 'adult education' has different system of names in different countries such as literacy education, Further education, Basic education, Social education, Mass education and Community education etc. It must be seen as a whole, right from the initial stage of literacy work up to work of a university level in an extramural or extension classes.

All these terms used in a wider context mean preparing the adult for an economic, civic and social role. The mere attainment of literacy by an adult should not be a goal in itself. Adult literacy work cannot be seen in isolation and must lead on to continuing adult education.

In our country adult education has been envisaged with its emphasis not only on literacy but on better and complete living.

Therefore, S.N. Mukerjee has rightly said that "adult education consists of three main types:

- (i) To provide literacy to illiteracy adults,
- (ii) To develop an educational mind in the absence to literary education,

(iii) To acquaint people with the rights and duties pertaining to citizenship". For establishing democracy in the country the expansion of adult education is of paramount importance.

If we analyze from global context it is revealed that in the present world those nations are economically backward which have a low percentage of literacy. Realizing the importance of mass education most of the progressive countries of the world have concentrated their efforts to wipe out illiteracy. Because a society is determined to achieve economic development, social transformation and effective developmental programmes willingly, intelligently, effectively and efficiently.

The literacy percentage was very low in USSR. But after the Bolshovik Revolution, that country emerged as the first rate world power and her educational system able to attract the attention of the thinkers all over the world. Now Russia has become one of the leading nations of the world pertaining to educational system and literacy.

Today, in the world, adult education is essential for adults. It is the complement to elementary or professional education. It offers further education to those who have already received high level training. It is a means of individual development. Whatever the terms used for the education of adults, we find mainly two important terms essentially meant for adult education programmes.

Conclusion:

These are adult literacy and functional literacy. The connotation of adult literacy differs from country to country. It is supposed to be the education of three R's i.e. Reading, writing and Arithmetic, enabling the individual to discharge household responsibilities.

But functional literacy implies that the person is able to function as a literate in his social and professional life. It deals with the type of knowledge that results in achieving success in various activities. It also raises the standard of living of the adult and enables him to participate effectively in civic life. Literacy should be functional in character. It should be regarded as a way of preparing man for social, civic and economic role that goes far beyond the limits of rudimentary literacy training, consisting merely in the teaching of reading and writing.

The process of learning to read and write should not only provide an opportunity for acquiring knowledge that can be helpful for improving standard of living but also provide training for work, increasing productivity, a greater participation in civic life and open the way to basic human culture.

Besides Elementary Education, all efforts need to be made for promoting meaningful and effective Adult Education.

The world over educational planning has moved away from a sectorial view of primary schooling, non-formal education and adult education to a holistic view. The UNESCO has been advocating the “dual-track” approach designed to promote simultaneously literacy and basic learning for adults and Universalization of Elementary Education for children.

It is a matter of great appreciation that the Government of India has come forward to tackle the task of the project “Education for All” through imparting education to millions of adults.

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Women's Education Transition in the 21st Century

Dr. Nidhi Sharma

Assistant Professor, Department of Political Science, S.S.G. Pareek P.G. College, University of Rajasthan, Jaipur

Abstract:

The status of women is one of important aspects to study in every era. In Ancient Indian society status of women is some extent satisfactory. In recent years the role of women has undergone some drastic changes due to globalization and commercialism. This paper investigate whether the status of women in modern Indian society regarding Equality, Education, Health, Employment, Marriage and Family life, Race and Gender,

Religion and Culture is maintained or deteriorated. It also explores that as the society is developed in 21st century the position and respect of women is deteriorated after so many constitutional provisions what are the factors behind it.

Keywords: Society, status, rights, participation

Introduction:

India is in now transition. The 21st century is the 'knowledge century era'. A knowledge-driven generation will be an asset for the progress and development of the nation. As the social and economic development should match the growth rates. To achieve and sustain the high growth rates, access in education should be open for the entire population of the country without any discrimination. Education unlocks the doors for progress. As women are dynamic promoters of social transformation. Their education is must, Mahatma Gandhi has rightly said 'if you educate a woman you educate a family but if you educate a man you educate him only'.

The following points give a clear vision about the development of women Education from past to present.

Vedic Period:

During this period, women had High social and religious status. Hence their education was at a peak. Upanayana, the Vedic initiation for girls was common. Women were allowed for the study of Vedas and the performance of sacrifices. It was consistently believed that women working in no way intellectually inferior to man. The women education has been highly appreciated in the Atharva Veda. Rig Vedic collection contains hymns composed by different

poetess. About concerning women education Manu emphasized that it was a duty of the parents to give their daughters integral education. There should be educated in various arts. As the nature of women education differed from masculine education hence they should be skilled in household duties was the underlying philosophy of the content of the women education during that time. There were no separate schools for girls. Women were allowed to get an education in Ashram along with other male students.

Buddhist Period:

In this period women education was at its lowest ebb, as the women had the lower status to men Lord Buddha regarded them as a source of all evils. Hence they were not allowed to join the Sangh. But later, Lord Buddha permitted women entry to the congregation. But this permission led to the progress of education of girls and women of only Noble and trading classes separate monasteries were also established for their education, but very strict rules were followed they were not allowed to talk to male monks in loneliness and we're also kept on probation period for first two years.

Muslim Period:

Parda system and child marriage were prevalent in both the communities Hindu as well Muslims hence the percentage of literacy among women went down very rapidly expecting very young girl and big mess of woman was deprived of privilege of education very young girls had some schooling, where it was possible girls of royal and rich families got education in their homes. Mughal emperors provided a liberal education to their princess.

British Period:

At the bending of their reign, the Britishers were not prepared to provide public education to the Indian people, least of all woman. When the Charter act of 1813 compelled the East India Company to accept the responsibility of education of Indian, women education was cleverly avoided. Because they did not require education women for administration purpose. Their policy was to educate only a few people of upper caste and the education will filter down automatically for them. Besides this, Indian message also had a negative attitude towards female education. As all the establishment native institution existed for the benefit of the male sex only, and the whole of the female sex was systematically consigned to ignorance.

During the East India Company rule, there was not a single Government School for Girls. East India Company was facing a big challenge regarding promotion of women education. The conservative group refused to do anything in this Direction. They favored the policy of company of strict social and religious neutrality; to please 'people.

Prejudices against the education of women rule the mentality of masses so strong that any attempt to educate their women could create a great uproar; and hence company. restricted itself to the education of men only who would themselves at a later date, undertake the education of their womenfolk.

Missionary's schools were the pioneers in the opening of earliest modern schools for girls David here started school for girls in Kolkata in and bore expenses on his own.

The Scenario of women education after independence: The education of girls increased considerably after independence. There was and phenomenal increase in the number of girls in school. This increase was mainly due to application of the Recommendation of various commissions, committees and five- year plans. The number of girls increased not only in the school and colleges for general education but also in professional and vocational Institutions. The opposition to girl education is disappearing slowly except in the lower classes and that too because they are uneducated and have a different attitude towards education.

View of Important committees & commission about Women: Here view expressed by different committees and commissions about women education have been summarized-

University Education Commission: This Commission was appointed under the chairmanship of the Dr. Radha Krishnan through a resolution of the Central Ministry of education on November 4, 1948, to study the problems of the university education in the country and suggest measures for its reforms. Some of the important recommendations about women education were-

1. Education of women may be similar to that of men in certain aspects but it should be different also in some other aspects because of the different nature of their duties.
2. Provision of more faculties for promotion of women education.
3. Availability of experienced teachers to help and guide women in the selection of your courses.

Committee for Girls Education and Public Co-operation: The National Council for women's education appointed a committee in 1963 to look into the causes for lack of public transport particularly in the ruler areas, for girls education and two and list the public cooperation, under the chairmanship of Shri M.Bhaskavalsalam, Chief Minister of Madras to suggest ways and means of achieving substantial progress in this field.

Public Co-operation: Direct Co-operation the public should be encouraged in the following field.

1. Establishing private school and putting up of schools buildings;

2. Contributing voluntary labor for the construction of school buildings and helping in the maintenance of school buildings;
3. Helping and providing suitable accommodation for teachers and students particularly in the rural areas; State Council for women education: The State Council for women education should function with district councils, Mahila Mandals, voluntary bodies of the town and village level to mobilize the community effort and creating public opinion to promote girls education as their main and primary responsibilities.

State's Responsibility:

The state should create public opinion in favour of girl's education through

1. School improvement conferences and seminars;
2. Video talk audio-visual AIDS and distribution of informative pamphlet;
3. Enrolment drives generally in June and especially additional drives for girls education during Dussehra and other festivals; Sarva Shiksha Abhiyan: Shiksha Abhiyan for education for all with very ambitious goals was launched in 2001.

SSA is an initiative to Universal eyes and improves the quality of Elementary Education in mission within time frame through decentralized contact specific planning and implementation strategy. The program envisages partnership between the Central Government State Government local bodies and communities the program aims at community involvement in schools interview ration through active participation of the Panchayati Raj institution, School Management Committee, Village and slum level education committee; Parent-teacher association and many more.

National Knowledge Commission this Commission was set up by the Prime Minister Dr. Manmohan Singh, under the chairmanship of Dr. Sam Pitroda as an advisory body of the Prime Minister with the mandate to guide policy and direct reforms. It has a designated time frame of and has got in focus transformation of India into a vibrant knowledge-based society.

Recommendation has been made in the first report under-nines heads viz., Libraries, Translation, Language, knowledge network, right to education, vocational education, higher education, National Science and social science foundation and governance report concerning other areas including literacy 'School Education' and gender including education-specific constraints to education of girls are to be brought out in due course of time.

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Child Trafficking in India Causes and Remedies

Shri R.K. Singh

Associate Professor, LBS Govt. P. G. College Kotputli, Jaipur

Abstract:

Child trafficking is the most rampant problem existing in India. Every year volume of trafficking goes on increasing. According to the National crime records bureau, "There have been many cases where children just disappear overnight, as many as one every eight minutes." 1. In India due to poverty and illiteracy many people get trapped and their children are trafficked into labour, begging & mainly exploited sexually. Even the laws concerning child trafficking are not being enforced properly in India. But now many NGO's are coming forward willingly to help such exploited children. Though most of trafficking occurs in India and especially children are being kidnapped and smuggled to foreign countries and the traffickers that take advantage of children can be from another area in India, or could even know the children personally. In this paper a research has been made to study the causes and the remedies provided for child trafficking in India.

Keywords: illiteracy, exploited sexually, trapped, Child trafficking.

Introduction: Child trafficking occurs when children are taken away from their homes away from safety and exploited. Men women and children all over the world are victims of trafficking, but children particularly are at the highest risk. Over 90% of the trafficking is done within the borders and 10% is from overseas. In India the girl child trafficking generally involves the girls from poor families within the age group of 9-14 years these girls are not only brought from different areas of India and sold to brothel owners in Kolkata, Mumbai and Delhi, amongst several other cities.

It's really a shameful fact that not all the girls are kidnapped and sold but sometimes even the poor parents and relatives of the girls are involved.

Human Child Trafficking Facts:

Defined in the 2014 TIP (Trafficking in Persons Report:

1. Sex trafficking in which a commercial sex act is induced by fraud force , or coercion , or in which the person induced to perform such an act has not attained 18 years of age; or
2. The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

According to a 2002 WHO Report 150 million girls and 73 million boys were forced to various forms of sexual assault. The numbers could be much higher because their families do not report such incidents due to social stigma and fear of being socially boycotted.

According to child info org. in UNICEF June 2011 study based on surveys carried out from 2000-2009 reported that 12% of children in south Asia, between 5-14 years , were engaged in child labor. In India 5% of girls aged between 15-19 years were victims of sexual violence.

A lot of young boys are trafficked into India for work as bonded labor in industries like handloom and bangle factory, Coal industry and rice mills etc., etc. These children are exploited to work continuously for sixteen to eighteen hours for minimum possible wages and minimum food to survive. Many NGO's have rescued children from the factories and sent them back to their homes.

The children are so innocent that they are molded and forced to work in dark dingy spaces unit for the human- beings to survive and gradually such children working in the factories die due to malnutrition and diseases.

In India the children are mainly trafficked for begging especially boys and girls for prostitution. India is a transit point for young boys who are sent to Dubai and other Middle- East countries for camel racing. There young boys are exploited and kept as bonded laborers. Another area where children are frequently sent to is Saudi Arabia, where begging is an organized billion dollar industry, especially during Haz. In India begging syndicates often injure and maim children and put them to streets and on highways for begging. Very shortly, I hereby provide for measures to prevent children trafficking. Children must be educated and even their families must be sensitized and their ignorance regarding human –trafficking must be cleared and made aware.

They must immediately report if they find a dubious and mafia personality or convict in their area and also must be ready to take action with the help of NGO's and police authority.

Conclusion:

Thus we finally come to the conclusion that with child trafficking sensitization amongst. The poor population in rural and also in urban areas we can curb and curtail this dangerous problem. And high literacy rate and awareness camps by the government authorities and also by the NGO's would make ordinary men and women aware of the syndicates and gangs involved in this sinful activity. The new sun will certainly rise against child trafficking in India.

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Child Trafficking Heinous & Unforgivable Crime: Disgrace to the Entire Humanity

Dr. Anuradha Sharma¹, Dr. Rupali Srivastava²

¹*Head of Department (D.El.Ed.) Symboyzia Girls' College, Agra, Uttar Pradesh, India*

²*Assistant Regional Director, IGNOU, Regional center, Jodhpur, Rajasthan, INDIA*

Abstract:

"Injustice anywhere is a threat to justice everywhere." (Martin Luther King Jr., 1963)

Child Trafficking is a very heinous crime that not only violates human right but also child right and the dignity of the child at the same time. It is a crime that disgraces the entire humanity and is complex problem which requires very effective and stringent mechanism to control it. Trafficking is defined as a trade in something that should not be traded for various social, economic or political reasons and Human Trafficking is a commercial trade of human beings, who are subjected to involuntary acts such as begging, prostitution or forced labour. Now-a-days India has a high volume of child trafficking. There have been many cases where children just disappear overnight, as many as one every eight minutes, according to the National Crime Records Bureau. In some cases, children are taken away from their homes to be bought and

sold in the market. In other cases, children are tricked into the hands of traffickers by being presented an opportunity for a job, when in reality, upon arrival they become enslaved. There is a large number of children trafficked for various reasons such as child labor, begging, and sexual exploitation because of the nature of this crime is silent; it is hard to track; and due to the poor enforcement of laws, it is difficult to prevent. India is a prime area for child trafficking to occur, as many of those trafficked are from, travel through or destined to go to India. Though most of the trafficking occurs within the country. There are many different causes that lead to child trafficking, with the primary reason being poverty and weak law enforcement. The traffickers that take advantage of children can be from another area in India, or could even know the child personally. Children who return home after being trafficked often faces shame from their communities, rather than being welcomed home. This paper examined the causes, statistics of such crimes and about the laws. This article highlights the major effects of the child trafficking. These effects include, physical, and mental health of the children and this paper describes challenges that constraint to prohibit the child trafficking in its all forms. This paper concludes with the necessity of strict laws implications to combat the modern slavery of the child trafficking.

Keywords: Trafficking, Violation, Constitution, Prohibited, Punishment, Prostitution, Crime, Dignity

Introduction:

Trafficking of human beings is not a new phenomenon. Historically, it has been linked to slavery which involved the sale and purchase of human beings as chattel, treating them as commodities that could be bought and sold. The owner maintained absolute rights over the slaves, who were considered his private property. Human trafficking has, over the last few decades, become one of the most lucrative forms of organized crimes across the globe. The buying and selling of persons for the purpose of sexual exploitation, forced labour, domestic work and organ trade has become common now. This trade of human trafficking has become a present day threat to human dignity, human rights and liberty which needs to be prevented and eradicated through proper enforcement of laws internationally as well as nationally by identifying the flaws and deficiencies in the existing laws, taking corrective measures and effective cooperation and coordination between the countries. The Immoral Traffic (Prevention) Act (ITPA) 1956, the only law still in force for trafficking, deals only with trafficking of girls and women for prostitution. Amendments to this law have been long pending. HAQ's report in 2000, made a salient observation with regard to this – “The problem in dealing with this very complex phenomenon begins with its very definition. There is no single definition of trafficking. In the absence of a common understanding, it becomes difficult to design policies, guidelines or even interventions to tackle this issue.” As a result, the report

said: For purposes of this analysis, we have defined trafficking of children as: “Sale and purchase of children for gain, within the country (intra-country) and across borders (inter-country), by deceit, fraud or force, resulting in exploitation of the person trafficked”. Trafficking in children, or child trafficking, is human trafficking, but refers to persons under the age of 18. Children are trafficked globally and domestically for both labour and sex.

Humanity:

Trafficking is an offence and the trafficker is liable to punishment, irrespective of the consent of the trafficked person. Other than the fact of being trafficked, the traffickers deprive the victims of their most basic human rights in the following manner. They have no access to education and basic needs of life. They are subjected to physical violence and sexual abuse and are held under duress against their will. They receive low or no wages. Hence, they have little or no savings. This combined with indebtedness to the trafficker keeps them in a situation of debt bondage and slavery. They are forced to work extremely long hours in inhuman working conditions leaving little time for rest. They are exposed to drugs and other addictions, and sometimes forcibly made addicts in order to ensure their continued dependence on the trafficker. They face a continuous assault on their physical, psychological, and emotional health. They face health risks such as physical injury, HIV/AIDS, unwanted pregnancies, repeated abortions, gynaecological diseases, tuberculosis, and other diseases. They also face harassment from the police and prosecution, and convicted by the judicial system under the ITPA. Organ trade such as sale of kidneys.

The Problem and Need for Study:

“It ought to concern every person, because it is at the basement of our common humanity. It ought to concern every community, because it tears at our social fabric...” Every country in the world is affected by child trafficking, whether as a country of origin, transit, or destination, and commonly, as all three. It is both a national and international crime that has become more prevalent with the globalization of society. Trafficking in human beings especially of children has become a matter of serious concern at National and International level. It is a global phenomenon and is not limited to any geographical region or country.

Factors Responsible for Trafficking: The contributing factors include: poverty, child marriage, unemployment, domestic violence, false promises of job or marriage/ love etc.

Status of Trafficking in India: India’s National Crime Records Bureau (NCRB) reported 65,038 missing children in the country in 2012. But the official agencies are limited in their ability to estimate the extent of child trafficking, Every hour, two girls below the age of 18 years were raped in India in 2016 while 44% of kidnappings registered during the year were of girls in that

age group, according to data of National Crime Records Bureau (NCRB). In a situation analysis on violence against children, based on these NCRB data, National Commission for Protection of Child Rights (NCPCR) and Child Fund India say girls below the age of 18 are the most vulnerable and many of those kidnapped are trafficked for labor and prostitution. It has highlighted that despite the increase in the number of reported cases of child rape, conviction rate is low at around 28%. The disposal rate too remains low and by the end of 2016, police had disposed of about 64% of such cases. The analysis, brought out in three volumes, says there is no clear and “comprehensive definition of what comprises as violence across laws”. It says violence against children is recognized only when it is registered as a criminal act. The NCRB data is the only reliable source that regularly monitors and tracks crimes against children, but it doesn't report all incidents of violence against them. “It is a fact that out of the large number of women and children reported missing every year, many of them never return and are not located either. They continue to remain missing. Many a time, during rescue operations carried out by the police in the red-light areas, many children and women who are rescued turn out to be those who were earlier reported missing elsewhere in the country. West Bengal reported the most children trafficked (3,113), followed by Rajasthan (2,519), Uttar Pradesh (832), and Gujarat (485). West Bengal, Andhra Pradesh, Karnataka, Maharashtra, and Odisha are common source areas for trafficking to red-light areas across India, according to the India Country Assessment Report 2013 on anti-human trafficking, brought out by the United Nations Office on Drugs and Crime. Sexual exploitation for prostitution (22 per cent) was the second major purpose of human trafficking in 2016 in India, after forced labour (45 per cent), the NCRB data based on the statement of rescued victims and the accused show. More than 23,000 victims were rescued in 2016, of those 61 per cent.

Laws/Provisions: Though these provisions are in General for Human Being but also applicable and protect Children from victim.

The Constitution of India:

Trafficking is prohibited by the Indian Constitution. The right against exploitation is Fundamental Right guaranteed by the Constitution of India under Article 23(1) which provides that “traffic in human beings and other similar forms of forced labour are prohibited and any contravention of this provision shall be an offence punishable in accordance with law”. This right is enforceable against the state and private citizens.

The Indian Penal Code, 1860:

The relevant provisions under the Indian Penal Code are Section 293, 294, 317, 339, 340, 341, 342, 354, 359, 361, 362, 363, 365, 366, 370, 371, 372, 373, 375, 376, 496, 498, 506, 509 and 511. Of significance are section 366A, which makes the procurement of a minor girl from one

part of India to another, punishable and section 366B, which makes the importation of a girl below the age of 21 years punishable. Section 374 allows for punishment for compelling any person to labor against their will.

The Immoral Traffic (Prevention) Act, 1956:

In 1986 SITA was drastically amended & renamed the Immoral Traffic (Prevention) Act, 1956. It is a special legislation that deals exclusively with trafficking.

The Child Marriage Restraint Act, 1929:

This Act sets down the legal age for marriage as 18 years for girls and 21 years for boy. The act empowers the court to issue injunctions prohibiting Child Marriage.

The Child Labour (Prohibition and Regulation) Act, 1976:

The Act prohibits the employment of children in the specific occupations set forth in Part A of the schedule of the Act. It lays down the conditions of work of the children, and as per the Act, no child can work for more than three hours, after which an interval of rest for at least one hour is stipulated.

The Juvenile Justice (Care and Protection of Children) Act, 2000:

This Act was passed in consonance with the Convention on the Rights of the Child. The focus of this act is to provide for the proper care, protection and treatment of the child's developmental needs and adopts a child friendly approach. Section 29 empowers state governments to constitute Child Welfare Committees (CWC) for such areas as they may deem fit and it also outlines the powers of the committee and the procedures to be followed by it and section 31 gives these committees the ultimate authority to dispose of the cases.

Goa Children's Act, 2003 This Act addresses several child rights in an integrated manner. Trafficking was given a legal definition for the first time in Indian jurisprudence.

Conclusion:

Prevention of human trafficking requires several types of interventions. Prevention as a strategy to combat trafficking has to focus on areas of sensitization and awareness among the public, especially those vulnerable pockets of trafficking at source areas as well as convergence of a development services to forestall conditions responsible for it. The anti-trafficking measures need to be spread throughout the globe especially in trafficking prone area, both rural and urban. Poverty, Education and unemployment are the major factors behind the trafficking of children. Hence, there is need to introduce effective and stringent legislative provisions for the upliftment of poverty and for providing compulsory education to all children and steps should also be taken to reduce unemployment. Therefore, the Govt. of every country needs to play

important role for introducing strict different/various laws. Only introducing the laws will not solve the problem, there is need for proper implementation of the laws as well. The community should be sensitized about trafficking, the community members should be motivated to keep a watch in the community for irregular movement of child victims to and from area their possible traffickers and hide outs.

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Mahatma Gandhi's Views on Technical and Vocational Higher Education: International Need of the Hour to curb Unemployment

Dr. Sangeeta Rautela

Associate Professor, LBS. Govt. College Kotputli, Jaipur

Abstract:

Vocational education is the need of the hour and its one of the best methods to curb the problem of unemployment rampant in India. Vocational education or Vocational Education and Training (VET), also called Career and Technical Education (CET), prepares learner for the jobs that are based on manual or practical activities, traditionally non-academic and totally related to a

specific trade, occupation or vocation. It can also be referred to as technical education, as here the learner participates and directly develops expertise in a particular group of technique or technology. In this paper an effort has been made to the growing need of balanced approach to blend vocational education to the higher education. This paper also reminds us about the revolutionary and futuristic vision of Mahatma Gandhi. He believed in vocational and technical education. Today there is a massive gap between what industry demands and how differently our education systems provide and completely lack in providing different training skills. The age-old stigma which is attached to the vocational education in the eyes of the public needs to be lifted by bringing in the awareness and necessity of the same. The challenge of unemployment can be overcome by the changes in vocational training and method needed by the modern social, economic and technological challenges. Indian Government is trying to boost vocationalisation of education to its maximum and it is allocating more and more funds in every plan for the same purpose.

Keywords: Blend, Challenge, vocalisation, allocation and Skills

Introduction:

It's an honour to begin this paper with Gandhiji's view on vocational education. He said "Taken as a whole, a vocation or vocations are the best medium for the all-round development of a boy or a girl and, therefore, the syllabus should be woven round vocational training, primary education thus conceived as a whole is bound to be self-supporting."

And his views on the importance of vocational education in higher education are equally relevant and revolutionary in 21st century. Mahatma Gandhi in his article titled 'National Education' published in young India on 1st September, 1921 mention that, "it might be true regarding other countries but in India where 80% of the population is occupied with agriculture and 10% of it with industries, it is offence to make education merely literary. It is quite apparent from the above lines that Mahatma Gandhi mentioned this with an Indian perspective in view, but in my opinion this statement could have wider international perspective. His views are universal in approach and needs to be researched.

In India due to stigma attached to the vocational education it is facing many challenges and there is an urgent need to bridge the gap between mainstream education and vocational education by making the industry and academia come together. In the last few years many concepts and frameworks have been created such as namely, the NSQF, RPL, etc., and bodies such as NSDA, SSCs set up. These need to be understood by educational institutions so that they can also offer vocational education.

In India most of the students go for the general education rather than vocational education. Thus, most of the graduate and postgraduate remain unemployed. Every parent wants their ward must become, a doctor, an engineer, or an IAS officer. They would never want their wards to pursue a vocational course. Out of lacks of students competing for MBBS nearly 30-40, thousand finally end up clearing Neet. Still, public hardly believes in vocational or technical education. Nursing staff which is an urgent need still falls short in the hospitals. If students don't end up clearing MBBS or Engineering exams they go for general University graduation degrees.

Most people feel that graduates of vocational institutions are not equal to the university graduates. This common attitude leads to the employer's preference for regular university graduates during recruitment.

India is having largest number of youth population, but the youngsters don't have faith in technical education. We have students and people who believe more on paper qualification consequently, resultant high rate of unemployment. India requires a large number of employable workforces. Our higher education, Leena Chandran Wadia believes, "It is time to conquer the biases and positively influence mind-sets. The B.Voc experiments are still new and we are looking to learn from the experience of colleges that participate in seminar, but vocational education will only become aspirational when it is well integrated into the mainstream and when students can find jobs, especially jobs that pay well. Since I have been engaged in policy research in education, I know how critical it is to focus on vocational education at the college level, having made initial interventions at the school level."

If we had followed Gandhi and his views on vocational and technical education, we would have certainly made advancement in the 21st century.

His view on basic education itself supports the idea of vocational education. He holds view that a child's education should begin with the teaching of a useful craft to enable him to produce something right from the beginning of his study and training.

Gandhiji was a visionary he had talked about self-sufficiency of college and universities. He believed that institutions instead of depending on government aid should be self-financed. India is an agricultural country. Most of the industries in India are based on agriculture. According to a critic, "Gandhi wanted that more and more self-financed Agriculture colleges should be opened and they should be attached to related industries which would turn out graduates according to their requirement. Not only this, they should bear the expenses of their education and the training staff. Gandhi wanted the same system to be adopted for graduates of engineering and medical colleges. Engineering graduates should be attached to the related industry and medical graduates to hospitals. Law, commerce and arts colleges can be managed by voluntary organizations and donation can be procured according to their requirement.

Mahatma Gandhi was never in favour of government aid. He, however, wanted the universities control over the colleges and that of the government over universities.”

Today college graduate and post graduate students just depend on literary education. The modern student must be introduced vocational subject so that he could start up his own project or could get a job in the industry according his training. Here colleges have to gather data to understand the industry demand for various job roles in their regions. Only then the graduate students be able to find likewise employment. These are the challenges to be fulfilled by related colleges.

Our mainstream higher education has to gear up to prepare students to address social, economic and technological challenges. Here mindset needs to be changed worldwide. Wadia believes, “Why should an excellent plumber or a mason be valued less than a software developer? We live in a society in which even teachers are not valued enough. In countries where vocational education has succeeded these professional are valued members of society and are paid very well. If industry comes forward to pay better for trained specialists, the situation may change. We need a coordinated set of changes and not isolated ones.”

Alike India Japanese people also give first preference to academic education than vocational education. But Japanese vocational training centres are now attracting more international students. In 2014, about 16% of the total number of students studying at vocational schools was from overseas, mainly from Asian region. Currently, about 20% of students in the senior secondary education are studying at vocational schools.

Actually, whether it is India or Japan we need to give more preference to the vocational education from our primary education to higher education. Gandhiji was of the opinion that vocational education must be the part of higher education. He felt that decentralisation and sustainable development were the solutions to alleviate rural poverty.

Anil K Rajvanshi, a devoted student of MK Gandhi, who practises and promotes science, technology and spirituality in a holistic manner, talks about the many lessons from Gandhiji that could help us transform ourselves, “Gandhiji was an engineer at heart. He improvised on many things like better snake catching equipment; takli, the small cotton spinning wheel; chappals; sandals from used tyres, and many more. In 1929, he instituted a prize of Rs 100,000 for the design of an improved, state-of-the-art charkha.”

Gandhiji believed that vocational and industrial training must be provided simultaneously with literary training as it would equip higher education directly self-supporting. In his own words, “This can only be done when our students begin to recognise the dignity of labour and when the convention is established of regarding ignorance of manual occupation a mark of disgrace.”

In America the most advanced country students are enabled to earn their own expenses, then how much necessary it becomes for the students of developing countries to pay their way

wholly or partially. If America models her schools and colleges so as to enable students to earn their scholastic expenses, it really becomes more necessary for our schools and higher education? Gandhiji did not believe in pauperizing the students by providing them free studentships? In his words, "It is impossible to exaggerate the harm we do to Indian youth by filling their minds with the false notion that it is ungentlemanly to labour with own's hands and feet for one's livelihood or schooling. The harm is done in moral and material, indeed much more moral than material. A free ship lies and should lie like a load upon a conscientious lad's mind throughout his whole life. No one likes to be reminded in after life that he had to depend upon charity for his education. Contrarily where is the person who will not recall with pride those days if he had the good fortune to have had them when he worked in carpentry shop or like for the sake of educating himself – mind, body and soul?"

Conclusion:

Finally, we reach to the conclusion that to curb unemployment we will have to set up several skill-based universities. These universities cannot be set up in the same mould as mainstream universities. New models need to be found and with the help of the stakeholders a new ecosystem can emerge for making a difference in the long term. Gandhiji also believed that stakeholders could come forward voluntarily in setting up higher vocational educational institutions which would to large extent curtail the problem of unemployment worldwide.

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Sustainable Development- Issues & Challenges: Quality Education, Peace, Justice and Strong Institutions

Ridhi Jajoo

Assistant Professor, Ex-faculty Biyani Girls College, Jaipur

Abstract:

Sustainable development has been defined in many ways but the most frequently quoted definition is from our common future also known as the Brundtland Report, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainability is the foundation for today's leading Global Framework for international cooperation, the 2030 agenda for Sustainable Development and its Sustainable Development Goals (SDGs).

Keywords: Sustainability, Energy Crisis, Social and Economic Development, Governance, Rule of Law

Introduction:

Many of the challenges faced by humankind such as climate change, water scarcity, inequality and hunger can only be resolved at a global level by promoting sustainable development. It is a commitment to social progress, environmental balance and economic growth. Reaching the goals required action on all fronts, governments; businesses, civil society and people everywhere, all have a role to play. Sustainable development is in the news every day as the world quotes with climate change, biodiversity loss, conflict and resource scarcity and these are the biggest challenges before us. When the idea of a Commission on sustainable development was first floated in, it lead up to the Rio Earth summit in 1992 .The proposal was to create a powerful body with the UN Security Council that could be future for sustainable development leading the way to peace. The sustainable development goals are also known as the Global goals called from the United Nations to all countries around the world to address the great challenges to ensure that all the people have the same opportunities to live a better life without compromising our planet.

With the Rapid growth of population in urban centers we require new services. Many of the NGOs and other Voluntary organizations provide their services, creates and undertakes to improve the lives of citizens as well as facilitating access to essential services for life such as energy and water. They contribute in making cities productive living spaces of well- being,

promoting social and economic development of people, improvement of the infrastructure, network and transport connections, revitalization of urban spaces through promotion and development of housing as well as the right management of the Environment. They work on the sustainable focus on improving quality of life for city dwellers.

We consider the fight against the climate change and the effect it causes to be a strategic priority. Another challenge is to mitigate greenhouse gas emissions to contribute to society progress and respond to the main challenges of sustainable development in the fields of infrastructure water and energy leading the transition towards a low carbon economy.

Through different business lines there are many innovative solutions that satisfy the growing demand for infrastructure access to water and energy. For this we need to participate in the full infrastructure building value chain from identifying opportunities, design and execution to operation and maintenance of built works. India employs the most advanced and innovative techniques in carrying out project as well as the right technologies for each job.

When developing its problems it measures and manages its social and environmental impact on the communities in which it works like 8th generation energy and non-renewable sources such as rain photovoltaic, hydroelectric, thermos, solar and Biomass.

We need to work on the specific targets proposed by the open working group of the United Nations like

- We need to eradicate all forms of poverty for everyone by 2030.
- Another target is of achieving food security and improved nutrition as well as to promote sustainable agriculture by 2030.
- To ensure availability and sustainable management of water and sanitation for all by 2030.
- Making access for affordable, reliable, sustainable modern energy for all by 2030.
- We need to promote sustained inclusive and economic growth, full and productive employment and decent work for all.
- The most important concern is sustaining per capita economic growth and in particular at least 7% per annum GDP growth in the least developed country.
- There is a need to build free silent infrastructure and promotion of inclusive and sustainable industrialization.
- Encouragement for an innovation by developing quality, reliable, sustainable and silent infrastructures. In this we include regional and trans-border infrastructure to support economic development for human well-being.

- All the nations need to work upon reducing inequality within and amongst countries by 2030.
- Need to ensure appropriate consumption and production pattern.
- The foremost urgent action should be taken to stop and mitigate climate change and its impact through re-silent and adaptive capacity related to various hazards and natural disasters in all countries.
- All the citizens need to protect, restore and promote sustainable use of terrestrial ecosystem, managing forest, combating desertification and halting and reversing land degradation and biodiversity loss by 2020.
- We need to provide an access speedy and impartial justice for all by promoting effective, accountable and inclusive institutions at all levels.

Result and Discussion:

The main challenges to sustainable development which are global in character include poverty and exclusion unemployment, climate change conflict and humanitarian aid, building peaceful and inclusive society, building strong institutions of governance and supporting the Rule of law

This Framework could be a model for all Nations to follow. India has to show the way by including and executing it in its plan and policies. There is no excuse anymore to say that it is difficult to measure and correlate sustainability and human development .They are now no more inherently contradictory concerns. We all can bring the Sustainability by collaborative efforts and by encouraging Public participation.

□□□

Sustainable Development in India under the Protection of Judiciary: An Overview

Dr. Sunita Singh Khatana

Assistant Professor, School of Law, Manipal University Jaipur

Introduction:

Article 21 of Indian constitution declares the protection of the right to wholesome environment as a fundamental right .The doctrine of sustainable development has been evolved by the

experts worldwide to maintain the balance between development and ecology. There has always been a requirement of some guidelines to maintain the equilibrium. Hence the UN Conference on environment & development in 1992 at Rio de Janeiro put forward a list of guidelines for maintaining the balance between the development through industrialization and ecology. Indian judiciary especially the Supreme Court and the high court plays an important role in preserving the doctrine of sustainable development through its various judgments. Judiciary interprets the laws framed by the parliament in relation to environment degradation in such a way that the doctrine of sustainable development is preserved and protected.

Scope:

The guidelines for sustainable development have been widely discussed in the UN Conference on environment & development in 1992 at Rio de Janeiro, Brazil. It is the basic principle propounded in the guidelines that the polluter must be held liable not for the compensation to the victim but also for the cost of restoring of environment degradation.

Objectives and Approach:

The research will be aimed to study the various provisions of laws of India which deal with the environmental degradation and their interpretation by the apex court in order to preserve the environment and follow the doctrine of Sustainable development. Effect of various treaties and measures required to be adopted to follow the guidelines will also be discussed in the work of the researcher.

Methodology:

The research will be carried out taking in consideration the decisions of the Supreme Court and high courts in the cases related to environment protection and sustainable development.

Various international treaties on sustainable development and work of great scholars in this field can add to my research.

Keywords:

Fundamental rights, Sustainable development, Effect of various treaties and measures required to be adopted.



Sustainable Development and Global Citizenship: Watchdog Role of Media

Gaurav Shukla

Department of ELLCS, University of Rajasthan, Jaipur (Raj.), India

Abstract:

This paper is a sincere attempt to review the outcome of various research studies carried out by media houses in India to track down the level of global citizenship and sustainable development. The purpose of this paper is to make people informed about the power of media that how media can become a catalyst in building sustainable and peaceful society. The objective of sustainable development is interlinked with sustainable society and global citizenship. Undoubtedly, media in all forms act as a vital cog in developmental agendas of government and it also ensures citizens' about the latest developments in nation. The extended role of media is to disseminate and impart education about sustainable living which is essential for Homo sapiens. The scope of sustainable development is dynamic as it changes according to the SDG of particular nation.

Keywords: Global Citizenship, Catalyst, Cog, SDG, Watchdog

Introduction:

The fourth pillar of democracy plays a pertinent role in parliamentary democracy like India. When we discuss about the Sustainable Developmental Goals (SDG's), the role of media becomes undeniable and invaluable. Sustainable development can only be achieved if we fulfil 3 basic criteria in my perspective. First and foremost, the media role shouldn't be censored and suppressed in the wake of parcocracy. We already know that media act as a watchdog and performs certain prominent roles in democracy. Secondly, more and more impetus should be given on dissemination of sustainable goals among common masses as many don't know much about the SDG's. In my opinion, a well-informed public and media can cause a paradigm shift which is the need of an hour. Last but not least, we should raise the issue of Global citizenship among general public so that people get into it and they get more informed about it. Global Citizenship is an idea which says that one's identity can transcends geographical and political boundaries and they termed the normal citizen as 'World Citizen'. Under this concept, the citizen is entitled of all civic duties and responsibilities.

Key Objectives and Need of Paper:

- To review the current status of sustainable development in PAN India.
- To identify the roadblocks which causes hindrance in establishment of Sustainable society.
- Creation and identification of validated database of SDG information for journalists.

Review Literature:

The Hindu (2018) published in one of its article that “Global Citizenship give rise to the citizens’ sovereignty, prosperity and integrity. It equipped citizen with all civic rights that are stated in Universal Declaration of Human Rights”. The watchdog role of media should go on till eternity to find out the loopholes of parliamentary implementations and executions of various human laws. The absence of universally acclaimed recognized body is putting all agendas on rest which is harmful.

Result and Discussion:

The outcomes reflects the prominent progress of media campaigns in various media vehicles. The people are now well informed and educated about the concept of SDG. The below mentioned table shows the per cent increase in sustainable living in response of media campaign.

Table 01: Various Media campaigns towards Sustainable Development Goals and its growth in India.

YEAR	2000-06	2006-2011	2011-15	2015-17	2017-2018
Various media campaigns by various media houses towards SDG	140	275	560	1780	2500
PERCENT GROWTH	-	97	122	177	297

As per the findings of Audit Bureau of Circulation it has been found that there has been rise of 297% in various media campaigns (both social and traditional media) till 2018 if compared to year 2000 in terms of Sustainable Development Goals (SDG).

Experimental: I have conducted surveys of various internet users (respondents are from colleges and localities) and took one to one interviews along with that I have exhaustively read many articles, books and reviewed literature. This research paper is a mix of both Explorative and Descriptive studies. (Primary and Secondary data, In-depth interviews, case studies and so forth)

Conclusion:

The media should pave the way for investigative journalism for future reporters and editors so that they shouldn't get fabricated and maligned by the general public when they talk about issues like Global Citizenship and Implementation of SDG. Media should become voice of public and strengthen them all.

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Economic Growth of India Sustainable Development

Umesh Meena

Student, Parishkar International College

Abstract:

Sustainable development is one that of commitment towards social progress accelerated economic growth and increased environmental conservation through 17SDGs (Sustainable Development Goals). Economic growth is the one of objectives of sustainable development. India follows a holistic approach for achieving the SDGs by implementing various schemes and programs & NITI Aayog provides assessment of India's progress by single measurable index. The paper assess India's economic progress towards sustainable development and discuss their

challenges facing by India for every economy on the globe, it should be a continued process, the efforts should never halt anywhere.

Keywords: Sustainable Development, Economic growth, Sustainability.

Introduction:

The notion of “ Sustainable Development” was adopted by the United Conference on Environment and Development (UNCED).It is defined as “ the development that meets the needs of the present without compromising the ability of future generation to meet their own needs “. It is defines by Brundtland Commission in report of 1987.Sustainable development in one that of commitment towards social progress accelerated economic growth and increased environmental conservation.

Role of Sustainable development in the Economic Growth of India

The 2030 Agenda for sustainable development and its 17 SDGs (Sustainable Development Goals) adopted by world leaders in 2015 presents a roadmap for future development trajectory to all nations with focus on poverty eradication , environmental sustainability , peace and prosperity. The achievement of these goals is an imperative for, not just any particular country but the global community as a whole. Increasing growth rate and rapid urbanization in India have spurred the demand for natural sources, exerting pressures on the environment and raising sustainability concerns.

India's Progress towards the SDGs

Sustainable development requires every nation to prioritize their targets and carefully implement various schemes\ programs in accordance with local challenges, capacities and available the SDGs by implementing a comprehensive array of schemes.

Current flagship policies and programs of government:

- Swachh Bharat Mission (SBM)
- Prime Minister Awas Yojana (PMJY)
- Prime Minister Jan-Dhan Yojana (PMJDY)
- Deen Dayal Upadhyay Gram Jyoti Yojana (DDUPY)
- Prime Minister Ujjwala Yojana (PMUY)

These schemes have substantially contributed to India's progress in this regard. NITI Aayog has come up with a single measurable index to track the progress of all the states and union territory. Across 13 out of 17 SDGs (excluding 12, 13, 14 and 17) on account of unavailability of comparable data across states\UT). This SDGs index provides an agreement assessment of India's progress.

Objectives of Sustainable development

There are 3 main objectives of Sustainable Development

1. Economic Growth
2. Environmental Protection
3. Social Inclusion

Economic Growth – Building a strong, competitive economy by ensuring that sufficient land of the right type is available in the right place and at the right time to support growth and innovation and identifying then coordinating development requirement.

Economic Front- In the economic front, the thrust of Economic reforms, in all the sectors has been to open India's market to International Competition, remove controls over private sector and eliminate trade barriers. Liberalized access to Foreign Capital and Encouragement to foreign investment have also been catered to through economic reforms in the country. The banking and financing regulatory bodies were being strengthened aimed at expansion of the domestic capital market.

Why Sustainable Development for Economic Growth?

It is the prudent and judicious use of resources in such a way that even future generations are able to use it.

- i. The development and growth of the country will be hampered with the present limited resources are totally exhausted.
- ii. The exhaustion of natural resources will endangered the lives of humans and many species, if we don't follow the principles of sustainable development.

Example- If water is over utilized and wasted, then it will not be replenished by the rains we need to keep the stock of natural resources for future use too.

Challenges

The major areas of challenge, in making growth sustainable in the country may be listed as:

- Regional Disparities
- Sanitation and Drinking water
- Education access
- Inclusive Growth
- Infrastructure
- Climate Change, Natural Disasters

Conclusion:

The issue of Sustainable Development would not be a conclusive one. For every economy on the globe, it should be a continued process; the efforts should never halt anywhere. Development of human capital, promotion of innovation, institutional and infrastructure development. All will go a long way in making development sustainable in the present competitive globalized environment.

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Issues and Challenges to Achieve Sustainable Development Goals Decent Work and Economic Growth

Anjali Pavera

PH.D Social Work, IIS University, Jaipur

Abstract:

Decent work & Economic growth sustainable development goal offers one of the important elements for fighting poverty and it creates employment that empowers families to improve their purchasing power to access basic needs like Food, Clothing, Housing, Education & Health. India has flourished its economic reforms to achieve sustained faster growth. The policies that encourage free enterprise and creating a job. We can get rid of forced labour, slavery, and human trafficking. A lack of decent work chances, inadequate savings, and under-consumption leads to the destruction of independent societies. An important part of economic growth is that people should have jobs that pay enough to support themselves and their family members.

Keywords: Decent work, Economic growth

Introduction: According to the International Labour Organization (ILO), decent work provides chances of work that are fruitful and bring a decent income, security in the workplace and social safety for families, better prospects for personal development and social combination, freedom for people to express. It is also important that all women and men are given equal opportunities in the workplace, equal pay for their work and equal working hours. A lack of decent work opportunities, inadequate investments, and under-consumption lead to a loss of the social bond in primary independent societies.

Economic growth improves a rise in the making of goods and services over a specific period. To be most accurate, the quantity must eradicate the effects of inflation. Economic growth creates sustainable profit for businesses which in turn encourages companies to invest capital and hire extra workforces. As more jobs are created, income will also rise which will directly contributes to the nations growth. Consumers will have more money to buy additional products and services. Higher economic growth leads to positive economic growth in the country.

Results and discussion:

Issues and Challenges to Achieve Sustainable Development goals according to the International Labour Organization 5.6 percent of the total population were unemployed as of 2017. In 2018, the total number of unemployed people were 192 million and it is harder to find decent jobs:

1. The sustainable goals have not properly defined and the vague definition of Quality education and “safe” drinking water (with hand pumps and tube wells considered as safe as piped water supply) means that official data suggests 86% of Indians have access to safe drinking water and, as a result, we are “on track” for the MDG goal on drinking water. However, the number of waterborne diseases and deaths due to diarrhoea shows different picture.
2. The significant challenge is going to be concerning ownership. Reports suggest that NITI Aayog will play an important role in tracking development. However, members at the Aayog have expressed doubts about being able to take on this huge task. States are expected to play an essential role. It will require ownership not just nationally, but also at the state and local level.
3. The government’s admission non-availability of data mainly in lower levels and grassroots levels, imperfect coverage of administrative data, made precise measuring progress of even MDGs almost impossible.
4. To Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular, women migrants, and those in dangerous employment.

Experimental: Facts and figure according to UNDP's latest report in 2018, labour production increased by 2.1% from 2017 the highest annual growth since 2010.

- GDP raised by 4.8% and 7% SDG target yearly
- One-fifth of young people are not educated, working or Trained that a reason people are not able to find decent jobs and involve in slavery, human trafficking, etc.
- The total average hourly pay of men is 12% higher than that of women. The total unemployment (2018) rate is 5%. The total unemployment rate in 2017 was 5.6%, down from 6.4% in 2000.
- Totally, 61% of all workers were engaged in easy employment in 2016. Excluding the agricultural sector, 51% of all workers fell into this employment category.

Conclusion: The national, and state governments to identify significances, adopt appropriate locally applicable policies, accredit development and guarantee that an implementation and monitoring plan is in proper place. Only then we will have any chance in guaranteeing that the 'S' in SDGs, stands for successful development. Sustainable economic growth will require societies to create conditions which allow individuals to have quality profession that arouse the economy while not damaging the environment and good quality of working conditions leads to job satisfaction and a positive effect on the company's growth. Job opportunities and decent working environments are required for the whole working-age population.



Child Labour

Dr. Abhilasha Jaiman

Assistant Professor (History), Government Girls College, Chomu

Children are always considered next to the pious versions of the Almighty who always strive to inculcate happiness, Joy, Innocence & Hope. The future of a nation is determined by the way it treats its children and its women after all, children imply a hope, a hope to strengthen not only the economy of the country, but also provide the country with skilled human resources who have access to the basic amenities essential for the existence coupled with the tents of the education in India.

It is the moral duty of every citizen for the country to ensure that the childhood of our children is protected and not marred with instance like that of child labour in India which arise out of poverty and helplessness.

What is Child Labour:

Child labour is refers to the employment of children in any work that deprives children from their childhood and interfere with their ability to attend regular school.

UNICEF has categorized child labour into three categories:

1. Within the family- Children are engaged in domestic household task without pay.
2. Within family but outside the home- example agriculture labours, domestic maids, migrant labored etc.
3. Outside the family- example commercial shops, in restaurants, jobs in institutions etc.

Types of Child Labour in India:

- Agriculture
- Automobile Workshops
- Stone/Marble cutting
- Deep Fishing
- Hotel work/Textile Factory work
- Carpet Weaving
- Mining
- Mixing Pesticides
- Glass Factory
- Street Work

Cause of Child Labour:

There are various reason of child labour in our country some of the cause of global child labour are similar however differ country to country. Most common reason are like poverty, repression of child rights improper education, limited rules and laws on child labour etc.

- Poverty and high level of unemployment in the developing countries are the main reason of child labour
- According to the U.N statistics of 2005 more than 1/4th of people worldwide are living in extreme poverty.
- Lack of access to the regular education in many countries.
- Violating laws regarding child labour give the way to increased child labour in many developing countries.
- Inadequate social control gives rise to the child labour in the agriculture or domestic work.

- Limited child or workers rights which affect labour standards and living standards to a great extent in order to eliminate child labour.
- Small children get involved in the child labours in order to increase income of their families to manage two times of food.
- They were hired by the industries to get more work at reduced labour.

What are Child Rights:

All people under the age of 18 are entitled to the standards and rights guaranteed by the laws that govern our country. The constitution of India guarantees all children certain rights, which have been specially included for them. This include:

- Right to free and compulsory elementary education for all children between 6-14 years of age group (Article 21A).
- Right to be protected from any hazardous employment till the age of 14 years (Article 24).
- Right to be protected from being abused and forced by economic necessity to enter occupation unsuited to their age of strength (Article 39E).
- Right to equal opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and guaranteed protection of childhood and youth against exploitation and against moral and material abandonment (Article 39).

Besides these they also have rights as equal citizens of India:

- Right to Equality (Article 14)
- Right against discrimination (Article 15).
- Right to personal liberty and due process of law (Article 21).
- Right to being protected from being trafficked and forced into bonded labour (Article 23).
- Right of weaker section of the people to be protected from injustice and all forms of exploitation (Article 46).

Solution to curb Child Labour:

Few steps used to be taken to eliminate child labour:-

- Do not employ child as domestic help at home.
- Strict law with quick judgment and punishment to defaulters.
- Intimate police if you see any child working near your surroundings

- Educate and counsel poor parents who send their children out to work.
- Encourage poor kids to take up education instead of labour.
- Donate to organization which educates poor children, not just by means of money but by providing books, food and your time by visiting and interacting with kids.



Pre-engagement and Post-engagement policies in dealing with Juvenile Delinquency

Neha Tanwar

Central University of Rajasthan

Abstract:

Juvenile delinquency is an urban crime in the Indian context. The present context of increasing erosion of socio-cultural fabric of society is leading to the cause of social and legal order disruptions. First important thing is to understand its geographies for unleashing meaningful and significant public policy changes for the prevention of juvenile delinquency in urban areas. In this paper, researcher have taken a closer look at this problem to understand, its geographies, increasing instance and the perception on public policy.

Keywords: Juvenile delinquency, Public Policy, Pre-engagement policy, Post-engagement policy.

Introduction:

Juvenile delinquency is an alarmingly increasing problem causing a source of concern in all over the world. In 2001 there were 16,509 number of cases reported followed by 31396 number of cases in 2015 in a report on Crime in India published by National Crime Record Bureau India and in the report there are sections under which crimes further get divided based on the categories of different laws as substantive, procedural, and special laws. There are 8943 number of cases alone reported for juvenile crimes under the crime head of Indian Penal Code in 2001 and followed by 15842 in 2015. This data observatory have compelled the researcher to arrive at the argument that, surprisingly Juvenile delinquency is found with much higher percentage in urban area of India. This raise some alarming concerns for practitioner as; lawyers, policy makers and other stakeholders to brainstorm over this rising problem of juvenile crimes/delinquency.

Results and Discussion:

The significant aspect of preventive methods are to engage in a dialogue by post-engagement policies analysis which leads to formulate strategies for overall crime control perspective. This study of juvenile delinquency unfolds problem of delinquency, their cause and dialogue in pre and post engagement policies. In such an instance pre-engagement policies are necessary for preventing and mulling juvenile delinquency. It's one of the part and model of preventive strategies that invokes certain sanctions and urges to improve a policy dialogues.

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Life cannot happen without Environmental Education

Priyanka Mathur¹, Shikha Mathur²

1Department of Education, University of Rajasthan, Jaipur; 2MDS University, Ajmer

Environmental education is a procedure that enables people to investigate ecological issues, take part in critical thinking, and make a move to improve the earth. Accordingly, people build up a more profound comprehension of natural issues and have the right stuff to settle on educated and dependable choices. The present research paper has been composed to feature the serious issues which are connected with two significant districts of the Rajasthan State. Condition is debasing at an a lot quicker pace than our creative mind. A large portion of this wreckage is brought about by human exercises. The harm is both at worldwide and territorial level. Consumption of ozone layer and increment in the emanation of ozone depleting substance are the instances of the harm at worldwide level while groundwater contamination, soil disintegration are a portion of the territorial results of human exercises and their effect on condition. Recognizing the need and significance of ecological training (EE) in India, as of late a few endeavors have been made to reorient and revamp school instruction and build up EE all the more officially.

School reading material, in all subjects and at all levels, have been changed to coordinate ecological ideas. The impacts of these curricular corrections won't be supported except if they are combined with suitable changes in instructor training educational plans. Endeavors have been made to create educational plan and other help materials for presenting EE at all four degrees of educator training in the nation. Consolidating EE in educator training includes pondering a few issues identifying with substance, learning and showing procedures, materials improvement and limit building necessities for its successful execution. This paper, by inspecting some model encounters from Rajasthan, looks to analyze the center given to EE in instructor training and the difficulties for educator instruction in accomplishing the objectives of supportable advancement. The main focus of this Biodiversity education is to expose the

complexity of ecosystems and interrelationships between organisms and their environment at local level. The National Environmental Education Act of 1990 requires EPA to provide national leadership to increase environmental literacy. EPA established the Office of Environmental Education to implement this program. Student's needs to understand and develop skills related to solve various biodiversity problems with reference to local context. In order to develop the Biodiversity consciousness, developing attitudes, values and skills, and promoting participation among students about their local Biodiversity activity based environmental education methods such as field trips, hands-on-activities, experiential education, debates, autobiography, games, practical and field visits is vital to achieve sustainable biodiversity at local level in future. Local environment such as lakes, ponds, vegetation, animals, water, air and soil is the richest resource base for environmental studies for students. We developed a comprehensive framework to assess the efficacy of biodiversity education modules in enhancing teaching and training in biodiversity conservation. Curriculum and Tourism Curriculum There is no agreed definition of curriculum, but the word curriculum derives from a Latin word, *Carrere*, referring to the running of a course, as in a chariot race (Marsh and Willis, 2007; Hewitt, 2006).

One basic view is that curriculum is "what is taught" (Geoffrey Squires, *First Degree: The Undergraduate Curriculum* Buckingham, England: Society for Research into Higher Education, 1990). In the twentieth century, the term curriculum broadened to include subjects other than the classics (Marsh and Willis, 2007). Sometimes, the word curriculum is also used to describe "a discipline, a specific area of knowledge and academic study" (Hewitt, 2006, p. 406). Tourism education had its beginnings in technical or vocational schools (Airey, 2004; Lo, 2005; Inui, Wheeler, & Lankford, 2006). (Busby, 2001) with educators mainly focusing on producing skilled and knowledgeable personnel for the industry. This emphasis has given short shrift to the value or meaning of tourism education. Courses in tourism were initially introduced in technical and vocational schools. Courses were then transitioned into undergraduate and graduate programs (Ring, Dickinger, & Wober, 2009). Bodewes (1981) believes tourism is an application of established disciplines, as tourism does not have sufficient doctrinal processes to be classified as a full academic discipline. Conserving nature and environment will be much easier if children are taught about depleting resources, environmental pollution, land sliding and degradation and extinction of plants and animals.

Education is a sort of investment that turns into a valuable asset over a period of time. Each nation is putting endeavors to incorporate natural worries with instruction. As per these nations, EE ought to not exclusively be a piece of the instruction framework yet in addition the political framework where activities, approaches and plans can be detailed and executed at national level. Ensuring condition is the duty of everybody, consequently ecological training can't be restricted to one gathering or society. Each individual must be set up for sparing the earth. It

must be a consistent and a deep rooted procedure. Over that ecological instruction must be pragmatic with the goal that lessons can be actualized straightforwardly.

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Role of Effective Public Consultation & Disclosure in Economic Growth and Development

Dr. Shiv Jhalani

Assistant Professor, Biyani Girls College, Jaipur

Abstract:

Public consultation is a process that involves the public in providing their views and feedback on a proposal to consider in the decision-making. Public Consultation is a tool to empower communities affected and persons to participate in the development process and to integrate their voice in projects affecting their lives and families. Under the right circumstances, consultations help projects achieve improved development results and deliver benefits.

Ensuring adequate consultation from the very beginning of the project cycle and maintaining continuous communication with local stakeholders can enhance project design, prevent conflicts, avoid delays and improve development outcomes. Outcomes of consultations are highly context-specific and dependent on the borrower's and citizens' capacity and willingness to engage, as well as on economic and geographic social, political, and cultural factors. Instead, consultations should remain flexible and adapt to changing project needs throughout the duration of the implementation cycle. Therefore, consultations require specific expertise to tackle issues such as gender dynamics, language barriers and cultural sensitivities. The purpose of consultation is to listen to the opinions and concerns of potentially affected people so that their input can be considered when designing a project. Meaningful consultation is possible only when options are given to PAPs and when authorities are open to considering inputs and adapting the options given to people when feasible. Ensuring meaningful consultation and participation begins with understanding the scope of the project and then properly identifying relevant stakeholders who are either impacted by the immediate project or its area of influence, or who can provide useful information about it. This requires stakeholder mapping that informs the design of the consultation mechanism by understanding the interests and needs of key stakeholders

Keywords: Public Consultation, Public Disclosure, Project Sponsor, Stakeholders, Information

Introduction

Public Consultation is a tool for managing two way communications between Project Sponsor and the Public. The goal of Public Consultation is to improve decision making and build understanding by actively involving individuals, groups and organizations with a stake in the development project. Why information disclosure? Information is critical to the effective participation of affected citizens near the project.

Public includes the following key stakeholders:

- (A) Project affected people: It includes individuals and families near the project and indigenous groups and their leaders.
- (B) Public sector: it includes the local, state and national Governments. It also includes the multilateral and bilateral development institutions.
- (C) Private Sector: it includes the Project financiers, local business and industry associates.
- (D) Advocacy Groups: it includes the Local and national NGOs, International Advocacy NGOs, Religious Groups, University and Research Centers

Key steps in preparing and implementing a Project Public Consultation and disclosure process effectively includes:

- **Advanced Planning** : it includes research to identify (a)any risks to the project arising from the social context and local environment (b)key parties who may be effected by or able to influence the projects outcome in a negative or positive manner (c)local regulatory requirements calling for public involvement.
- **Test the proposals before public consultation:** identify the relevant stakeholders. Inform these people about the project and its potential impacts on there lives. Provide opportunities and time for people to voice their concern. Identify local conditions, benefits and risks. Respond to the concerns and ideas raised.
- **Time, Money and Resource investment for future:** the project activities should be scheduled in a manner it allows sufficient time for consultation and for addressing unanticipated issues that may arise. The project Budget should contain provisions for the employing permanent staff, organizing public meetings, printing and distribution written material, including material translated in local languages. Involvement of senior, line and operations managers directly in the consultation process and learning curve.
- **Identify the management structure with responsibility for public consultation and hire and train the right personnel for the right job.** Appoint Community Liaison Officer, or team with appropriate qualifications and authority, supervised by a Senior Manager.
- **The company should maintain overall responsibility for the outcomes of all public consultation performed by external consultants or sub-contractors.** The Project Sponsor should manage external consultants and sub-contractors carefully through explicit terms of reference.
- **Coordinate all consultation activities with wide variety of project representatives,** environmental consultants, engineers, geologists, financiers and contractors.
- **For building dialogue and trust, develop two way channels of communication preferably in the local language, with project effected groups and other relevant stakeholders.** Special consideration should be given to the culture, language, land use and territorial rights of affected people.
- **Manage expectations throughout the project life cycle.** To avoid unrealistic demands and expectations from local communities and other interested parties, the project sponsor have to be firm and clear from the very beginning.
- **Consult and inform the relevant and appropriate Government departments regarding the projects intended activities, potential benefits, risks and opportunities and requirements for getting various permits.** Where required the sponsor should work close with the relevant

government authorities, especially when they undertake project related discussions with the stakeholders.

- Identify and liaise with Non Governmental Organizations or community based organizations having contacts with project affected people.
- When you are conducting a public consultation there are six principles you should keep in mind as the foundations of the entire process; Integrity, Transparency, Commitment Accessibility Inclusivity & Confidentiality

Four Management principles for disclosing Project Information are:

- Disclose Early
- Use information disclosure to support consultation
- Provide meaningful information.
- Ensure the accessibility of information

Conclusion:

Public consultation is a process that involves the public in providing their views and feedback on a proposal to consider in the decision-making. Successful public consultation means different things to different individuals and organizations. For some, it is about meeting regulatory or lender requirements, or gaining broad community support to obtain 'social license to operate' For others, it means improving their brand image, increased stakeholder support and reduced external risks. Benefits of public consultation include: It provides the decision makers a better understanding of the stakeholders' values, interests, issues, and concerns about the proposal to incorporate into decisions and ultimately empowers them to make better decisions. It facilitates understanding on the proposal (for the public), and problems and opportunities (for the Consuler). It helps create a strong foundation for long-lasting and trustful relationships between the project and the stakeholders It acknowledges the desire for humans to have a say in decisions that affect their lives. More importantly, it provides an opportunity for the affected people (and interested parties) to have a say in decisions that affect their lives

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Role of Srimad Bhagavad Gita in promoting Global Peace and Sustainable Development

Sunil Kumar Kumawat¹, Heeram Kumawat²

Ph.D Scholar, Jaipur National University, Student, Akashdeep T.T. Girls' College, Mansarovar

Abstract:

Srimad Bhagavad Gita is a prime scripture that plays a key role in shaping the Oriental philosophy. It is hailed as the best life coach, providing solutions to all the problems of man, whether personal, social, physical, psychological, professional or spiritual.

And man, by virtue of the divine gift called intelligence, is the prime agent managing the affairs of his own as well as of the whole world. Maintaining peace and ensuring sustainable development all around are his foremost duties. These are challenging tasks as the world is a conglomeration of different races, religions, regions, castes, creeds, sexes, flora, fauna and seasons etc.

In the face of these challenges, he desperately needs guidance and inspiration.

My research explores whether Srimad Bhagavad Gita can be that source of inspiration and guidance to man.

The purpose of this research is to test the hypothesis that the scripture can help man with a code of conduct and management to defuse the tensions, intolerance and hatred between different nations and communities.

Keywords: Srimad Bhagavad Gita, Global Peace, Sustainable Development



Building an Effective Environment for Students

Dimple Pareek, Manisha Kanwar

Student, Biyani Girls College, Jaipur

Abstracts:

For over the past 40 year psychology has shown many researches through which we can observe how the higher education has changed exceedingly. This paper shows that how the teaching approaches can affect the student's learning in higher education and how it can create a stressful environment around students.

Introduction:

Stress can occur not only from frustration and conflicts but also from the pressure to achieve specific goals. Stress and pressure push us to speed up, multiply, or relocate the direction of goal oriented behavior. It can seriously affect our coping properties or even result in maladaptive behavior.

Many students who are preparing for various examination such as exams for graduation and post-graduation courses or the medical college entrance examination suffers from considerable anxiety as the examination date approaches. People who are inclined to dealing with stress by using defense mechanism excessively such as wishful thinking or self-blame tends to show increase maladaptive behavior and increase anxiety under high pressure.

According to a data provided by world health organization (WHO) shows that nearly 2500 students committed suicide in 2016 because of the pressure of failure and examination. The national crime record bureau (NCRB) shows data that one student commits suicide every hour.

Educational institutions are supposed to provide knowledge to students, lay importance on physical wellbeing and prepare them for social changes but unfortunately, many educational institutions and teachers do not fully understand their mental health issues. Psychological concerns in students are rapidly increasing such as behavioral changes and suicidal thoughts. Creating a healthy learning environment is a need of today's generation. The peer pressure creates a defective environment around a student which leads to abnormal behavior and suicidal thoughts.

Causes of suicidal risk:

- The peer pressure builds a defective environment around the students which leads to mental illness including depression, conducting various disorder and substance abuse.

- Situational crises such as traumatic death of a loved one, physical and sexual abuse and family violence can lead to suicidal thoughts. A youth suffering from mental depression usually demonstrate observable behavior that shows their suicidal thinking. Statements such as “I am going to kill myself” or “I wish I could fall asleep and never wake up” can give us a signal of the suicidal thoughts a person is having. Suicidal notes a plans including online posting can indicate the mental pressure that a person is going through.

Precaution education institution and parents should take:-

- Teachers need to be trained in understanding the pattern and symptoms of mental issues of a student. Educational institution should provide psychological counselling program for students.
- Staff member should be polite and familiar with the students. They should be watchful for the risk factors and warning signal of suicidal behavioral and mental depression.
- Parents should understand how sensitive mental health is. Parent's attitude of denial their child's mental health must go.
- Parents should create a healthy dynamics and healthy environment for their children and should not put pressure on chasing the marks in school.

Treatment for youth who are at suicidal risk:

- Talk therapy also known as cognitive behavioral therapy is often used for the people who are suffering from suicidal thought. Its motive is to teach you how to deal with stressful life events and emotion that may be causing suicidal thoughts.
- Medications can be prescribe to ease symptoms (depression and anxiety).
- Lifestyle changes such as avoiding alcohol, exercising regularly and sleeping well can contribute in treating the abnormal behavior of a person.

Conclusion:

Using psychology as an indicator reveals aspects of educational society that are unsustainable and suggest what pathways educational institutions need to avoid when attempting to create an environment based on the student's health and well-being. Youth, who feel suicidal or mentally depressed are not likely to ask for help directly, however parents, school personnel and peers can understand the symptoms of behavior change and can take immediate actions to keep the youth safe.



Good Health & Wellbeing: Psychological Perspective

Vijay Laxmi Chauhan, Kirti Rathore

Assistant Professor, Biyani Gilrs College, Student, Biyani Girls College, Jaipur

Abstract:

Recent years have evinced growing concern about the psychological factors that improve and treat the health status of a person. The health & well-being of people at all ages therefore lies at the heart of sustainable development. Protection from illness is not only important for survival, but it enables opportunity for everyone and strengthens economic growth and prosperity. This has led to the emergence of health psychology which involves mind-body interaction. This may raise many questions like 'Does the imbalance between body and mind led to a disorder? If yes, than what are the causes of mental illnesses? And are they preventable?

This paper tries to answer these questions and also tries to offer an overview of a real and complete "good health & well-being" of a person. Good health and well-being is not just the absence of disease or illness. It is a complex combination of a person's physical, mental, emotional and social health factors.

Human body and mind are deeply linked with each other; any disease or injury in body can affect the mind and similarly, any disturbance or turmoil in mind can affect physical health badly. As in today's generation most of the people know about the bad health and mental illnesses or disorders, in short, the diseases or illnesses that cannot be seen by the outer world easily, people wittingly goes unaware of these things to pass-through with this type of situations, which is an err unknowingly.

According to WHO, one out of every five Indians is suffering from a mental disorder, upto 50% of mental, behavioral and psychological problems have their onset during adolescence. The same report of WHO lists suicide as the third largest cause of death in 15-35 year olds. Hence, the most common reported illnesses are depression, mood disturbances, substance abuse, suicidal behaviors and eating disorders. And the dominant reasons of these problems are sadness, feeling of guilt, physical and sexual abuse, financial problems, low sources of support such as family members and friends, inflated self-esteem, change in diet or nutrition-less food diet, inappropriate upbringing, traumatic or stressful incidents like the death of a parent or a serious accident, etc. are the basic causes of mental disorders or illnesses.

For all these types of mental and health illnesses, Prevention Programs have been shown to reduce depression both for children (e.g. through protection and psychological support

following physical and sexual abuse) and adults (e.g. through psychosocial assistance after disasters and conflicts).

There are also effective treatments. Mild to moderate mental illnesses can be effectively treated with talking therapies, such as cognitive behavior therapy or psychotherapy. Even though, some of the illnesses or disorders of early stages can be treated at the domestic level with the advice of professionals. To get out of the mental sickness the patient should stick to his/her treatment plan, avoid alcohol and drug use, make healthy choices, learn to adopt a positive attitude. And some other things to be learned by the patient's family and friends is to keep peaceful and positive environment around the patient, extra care, understanding the feelings and problems of the patient, social support and loving behavior is necessary and to focus on the fitness of the patient. All these things are necessary with a proper medication or treatment of the professionals.

Conclusion:

To conclude all these there should be awareness and knowledge of mental health among all of us to help others and our own selves when needed. Mental health promotion and protection involves creating an environment which promotes healthy living and encourages people to adopt healthy lifestyle. Mental health promotion will now receive more focus, with its inclusion into the Sustainable Development Goals.

Good health and well-being is strongly linked to happiness and life satisfaction. In short, wellbeing could be described as how you feel about yourself and your life.

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Literacy and Sustainable Development

Smt. Meena Sharma¹, Aranya Laxmi Shekhawat²

¹Research Scholar Jyoti Vidyapeeth University

²Student, Biyani Girls College, Jaipur

Abstract:

Literacy is at the heart of sustainable development. Literacy level is a vital development indicator for developing nations like India and a key variable as it indicate quality of life, awareness, skill, health. Our planet is at risk and if we do not look forward in it then it will lead to life threatening conditions.

In this paper, we will consider various ways of linking literacy level with sustainable development as it is a key to have a sustainable generation.

Keywords: Sustainable Development, Education, Literacy

Introduction:

Various Sustainable Development Goals for the year 2030 includes quality education being imparted as well as increasing the literacy rate in countries like India because according to census of 2011, literacy rate stood at 74.04% which isn't a bad figure for a developing country like ours but when we look at this percentage closely then, the real picture, the real effect is seen with only 65.46% rate of literacy in women while it is over 80% for men in India. According to Peng Liyuan, "A child's first teacher is its mother" and in the country where a large number of females are illiterate, what more can be expected from them? Who are already untouched by the gem of this civilization, what will their children learn from them? Ignorant behavior? Lack of awareness? Therefore, female education is essential not only to contribute in country's development but also in shaping the country's future. Society is formed by the people and if the society is uneducated then the development process comes to a halt. Furthermore, literacy rate has its roots linked with poverty in a form that if it decreases in a country it will in turn lead to an increase in number of uneducated beings leading to no transformation happening for betterment of society and generations to come. With lack of knowledge of things people are prone to succumb to various health problems too. Also, unskilled and semi-skilled people will constitute a large part of population which will not be fruitful as no new technology will come to life, no birth of great scientists would take place with no inventions happening around in order to procure and use the resources in an efficient and sustainable manner, this will take the country to a back foot position. Moreover, like for example, in case of construction of a dam in order to use the water wisely and efficiently if the concerned authority won't have proper knowledge about the geographical features of the place, its effects on environment and nearby areas then constructing a dam for efficient use of resource will turn into a futile attempt and can make the site prone to floods or earthquakes which cannot be called as sustainable development in any case but only a disaster for the coming generations.

Being literate and educated will be an asset to environment as well as to the person himself because due to this he/she can improve their lives, their standard of living, build more resilient communities. Most importantly, vulnerable groups will be empowered and an end will be put to hunger, poverty which retards the process of sustainable development.

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Right to Public Services and reiterating the role of Public Bureaucracy

Urvashi Pareek

Research Scholar, Central University of Rajasthan

Abstract:

The paper aims to highlight the need for making public bureaucracy more dynamic in its functioning and to make it more accountable, transparent and citizen-friendly in administration of a country. There is an urgent need to bring reforms in administration so that it performs the task of service delivery effectively and efficiently.

Keywords: public services, bureaucracy, accountable, transparent.

Introduction:

The provision of public services is the most important function of the governments with other functions being, development and regulatory. The public services in India have been guaranteed to the citizens through rights based service entitlements. The components of service delivery are timeliness, quality and grievance redressal, all of which depend on the performance of officials who are designated the task of delivering services. These are permanent, paid and skilled personnel who constitute the bureaucracy and the cornerstone for all administrative work. The efficiency and effectiveness determines the quality of public services produced and delivered. Thus, providing right to public services is not merely enough, it is required that the public bureaucracy be instilled with qualities that can improve the service delivery. For this purpose, administrative reforms are introduced from time to time. The thrust is on selecting competent personnel for public services as they are street level agents who act as an interface between the citizens and the government, their capacity-building, introducing modern management practices, performance based evaluation system, regular monitoring and effective and regular training to make them responsive and sensitive towards the needs of society, imbining features like accountability, transparency, citizen-centricity and emphasis on innovation. Indian Bureaucracy has been ranked 81 out of 180 nation on the Corruption Perception Index 2017 by Transparency International, World Bank report on Making Services Work for the Poor People, 2004 described that how Indian Bureaucracy failed to provide public services to the poor people, the Political and Economic Risk Consultancy Report, 2010 called the Indian Bureaucracy as most frustrating in entire Asia (1), Pritchett also called India a 'Flailing State' and attributed this to the steel-framed and rigid bureaucracy which was unable to achieve targets due to poor implementation and lack of connectivity, coordination with field level agencies. They together suggest the need to reform public bureaucracy and provide them dynamic role. Public Services are delivered by the bureaucracy, thus to strengthen citizenship and democratic

participation of citizens, the role of bureaucracy has to be tailored in order to meet the needs of contemporary times. Public Servants, as directly engaged service delivery ensure welfare and development of the society and ensure equal and justified distribution of goods and services in the society. The policies guaranteeing public services to the citizens do not require a legislation, but they also require political will, administrative responsiveness and public awareness.

Result and Discussion:

The literature suggests that the public bureaucracy in India is backed with serious issues which has hampered the overall functioning of the government. It has failed to serve the poor, most frustrating bureaucracy, poor implementation, highest corruption and still experiences administrative problems like red-tape and nepotism. Thus, it is the need of an to reform the public administration and infuse the qualities to make it more successful in administering public services, ensure justice and equality, and become more effective and efficient by transparency, accountability and citizen-orientation. The public bureaucracy in India must set an example for the whole world, to have a well-developed and modern bureaucracy.

Conclusion:

To conclude, the public bureaucracy in India has to be strengthened, made more transparent, accountable and citizens-friendly, instill responsiveness and sensitivity towards citizens.

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Role of Social Media and Business in Sustainable Development

Fahima Khatri

B.Voc. Journalism and Mass Communication, Sem. 3rd, Biyani Group of Colleges, Jaipur

Abstract:

The objective of this paper is to discuss the impact of social media on customer co-creation in the innovation process. This special issue was designed to stimulate innovative investigations of the relationship between social media and business transformation. Business development is the creation of long-term value for an organization from customers, markets, and relationships. Business development can be taken to mean any activity by either a small or large organization,

non-profit or for-profit enterprise which serves the purpose of ‘developing’ the business in some way. Social media plays a very important role in business development. One of the most effective and efficient tool is to target Today’s youth (teenagers). There are well known social sites like Twitter, Facebook, Instagram, Telegram, Hike, Snapchat and many more sites. No foundation the business was either in micro level and macro level. Its promote the business or marketing equally by providing information about organization and institution.

Conclusion:

With the help of above data we can conclude that social media is a really convenient and important communicate network for all the people nowadays. You are now able to gather those who are interested in your business or your area of expertise by building your online community.

Keywords: Social Media, Business Development, Media, Innovative Investigations, Social media relations.

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Human Rights and the Sustainable Development Goals

Sarika Gupta

Assistant Professor, Biyani Girls College, Jaipur

Abstract:

Human rights lie at the core of the 2030 Agenda. The Agenda envisages a world of universal respect for human rights and human dignity, the rule of law, justice, equality and non-discrimination; of respect for race, sex, ethnicity and cultural diversity; and of equal opportunity permitting the full realization of human potential and contributing to shared prosperity; a just, equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met.

Yet, thus far, the main body responsible for human rights at the UN, the Human Rights Council, has paid only ad hoc attention to understanding and strengthening the human rights pillar’s contribution to the implementation of the SDGs in all countries. That is important, because, simply put, without the support of the international human rights system, and without the strengthened enjoyment of human rights on the ground, it will not be possible to fulfil the

promise of the SDGs to 'leave no one behind. 'Against this background, in late 2016 a group of States, in consultation with interested NGOs, including the Universal Rights Group and the Danish Institute for Human Rights, set up a Group of Friends to consider and guide the UN human rights system's support for the SDGs.

Keywords: Human rights, Implementation, SDGs



Policy Coherence and Food Security

Kiran Jangid

Assistant Professor, Biyani Girls College, Jaipur

Abstract:

The Sustainable Development Goals (SDGs) recognize that food insecurity can affect all countries through many different channels. Breaking down the silos that separate policy sectors is necessary in order to overcome inconsistencies and promote cross sectoral synergies for achieving food security (SDG 2), while at the same time contributing to other SDGs. Ensuring food security also calls for a coherent approach among stakeholders at local, national, regional and international levels. To support governments in applying an integrated and whole-of-government approach to policy making, the OECD has developed a new conceptual framework for policy coherence for sustainable development.

The Sustainable Development Goals (SDGs) recognize that food insecurity can affect all countries through many different channels. Therefore, ensuring food security calls for a coherent approach among stakeholders at local, national, regional and international levels. However, the global interconnectedness between different sectors increases the risks that actions in one area undermine efforts in another. Breaking down the silos that separate policy sectors is thus a key challenge in overcoming inconsistencies and promote cross sectoral synergies for achieving food security (SDG 2), while also contributing to other SDGs.

Keywords: Cross sectoral synergies, policy, interconnectedness, stakeholders



Sociological Dimensions of Sustainable Development

Megha Sharma

Assistant Professor, Biyani Girls College, Jaipur

Abstract:

The Social Dimensions of Sustainable Development Programs focuses on the inter-sectionalist of social and environmental issues and policies at global, national and local levels. In order to identify and overcome the structural causes and drivers of unsustainable practices, a priority focus of the programs will be the role of international governance in the transformation towards equity and sustainability. The concept of sustainable development is the totality of socio-economic development forms and methods not only on the short or medium term, but also on the long term. The basis of these methods is the balance between the socio-economic systems and the elements of the natural capital. Sustainable development as a concept has materialized during decades, within the framework of thorough international scientific debates, and has assumed political potential through globalization. The central principles behind sustainable development are equity and fairness among countries and generations, the long-term vision on the development process, systemic thinking and interconnection between economy, society and the environment. Sustainable development is linked with the concept of quality of life and pursues three objectives: economic welfare, social stability and environment protection. Any project should approach all three dimensions of sustainable development: environment, economy and society. The social dimension is concerned with social inclusion, demographic changes and public health. Environmental programs will fail unless they set permanent human welfare as their objective. Underestimating the role of social factors in sustainable development will endanger the development programs and projects. The medium and long-term fair assessment of human capital and the evolution tendencies are crucial for the realistic perspectives of a sustainable development model in all its fundamental components: economy, society-culture, and environment.

Keywords: Sustainable development, social inclusion, programs, fair assessment



The Condition and Status of Women with regards to Constitutional Rights and Sustainable Development Goals

Vishvanath Saidawat

Assistant Professor, Biyani Girls College, Jaipur

Abstract:

The general objective of this study is to explore how Constitution of India assures the rights of women and how they are useful to achieve the Sustainable Development Goals(SDGs11).

Keywords: Women Empowerment, Fundamental Rights, Vedic period, society, constitution of India

Introduction:

Women empowerment is a broad concept which plays an important role to highlight the status of women in present scenario. Traditionally it is seen that in vedic period women were enjoyed all the privileges, they access all the rights which was a symbol of empowerment. They have the right to getting education, selecting their partners, take part in decision making. But in the medieval period, their condition started towards the downfall. All the rights which were given to them in the vedic period were snatched. This leads to the harassment, condition of women, bad status. Now, good condition of women is the priority of the today's time. Special emphasis has been given to make them empower. For the sake of this, various constitutional provisions have been made which regard the dignity, participation, rights of the women and demand for the better status and condition, i.e. economically, socially, politically, educationally empower.

Aim and objective:

To highlight the condition and status of women with regards to constitutional rights and sustainable development goals.

Review of Literature:

1. Desai and Thakkar (2007) in their work discuss women political participation, legal rights and education as a tool for their empowerment.
2. Constitutional Rights for women: The constitution of India
3. Sustainable Development Goals (11)

Methodology:

The researcher use qualitative research methodology to describe the condition and status of women from Vedic period to postmodern period

Descriptive research design has been used with relation to constitutional rights. Secondary data has been used by the researcher which reflect the actual condition of women pre and post-independence.

Conclusion:

India is a country where women considered as a Goddess (Laxmi) of the home, but at the same time they are harassed, abused, raped, discriminated etc. In India, it is a belief that women manage all the household activities and this encourages the patriarchal system door to which they cannot access all the rights. It is considered that economically, socially, educationally, women cannot participate even in rational decision making. To consider all the relevant facts, government of India started to give emphasize to improve the condition of women in all grounds through various schemes, programs of constitutional rights to promote literacy, education, economic independence, improving health status, work participation, to make social identity and reduce cultural taboos.

Article 14- the Indian constitution for the equality:

Article 18(1) - No discrimination

Article 15(3) - state shall empower to make special provision for women

Article 42 of directive principle of state policy - maternity relief

Article 243 - for reserving seats for women in panchayat system

RTE Act 2009 which state everyone free and compulsory education upto 14 years of age.

Sustainable Development Goal 4 - quality (health and new education policy at India) - ICDS scheme for promoting health and nutrition to women and child and pre education to children upto the age of 6 years.



Development Communication and coverage of Sustainable Development Goals

Dr. Meenakshi Rathore

Assistant Professor, Mass Communication and Journalism, Biyani Group of Colleges, Jaipur

Abstract:

In past few decades, term sustainable development is being the center of discussion for so many institutes. They may be the governing bodies, common people, the elite classes or the media ventures. This proves that there is something very prominent about this issue. Today our world is divided into two partitions in the categorization of development- on one hand there are countries which are said to be developed countries, like U.N. and U.S. on the other hand there are countries like India, Nepal, and Bangladesh which are still on the journey of development or not fully developed countries. Sustainable Development is taken differently in different terms by people living in different situation. Even in broad sense, this notion cannot be bounded in one particular definition. Even on global level Sustainable development is associated with problems like locale Mumbai Basti and its development, it should be related to the livelihood problems. Even then, defining Sustainable development is important for obvious reasons.

Moreover, in the name of sustainable development what are usually published are policies or the upcoming schemes of government. Reporters must take care of the locale issue as well as the issues significantly related to the requirements of large scale public. By comparing two different newspapers from different formats, we will get to know about the nature of selection regarding development content and the defects occurring by their selection of sustainable development content. Also the frequency of development stories and their placement will determine the importance of sustainable development issues given by selected newspapers.

Keywords:

Sustainable Development, Media, Print Media, Media Coverage, Sustainable Development Goals

Conclusion:

The result of the study suggests that, the sustainable development content coverage in Rajasthan is very less in the Print Journalism. There was also contrast in the sustain development coverage of selected newspapers.



DEVCOM

Mansi Adhikari

Student, B. Voc. Journalism III Semester, Biyani Group of Colleges, Jaipur

Abstract:

Development communication has the power to evolve the mindset of society. By the use of different types of media, it can share information and experience facilitates development for the betterment of society. The power of media used to communicate and can help to reduce impoverishment, enhance health facilities, save the lives of people and help to inform them to understand their rights. It aims to enlighten, link and empower people around the world. Media helps people to be aware of and develop their standard of living by interacting themselves with their society. It is used to instruct, educate and teach people basic skills. These basic skills can help them to improve their living standards. Development communication has been labelled the "Fifth Theory of the press" that focuses on 'social transformation and fulfillment of basic needs.' According to Nora C. Quebral, Devcom is "the art and science of human communication applied to the speedy transformation of a country and the mass of its people from poverty to a dynamic state of economic growth that makes possible greater social equality and the larger fulfillment of the human potential". Development communication refers to the use of communication to facilitate social development. Its strategy includes information and education propagation, behavior change, social marketing, social mobilization, media advocacy; enhance business communication for social change and community participation. Radio, TV and New Media are its different medium to propagate with their widespread reach they can easily communicate the information to a mass of people.

Keywords: Communication, Sustainable Development, Media



Sustainable Development and Media

Aakanksha Srivastava¹, Dr. Meenakshi Rathore²

^{1,2} Assistant Professor, Biyani Girls College, Jaipur

Abstract:

Sustainable Development today is the current and important topic and issue for the entire world. We consider its meaning as development that meets the need of the present without compromising the ability of future generations to meet their needs. For example: getting home for homeless, constricting offices that in a way can incorporate the resources which are renewed and recycled. Building homes that can store rain water making it rain water harvesting. As media is considered responsible for spreading the important and relevant information to the public and mass, it is a compulsory duty of its mediums to convey the message properly. Achieving these goals in rural areas is the biggest challenge for India. India is a country where more than 50% of the population lives in rural area, we must consider this as biggest target to impart knowledge of progress and development to these areas. Thus, one of communication's main role is to encourage people participation in achieving sustainable development goals even in the remotest areas of the country. Participation of communication mediums whether it is print, electronic or digital media is highly needed. This leads to what is called the fourth pillar of the country. There should be a proper contribution of media to promote the need of achieving sustainable development goals in India.

Keywords: Sustainable Development, Media, Print Media, Journalism, Communication



Sustainability of Fauna and Flora in Traditional Art of India

Dr Amita Raj Goyal

Associate Professor, Department of Drawing and Painting, University of Rajasthan, Jaipur

Abstract:

Sustainability through art is about creating new and better ways for mortality to meet its needs without destroying the beauty of Nature. Indian artists have depicted plants, trees, animals, and

birds in their art forms since ancient times, and represented animals, birds, and flora, in imaginative ways through paintings, sculptures, and decorative art.

In Indian art, from prehistoric to modern art these natural themes form the subject, but quite often they create the backdrop depicting the larger picture of the time. Prehistoric art tells us about growing human and animal interaction through scenes depicting animal chases; hunters armed with sticks, spears, bows, and arrows accompanied by animals; and ploughing. With time, Indian art became more stylized and developed a distinct religious symbolism that gave nature a sacred figure and may have played an important role in conserving the environment. Representations of nature in Indian art are also very prominently found in tribal art and folk art. Madhubani, Kalamkari, Warli, Pichvai and Gond are well-known forms of art for their eye-catching representations of flora and fauna. Consequently, their art contains stylized forms of birds, animals, sun, etc., in natural colours. Sometimes, the focus is on the natural elements while at other times these are used to complement another central image, such as a deity, a religious tale, or a scene inspired by the daily life of people. The depiction of themes inspired by the environment in various Indian art forms from prehistoric to modern times and finds that the idea of nature has deeply influenced the way humans have seen and reacted to the world and the notion of what constitutes environmental art is a work in progress. Thus this article traces the depiction of themes inspired by natural surroundings or the environment

The main aim of my research is to promote a sense of aesthetics that symbolizes the ethic of sustainability. My research also explored the connection between the arts and sustainability to assess the ways by which the arts can help societies to achieve sustainability.

Keywords: Nature, Folk and Tribal Art, Environment, Aesthetics and sustainability



Globalization and Sustainable Development

Ashish Phogat

Assistant Professor, S.K.Govt.Girls College, Sikar

Abstract

Although the term “globalization” has already become a cliché, the concept itself is not new. Its origins are found in the writings of scholars in the late 19th century and early 20th century. However, the term has gained only academic acceptance in the late '60s; today the concept

found its expression in all languages of the world. It reflects a wide perception of the fact that the world is rapidly transforming into a shared social space, under the influence of technological and economic forces, and that developments in any region of the world can have profound consequences on the individuals or communities on the other side of the globe.

At the same time, many people associate globalization with a sense of political fatalism and chronic insecurity. This is due to the contemporary social and economic changes which seem to overcome the possibility of the national governments or citizens to control, to challenge or to oppose the changes. But, globalization, the same way as the development, is not inevitable-even when it is supported by powerful political and economic forces.

Globalization does not have an accurate definition. It is in danger of becoming a cliché of the present times: grand idea that includes absolutely everything from financial markets to the Globalization. Globalization does not have an accurate definition. It is in danger of becoming a cliché of the present times: grand idea that includes absolutely everything from financial markets to the internet, but that does not provide substantial perspective on the contemporary human condition.

Keywords: Globalization, sustainable Development



Environmental Protection and Food Security Practice of Ancient Jain Community

Dr. Alka Jain

Professor, Taxila Business School, Jaipur

Abstract:

“Ethical codes from utilitarianism are for the time only. Ethical codes from spirituality relate the individual to the infinite and embrace the society in between.” Vivekananda

Environmental protection and food security practices of ancient Indian literature like Bhagawad Gita, Kautilya's Arthshastra (ancient book of Economics) and Vedanta have been thoroughly investigated by eminent scholars very recently. But the vast and important Jain literature has not even been touched yet, which has a complete set of practices which are relevant for solution of Environment related and food related issues of the modern era, hence this study. The study

will try to answer the research question if environmental Protection and Food Security Practice of Ancient Jain Community exist in their ancient literature which was the basis of their daily practices. And if they exist are they still relevant in today's modern era? This research is a step to expose ancient treasure of (Indian) Jain literature to the western scholars and popularize the Jain theories of environment protection globally. That is why this platform of international conference has been chosen by the researcher. The code of conduct of Jain community as described in the Jain literature will be the main source of data for the study. Observation tool will help in analyzing whether this code of conduct is alive today also in the Jain community. This way the study may provide a clear path towards sustainable world through Jain routes.

Keywords:

Food security, Environmental practice, ancient Indian literature, Ancient Indian literature, Sustainability, Sustainable development



Effective Learning Environment in Higher Education

Dr. Alka Tripathi

Associate Professor, Government Girl's College, Chomu, Jaipur

Abstract

Gone are the days when students attended classes just for the sake of attendance. Over the last 40 years, education has changed from providing education to the elite to a provision of education for a wider population. The healthy environment of the educational institutions provides the students with a sense of belonging and helps in better understanding.

With the modernization in our society, students feel free to express themselves which helps them to take studies in a more interesting way. Changes must be accompanied by a consideration of how teaching can promote effective learning in higher education with the changed population of students. Educators paying heed to on each and every learner is beneficial for both of them. The educator gets to know their students better and the students stay attentive.

Typically social, physical, psychological or cultural factors involved in a learning environment deeply affect the learner's learning capabilities. New technologies and innovations motivate the

students and help them to find their field of interest. If the learning atmosphere is not helpful to gaining new knowledge or skills, it will be hard for learners to remain engaged or interested. Motivating and guiding educators are always ready to help them seek their dreams and shoot for the stars.

With many immense changes in the field of education, students feel more connected. Environment is one of the most important factors that affect education and hence it is necessary for everyone to contribute their bit and make it better for everyone.

Keywords: Healthy environment, Knowledge and skills, Motivation, Better learning



Creating Learning Environment in Colleges of Rajasthan

Dr. D D Gupta

Associate Professor, S S G Govt College Banswara

Abstract

Over the last forty years higher education has changed its shape all over the country. Today it is for not only elite class but also for wider population. Therefore it is the matter of great concern how to create learning environment in the higher education with changed population of students. Except a few centers of excellence almost all the colleges and universities are pictured as a place full of chaos, political conflicts, poor infrastructures, mass copying in the examinations with frequent violence and an ambiance of apathy. The graduates and post graduates produced by these institutions are, except a few, called very poor in academic standards and unemployable.

This paper is a study of the challenges and barriers that the higher education of Rajasthan state is facing. The condition of higher education institutions of Rajasthan state is deteriorating and pathetic. They don't have sufficient buildings and furniture. Forty percent of the total faculties are vacant and traditional and rotten courses, which don't attract the learners, are run. The political interference has entered so deeply into these institutions that no one can hope for better learning. So this paper also suggests some possible solutions / suggestions which can create learning environment in colleges.

Learning environment cannot simply be planned and implemented in some mechanistic fashion but they need to sites of nurturing, sensibility, flexibility, adaptability and responsiveness. Some strict measures will have to be taken regarding political interference and have to develop a confidence among students so they can make their future.

Keywords: Learning Environment, Students, Rajasthan



Sustainability in Art

Dr. Krishna Mahawar

Assistant Professor, Drawing and Painting, University of Rajasthan, Jaipur

Abstract:

Now a days Art is approaching towards nature, society, Environment etc. The old concept of art are vanishing, in today scenario there is sustainable agriculture, sustainable banking, the same we now have sustainable art which is dealing with environmental issues. Sustainability is about creating new and better ways for humanity to meet its needs without destroying either the beauty or the integrity of Nature.

Sustainable art is developing its relationship to its environments (biophysical, historical, social, economic, and cultural). In 1960 the land art movement arose, in which little concern for the environmental issues were shown e.g. treating the landscape like a giant canvas with a bulldozer for a brush. Many artists worked with such art in which they treat environment as their canvas, brush or tools of their expression.

Sustainable Arts Biennale running at Hamburg, Germany is running from 2005. We may find a variety of interpretations over the relationship between art and sustainability.

We can see sustainability in our day to day life in many ways. Artists ensure of taking care of the environment by their creative effort, some artist work jointly with scientists, some work with activist etc., these days art has expended its wings towards social, environmental, economic issues even gender problems and other social issues like cast discrimination etc. Most sensible artist are using their creative skill to express them self as well as to sustain their creative work with in society. Artist Eve Mosher's also did a fantastic work titled "Seeding the City," in which she involves placing 4-feet-by-4-feet trays of growing (native) plants on 1,000 rooftops on buildings in Brooklyn and Manhattan.

Mierle Laderman Ukeles, who creates a work what she calls “maintenance art” and her another work “Touch Sanitation” that involved shaking hands with all 8,500 workers in the sanitation department while saying “thank you.”

These art projects don’t claim to solve an environmental problem but point up potential solutions and raise awareness— many artist don’t like to create such art work that can be sold or buy as an object. This type of sustainable art is a serious kind of art which care or our surrounding and teaches common people about common but serious issue in artistic ways. Environment art, Eco art, Land art are few art moments who represent sustainability in art.

Keywords: Sustainable arts, arts, Economic art



A Study of Consumer Perception towards new material in Gem and Jewellery Industry for Sustainability

Dr. Neeru Jain

Associate Professor, IIS (Deemed to be University), Jaipur

Abstract:

There are new material for skillful use in jeweler, along with gold or matching gold and precious stones, aim of maintaining the same perception of “preciousness” but is that also more sustainable, ethical, and inexpensive? The paper is focused on investigating how sustainable design or production can help prestigious company’s pinpoint new material for the creation of jewellery, focusing on new and environment friendly opportunities while preserving their market position and target audience. Adopting the exploring design path, a jewellery background analysis pointed out both stereotypes and possible innovations in the jewellery field, the consideration of sustainable consumption of luxury products also has to take into account.

Consumer perception of new material such as recycled material, non-precious material, wood shells, fabrics, plastic, paper, leather, glass, scrap material, etc. The presence of recycled material in luxury products is perceived negatively by consumers”. The issue has been discussed and analyzed in the literature, with particular attention paid on consumer’s perception of Eco-luxury products. Being eco-sustainability conscious does not necessarily mean being unfashionable or untrendy. However, as underlined. it is necessary to investigate that how

aesthetics affect consumers' perceptions and behavioral intention with regard to new and sustainable products introduced by design-oriented companies (e.g., in luxury fashion)". Some companies are getting benefit from new strategies for replacing gold with alternative ethical and sustainable non-precious material. This allows a reduction in the amount of gold used in jewelry, which addresses the problem of the towering price of gold in recent years. The design of New Green Luxury Products can influence consumers' inclination to embrace them, and such an effect importantly depends on both consumer- and product-related factors. According to the goals of this research, consumers of branded products need to see consistency, in terms of design, between the new green product and the firm's previous products. For this reason, the paper deals with creating jewellery for the company with a focus on new and environment friendly opportunities, always preserving its market position and target audience.

Therefore we can say that a new material for use in jewellery that, paired with gold and precious stones, is able to maintain the perception of "preciousness" while being more sustainable, ethical, and inexpensive.

Keywords: Eco-fashion; sustainability; luxury; eco-innovation; ethical jewellery; goldsmith, preciousness & scrap material

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New Policies and Direction- Perspective of India

Dr. Priyanka Goswami

Assistant Professor, Tirupati College

India is a great developing country. In future it will be a surely counted in developed countries. But it is not easy. Every nation's future depends on its policies. Our government decides its direction, path and destination. Policies are playing important role for every nation. So we have to understand policy.

Policies: A policy is a deliberate system of principles to guide decisions and achieve rational outcome. Policies are generally adopted by a governance body within an organization. These are decision making system. Policy is different from rules and laws.

Keywords: Policy, Yojna, Foreign policy

The intended effect of a policy varies widely to the nation. Policy has many stages.

1. Agenda setting: the recognition of certain subject as a problem demanding government attention.
2. Decision making: Government decides on an ultimate course of action, whether to perpetuate the policy status or alter it.
3. Implementation: It is very important stage because every policy's fulfillment depend on its implementation.

Kinds of policy: Every developing country need sufficient policy like :

1. Foreign policy
2. Economic policy
3. Social policy internal development policy etc.

In India every portion and part of policy is important. Its importance beautifully present by Prime Minister Narendra Modi.

The BJP's election manifesto made certain promises with regard to foreign policy internal security and defense .There are many promises in the manifesto under different heads. For instance Zero tolerance to terrorism approach involves taking a firm line with Pakistan, improving border security impact bilateral relations with neighboring countries. Abrogating Article 370 and article 35 A of the Indian constitution come Jammu and Kashmir. On the economic front, making India a more attractive destination for foreign trade, increasing export, taking advantages of us china trade war to attract industry making India a Hub of industry. Improve new technologies such as artificial intelligence and machine learning.

The idea of a foreign policy is new. If we success to implement on all promises it will be great achievement for nation and will be counted as developed country soon.

The ministries of the government of India have come up with various government program called schemes (Yojna) from time to time. Like:

- | | |
|--|-----------------------------|
| 1. Atal pension Yojna | 2. Ujala yojna |
| 3. Deen Dayal upadhyay gramin koushlya yojna | 4. Digital India programetc |

Conclusion:

We know new policies of the nation gives direction to nation. A nation without policy looks like without control. Policy set a general plan of nation, gives direction and right path of nation. Good policy is the considered course of action by a supposed public benefit is accomplished, which otherwise would not be accomplished by the best use of the resources available.



Building Effective Learning Environment in Higher Education in Rajasthan with Special Reference to Management Programs

Dr. Rubina Sajid

Professor, Maharishi Arvind Institute of Science and Management

Abstracts:

Rajasthan came a long way in the field of education as at the time of independence ,the state had only one university along with 24 general educational colleges, one engineering college, one Medical college, three Teachers' training colleges, one Agriculture college and one Research institute and All these institutions put together enrolled around 12000 students.

Compare to present status wherein with a density of 33 colleges per one lac students and around 3000 colleges in total, Rajasthan stands 4th in terms of access to higher education in all over India as per the All India Survey of Higher Education conducted by Ministry of Human Resources. In fact Rajasthan has the highest number of women exclusive universities in India. As per the India Skills Report 2019, Rajasthan is 2nd in terms of employability a feat which is by no mean is small.

But despite all these achievements Rajasthan has its own set of employability problems among youth. According to National Career Service data, the state has more than 7 Lac unemployed youth and there is a growing concern that this number will increase as the whole nation is witnessing slow GDP growth rate.

This situation calls for building and sustaining an effective learning environment in higher education in the state so as to create more job oriented skills and higher employability amongst youth of the state.

The present paper look into the different facets of higher education in state along with the discussions on various strategies that can be adopted to enhance the effective learning environment with special emphasis on Management colleges *per se* .

Keywords: Higher Education, Management Education, Employability, Learning



Student Absentia in Non-technical Higher Education

Dr. Rupali Rajvanshi¹, Dr. Kusum Mittal²

¹*Research Scholar, Mohan Lal Sukhadia University, Udaipur*

²*Associate Professor, Mohan Lal Sukhadia University, Udaipur*

Abstract:

The student absence play vital role in self-development and nation as a whole. The present study is proposed to be carried out in the state of Rajasthan, Udaipur. The absenteeism of the student in the educational institutional aims to examine the cause and impact towards absenteeism in the arts college, MLSU, Udaipur. The study clearly showed that due to the irregular classes, lack of permanent staff and poor infrastructure of the college creates dullness in their studies, on the other hand due to the ready availability of the information and study material on the internet. They feel that there is no need to attend the classes which increase absentia. Though they get the study material but were lacking in communication skills, personality development and other interactive activities which results in the poor performance in job interviews, unable to handle adverse condition. For the bright future and better adjustment in the society student must attend the classes for gaining maximum from their teachers and classmates.

Keyword: Absentia, communication skill



Higher Education & New Dimensions

Dr. Savita Kishore

Associate Professor, LBS Govt.P.G.College Kotputli, Jaipur

Abstract:

The aim of higher education is to prepare a person to play his part well, as an enlightened member of Society. So it is a stage of learning that occurs after secondary education at the universities, colleges & institutes of technologies.

During the last few years universities have increased manifold and colleges have mushroomed all over country to impart higher education. However whether just availability of educational institutes means do me have a robust higher education system.

Unfortunately we are lacking hugely in higher education institutes. There are no noble prizes awarded to Indian scientist who has exclusively worked in India and published his research from Indian soil.

Universities for other varied branched other than engineering and medicine should come – up to prevent saturation in restricted field. So the higher education means integrated development of personality which should be imparted through head, hand and heart.

The first step towards improvement has to be taken at school level with aptitude tests being introduced to nowhere the interest of the student lies. These students should then be encouraged to join be laid on not just increasing the number of higher education institutes but center of excellence. Great stress must be laid on good infrastructure and facilities. Achievers in every field should be rewarded adequately.

Rabindranath Tagore rightly said, “The higher education is that which does not merely give us information, but makes life in harmony with all existence.”

Keywords: Higher Education, sustainable Development, development



India's Defence and Security Policy in 21st Century

Dr. Sugandha

Lecturer, SS Jain Subodh Global Excellence College, Jaipur

Abstract:

The purpose of this article is to make an attempt to discuss with an intention and aim to decipher contours and contents which have implications for India's defence and security. For this, there are so many models available in the political science and international relations. In this article, an attempt has been made to examine the views of Gandhi. Moreover, quintessential have been applied to meet the major challenges to India's security in the 21st century. There are many aspects of Security threats and also the powers involved in the process in the different parts of the world which have been taken into account. Global threats are

becoming more and more dangerous to international peace and development the speed of threat has already intensify threat. India's major concerns focus on oil, natural gas as well as transfer of technology.

Keywords: Security, Threat, Indian Ocean, Power Struggle, Nuclear Policy, Domestic Challenges

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Role of Media for Sustainable Development and Global Citizenship

Gajender Singh Rathore

Assistant Professor, IASE (Deemed to be University) G.V.M., Sardarshahr

Abstract:

The word Sustainable development was first used in the World Conservation Strategy in 1980, but it was expanded in 1987 by the Environment and World Development Commission; It is a good development to meet the needs of the current generation without the abatement of the ability to fulfil their needs of future generations. Believe in true development and equal interest. Therefore, the basic needs of all disadvantaged people of the world will be fulfilled and all the people can get an opportunity to live a better life. Thus, the Sustainable development emphasizes such positive protection of the environment. In which the protection, maintenance, restoration, long-term exploitation and accretion of biological and inorganic components of the environment has been given as an overall importance. The development of sustainable development is dependent on the development of technology, population control, resource conservation, the future requirements of the current resource utilization keeping in view the future requirements of the least harm to environmental degradation. Although it does not accept an absolute limit of ecosystem usage, it emphasizes the need for the development of resources by accumulating resources through appropriate technology development.

Key Words: Conservation strategy, Environment degradation, Better life, resource utilization.

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Health status of women in Rural Rajasthan: with special reference to Bidoli village of District Tonk, Rajasthan

Harsha Singhi¹, Bhoomika Parashar²

MSW(P), Banasthali Vidyapith, Rajasthan

Abstract:

The present paper is going to address the issues related to women's health in Bidoli village situated in the Tonk district of Rajasthan. As we know about the various health issues been faced in the society due to the unhygienic environment like Waterborne diseases, Airway diseases, Nutritional Problem, Skin Diseases, Cardiovascular diseases, morbidity and mortality, which creates adverse effect on the body of the individual.

It is seen that due to the unmaintained cleanliness in the village, the community people living there get ill very frequent. So, it is the issue for concern as when the people living there are themselves not aware of the hygiene so how they can further aware the other people. For that in the present study we will further discuss that we want to further aware about how we can keep our environment clean to avoid and protect ourselves from the diseases, to know about why the people at the present time are getting affected by the environment due to the unawareness.

To understand these issues, it is required to deal with the Qualitative Research for which the researcher will use the primary as well as secondary sources for the research.

Keywords: Environment, Health, Women, Issues, Diseases



Understanding Perspective and Health Status of Adolescent Girls, with special reference to Bidoli Village; District- Tonk, Rajasthan

Kratika Vats and Preeti Duwani

MSW, Department of Social Work, Banasthali Vidyapith

Abstract:

Since ages, 'menarche' is considered as a 'curse'. It has been a substantial challenge to the girls of rural setting. If we continue to perceive this way, they would have eventually started to hate their bodies, disregard the dignity or considered it as impure and untouchable. Although Menstruation blood is the only blood not born of violence, yet it has been used to fuel hatred against women. Using cloth, absenteeism from school, not allowing them to kitchens and worshipping in temples etc are the problems and challenges they are facing. Hence the present paper is going to deal with traditional or old practices, lack of knowledge, unavailability and non-affordability, attitude towards sanitary napkins still prevail in rural setting.

Aim and objectives

1. To determine the perception, practices and health status of adolescence girls in rural setting with special reference to Bidoli village, Niwai.
2. To identify the issues and challenges faced by adolescent school girls during their menstruation.

Methodology:

To fulfill the above objectives present study is going to opt mixed methodology i.e both qualitative and quantitative research methodology is used in this paper. Qualitative research method is used to determine their life experiences whereas quantitative research methodology is used to analyse the responses. The information or facts gathered are based on primary source data. Verbal consent was taken from them prior to FGD. Therefore, FGD was conducted in a school among the girls of Class 6-9th who were selected to involve in this study. Respondents were to be calmed so that they could share their views and express freely on the issues on menstrual practices in a closed well ventilated classroom.

Research design:

Descriptive research design is used to describe their life experiences and traditional practices which are still followed.

Tools and techniques:

- FGD
- Unstructured interview
- Semi Participatory Observation

Result and Discussion:

Women and Adolescent girls were considered as impure, various restrictions has been imposed on them which develop the negative attitude towards this phenomenon. Unawareness insisted them to adopt traditional practices i.e using cloth, not allowing them to enter in kitchens etc., during their menarche.

Conclusion:

The study has highlighted the need that accurate and necessary information should be given to adolescent girls in school setting to make them aware and should have adequate knowledge about the use and importance of sanitary napkins which will abolish the obsolete practices that are prevailing in the society.



The Succeeding Generation of Educational Engagement: Effective learning Environment in Higher Education

Dr Poonam Madan¹, Krittika Sharda²

¹*Associate Professor, Department of Management Studies, IIS (Deemed to be University), Jaipur*

²*Research Scholar, Faculty of Commerce and Management, IIS (Deemed to be University), Jaipur*

Information Technology has most definitely changed the way we work, live, acquire our learning and entertain ourselves, we may at times neglect or overlook the impact that IT has had on our students or learners.

Today's students' attitudes as well as aptitudes have been given a shape by the revolutionary Information Technology and the media affluent environment. The youth of today in their twenties have been brought up in the presence of videos, computer simulated environments and a gamut of consoles for gaming. It can be easily said that the youth of today has much more experience in gaming than in reading.

The students of today are digitally literate. Whatever their age, virtually all learners are accustomed to working in a digital environment for communication, collection of information and analysis of data. The young students are ardently interconnected through mobile phones, instant messaging, emails and social media with their peers and are more than ever. They incline towards being “Always on”.

The current cohort of students (between the ages 18-22) are preferably experiential learners- they are always on the go learning by doing rather than simply listening.

This research describes the current generation of learners who are profoundly influenced by IT. The potential of creation of learning environments and creating greater engagement with the use of games has also been explored. It also explores the potential of learning milieu that incorporate games and simulations to create greater engagement.

Games are a serious business for the students and learners they are no longer just a fun activity, they offer powerful learning situations. Games have emerged as pedagogically sound learning environments and are increasingly being used by numerous faculties for enhancing learning of the “millennial” generation.

The assumption of the technology literate undergraduate student population has been needed to be demonstrated with quantitative data. Much of the work up until now, although thought-provoking and compelling, is instinctive and intuition based and largely based on qualitative data and observation.

The research is guided by the most pertinent research questions:

- What possibly the impact of intentional technological education interventions?
- What are the various types of information technologies used by students, and what are the preferences of the youth?
- What worth does the use of information technology (IT) add in terms of learning gains?

This conference paper is an attempt to present a distinct amalgamation of the literature relating to the question of the ‘impact’ of creation of learning environment through the use of media and technology savvy games and simulations.

The conclusion of the paper focuses on how games simulation software will be developed, organized and accepted in higher education.

Keywords: Information Technology, Higher Education, Software & media, Learning Environment.



Mass Media and Sustainable Development

Dr. Sonu Mehta¹, Dr. Kusum Mittal²

¹*Research Scholar, Mohan Lal Sukhadia University, Udaipur*

²*Associate Professor, Mohan Lal Sukhadia University, Udaipur*

Abstract

Sustainable development is the type of development which meets the basic needs of all, particularly the poor majority, for employment, food, energy, water and housing, and ensures growth of agriculture, manufactures, power and services to meet these needs. To achieve this development one important tool that is mass media is required. Mass media makes it possible for the message to reach far beyond the immediate proximity of the sender. Mass media teach us about people, they show us how they act and what is expected from them. Now days the most effective mass media is internet, most of the persons either literate or even illiterate are connected to this very fast media in order to get latest updates, that is the reason whenever there is any violence in the country the first step taken is to stop internet. This very effective and widely used media actually plays a very important role in sustainable development if used positively and in well planned manner.

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Environment and Health

Neetu Choudhary

Research Scholar, Mahatma Jyoti Rao Phoole University

Abstract:

The health of the humans is inadvertently connected the environment nothing on the earth can be isolated from one another. Many factors play a role in determining our health both internal and external; the external environment is the most important. Our health depends on the water we drink, the air we drink breath, and the soil we grow our food in. However the environmental scene is quite dismal, the emissions from factories, vehicles, fires, are filling the air water and soil with harmful toxic chemicals. It is found that the smoke caused by the fires led to an increase in infant mortality rates.

Even the food is covered with pesticides. These toxic chemicals are threat to the health of humans it can also lead to serious diseases and make survival difficult. Indoor air pollution (IAP) caused by solid fuel use and/or traditional cooking stoves is a global health threat, particularly for women and young children. The WHO World Health Report 2002 estimates that IAP is responsible for 2.7% of the loss of disability adjusted life years (DALYs) worldwide and 3.7% in high mortality developing countries. Despite the magnitude of this problem, social scientists have only recently begun to pay closer attention to this issue and to test strategies for reducing IAP. In this paper, we provide a survey of the current literature on the relationship between indoor air pollution, respiratory health and economic well-being. We then discuss the available evidence on the effectiveness of popular policy prescriptions to reduce IAP within the household.

There is a substantial literature indicating that these ambient air pollution levels substantially affect human health, especially the health of infants and young children. Humans must keep in mind and be aware that our survival and healthy life depends on the environment we live in what we sow, we will reap for the earth to be a habitable planet we must step up and make positive changes.

Keywords: Environment, Health, Air pollution



A Study of Wildlife Protection Law towards Jewellery and Fashion Industry and Its Effects on Society

Nitya Chandrayan, Rashika Jain

B.Sc Jewellery Design and Technology, IIS (deemed to be UNIVERSITY), Jaipur

Abstract:

Wildlife is something which man cannot construct. Once it is gone it is gone forever. Man can't rebuild ecology or a giraffe."

Jewellery can very well represent torture and death of animals. Jewellery like rings, ear rings, nose rings, necklaces, broaches, bangles, bracelets, amulets, anklets, and accessories like beads, buckles, buttons, cigarette lighters, combs, eye glasses/spectacle frames, hair clips/slides/bands, cufflinks, tie-pins, trimmings on attire, converted into precious and semi-precious pieces, can be made from

bone, horn, ivory, tiger/emu/animal nails, elephant/bear/horse/animal hair, coral, pearls, mother of pearl, shells, tortoise shell, scales, butterflies, scorpions, insects, feathers, shellac/ lac, silk, wool, leather, fur, skin, marine flora and fauna, etc., all of animal origin representing torture/death.

Sometimes these products form part of the finished item, e.g. a protected tiger or big cat's nails/claws, illegally obtained and studded with precious stones such as diamonds, sapphires, emeralds and/or rubies, set in gold or platinum, are converted into 'exquisite' jewellery pieces. Toe nails of emus, set and polished in different ways, are also found as jewellery pieces and worn as lucky charms.

Emu and ostrich feathers are extensively used in show business as fringes, trimmings, fans, boas, apparel and accessories. The tail feathers of egrets are used in ornamental tufts of aigrettes for which only upright plumes are utilised. Earrings, necklaces, headbands and clutches are made of peacock feathers. Porcupine quills are also fashion accessories in the form of strung and threaded jewellery – no one waits for the animals to shed them or to naturally die so they are killed for their quills.

Butterflies are farmed (bred to be killed in places like Indonesia) or trapped in the wild with the help of white sheets and bright lights, or caught in nets. Sometimes a female decoy butterfly is pinned with a sharpened tiny sliver of wood (like a matchstick) to a leaf in order to attract a male in search of a mate. Upon being netted, its wings are held back between thumb and forefinger and it is pinched to death with the other hand, or put in a "killing jar" (bell shaped glass) containing a little ether.

There are certain laws that are formed under PETA for the conservation of wildlife i.e.

Wildlife Protection Act 1972, The Indian Forest Act 1927, The Forest Conservation Act 1980, The Environment (protection) Act 1986, The Biological Diversity Act 2002, National Wildlife Action Plan 2002-2016, National Forest Policy 1998.

So, hence, this wildlife exploitation should be abolished and government have made certain laws against them that unable the extinction of wildlife and protect the ecological pyramid indicating "All life is important no matter how small."

Thus, this paper focus on wildlife exploitation harm the environment in addition to its impact on the society and humankind.

Keywords: Wildlife, conservation, jewellery, fashion, leather, skin, ecology, policies, extinctions, abolish, protection, society.

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Equilibrium between Human Development and Natural Resources: Sustainable Development

Sangeeta Sharma

Research Scholar, Department of Textile and Apparel Designing, Mahatma Jyoti Rao Phoolle University

Abstract:

The concept of sustainable development was first introduced in 1987 through Brundtland report to address the environmental concerns appeared with the improvement in standards of living of humans across the world. The basic idea of sustainable development visualises human development through utilisation of natural resources in such a way that natural system should not compromise for its ability to sustain the development of future generations. The initial notion of sustainable development has been repeatedly revisited and subjected to revision to strengthen the core idea and to meet the same in coherent and effective way. The present idea of sustainable development describes the human development in relation to equilibrium with environment, balanced economy, social obligations and culture integrity. The present scenario demands a grave need of empowering the human resources with the knowledge, skills and moral obligations to achieve the sustainable utilization of natural resources.

Keywords: Sustainable development, human development



New Policies and Cyber Crime

Dr. Shailja Dubey¹, Shakuntla Saini²

¹Assistant Professor, ²Research Scholar, MJRP University, Jaipur

Abstract:

Any criminal activity that uses a computer either as an instrumentality, target or a means for perpetuating further crimes comes within the ambit of cybercrime. It is rapidly evolving from simple e-mail mischief where offenders send obscene e-mail, to more serious offences like theft of information, e-mail bombing to crashing servers. Capacity of human mind is unfathomable. It is not possible to eliminate cybercrime from the cyber space. However, it is quite possible to

check them. The home user segment is the largest recipient of cyber-attacks as they are less likely to have established security measures in place and therefore it is necessary that people should be made aware of their rights and duties. Worldwide governments, police departments and intelligence units have begun to react against cybercrime. Many efforts are being taken at international level to curb cross border cyber threats. Indian police has started special cyber cells across the country and have started educating the peoples so that they gain knowledge and protect themselves from such crime.

Keywords: Policies, crime, cyber, attack.



Quality Education and Yoga: A Conceptual Study

Shashi Soni

University of MJRP, Jaipur

Abstract:

Academic performance is concerned with the quantity and quality of learning attained in a subject or group of subjects after a long period of instruction. Excessive stress hampers students' performance. Improvement in academic performance and alertness has been reported in several yogic studies. The main objective of the study was to assess the effect of yoga on academic performance in relation to stress. The study further shows that low-stress students performed better than high-stress students, meaning thereby that stress affects the students' performance. Stress causes overloading on our mental and physical resources interfering with the effective use of our skills, and thus, affects the performance negatively. Currently, the treatment for anxiety and depression mostly includes psychological and pharmacological interventions; however, mind-body interventions are nowadays becoming popular as a means of reducing stress levels in individuals. Yoga, a form of mind-body medicine, offers a potent method to manage and reduce stress, anxiety, and depression thereby maintains wellness and alleviates a range of health problems and ailments. Regular practice demonstrated the beneficial effects on health behaviour in many life style-related problems. Regular practice of Yoga also reduces the stress, which in result improves the performance of students in examination; Yoga also helps for improving memory, intelligence and creativity.

Keywords: Yoga, stress, quality education.



A Study of Challenges to Sustainability of Mining of Gemstones in Jewellery Industry

Purva Jain, Suman Choudhary

B.Sc Jewellery Design and Technology, IIS (deemed to be UNIVERSITY), Jaipur

Abstract

This study explores the potential for harm and value creation by individual stakeholders in gem and jewellery production to marketing. we seek to understand how small businesses within the fine jewellery industry respond to the economic, social and environmental challenges associated with responsible jewellery production. The main concern for the society today is in how metals are mined. The extraction techniques which may include stripping the surface soil and using chemicals used can cause soil erosion, to such a devastating level, that it may turn into a barren land for ever, formation of sinkholes, loss of unique biodiversity, contamination of soil and both ground as well as surface water. This happens even when fairly stringent environmental regulations are been followed. In addition, there is a possibility of environmentally unlawful practices in jewellery creation. Then comes the issue of any production, however environmentally safe, but leaving an energy footprint, and the questionable necessity of expanding that footprint on another piece of adornment. Process factor includes manufacturing processes (energy to produce certain types of glass, for example), and materials, like toxic dyes, used in those processes. In addition, there is a possibility of environmentally harmful practices in jewellery creation, chemical disposal and packaging.

We can reduce this threat with w use recycled metals as much as possible, use vintage or dead stock, upcycle vintage materials, use artisanal methods - non-toxic and with low energy requirements. Recycle: metal scrap, paper scrap, packaging and shipping materials, as well as use proper chemical disposal procedures and energy-efficient practices in their studios and workshops. We should also aware artisans by educating new and emerging artisans (or well-established ones who haven't yet focused on the environmental issues):

It also requires the co-creation of new transformative business models and multi-stakeholder involvement including firms (SMEs and MNEs), trade associations, non-governmental organisations and consumers. Solutions include national and international legislation, price adjusted certification routes for small firms, harmonisation of industry Corporate Responsibility standards to reduce overlap in certification and regulation and gem and precious metal “track and trace” schemes.

Keywords: Jewellery, Sustainable Development, Textile industry, Gemstone



Current Challenges and Philosophical Thoughts in Quality Education

Sunayana Mundotia

Assistant Professor, MJRP University, Jaipur

Abstract:

The history of philosophy of education is an important source of concerns and issues as is the history of education itself for setting the intellectual agenda of contemporary philosophers of education. Equally relevant is the range of contemporary approaches to the subject. The major historical figures developed philosophical views of education that were embedded in their ethical theories. The introduction by Nanak dev ji such questioning in turn eventually gave rise to the view that education should encourage in all students and persons, to the greatest extent possible, the pursuit of the life of reason. This view of the central place of reason in education has been shared by most of the major figures in the history of philosophy of education an important aim of education is the full and balanced development of persons, equipping them with the wisdom to live well. Quality education may be considered vocational in the sense Achieving inclusive and quality education for all reaffirms the belief that education is one of the most powerful and proven vehicles for sustainable development of preparing young people for their calling in life, in all its dimensions, so that what is taught will give serious structure and direction to their journey. The paper covers a brief introduction to the Education technology, the technology used as a tool in teaching and learning, how this technology is used in the education, today's education style, benefits of the education technology.

Keywords: Philosophy, education, technology, intelligence.



Contribution of Amitabh Ghosh in Sustainable Development of Eco-criticism: A study of the Hungry Tide

V V Haleshappa

Research Scholar, M. Phil Jaipur National University, Jaipur

Abstract:

Amitav Ghosh's *The Hungry Tide* focuses on the persistent tragedy of the tide country people and their continual struggle for survival. The topography, the fauna and the waterways of Sundarbans decides the fate of the people. Not only is the ecology harsh but also the disturbance that is caused by the Government on issues such as Wildlife Conservation shatter the hopes of the people resulting in their mental trauma. The landscape, Sundarbans is itself the part of the novel's concerns, as it offers an account of the horrid encounter of the tide country people with its cyclones, man-eating tigers, crocodiles and the menace of the tides. The myth of Bon Bibi, Garjantola's fusion with storms and the ecology of the dolphins gives a peep into the lives that is led by the tide country people. The many histories of Sundarbans forms the focal point of *The Hungry Tide*. As Kanai reads the diary of Nirmal, the stories of Kanai's own memories of the visit he paid to Sundarbans as a child and the historical eviction of the refuge settlers from the island of Morichjhapi in 1979 portrays nature and the inter-dependence of man and nature. The various characters too benefit from the environment. Piya and Kanai learn humility and sacrifice as they are confronted by the tragedies and the quiet heroism of the people. Piya sights the Irrawady dolphin from which she arrives at her epiphany about Sundarbans. Fokir has a special gift from Mother Nature and Piya takes his help for finding the dolphins. Fokir sacrifices his life in an attempt to save Piya during cyclone. Nirmal's contribution- the cyclone prone-shelter on the upstairs of the hospital saves the lives of thousands hereby celebrating his success after death. Thus, ecology and humanity tries to co-exist with one another as a part of one of the successful attributes of Globalisation.

Keywords: Amitabh Ghosh, sustainable development, literature

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Pedagogical Experiments to enhance English Learning Abilities in Adolescent and Adult Learners

Pushpraj Singh¹, Ekta Rana²

¹*Assistant Professor of English, Dept. of Languages, Literature and Society, Jaipur National University*

²*Lecturer, Faculty of Education and Methodology Jayoti Vidyapeeth Women's University, Jaipur*

Abstract:

Practical implications for foregrounding English language pedagogy has not yet achieved. The belief of researchers that frames the hypothesis of the work that there is a linguistic divide in non-native English speakers. When the non-native speaker is from a subcontinent (Indian), it becomes tougher to handle the situation. The paper focuses on the three-tier dimension to overcome such problems — the target learners into two categories- Adolescent learners and Adult learners.

Further, an environment created through this new system of learning-the mixture of the old learning theories, along with new digital aid, helps in implication and progress in English Language learning.

Keywords: ELT, Linguistic Divide, Three-tier Learning, Technical Aid, CALL/MALL, Language Lab.

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Challenges and Issues in Science Communication in Digital Era

Dr. Garima Shrivastava

Head, Department of JMC, The IIS University, Jaipur

Abstract:

With the advent of 21st century, new challenges also came up for the journalists. One of them was the changing environmental conditions which generated many issues like global warming, climatic changes, pollution, unavailability of fresh water and air, hazards to health, new epidemic diseases etc. More challenges knocked from the rapid growth and development in the areas of aerospace, agriculture, medicine and other inventions which are directly related to our

daily life. Now journalists are not in a position to avoid these subjects as they have to report the matters which are linked to life of the people. In the digital era of the current times the challenge for the journalist's has been increased as the information, which has to be written and disseminated, should carry research based information. The audience have their own exposure and sources of information available on a single click. Challenge becomes even graver when the journalists are not well qualified in the specialized fields of science and technology and they often deal with the serious subjects superficially.

This paper aims to create an account of problems, challenges and opportunities for the science communicators working in national newspapers. Environment, Medical and Health, Technology, Agriculture and Innovations are the areas where the journalists and writers are working.

Keywords: Science communication, Challenge, Digital era and Information.



Water Scarcity

Komal Sinha

Student, SS Jain Subodh PG College, Jaipur

Abstract:

Water is indispensable element in any living creature's life. Fresh water is getting depleted day by day. Most of the discovery and evolution have stated that life had started with water. Nowadays people are using it as something that is never going to end, but the harsh reality of life is that many continents of the world are intact in situations of water scarcity already. And there is no time when this situation will overshadowed entire world. Our future generations might not be able to trace and see fresh water. This is the most alarming and horrifying situation for any country in general and person in particular. There are many initiatives running to tackle this situation and one among this is UN WATER DAY being celebrated on MARCH 22 every year to advocate the sustainable management of water and its importance.

Keywords: Demand for potable water, level of water stress, water conservation and management.



Agro-economic Alternatives Coping with Water Scarcity without Harming Food Security

Priya Modi¹, Krati Sethi²

Research Scholars, Manipal University, Jaipur

Abstract:

Among, the world's biggest food producers India also contributes, shaping the feasibility of the agro sector for its spherical importance. India has different climatic and hydrologic features characterizing its agronomic yields. Till today soil water sprinkle is enhancing crop yields in sufficient amount to grub existing population of 1.6 billion but over exploitation of soil water has given birth to water scarcity, impeding an exertion on this important crucial resource making in unapproachable for millions of the small farmers who are the backbone of food security. In this paper we try to indicate different alternatives like micro irrigation, reducing water intensive crop production, watershed development, better conservation policies in agricultural sector and promoting water use associations, to shift agriculture to more feasible usage of water without harming food security. However these alternative methods will initially harm the consumption-production patterns and livelihoods of our residents but our results suggest that without these alternates as incentives food production will suffer enhancing uncertainty in food yields and water scarcity which itself is a great confrontation for a country like India. Though the massive suggested national watercourse joining project has been initiated but it has confined scope to pacify soil water stress. Thus without importing water along with adopting alternative techniques of production, water scarcity and food security in India is likely to worsen.

Keywords: Food security, alternative energy, agriculture sector

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Global Citizenship and Digital Media: New Horizons – A Research Study of Rajasthan

Dr. Ruchi Goswami

Associate Professor, IIS (deemed to be University), Jaipur

Abstract:

The proposed study analysis the rights and civic responsibilities that arise with being a member of the world rather than as a citizen of a particular nation or place. The concept of global village is now taking a broad shape and size connecting the all the nations altogether in a small unit. The transnational movement of people and ideas continues to reshape how citizens imagine places and culture. As the present study is confined to the area of Rajasthan where in variety of people come together for various purposes. As a state where social change is witnessed every now and then hence the study of the state becomes relevant in this context. As a whole the use of digital technology is taking fast pace in this place. The samples ranging from age groups 18 to 60 divided in separate sub groups are a part of the study. The main idea behind executing the study is how digital media is shaping our lives at a big extent. We all in totality by inhaling and exhaling these technologies are gradually becoming a part and parcel of digital world where in we automatically connect ourselves with the so called global culture.

Global citizenship inspires, educates and engage all members as global citizens and foster a need to be united for various concerns. The research study is relevant as it also discusses the global trends in the communication world.

Keywords: Global Citizenship, Transnational Movement, Global Village, Global Culture



An Impact of Life Skills Education on Lifestyle at Senior Secondary Level: A study

Malti Saxena

Research Scholar, J.J.T. University, Jhunjhunu

Abstract:

Life skills are applied in various aspects of life such as health, social events, human relationships, social influences on behavior. It is an ability which needs regular practice and more often usage they need to be acquired with a lot of patience and positive attitude. There are different kinds of skills like literacy, languages, functional, vocational, and cultural, sports and life skills. Life skills can be utilized by youth to avoid many areas, such as drug abuse, sexual violence teenage pregnancy, HIV/ aids prevention, suicide prevention and behavior problems etc.

Life skill education emphasizes on empowering young generation to take positive actions to protect themselves and to promote health and positive social relationships. The present study was to investigate the impact of life skills education on life style and career aspirations of students. The sample comprised nine hundred senior secondary level students both boys and girls studying in various Government and private schools. The data were collected by using life style scale developed by Dr. S. K. Bawa and Dr. Sumanpreet Kaur, life skills scale developed by Dr. Raina Tiwari.

The data analysis showed that there is no significant impact of life skills education on lifestyle of students at senior secondary level. The finding suggests that life skills education will help students choose their career in future.

Keywords: Life skills, Lifestyle, Sexual violence, Suicide prevention



Income Inequality and Sustainable Development Goals

Mohit Rawat¹, Himanshi Rathore²

¹*Assistant Professor, Biyani Girls College, Jaipur*

²*Student, Biyani Girls College, Jaipur*

Abstract:

Pay uniformity is an extraordinary plenitude of riches or salary in the hand of a little level of the populace. It very well may be said as the hole between the most extravagant and the rest (poor and centre). According to an examination by an urban organization, the previous 50 years of the economy demonstrates that the most unfortunate had gone less fortunate while the most extravagant had gone a lot more extravagant somewhere in the range of 1963 and 2016.

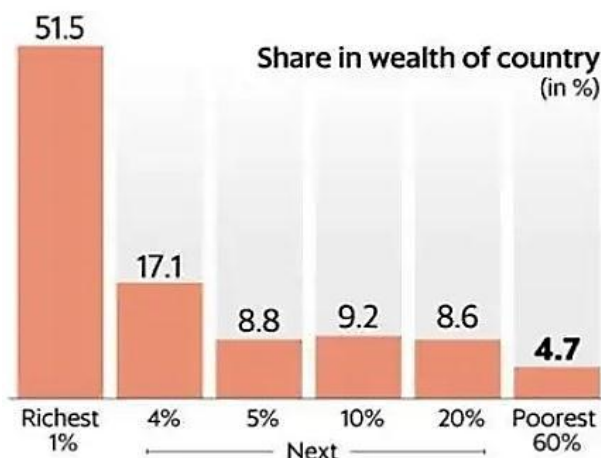
It is all around noticed that pay disparity is on the ascent, with the most extravagant 10percent acquiring up to 40percent of the complete worldwide pay. The least fortunate 10percent procure just somewhere in the range of 2 and 7 per cent of complete worldwide pay. In creating nations like India and China, the disparity has expanded by 11percent on the off chance that we consider the development of the populace.

White men keep on winning more than some other ethnic gathering except for Asian men. In 2015, the normal time-based compensations for white men was \$21 60 minutes, contrasted and \$15 for African American men and \$14 for Hispanic men, as indicated by the Pew Research study. Asian men had the most noteworthy normal compensation, \$24 every hour.

Salary disparity issue isn't just among rich and poor. Pay disparity is likewise by Gender and Races. It is a result of the wages hole among people. As indicated by an investigation of 2017 salary numbers by the Institute for Women's Studies, ladies everything being equal and ethnicities were paid a normal 81.8percent of the pay rates paid to men.

Share in Wealth of India:

The richest 10 percent have 77.4 percent of national wealth, the poorest 60 percent have 4.7 percent.



Source: Credit Suisse

Reduce inequality within and among countries:

Targets

- Adopt arrangements, particularly financial, pay and social security approaches, and a little at a time accomplish more noteworthy fairness.
- Improve the guideline and checking of worldwide budgetary market and organizations and reinforce the execution of such guidelines.
- Ensure to improve portrayal and voice for creating nations in basic leadership in worldwide universal monetary and budgetary establishments so as to convey progressively viable, trustworthy, mindful and authentic foundations.
- Facilitate systematic, protected, ordinary and capable relocation and versatility of individuals, including through the execution of arranged and controlled movement approaches.
- Implement the standard of unique and differential treatment for creating nations, specifically least created nations, as per World Trade Organization Agreements.

Income effect of developing countries like India and China

The ongoing OECD overviews of China and India, uncommon thought fulness regarding the wellsprings of development, profitability and administrative changes.

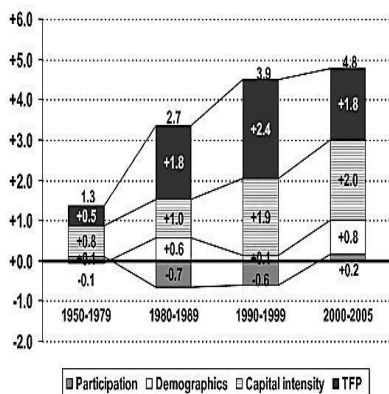


FIGURE 1 Sources of India's per capita GDP growth (% annually). (Participation: the effect of the participation rate; Demographics: the effect of the share of the population of working age; Capital intensity: the effect of the level of capital per worker; TFP: total factor productivity.) SOURCE: Dougherty.

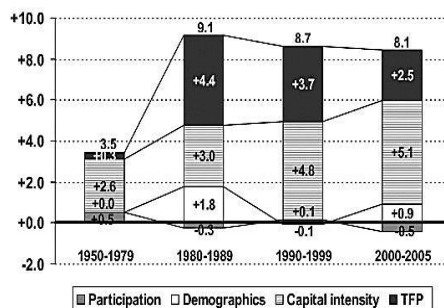


FIGURE 2 Sources of China's per capita GDP growth (% annually). (Participation: the effect of the participation rate; Demographics: the effect of the share of the population of working age; Capital intensity: the effect of the level of capital per worker; TFP: total factor productivity.) SOURCE: Dougherty.

Impacted by an unexpected move of 1980's development in both the nations is manageable. (TFP) all out factor generation development are significant Capital extending—that is, an expansion in capital force quality, typically estimated as capital stock per work hour, the "measure logical factor" in the distinction between the two nations' for every capital yearly development. India normal 4.8 percent between 2000 and 2005, about a portion of China's 8.1 percent yearly per capita GDP development rate.

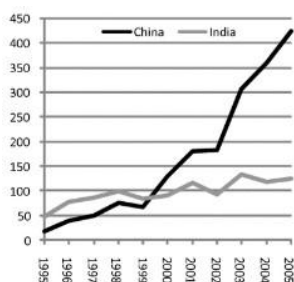


FIGURE 4 Articles published in high-impact journals. SOURCE: Dougherty

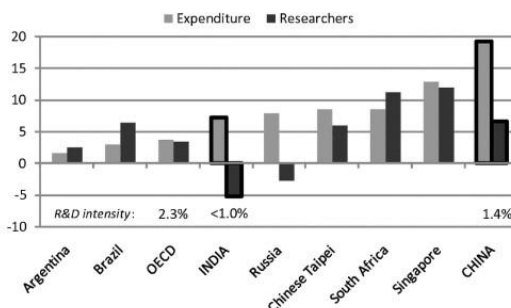


FIGURE 3 R&D Expenditures and Researchers (% annual change 1995-2004) SOURCE: Dougherty

R&D expenditure difference: R&D intensity in India is greater than 1%; in China, it is 1.4%

Outputs are a better measure of performance than inputs, a common output measure is a publication in leading peer-reviewed journals with contribution worldwide. From 1995 to 2005, 10years, Chinese articles in high-impact scientific journals increased more than 16times, while Indian articles are doubled.

India's financial market is more developed than China's but India has a greater need to reduce regular restrictions in financial product market. Currently, India has more restrictions than any, OECD economy. With fewer restrictions, China is able to be more flexible in supporting new, higher risk, technological development.

Education outcome in India is becoming better, approaching China's. In GDP growth, China's demographic dividend will tail off in the next 10years, while these demographics rates in India it will promote saving growth. Despite these problems, the future of both the economics looks bright.

Conclusion:

Income disparity is a worldwide issue and it requires worldwide arrangements. This incorporates improving the guideline and checking of budgetary markets and foundations, strong improvement help and remote direct venture to areas where the need is most prominent. Encouraging the protected movement and versatility of individuals.

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Photojournalism and Visual Impact

Khushi Dubey

B.Voc. Journalism and Mass Communication, Biyani Institute of Skill Development, Jaipur

Abstract:

The objective of this paper is to discuss the impact of photojournalism in sustainable development as photojournalism is a branch of photography where pictures and visuals are used to deliver the story that convey the emotions , feelings , sense of events , its magnitude and impact on people and the place where it has occurred. It connects people with the ethics, tradition and history by having previous data of images for example we can analyse the development and progress of a particular place, monument, things, etc. It also helps in getting information about things which are situated far away or in foreign countries to which we have never been. Documentation of people, events, and feelings, both historically and in the present day can be done easily. It helps in promoting businesses and spreading awareness among people about recent happenings which penetrates the economic structure through maximum participation and interest of the candidates. Social messages are also conveyed through this platform such as SWATCH BHARAT ABHIYAN, SAVE WATER, SAVE GIRL CHILD, etc.

by exhibiting related images. The main aim of this paper is to focus on the impacts and development created by the photojournalism.

Keywords: photojournalism, Ethics, History, Analyse, Promoting, Awareness, Penetrates, Economic structure, Social message, Exhibiting, Development.

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Decent Work and Economic Growth: Why it Matters

Monika Pundhir

Director of Physical Education, S.S. Jain Subhodh Girls College

Abstract:

Society as a whole benefits when more people are being productive and contributing to their country's growth. Productive employment and "decent work" are key elements to achieving fair globalization and poverty reduction. In addition, unemployment can lead to unrest and disrupt peace if it is left unaddressed. Decent work means opportunities for everyone to get work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration. It is also important that all women and men are given equal opportunities in the workplace. A continued lack of decent work opportunities, insufficient investments and under-consumption lead to an erosion of the basic social contract underlying democratic societies: that all must share in progress.

Providing youth the best opportunity to transition to a decent job calls for investing in education and training of the highest possible quality, providing youth with skills that match labour market demands, giving them access to social protection and basic services regardless of their contract type, as well as levelling the playing field so that all aspiring youth can attain productive employment regardless of their gender, income level or socio-economic background. Governments can work to build dynamic, sustainable, innovative and people-centred economies, promoting youth employment and women's economic empowerment, in particular, and decent work for all. Local authorities and communities can renew and plan their cities and human settlements so as to foster community cohesion and personal security and to stimulate innovation and employment.

Keywords: Decent Work, education, economic growth

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Performance Analysis of an Optical Transmission System using Dispersion Compensation Technique and Optical Amplifier

Raj Kumar Gupta

Research scholar, Department of ECE, Rajasthan Technical University, Kota India

Abstract:

When a signal travel through an optical fiber for a long distance it get attenuated and dispersed. Due to these problems original signal cannot be received. In this paper combinations of amplification and dispersion compensation techniques are used to overcome the problem. FBG (Fiber Bragg Grating) and DCF (dispersion compensation fiber) are used as dispersion compensation techniques and EDFA (Erbium doped fiber amplifier) and Raman amplifier are used for amplification. The results are compared in terms of bit error rate (BER) and Q factor with different combination. It is found that combination of DCF with EDFA gives good result in terms of PWRP (pulse width reduction percentage) with a better pulse quality.

Keyword: optical fiber, erbium doped fiber amplifier, dispersion compensation fiber, bit error rate.



Child Labour and Human Trafficking Laws and Its Implications

Isha Khanna

Research Scholar, Amity University, Law School, Jaipur, Rajasthan

Abstract:

This Article deals with Child Labour and Human Trafficking Laws. 2016 estimates from the International Labour Organization indicate that there are 152 millions kids 5-17 years previous in child labour, of that regarding seventy three million are in dangerous labour that by its nature will have adverse affects on their health, safety, and ethical development. United efforts by governments, workers and employers have resulted in a very reduction of nearly ninety four million children engaged in child labour within the last fifteen years that could be a vital action. still, so much too several kids these days carry serious hundreds and wield machetes on farms; scavenge in garbage dumps and are exposed to electronic waste; endure physical emotional,

and verbal abuse as domestic servants; and fight as kid combatants in armed conflict. Associate in Nursing calculable twenty five million folks are at bay in forced labour, together with over four million kids. Kids and adults are forced to climb in to mine shafts in search of diamond and gold; are coerced, deceived, and at bay on fishing vessels by unscrupulous labour recruiters; and are forced to toil within the extreme heat of brick kilns to flee from a positive feedback of thralldom.



Statutory Provision and their Consequences in Harming Environment (Critical Study on Brihan Mumbai Municipal Corporation)

Monika Priya, Nandini Mathur

3rd Year, B.A LL.B (Hons.), School of Law, Maniapl University, Jaipur

Introduction:

A clean environment is essential for healthy living. It makes world beautiful place and makes population healthier when the environment around them is healthy. The environment is the most important resources of life. We get water, power, oxygen etc. from environment and it helps to clear pollution and is a large habitat for animals. But today environment is in danger as since 18th century industrialization has taken place, human selfish activities is leading to destroy the nature. It is now alarming condition as Environmental issues such as global warming, acid rain, waste disposal, ozone layer depletion, climate change and many others has affected the life of not only humans but also of the animals as well as plants and trees.

The constitution of India under part IVA, Art.51A casts “a duty on every citizen of India to protect and improves the natural environment”. The 42nd amendment of the constitution added Art.48A and 51A(g) which comes under the directive principle of state policy and the fundamental duties respectively. The supreme court of India in **Sachidanand Pandey v. State of West Bengal** “stated that the court is bound to bear in mind the above mentioned articles whenever a case related to environment problem is brought to the court”. The art.48A states the state shall endeavor to protect and improve the environment and to safeguard the forest and wildlife of the country.

The Art.51A (g) imposes a duty upon the every citizen of India to protect and improve the natural environment and confers right to come before the court for relief. Sustainable use of natural resources is reflected in constitutional framework of India and also in the international commitment of India. The well develop framework of environment protection legislations came after the UN conference on the Human Environment (Stockholm,1972). The department of environment was established in India in 1980 to ensure a healthy environment for the country. Later became the ministry of environment and forests in 1985. The environment protection act 1986 came into force soon after the Bhopal gas tragedy and is considered an umbrella legislation as it fills many gaps in the existing laws.

Alternatives and Conclusion

There are many grey areas which are needed to be answered. Firstly purpose of Supreme Court guidelines which is set aside in the present case, Secondly why NGT has not considered more than 2700 trees, green cover as a forest and how come more than 2700 full grown trees are being compromised at the such stage when it is much needed (amazon forest fire), thirdly since India is federal state, where the country has launched the massive tree planting program under the leadership of Prime Minister Narendra Modi to improve our carbon footprint on the other hand state government has given approval to make metro 3 car shed by cutting trees. This is perfect time when central government should interfere Mumbai's state government and take some strict actions. Many environmentalists and activists came up in protest and clearly warn about the consequences Mumbai will face. NEERI and IIT have suggested kanjurmarg, Backbay and Kalina as alternative options for the metro 3 car shed and this will not harm environment. State government should consider the suggestions. As stated in famous case of **MC Mehata v. union of India**, court relocated the place as it was hazardous to human habitation. Similarly in present case court should take some action as it will have socio economical impact like displacement, loss of livelihood, loss of traditional knowledge, practices, cultures, violation of human rights even animal rights, land dispossession. Talking about sustainable development, it signifies development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. The famous case in which Supreme Court for the first time dealt with the issue relating to the environment and development was **Rural Litigation And Entitlement Kendra v. State of UP**, the court held that it is always to be remembered that these are the permanent assets of mankind and or not intended to be exhausted in one generation.

As per the previous cases supreme court has given landmark judgments on environmental issues, but if we talk about present case Supreme Court is contradicting it's previous judgments and it is not considering the facts that cutting down of more than 2700 tress will degrade the

environment, as mentioned above deforestation was one of the reasons of floods in Kerala, and we all known that Mumbai always go on high alert in every monsoon season. If we the race of human will not consider it as an alarm warning and keep on cutting trees for real estate , no sooner but later on this will result in human made disaster.

How NGT cannot consider more than 2700 fully grown tress as forest? It is a grey area in NGT's provision. Even if we don't want to consider it as forest but we cannot neglect the fact that this portion contribute to balance healthy environment and is the only open space in Mumbai.

Cutting down so many trees would cause deforestation and we all are very well aware about the consequences of deforestation:

1. **Soil erosion:** trees hold the soil and if there would be no trees it will cause soil erosion and will result in mudslides; it may also result in water clogging.
2. **Water cycle disruption:** the water from all the water bodies of fresh water evaporates and condensed into clouds which cause rains. Trees help in extraction of the ground water and release it into the atmosphere, if there are no trees the rain would not come and ultimately result into desertification and will result into forest fires.
3. **Greenhouse gas emissions:** Methane and CO₂ traps heat in the atmosphere of earth which causes climate change, the trees play a major role in absorbing the CO₂ and maintains the balance in nature. Deforestation contributes 30% to global greenhouse gas emission each year, therefore we need to plant more trees in order to save the environment.
4. **Biodiversity losses:** when trees are being cut small species of insects, animals, plants lose their homes. Just like we have our concrete home, forest area is just like a home for them. We are no one to take their home away from them and the industrial activity will also cause noise pollution which is not good for the animals they may get frightened and can die. Recently a Cuban crocodile which was one of the endangered species died out of stress caused by vibration of loud music from a nearby hotel. Noise of machines would be fatal for animals of Aarey forest.

Instead of being rigid on preset decision the authorities shall consider the alternative option provided by the expertise as this option will lead to save of environment and wildlife of Aarey forest area.

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Law Relating to E-waste Management in India: A Critical Study

Dr. Lakhan Singh Rajpoot

Office Assistant, NVS Head Qtrs, Navodaya Vidhayala Samiti, Noida (U.P)

Abstract

India is one of the heftiest waste importing nations across the globe. All types of wastes are trade-in into the India, in the form of cheap raw resources together with perilous and noxious wastes. This paper analyze the available laws relating to e waste management like the Municipal Solid Waste (Management and Handling) Rules, 2000, the Hazardous Waste (Management, Handling & Tran boundary) Rules, 2003, the Environment (Protection) Act, 1986, The Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008, and The E-waste (Management and Handling) Rules, 2011.

Keywords: E-Waste, Pollution, Management, sustainable development.

Introduction:

Data released by the Customs Department reveal imports of even prohibited wastes similar to clinical waste, incineration ash, municipal waste and e-waste, all of which exceed 5 million tones annually. In 2009, India generated 5.9 million tones of perilous waste domestically and trade-in 6.4 million tones. It generates regarding 0.35 million tones of electronic waste every year and imports another 50,000 tones. The issue of electrical and electronic tool clearance, trade-in and remanufacturing has become the subject of stern discussion and debate among the Government organizations, environmentalist groups and the private segment manufacturers of computers and end-user electronic equipments. The Department of Parliamentary Standing Committee on Science & Technology, environment & Forests in its 192nd Report on the Functioning of the Central Pollution Control Board (CPCB), has concluded that e-waste is going to be a big problem in the future due to modern life style and increase in the living standards of people and augmentation of financial expansion. The Committee has suggested a proactive role for the CPCB by stating that it should conduct studies to make future projections and devise steps to check the menace. This paper analyze the available laws relating to e waste management like the Municipal Solid Waste (Management and Handling) Rules, 2000, the Hazardous Waste (Management, Handling & Tran boundary) Rules, 2003, the Environment (Protection) Act, 1986, The Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008, and The E-waste (Management and Handling) Rules, 2011.

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Why our Country Need a Separate Renewable Energy Law in India?

Pranjal Chauhan

Jamnadal Bajaj School of Legal Studies, Banasthali Vidyapith University, Rajasthan

Abstract:

The purpose of this paper is to demand for a separate and a unique Renewable Energy law in India because the impacts of climate changes makes a strong case for providing a robust legal framework for promoting renewable energy in India. It is also very important to map the provisions dealing with renewable energy and analyze in context of development of a new Renewable Energy framework. The information in this paper is being collected by various books on energy laws and the present legal frameworks dealing with Energies. The legal terms and their importance are discussed in a way that is comprehensible to both Advocates and non-Advocates.

The legislation is a very basic and effective way to bring about change and to create conducive environment. There are enabling and non-mandatory provisions which are dealing with the renewable energy in various existing laws needs a change. For instance, Energy Conservation Act,2001, the Electricity Act,2003, Integrated Energy Policy,2006.

The paper will aid discussions about energy and sustainable development. Why only a new law? The other issues which are not covered by existing legislation and various amendments made in existing law for promoting renewable energy. Lastly, the National Renewable Energy Draft Bill 2015 and the recent initiatives and measures taken by the government and people. The existing laws only provides the statutory mandate which are found insufficient for promoting and protecting the Renewable Energy sources because of the less focus and importance given by the existing framework.

For sustainable growth we need a Law which focuses on the issues related to renewable energy because a legal instrument seems to be more successful option being preferred by the countries worldwide. India has an abundance of Renewable resources which must be encouraged for protecting our future and environment.

Keywords: New Law, Renewable Energy, Sustainable development, Existing Legislation.



The Role of Judiciary to Achieve Sustainable Development in the National Perspective

Prerna Rajvanshi

Ph. D Scholar from S.K.D. University Hanumangarh, Rajasthan

Abstract:

The concept of 'Sustainable Development' is not a new concept. The doctrine had come to be known as early as in 1972 in the Stockholm declaration. It had been stated in the declaration that "Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being and he bears a solemn responsibility to protect and improve the environment for present and future generation ".In 25th September 2015 united Nation General Assembly adopted the 2030 agenda for sustainable development.193 member countries including India committed to the 17 sustainable development goals that required efforts to end all forms of poverty, fight inequality and tackle climate change. Well ensuring that no one was left behind. India play the significant role in making the declaration and its progress in achieving these goals. Across it for the world as it is hope to about 17% world population and just 3 years later India has cross the half a mark in achieving these goals. The SDG India index release by NITI AAYOG and the UN before some time show the nation how is score 58 a little beyond halfway mark in meeting the target set for year 2030.

Role of judiciary: Judiciary in India, more precisely, the Supreme Court and the High Court's has played an important role in preserving the doctrine of 'Sustainable Development'. Parliament has enacted various laws to deal with the problems of environmental degradation. In such a situation, the superior courts have played a pivotal role in interpreting those laws to suit the doctrine of 'Sustainable Development'. It is also to be remembered that most of the environmental cases have come before the court through PIL (public interest litigation) either under Article 32 or under 226of the constitution. According to Rio declaration, 1992 states that "Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities Conclusion: environment and development are two sides of the same coin. Any one of these cannot be sacrificed for the other. On contrary, both are equally important for our better future. Thus the responsibility lies on the Supreme Court and the various High Courts to deal with these cases with caution of high degree. Then only, we will achieve our goal i.e. to secure a pollution free developed country for our next generation.

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Sustainable Development: Role of Indian Judiciary

Princy Rathore

Research Scholar of Law, Shri Khushal Das University Hanumangarh, Rajasthan

Abstract:

The environment which surrounds us is being damaged, disturbed and polluted. The continued degradation of environment is the result of the modern living technological advancement, industrialization and urbanization contemporary scientific and technological revolution has significantly transformed the relationship between man and nature. It has rightly been said that man is nature's best promise and worst enemy. The paper aims to glance over the existing role of Indian judiciary in achieving sustainable development through environment protection.

Introduction:-

Parliament, state legislature and administrator are taking actions for pollution control and environmental protection; judiciary too has not lagged behind in controlling pollution and protecting environment. Judicial activism is responsible for protecting environment. The problem of environment degradation is a social problem. Considering the growing awareness and the impact of this problem in the society, law courts should rise up to the occasion to deal with the situation as it demands in the present day context.

Forests help in maintaining the ecological balance. They render the climate equal, add to the fertility of the soil, prevent soil erosion and promote pretrial stream flow in the rain-bed Rivers. They shelter wild animals, pressure gene pools and protect tribal people. The "precautionary principle" has been accepted as a part of the law of the land. Article 21, 47, 48A, and 51A(g) of the constitution of India give a clear mandate to the state to protect and improve the environment and safeguard the forests and wild life of the country. People have responded well to the environment crisis by indiscriminate quarrying, mining, stone gushing near the populated area or near the national Highways resulting in environmental degradation. The "polluter pays" principle is an important theory of sustainable development which ensures payment of fine by such polluters. Industrialization is central to economics of the modern societies and indispensable motor of growth the essential thing to developing countries is to widen their development and meet their growing needs. It is a matter of fact that industry extracts materials from the natural resources and inserts both products and pollution into human environment. During recent year, there has been growing awareness of environmental pollution in India the Water (prevention and control of pollution) Act 1974, and the Air (prevention and control of pollution) Act 1981 should be strictly observed. India presents a puzzling paradox of poverty in

the midst of abounding natural resource. Saving natural resource is a big challenge. The scientific committee to the prime minister gave a clear warning against abuse of land and said in 1990. The land use pattern must pay attention to soil conservation and fertility restoration so that intensive use can be achieved in a sustainable manner. Land use plans must insure that land is used and not misuse. The Supreme Court has declared that the doctrine of public trust has become a part of the Indian law. Coastal nations have a particular interest in safe guarding their coast liner with peculiar eco-characteristics, the coastal Zone is a meeting place for land, and sea and island water it stands different from other parts of the country. The legal regime of coastal management in India came into force in 1991. The sea coast and beaches are gift of nature and any activity polluting the same cannot be permitted. In the quest for rapid industrial growth over the years, the environment quality has come to be subordinated to the development. People are now gradually heading towards irreversible environmental damage, due to widespread land degradation water pollution, air pollution, mushrooming growth of slums and population explosion Law courts have a social duty since it is a part of society and as such always function having due regard to the present day problems which the society faces.

It is now well-settled principle of law that while dealing with the matter, the social problems have to be dealt with in the way and in the manner it calls for. Since benefit of the society ought to be prime consideration of law courts and ecological imbalance being social problem ought to be decide by a court of law, so that society may thrive and prosper without any harm to the environment. Judicial activism in the sphere of environment is the need of time specially when the legislature is lagging behind in bringing lacunae in the existing legal mechanism and the admiration is still not equipped to meet the challenge. In future too the courts will have to pay an active role in the formulation and effective determination of environmental policy so that elected/branches of government become accountable to law and the public.

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Child Labour & Human Trafficking Laws & Its Implications

Purva Jain

Abstract

Trafficking of Humans is the most awful abuses of human rights, however it is quite challenging to estimate the extent of occurrence as it is directly interrelated with bonded labour, child labour, child marriage, abduction, kidnapping and last but not the least prostitution. This paper illustrates Legal Protection and Laws relating to Human Trafficking in India like

Immoral Traffic(Prevention) Act 1956, Child Labour (Prohibition and Regulation) Act, 1986, Information Technology Act, 2000, Juvenile Justice (Care and Protection of Children) Act, 2000, The Trafficking of the Persons (Prevention, Protection, and Rehabilitation) Bill, 2018 with other major Laws of the country.

Keywords: Human Trafficking, Legal Protection, Law, Human Rights.

Introduction

Human trafficking is the most malicious felony and brutal violation of human rights. For any country, sexual exploitation of women and children is the most horrible offence than any other crime against humanity. Although the article 51A (e) of the Indian Constitution implements an indispensable duty on citizens by, "It shall be the duty of every citizen of India, to renounce practices derogatory to the dignity of women," reality is far beyond from the true soul of the constitution of India. However, like every developing country India is fighting back with this heinous crime by enacting Legal protection and Laws. This paper includes the available laws relating to Human Trafficking in India.

Major reasons behind Human Trafficking:

- One and the most momentous reason behind this crime is the fundamental theory of demand and supply. Usually men migrate to commercial cities for employment and consequently the necessity of commercial sex generates in these places.
- Poverty and economic injustice comes in second place and especially for the kids of Northeastern states belonging to poor families.
- Regional gender preference, social inequality, imbalance, and corruption at government stratum are some of the other foremost causes of human trafficking in India.

Legal Protection and Laws:

Apart from the commandment of the Constitution, which is the fundamental law of the country, India has an extensive range of laws endorsed by the parliament and some state legislature.

Constitution of India:

- Article 23: it protects against exploitation, prohibits trafficking in humans and beggar.
- Article 24: protects children below age 14 from working in mines, factories, or other hazardous employment.

Indian Penal Code:

- Section 366A: Inducing any girl under the age of 18 years with intent to forced or seduced illicit intercourse with anyone.

- Section 366 B: Importing a girl under the age of 21 years with the intent that she will be, seduced or forced to illicit intercourse with anyone is a punishable offence.
- Section 374: Any person who unlawfully compels any person to labour against his/her will is punishable.

Immoral Traffic (Prevention) Act 1956:

- ITPA is the main legislation associated with the commercial sexual exploitation of children. It prohibits any place, intention, or living on the earnings related with prostitution.

Child Labour (Prohibition and Regulation) Act, 1986

- This Act prohibits employment of children below specific age and in certain specified occupations.

Information Technology Act, 2000

- It punishes transmission of any such content in electronic form, which is inappropriate. The act also deals with the issues of pornography.

Juvenile Justice (Care and Protection of Children) Act, 2000

- This law is appropriate for children who are vulnerable and expected to be the victim of trafficking. It protects juveniles who are helpless without care and protection.

The trafficking of the Persons (Prevention, Protection, and Rehabilitation) Bill, 2018

- The Bill creates a law for investigation of all types of trafficking, and rescue, protection and rehabilitation of trafficked victims at the district, state, and national level.
- The Bill sets out penalties for several offences like forced labour, begging, bearing children and sexual exploitation, which are well connected with trafficking.

Apart from legal actions, education, gender equality, awareness, and social harmony can do wonders for such horrific events.



Recent Trends of Sustainable Development in Rajasthan: A Socio-Economic Approach

Dr Rajni Parmar

Associate Professor, Amity Law School, Amity University Rajasthan, Jaipur

Abstract:

The geographic feature of Rajasthan possesses great diversity in every arena which makes sustainable development a challenge for its prosperity. These hurdles can be cured by proceeding from the development and the need for achieving prosperity through sustainability. The paper aims to glance over the meaning and scope of sustainable development and the implementations of this approach in the context of Rajasthan.

Keywords: Sustainable Development, Environment in Rajasthan, Judicial Utilization

Introduction:

The paper aims to glance over the meaning and scope of sustainable development and the implementations of this approach in the context of Rajasthan. The geographic feature of this state makes it possess great diversity in every arena and never ending tourist attraction. But as its resource bank either remains unutilized or over utilized, demands the applicability of sustainable development as it is the cause and consequence of prosperity of any region. It is inclusive of both environmental and economical development leading to an accelerated human development. More than half of its landscape constituting a greater part of Thar deserts makes sustainable development a challenge for its prosperity due to high rate of migration in search of employment, education and better health. These hurdles can very well be cured by proceeding step by step from the grass root level development, by making the people aware of the deficient factors and the need for achieving prosperity through sustainability. Primarily the sectoral use of natural resources shall be taken into consideration in the reference of over exploitation of minerals, deforestation, land degradation, water pollution etc. In order to prevent ecological consequences and achieve environmental sustainability which will eventually help to alleviate poverty as availability of larger agricultural land and water has social value especially in a region like Rajasthan where feudalism and land holding played a crucial role in its history. Progress recorded in environmental sustainability will automatically cause economical sustainability in the form of technological up gradation, employment generation, and mass production, expansion of trade and business and building human capital. Hence the only idea is to suggest the implementation of 'judicious utilization' of available resources because creation of balance speaks of sense of sustainability.

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Peace of Justice under the Sustainable Development Goals with Special Retrieve to State of Rajasthan

Rajendra Meena

Research of Law, Maharishi Arvind University, Jaipur

Abstract:

In Rajasthan the government has the first obligation and necessary part to make better and effective justice to the common people and effective justice easily available to the public.

In which it is very important for the government to take effective steps to reach its common citizens in their state. How to reach justice to the common man and the victim and how can a better justice system be implemented which is a very worrying topic. In this subject the Rajasthan government should follow the policy guidelines given in the constitution.

And every citizen should consider the need for justice and such a ratio should be made in such away that the number of personnel and judges in the court, while trying for positive improvement in the conditions of the courts, there is no rush of cases in the courts and the Rajasthan government should also make such an effort that awareness camps should be organized in every place of the state making the public aware of justice and sensitized about legal and legal awareness. And at present the government of Rajasthan should organize legal awareness camps or camps in all the Universities, Colleges and government or non government private schools and the public representatives along with the village Panchayat, municipal area and make people aware from time to time.

Delayed justice can only be a decision to get justice no justice therefore how to get justice done quickly and quickly. And if the poor is made available by the government free of charge to advocate in the judiciary in the government civil suit, revenue suit, and civil writ. The poor person can get justice otherwise justice is not accessible to the poor person

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“A Child is a Father of Man” Child Labour: An Indian Legal Perspective

Ritu Singh Shekhawat

Faculty of Law, Shri Bhawani Niketan Vidhi Maha Vidhyalaya, Jaipur

Abstract:

Child labour is a serious menace to the society and to our country which needs effective measures for eradication. In absence of fair work culture in India the employer's role attention is towards the maintenance of machine and their production. And due to their poor socio – economic conditions, children are forced to work in inappropriate conditions. The paper aims to glance over the current and actual position of child labour laws in India.

Keywords: Child labour, laws in India, socio economic condition, literacy.

Introduction:

This paper aims to glance over the socio economic status of children, prevalent child labour in society and the legal steps taken by the Indian government to prevent Child Labour. A child deserves proper health, care, education and upbringing so that they can unfold their potential and talent to provide the nation new horizons. Almost 1/3rd of the world population, comprise of children. Children need to be protected. Children are important components of the society and also the potentials of tomorrow. Due to poverty and illiteracy, the children and their guardians are unaware of their rights. The socio-economic status of child labour is far below the status of his employee. As they cannot exercise these rights freely, the employer takes advantage of their economic condition and illiteracy and dictates his own terms and condition with regard to wages, hours of work, leave etc. The child labour is left with no choice but to accept such terms because work is the only means of earning his livelihood.

First time during Geneva Declaration of Rights of the child, 1924 the importance of children was stated and emphasized. The concept of safeguarding the children was recognized in the Universal Declaration of Human Right 1948 and in the statutes of specialized agencies of U.N.O. Article 25 of the universal declaration of Human Rights, 1948, provides that motherhood and childhood are entitled to special care and assistance. All children whether legitimate or illegitimate shall enjoy the same social protection. Article 26 of the said declaration provides right to free and compulsory elementary education to children.

Constitution of Indian was drafted almost at the same time when the Universal Declaration of Human Rights was adopted by the international community. Article 23 of the constitution imposes prohibition on trafficking in human beings and bans other forms of forced labour. Also, Article 24 of the Indian constitution prohibits employment of children below the age of 14 years in a factory or in mine or in any hazardous employment. Various steps have been taken to implement the international conventions of constitutional provisions through various enactments and regulations. Even administrative efforts have been made to eradicate child labour in various parts of India. Child labour (Prohibition and Regulations) Act, 1986 is one of the most important legislation to deal with child labour.

But despite enactments and working of voluntary organization in our country, child labour remains one of the evils in society. There are reports from various parts of country that child labour still exists in some form or the other it is mainly due to poor socio-economic condition and lack of education among children & their parents. We need to eradicate not only child labour but also sexual abuse of children in society. However, we are not able to remove this social evil because of the country being over populate, ratio of illiteracy, poverty, social conditions, Social unawareness among downtrodden and ineffective implementation of statutory provisions & idleness of government machinery.

If these elements are controlled or removed our country may be able to emerge as a land without menace of child labour. Recently, in view of the directives passed by the Supreme Court, the central government with the help of state government have surveyed and surprisingly found that abuse of child labour has been in existence not only as domestic servants but also as industrial workers, where they are exposed to dangerous job environment. Now, it is high time that the governments should pull-up its machinery and provide free but compulsory education to the children and also make efforts to improve their socio-economic condition through government & non-government agencies. In fact, the problems of child labour needs to be death with war footing.

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The Role of Sustainable Development in the Development of International Investment Agreements in India

Sanya Yadav

Assistant Professor, Faculty of Law, Manav Rachna University, Faridabad

Abstract

Sustainable Development in International Investment Law presents an important methodical study of the issue of sustainable development in the international investment agreements, using theoretical, normative and governance perspectives to explore the challenges and possible solutions for making international investment law more compatible with sustainable development. The sustainable development concerns associated with transnational investment activities, the international investment agreements system should be reformed. Such reform should feature redesigning the provisions of the agreements, improving the structure of international investment agreements, strengthening the function of soft law, engaging non-state actors and enhancing the dispute settlement mechanism.

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Role of Judiciary to Achieve Sustainable Development: National and International Perspective

Dr. Somlata Sharma

Assistant Professor, MDU-CPAS, Gurugram

Abstract:

Environmental law is still in a formative stage but is undergoing a process of rapid development. One area of increasing importance, but comparatively little explored in judicial decisions, is the law concerning sustainable development. International, national, provincial and local law and policy-making bodies may have embraced principles of sustainable development, but they have been reticent to explicate their meaning, circumstances of application and precise details of the means of implementation.

This article attempts to analyze the issues relating to the linkages between international environmental law principles and their applications in domestic law by the state courts in India. Global Environmental crisis has questioned the modernity and its values. The very existence and survival of man and other forms of life have become a matter of deep concern. The global concerns for environmental crisis have led the evolution and remarkable growth of international environmental law. Like international human rights law, discipline of international environmental law is one of the most important phenomena in post Stockholm Conference (1972) period. The growth of international environmental law has compelled us to revisit to our existing political, economic and social values and structure both at national and international levels.

The role of the judiciary is thus of the greatest importance. The judiciary, at a national level, is faced with the task of explicating the law of sustainable development, case by case. Incrementally a body of environmental jurisprudence is emerging. In performing this task, national judiciaries will be assisted by the exchange of judicial decisions, information and experience between jurisdictions. In this way, national judiciaries may benefit from each other's knowledge, experience and expertise. The purpose of this article is to contribute to this information-sharing goal.

This article outlines, in brief, the role of the judiciary. It explicates the history and concept of sustainable development. It then focuses on four key elements or principles of sustainable development: the precautionary principle, the conservation of biological diversity and ecological integrity, and the internalization of environmental costs.

Keywords: Sustainable Development, Role of the Judiciary, Environment court, Environmental Law

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Environmental Protection and European Court of Human Rights: With Special Reference to Fair Balance Theory

Prof. Suresh Bhaira

Head, Deptt of Law, Maharshi Arvind University, Jaipur

Abstract:

Human Right is something of crucial importance for human life in the shape of freedom, equality, liberty and the pursuit of happiness right to life. These rights are for the fulfillment of vital needs as food, shelter, health care and education and much essential of healthy and clean environment. Judiciary has played a vital role in protection of environment in global scenario. But no Court can interpret a statute, behind then the ground norm of Kelson theory. The best Human Rights protective system "The European Convention of Human Rights and Fundamental Freedoms" was Signed in Rome on 4th November 1950. But it also does not deal with right to the environment. it is quite true that we cannot protect the environment with the development and these both i.e. development and environment are human rights. The European Court of Human Rights has developed the Fair Balance Theory for the protection of environment. The rationale of the principle is to provide effective protection of fundamental human rights and offer to States considerable possibilities for regulating the exercise of these rights. The Convention therefore, implies a just balance between the protection of the general interest of the Community and the respect due to fundamental human rights while attaching particular importance to the latter. Indian court must have to adopt this theory for human rights protection in Indian scenario.

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Problem of International Human Trafficking

Vivek Pareek

Researcher Scholar, Department of Law, University of Rajasthan, Jaipur

Abstract

Human trafficking is the biggest curse on humanity; it is a remnant of slave trade. According to the United Nations Office of Drugs and Crime (UNODC) 'Human trafficking is the acquisition

of people by improper means such as force, fraud or deception, with the aim of exploiting them. Whereas United Nations General Assembly has defined human trafficking as the recruitment, transportation, transfer, harboring or receipt of persons, by means of coercion, of abduction, of fraud, of deception, of abuse of power or of a position, of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person for the purpose of exploitation. Generally human trafficking is aimed at kidnapping women and children for the purpose of sexual slavery, organ smuggling and organized begging etc. It is an illegal trade of human beings as commodities where innocent women and children are sold and resold, exploited and re-exploited. Millions of women and children are being victimized everyday all over the world. It is a disgusting insult of human rights and human dignity. Such a great sin is not being dealt with by the International Criminal Court.

Though 'trafficking in persons' is covered under the Rome Statute as a part of crime against humanity but its context is such, which makes it virtually ineffective. Article 7(1)(c) of the Rome Statute counts 'enslavement' as a part of crime against humanity. Para two of article 7 in its clause (c) explains enslavement as:

'Enslavement means the exercise of any or all of the powers attaching to the right of ownership over a person and includes the exercise of such power in the course of trafficking in persons, in particular women and children'. But opening lines of article 7(1), while explaining the circumstances of crime against humanity, for all practical purposes, has excluded the organized crime of human trafficking from the fold of the ICC. Article 7(1) reads as: 'For the purpose of this Statute, "crime against humanity" means any of the following acts when committed as part of a widespread or systematic attack directed against

any civilian population, with knowledge of the attack'. This precondition of 'wide spread systematic attack' in reality is an exemption to organized human trafficking which is being done so clandestinely and with cooperation of mafia cells in many countries, that its effective investigation and prosecution by any one State is nearly impossible. This kind of provision can cover trafficking in persons only in a conflict situation; but in peace time, complete impunity has been assured to these criminals, due to such provisions.

It is a fact that mainly Asian, African and South American countries are suffering from the curse of human trafficking, being the countries of origin. Anglo-European countries are mainly destination countries. It shows that in human trafficking human rights of Asian and African countries are mainly being exploited, and the ICC has no jurisdiction over this transnational crime. In this sense, for countries which are suffering as the source of human trafficking, the ICC is not an institution of their use. To make the ICC more effective and useful for the Asian,

African and South American countries, human trafficking should be included under article 5 of the Rome Statute as a separate and independent entry and not as preconditioned part of any other crime.

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Human Rights–Idea of Welfare and Trend in African Countries

Jamila Bano

Advocate

Abstract:

The African Charter on Human and Peoples' Rights (also known as the Banjul Charter) is an international human rights instrument that is intended to promote and protect human rights and basic freedoms in the African continent.

It emerged under the aegis of the Organization (since replaced by the African Union) which, at its 1979 Assembly of Heads of State and Government, adopted a resolution calling for the

creation of a committee of experts to draft a continent-wide human rights instrument, similar to those that already existed in Europe (European Convention on Human Rights) and the Americas (American Convention on Human Rights). This committee was duly set up, and it produced a draft that was unanimously approved at the OAU's 18th Assembly held in June 1981, in Nairobi, Kenya. Pursuant to its Article 63 (whereby it was to "come into force three months after the reception by the Secretary General of the instruments of ratification or adherence of a simple majority" of the OAU's member states), the African Charter on Human and Peoples' Rights came into effect on 21 October 1986– in honor of which 21 October was declared "African Human Rights Day".

Oversight and interpretation of the Charter is the task of the African Commission on Human and Peoples' Rights, which was set up in November 2, 1987 in Addis Ababa, Ethiopia and is now headquartered in Banjul, Gambia. A protocol to the Charter was subsequently adopted in 1998 whereby an African Court on Human and Peoples' Rights was to be created. The protocol came into effect on 25 January 2004.

In July 2004, the AU Assembly decided that the ACHP would be incorporated into the African Court of Justice. In July 2005, the AU Assembly then decided that the ACHP should be operationalized despite the fact that the protocol establishing the African Court of Justice had not yet come into effect. Accordingly, the Eighth Ordinary Session of the Executive Council of the African Union meeting in Khartoum, Sudan, on 22 January 2006, elected the first judges of the African Court on Human and Peoples' Rights. The relationship between the newly created Court and the Commission is yet to be determined.

History of the African Charter

The idea of drafting a document establishing a human rights protection mechanism in Africa was first conceived in the early 1960's. At the first Congress of African Jurists, held in Lagos, Nigeria in 1961, the Congress adopted a declaration otherwise referred to as the 'Law of Lagos' calling on African governments to adopt an African convention on human rights with a court and a commission. However, at the time African governments did not make serious efforts to promote this concept. The Charter establishing the Organization of Africa Unity (OAU) imposed no explicit obligation on member states for the protection of human rights. The OAU founding Charter only required states parties to have due regard for human rights as set out in the Universal Declaration of Human Rights in their international relations. In spite of the absence of a clear human rights mandate, the OAU took bold steps to address a number of human rights issues such as decolonization, racial discrimination, environmental protection and refugee problems. The continental organization however ignored the massive human rights abuses wantonly perpetrated by some despotic African leaders against their own citizens. This

was due largely to the OAU's preference for socio-economic development, territorial integrity and state sovereignty over human rights protection, as well as firm reliance on the principle of non-interference in the internal affairs of member states.

The United Nations also facilitated a series of seminars and conferences in a number of African countries. The UN Human Rights Commission set up an ad hoc working group and adopted a resolution calling on the UN Secretary General to provide necessary assistance for the creation of a regional human rights system in Africa. These initiatives of the United Nations with a view to getting African states to consent to the adoption of regional human rights convention failed. Participants at one of the conferences decided to set up a follow-up committee mandated to carry out visits to African heads of state and other relevant authorities on the need for an African regional human rights system. Subsequent to the committee's visit to Senegal, the then president of Senegal, President Léopold Seder Senghor, promised to table the proposition before the OAU Assembly at its next session.

In 1979, the Assembly of Heads of States and Government of the OAU meeting in Monrovia, Liberia, unanimously requested the Secretary General of the OAU to convene a committee of experts to draft a regional human rights instrument for Africa, similar to the European and Inter-American human rights conventions.

A conference of twenty African experts presided over by Judge Kéba M'baye was organized in 1979 in Dakar, Senegal. It is important to note that the work of the Expert Committee was greatly influenced by the opening address of the host president, President Senghor, who enjoined the

Committee to draw inspiration from African values and tradition and also to focus on the real needs of Africans, the right to development and the duties of individuals. After deliberations for about 10 days, the Committee prepared an initial draft of the Charter.

As a result of the hostility of certain African governments to regional human rights protection in Africa, a conference of plenipotentiaries scheduled for Ethiopia to adopt the draft charter could not take place. This period was the most dramatic in the history of the Charter. The Charter project was clearly under threat. Amidst this strained atmosphere and at the invitation of the OAU Secretary-General, the President of The Gambia convened two Ministerial Conferences in Banjul, The Gambia, where the draft Charter was adopted and subsequently submitted to the OAU Assembly. It is for this historic role of The Gambia that the African Charter is also referred to as the 'Banjul Charter'. The Banjul Charter was finally adopted by the OAU Assembly on 28 June 1981, in Nairobi, Kenya. After ratifications by the absolute

majority of member states of the OAU, the Charter came into force on 21 October 1986. By 1999, the African Charter had been ratified by all the member states of the OAU.

African Charter on Human and Peoples Rights

African Human rights law refers to the various national, regional and international legal instruments concerning the liberties of the people of Africa.¹ These include the human rights provisions in the constitutions of African countries,² the growing body of case law³ emerging from the courts and international human rights instruments that are of application to African countries.⁴ For the present purpose, this article will focus on the African Charter of Human and Peoples' Rights, which is the main human rights instrument that is applicable to all of Africa.

Although it has been castigated as a "meaningless document" ¹⁰ the African Charter on Human and Peoples' Rights remains the first major attempt by African leaders to establish a regional machinery for the implementation of the rights of Africans.¹ Adopted on June 17, 1981 by the eighteenth Assembly of Heads of State and Government, the Charter reaffirms the support of African leaders for international protection of human rights and freedom, as declared in the Universal Declaration of Human Rights.

The unique features of the African Charter is its recognition and enunciation of group rights described as "people's rights and freedoms." Traditionally referred to as third generation rights, these rights began to take a distinctive form as recently as the 1970s and their chief proponents are the developing states. ⁶ The inclusion of the rights of peoples in the Charter reflects the importance of the group or community under African customary law.

The principle of sovereignty over natural resources is recognized. All peoples shall freely dispose of their wealth and natural resources in a manner, which is in their exclusive interest, and in no case shall a people be deprived of it. In case of expropriation, the dispossessed people shall have the right to the lawful recovery of property as well as to adequate compensation. However, the free disposal of wealth and natural resources shall be exercised without prejudice to the obligation of promoting an international economic co-operation on the basis of mutual respect, equitable exchange and the principle of international law.

Article 1

The Member States of the Organization of African Unity parties to the present Charter shall recognize the rights, duties and freedoms enshrined in this Chapter and shall undertake to adopt legislative or other measures to give effect to them.

Article 2

Every individual shall be entitled to the enjoyment of the rights and freedoms recognized and guaranteed in the present Charter without distinction of any kind such as race, ethnic group, color, sex, language, religion, political or any other opinion, national and social origin, fortune, birth or other status.

Article 3

1. Every individual shall be equal before the law.
2. Every individual shall be entitled to equal protection of the law.

Article 4

Human beings are inviolable. Every human being shall be entitled to respect for his life and the integrity of his person. No one may be arbitrarily deprived of this right.

Article 5

Every individual shall have the right to the respect of the dignity inherent in a human being and to the recognition of his legal status. All forms of exploitation and degradation of man particularly slavery, slave trade, torture, cruel, inhuman or degrading punishment and treatment shall be prohibited.

Article 6

Every individual shall have the right to liberty and to the security of his person. No one may be deprived of his freedom except for reasons and conditions previously laid down by law. In particular, no one may be arbitrarily arrested or detained.

Article 7

1. Every individual shall have the right to have his cause heard. This comprises:
 - (a) the right to an appeal to competent national organs against acts of violating his fundamental rights as recognized and guaranteed by conventions, laws, regulations and customs in force;
 - (b) the right to be presumed innocent until proved guilty by a competent court or tribunal;
 - (c) the right to defense, including the right to be defended by counsel of his choice;
 - (d) the right to be tried within a reasonable time by an impartial court or tribunal.
2. No one may be condemned for an act or omission which did not constitute a legally punishable offence at the time it was committed. No penalty may be inflicted for an offence

for which no provision was made at the time it was committed. Punishment is personal and can be imposed only on the offender.

Article 8

Freedom of conscience, the profession and free practice of religion shall be guaranteed. No one may, subject to law and order, be submitted to measures restricting the exercise of these freedoms.

Article 9

1. Every individual shall have the right to receive information.
2. Every individual shall have the right to express and disseminate his opinions within the law.

Article 10

1. Every individual shall have the right to free association provided that he abides by the law.
2. Subject to the obligation of solidarity provided for in 29 no one may be compelled to join an association.

Article 11

Every individual shall have the right to assemble freely with others. The exercise of this right shall be subject only to necessary restrictions provided for by law in particular those enacted in the interest of national security, the safety, health, ethics and rights and freedoms of others.

Article 12

1. Every individual shall have the right to freedom of movement and residence within the borders of a State provided he abides by the law.
2. Every individual shall have the right to leave any country including his own, and to return to his country. This right may only be subject to restrictions, provided for by law for the protection of national security, law and order, public health or morality.
3. Every individual shall have the right, when persecuted, to seek and obtain asylum in other countries in accordance with laws of those countries and international conventions.
4. A non-national legally admitted in a territory of a State Party to the present Charter, may only be expelled from it by virtue of a decision taken in accordance with the law.
5. The mass expulsion of non-nationals shall be prohibited. Mass expulsion shall be that which is aimed at national, racial, ethnic or religious groups.

Article 13

1. Every citizen shall have the right to participate freely in the government of his country, either directly or through freely chosen representatives in accordance with the provisions of the law.
2. Every citizen shall have the right of equal access to the public service of his country.
3. Every individual shall have the right of access to public property and services in strict equality of all persons before the law.

Article 14

The right to property shall be guaranteed. It may only be encroached upon in the interest of public need or in the general interest of the community and in accordance with the provisions of appropriate laws.

Article 15

Every individual shall have the right to work under equitable and satisfactory conditions, and shall receive equal pay for equal work.

Article 16

1. Every individual shall have the right to enjoy the best attainable state of physical and mental health.
2. States parties to the present Charter shall take the necessary measures to protect the health of their people and to ensure that they receive medical attention when they are sick.

Article 17

1. Every individual shall have the right to education.
2. Every individual may freely, take part in the cultural life of his community.
3. The promotion and protection of morals and traditional values recognized by the 6 community shall be the duty of the State.

Article 18

1. The family shall be the natural unit and basis of society. It shall be protected by the State which shall take care of its physical health and moral.
2. The State shall have the duty to assist the family which is the custodian of morals and traditional values recognized by the community.

3. The State shall ensure the elimination of every discrimination against women and also ensure the protection of the rights of the woman and the child as stipulated in international declarations and conventions.
4. The aged and the disabled shall also have the right to special measures of protection in keeping with their physical or moral needs.

Article 19

All peoples shall be equal; they shall enjoy the same respect and shall have the same rights. Nothing shall justify the domination of a people by another.

Article 20

1. All peoples shall have the right to existence. They shall have the unquestionable and inalienable right to self-determination. They shall freely determine their political status and shall pursue their economic and social development according to the policy they have freely chosen.
2. Colonized or oppressed peoples shall have the right to free themselves from the bonds of domination by resorting to any means recognized by the international community.
3. All peoples shall have the right to the assistance of the States parties to the present Charter in their liberation struggle against foreign domination, be it political, economic or cultural.

Article 21

1. All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.
2. In case of spoliation the dispossessed people shall have the right to the lawful recovery of its property as well as to an adequate compensation.
3. The free disposal of wealth and natural resources shall be exercised without prejudice to the obligation of promoting international economic cooperation based on mutual respect, equitable exchange and the principles of international law.
4. States parties to the present Charter shall individually and collectively exercise the right to free disposal of their wealth and natural resources with a view to strengthening African unity and solidarity.
5. States parties to the present Charter shall undertake to eliminate all forms of foreign economic exploitation particularly that practiced by international monopolies so as to

enable their peoples to fully benefit from the advantages derived from their national resources.

Article 22

1. All peoples shall have the right to their economic, social and cultural development with due regard to their freedom and identity and in the equal enjoyment of the common heritage of mankind.
2. States shall have the duty, individually or collectively, to ensure the exercise of the right to development.

Article 23

1. All peoples shall have the right to national and international peace and security. The principles of solidarity and friendly relations implicitly affirmed by the Charter of the United Nations and reaffirmed by that of the Organization of African Unity shall govern relations between States.
2. For the purpose of strengthening peace, solidarity and friendly relations, States parties to the present Charter shall ensure that:
 - (a) any individual enjoying the right of asylum under 12 of the present Charter shall not engage in subversive activities against his country of origin or any other State party to the present Charter;
 - (b) their territories shall not be used as bases for subversive or terrorist activities against the people of any other State party to the present Charter.

Article 24

All peoples shall have the right to a general satisfactory environment favorable to their development.

Article 25

States parties to the present Charter shall have the duty to promote and ensure through teaching, education and publication, the respect of the rights and freedoms contained in the present Charter and to see to it that these freedoms and rights as well as corresponding obligations and duties are understood.

Article 26

States parties to the present Charter shall have the duty to guarantee the independence of the Courts and shall allow the establishment and improvement of appropriate national institutions

entrusted with the promotion and protection of the rights and freedoms guaranteed by the present Charter.

Article 27

1. Every individual shall have duties towards his family and society, the State and other legally recognized communities and the international community.
2. The rights and freedoms of each individual shall be exercised with due regard to the rights of others, collective security, morality and common interest.

Article 28

Every individual shall have the duty to respect and consider his fellow beings without discrimination, and to maintain relations aimed at promoting, safeguarding and reinforcing mutual respect and tolerance.

Article 29

The individual shall also have the duty:

1. To preserve the harmonious development of the family and to work for the cohesion and respect of the family; to respect his parents at all times, to maintain them in case of need;
2. To serve his national community by placing his physical and intellectual abilities at its service;
3. Not to compromise the security of the State whose national or resident he is;
4. To preserve and strengthen social and national solidarity, particularly when the latter is threatened;
5. To preserve and strengthen the national independence and the territorial integrity of his country and to contribute to its defense in accordance with the law;
6. To work to the best of his abilities and competence, and to pay taxes imposed by law in the interest of the society;
7. To preserve and strengthen positive African cultural values in his relations with other members of the society, in the spirit of tolerance, dialogue and consultation and, in general, to contribute to the promotion of the moral well being of society;
8. To contribute to the best of his abilities, at all times and at all levels, to the promotion and achievement of African unity.

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A Shift to Online Learning Environment in Higher Education

Dr Renu Chouhan

Lecturer GGSSS Ramganj, Ajmer

Abstract:

Over the last decade there has been an augmentative shift away from the conventional teaching and learning to modes where the Internet now plays a key role. E-learning is increasingly popularly as an integral part of study course delivery and instruction, and reforming traditional learning globally.

Most higher education institute and research centers now providing their learners to use online tools and platforms for learning. Instead of replacing the traditional methods, these exist alongside as an enhancement and helping aid. For example study materials can now be kept in a virtual learning space where students and tutors can access them at any time. Assignments are now submitted via email or through a dedicated system (such as in IGNOU and VMOU).

Online conferencing and educational forums provide virtual communication between students and college/university staff, and it is a great way to share ideas, knowledge and continue to feel included during the study journey. E-forums also allow discussions to take place 24/7 which means that students don't have to wait until the next tutorial to pose questions.

Many higher educational institutions of India also provide real time platforms which are either via *webcam* or through a virtual classroom facility where tutorials can be conducted or students and tutors can 'virtually discuss' specific topics or ideas.

Many on line universities facilitate students the opportunity to learn at any time convenient to them. For example the Oxford College Campus and National digital library of India NDLI(MHRD) is 'open' to students and tutors 24 hours a day. So that learners can access their study materials, resources and send emails to their tutors at any time which offers suitability and time management if they are working or occupied with their commitments and also provides support to learners who may wish to study outside normal hours.

Online courses also provides students with a greater degree of control over their study journey – whether they're taking an online degree courses or a various diploma in all streams – and this ownership means that students are more likely to have a positive learning experience.

This research paper examines the '**shift**' from **traditional learning where face to face interaction were held to online learning** is, that is impelled by student requirements, lifestyle, economic circumstances of limited resources, and choices of variety of courses.

Keywords: Online learning environment, E-learning, higher education



Role of Judiciary to Achieve Sustainable Development

Deepti Khandal¹, Tushar Khandal², Dushyant Singh³

^{1,2,3}, *B.A.-LL.B Semester-I, Biyani Law College, Jaipur*

Abstract:

Right to wholesome environment is a fundamental right protected under Article 21 of the Constitution of India. But the question is, can the environment be protected at present times when almost all the countries in South-East Asia are still at their developing stages? Development comes through industrialization, which in turn the main factor behind the degradation of environment.

The judiciary is the system of courts that interprets and applies the law in the name of the state. The judiciary can also be thought of as the mechanism for the resolution of disputes. Under the doctrine of the separation of powers, the judiciary generally does not make statutory law, or enforce law, but

rather interprets law and applies it to the facts of each case. However, in some countries the judiciary does make common law.

Role of Judiciary in India:

Judiciary in India, more precisely, the Supreme Court and the High Court's has played an important role in preserving the doctrine of ' Sustainable Development in such a situation, the superior courts have played a pivotal role in interpreting those laws to suit the doctrine of ' Sustainable Development

Feature of Indian Judiciary:

The Constitution of India provides for a single integrated judicial system with the Supreme Court at the apex, High Courts at the middle (state) level and District Courts at the local level.

1. Single and Integrated Judicial System
2. Independence of Judiciary
3. Judiciary as the Interpreter of the Constitution
4. Judicial Review
5. High Court for each states as well a Provision for Joint High Courts

Challenges Faced by Judiciary:

The Pendency of Cases:

According to National Judicial Data Grid (NJDG), the five states which account for the highest pendency are Uttar Pradesh (61.58 lakh), Maharashtra (33.22 lakh), West Bengal (17.59 lakh), Bihar (16.58 lakh) and Gujarat (16.45 lakh).

Corruption:

Like the other pillars of democracy, the executive and the legislative, the judiciary too (in some instances) has been found to engage in corruption. There has not been established any system of accountability.

Lack of interaction among people and courts:

For any Judiciary to be successful, it is necessary that the general public must know the mechanics of judiciary. The society must participate in the court proceedings. However, it is the duty of public as well to make sure that they are participative enough to have the knowledge related to the judiciary.

Conclusion

There is no doubt upon the credibility of the Indian judiciary system. It is one of the largest judicial systems around the world having a law for almost all sorts of criminal activities. If we look at the history, the Supreme Court, since its inaugural sitting on 28th of January 1950 has delivered over 25000 reported judgments. But the issues of corruption, pending cases, lack of transparency in the judiciary cannot be avoided. Thus if the judicial system removes these backlogs, we might see Indian judicial system as the best judicial system in the world. Also, the faith of the common person in judiciary may be restored before it's completely lost

Suggestions to Improve Judiciary in Nation:-

1. There should an impeccably honest and high quality judiciary
2. Independent Commission for Remuneration of Judges
3. Freedom (Justice) Minister to be paid based on quality and speed of Justice
4. Internal review system: accountability for timely Justice



Role of Judiciary to Achieve Sustainable Development

Honhar Sharma

B.A.-LL.B-I Year (Semester-1), Biyani Law College, Jaipur

Abstract:

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2. Independent commission for remuneration of judges
3. Freedom (justice) minister to be paid based on quality and speed of justice
4. Internal review system: accountability for timely justice.



Wildlife Protection and its Effects on Society

Pooja Choudhary

B.A.-LL.B I Semester, Biyani Law College, Jaipur

Abstract:

Wildlife Protection means the practice of protecting wildlife, wild plants, animals etc. There is importance of wildlife as it maintains the balance on earth. The main aim of wildlife conservation are the protect our wild animals, plants for the future generation. Wildlife is a part of nature that maintains the balance in the ecosystem. In order to line a peaceful life on this earth, we need to protect the wildlife to. People need to feel the importance of wildlife and try to protect it from being destroyed. Some people are seen harming the wildlife for their personal benefit. There are lots of wildlife conservation laws to protect wildlife but still our wildlife is not safe.

Keywords : Generation, Ecosystem, Destroyed, Conservation

Introduction to wildlife:

Wildlife refers to the animals insects, birds etc living in the forest. It is considered as an important part of this universe helping in maintaining the ecological balance of the earth. But endangered by some human activities like mass killing of wild animals for their teeth, bones, fur, skin etc. Thus there is a need for the protection of wildlife.

Importance of wildlife:

Each and every creature performs their role to maintain the ecosystem on the earth. Our wildlife also plays a vital role in this process. We can understand the importance of wildlife when we look at the trees. The trees release a sufficient amount of oxygen to the environment. So the importance of wildlife needs to be felt and we should try to protect wildlife.

What is Wildlife:

Collectively the wild animals, the native fauna and flora of a reason and that grow in a natural condition are called wildlife.

What is Wildlife Protection:

Wildlife protection refers to the act of protecting wildlife from being destroyed. It is also a well-planned way to protect the wild animals, species and their habitat and plants. Time has arrived to consume the wildlife from the cruel clutch of man. The human being it the man

destroyer of the wildlife. Forests are the habitat for wildlife and for the smooth functioning of biological cycles of the earth. We must conserve forests along with Animal species.

Type of Wildlife :

There are mainly two types of wildlife Conservation namely

“In-Situ Conservation” and **“Ex-Situ Conservation”**

In Situ Conservation – It includes Programmes like National Parks, Biological Reserves etc.

Ex Situ conservation- Includes Programmes like Zoo, Botanical Garden etc.

Wildlife Conservation in India:

Different types of wildlife conservation methods were applied to protect the wildlife in India. India has a wide variety of wild animals like Indochinese tigers, Asiatic lions, various species of deer, and many more. But due to some factors like excessive poaching, illegal trading, loss of habitat, etc. Several animals and birds are standing border of destruction. There is a need of educating the people about the importance of wildlife.

Though the Government of India is taking steps to protect wildlife, the integral heritage of India, every citizen of India must think it to be his duty to protect wildlife. The wildlife protection act 1972 is an act that tries to protect to wildlife in India. On 9th September 1972 the parliament of India enacted this act and after that, the destruction of wildlife has reduced to an extent. Some of the steps taken by the government of India towards wildlife protection in India are:

- Creating wildlife sanctuaries and National Park
- Launching of Project Tiger

Conclusion of Wildlife Protection:-

Wildlife is an important part of mother earth. It is high time to save/ protect wildlife for their future existence. Along with the Government efforts, awareness and cooperation of people are needed for the Protection of wildlife. People need to know the importance of these valuable natural resources. India is becoming a good example to the world for its steps taken for wildlife conservation. The wildlife protection act 1972 is working like a milestone in the protection of wildlife.

My views on wildlife protection:

Today protection wildlife has become as one of the most important tasks for mankind, because animals and plants are the major part of a wider natural environment that provides food, shelter for other wildlife and people. So I think that we should try to reuse and recycle our natural resources as much as we can to protect wildlife habitat. We should ban sports hunting. We should learn how to live peacefully with wild animals.

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Provide Clean Water is Fundamental Right

Ekta Sharma

B.A. L.L.B-I Year (Semester-I), Biyani Law College, Jaipur

Introduction:

Fundamental rights are a group of rights which are guaranteed to all the citizens of the nation by the constitution of India under part III. These rights apply universally to all citizens residing in the nation, irrespective of their race, place of birth, religion, caste or gender these rights are recognized by law as right requiring a high degree of protection from the government and they cannot be violated by anyone. The obligation of protecting these rights lies on the government or the state. Most of the fundamental right provide to the citizens are claimed against the state and its instrumentalities and not against the private bodies.

Water is a natural resource essential for the survival of humans & other life forms water is available in abundance on the planet, with around 70% of the surface being covered with it. But the problem arises when we talk about access to & availability of clear water. Clean water is a scare resource & with the ever rising population, it is imperative to sustainably manage its distribution & use.

Jurisprudential Background:

It can be observed that water right has been traditionally perceived as a negative, natural claim right, in common law, & not as a positive, statutory entitlement right the natural claim right has arisen out of Recognition of customary laws. Even where the right has been granted through a statute, the courts have recognized the validity of the permits or licenses as basic property rights.

The above justification for determining the right to water, were set aside when it was determined that any basic fundamental or natural right or duty cannot be based purely on a sociological or political fact & so it must have its basic fundamental or basis is some notion of justice. And so, it was iterated that water rights need to be basic need for survival resources or right to development with this idea, the rights laid out by the common law & Roman law nation were no longer put to use.

Enactments:

On 28th July 2010, through resolution 64/292, the united nations general assembly explicitly recognized the human right to water & sanitation & acknowledged that clean drinking water & sanitation are essential to realization of all human rights none of these laws enumerated & explicit 'Right to water'. Instead some of the laws have expressly abolished structured (rights to

use a resource) & customary rights, some of these laws are :- water (prevention & control of pollution) Act, 1974, provision of the environment (protection) Act, 1986 & the Indian easements acts, 1882.

Conclusion:

Recent developments in right to water include public interest litigation being filed by concerned citizens of the country the intention of judiciary to rein force the right to pollution free water is impact in M.C Mehta case (1988) where the tanning industries located on the banks of river ganga were alleged to be polluting the river.

Right to water in India is not expressly guaranteed either through the constitution or any legislation it is an implied right, asserted through a set of laws which confer a duty upon the state through its various agencies to prevent & control water pollution. Hence, the right to clean water is guaranteed under article 21 of the constitution of India & no one can be deprived of it. The same has been upheld by the courts in the country who have widened the scope of article 21 by including the right in it.

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Dissection of Litigation on Environment Rights in India

Amulya Nigam

Assistant Professor, Jammalal Bajaj School of Legal Studies, Banasthali University, Newai

Abstract:

Litigation related to Environment issue are prevalent these days. An emergent trend in litigation that invokes particular legal right to address Right to clean water; pollution free environment is called Environment right. In this paper, environment right established under different legislation will be analyzed and how it has extended the content of Article 21-Right to life and quality environment in context with the role of Judiciary in improvising the dimensions to achieve sustainable development in India.

Keyword: Litigation; environment; Right; Judiciary

Introduction:

Sustainable development is necessary and most important in all cases of environment and also in all of the Nations of the world. Now a day's sustainable development has protected

environment and world. It makes balance between environment and development. It is true that in a developing country there shall have to be developments. Time has now come to check and control the degradation of the environment. Law Courts also have a duty towards the society for its proper growth and further development and also by reason of definite legislations in regard thereto.

Meaning of sustainable development

Sustainable development (SD) is a pattern of economic growth in which resource use aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come sometimes taught as ELF-Environment, Local people, Future. In 1987, the United Nations released the Brundtland Report, which included what is now one of the most widely recognised definitions: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Origin of the concept of sustainable development

The concept of sustainable development is not a new concept. It came to be known as early as in 1972 in the Stockholm declaration.

At the World Summit on sustainable development in Johannesburg, the world community agreed that poverty eradication and access to clean energy have to go hand in hand. At the Summit, the European Union took the initiative to form a group of like-minded countries which are willing to agree on timetables and targets for increasing the use of renewable energies. India was also invited by some European countries to join this initiative.

Various principles of 'Sustainable Development': Some of the basic principles of 'Sustainable Development' as described in 'Brundtland report' are as follows:

1. Inter-Generational Equity
2. The Precautionary Principle
3. Polluter Pays Principle

This study has been divided into four sections. Section 1 dis-cusses the benchmark case law on the principle of sustainable development as developed by the Supreme Court. Section 2 explains the statutory references to the principle of sustain-able development. Section 3 explores key NGT case laws tracing the development of a standard of review for administrative decisions. Section 4 concludes with an exploration of the principle of sustainable development as foregrounding a sui generis notion of environmental justice in India and comments on some

of the challenges that is faced by the NGT before its jurisprudence can become well-entrenched within the Indian environmental law.

Supreme Court's Jurisprudence on Sustainable Development

The story of principle of sustainable development in India begins with Vellore Citizens Welfare Forum v Union of India (1996). The judgment was given—more than a decade after the principle had gained international recognition in 1987.

The Vellore case was filed in the Supreme Court as public interest litigation under Article 32 of the Constitution. The Court used this opportunity to trace the genealogy of the concept of sustainable development in international environmental law starting from the Stockholm Declaration in 1972.

Sardar Sarovar Project

In Narmada Bachao Andolan v Union of India (2000), the Supreme Court was confronted with a case in which a massive developmental project (Sardar Sarovar Project dam on the river Narmada) was challenged on the ground of non-completion of the environmental impact assessment (EIA) and the inadequate rehabilitation and resettlement efforts made for the project-affected persons.

N D Jayal and Another v Union of India and Others (2004) was a similar case in which the Tehri Dam project was challenged on environmental safety issues. The Supreme Court adopted a similar position to that in the Narmada Bachao Andolan case. On the face of obvious non-compliance of the project proponent, it chose to focus on the economic gains from the project (in this case a dam to generate hydroelectric power).

In Bombay Dyeing & Mfg Co Ltd (3) v Bombay Environmental Action Group and Ors (2006) referring to a large number of decisions, it was stated that whereas need to protect the environment is a priority, it is also necessary to promote development stating:

2. Sustainable Development in Legislation

Despite limitations, the Supreme Court's reiterative strategy did succeed in embedding the concept within the Indian environmental law and policy regime. It increasingly found mention and was referenced widely in the policy documents of the government, namely, National Forest Policy 1988, National Conservation Strategy and Policy Statement on Environment and Development (both in 1992), National Agricultural Policy 2000 and the National Water Policy 2002. Perhaps the most authoritative statement was the multiple references to the principle of sustainable development made in the National Environment Policy (NEP) 2006.

Before I explore the substantive aspects of the NGT's jurisprudence, it is necessary to discuss the institutional features of the NGT, given that it will fundamentally shape the NGT's jurisprudence.

The NGT was set up in 2010 through the NGT Act. The demand for a specialised environmental court has been one that has found resonance not only in the various judgments of the Court,⁶ but also in the report of the Law Commission of India (2003). The NGT is not a court because unlike courts its powers are statutorily limited.

3. NGT's Jurisprudence on Sustainable Development

The NGT's case list has been dominated by EIA disputes. The primary data analysis has revealed that, disputes relating to environmental clearances granted form the basis for a majority of the cases (Patra and Krishna 2015). Such cases, therefore, feature quite prominently in the following analysis. However, there have been other cases in which the NGT has referred to the principle of sustainable development.⁸

M P Patil v Union of India (2014) is yet another interesting case where the NGT pushed the envelope further even while partially dismissing the challenge. The case involved not only ecological risk, but also great social impact since the project-affected persons—the group to be resettled and rehabilitated (R&R)

Second, the NGT made a passionate plea for consideration of factors such as the impact on the livelihood of those who are primarily dependant on natural resources sourced from their immediate environment. It stated:

This is markedly different from the Supreme Court's reductionist utilitarian reasoning.

- Rights of Access for Tribals
- Perspective of Social Justice

Conclusions

The NGT has made a determined effort to move away from the Supreme Court's simplistic utilitarian (majoritarian) understanding of sustainable development, which inordinately focuses on clean up and pollution control rather than on prevention. Further, it has sought to highlight the subsistence aspects of natural resource management and the relationship between environmental degradation and poverty. More significantly, the NGT has sought to strengthen procedural safe-guards which ensure the value of public participation in environmental decision-making.



Sustainable Development and Renewable Energy Act

Sunidhi Kaushik

LL.B. 1 year Student, Biyani Law College, Jaipur

“Sustainable development is development that meets the need of the present without compromising the ability of future generation to meet their own needs”.

Professor Brundtland first introduced the concept of sustainable development in 1987. He was the prime minister of Norway and chairman of the World Commission on Environment and Development. Development is intended to bring a positive change for human beings and its surrounding development.

Sustainable development improves the lifestyle and wellbeing that comes out of sustainable development.

The most important component of sustainable development is the climate change, nutrient cycle, hydrological cycle, and biodiversity.

Examples of sustainable development are

- Solar energy: The greatest advancement of solar energy is that it is completely free and is available in a limitless supply of both.
- Crop rotation: This farming practice is beneficial in several ways, most notably because it is a chemical-free and helps to use and maximize the growth of potential land and insects-free.
- Green space: recharging groundwater supplies and protection of lakes and streams from pollution.

What are the desired outcomes of sustainable development?

- Clean water and air
- Fertile soil and good food
- A livelihood and a healthy economy
- Safety from poverty and disaster
- Halting global warming

The principles of a sustainable society are:

Minimize the depletion of non-renewable energy and resources

Conserve the earth's vitality and diversity and help to make the earth free from non-renewable energy.

Improves the quality of human life and respect and care of community of life it reduce dependence upon fossil fuel and underground metal and minerals.

Needs for sustainable development:-

- Eco friendly
- Present generation should aware for need of present and future generation and use technologies need to the develop

Sustainable development are most important for overall development of nation because it is gradual growth of the situation that become more advance and strong than the previous one. It provide sustained rise in real per capita income and economical welfare and generate new opportunity of job.

Environment protection is also done by sustainable development which provides eco system integrity and biological diversity and manages population size.

Social development are done by sustainable development which provides improves income, distribution, gender equality so sustainable most essential element which should by whole over the world and increase the awareness about this so our next generation live without difficult and crises.



Solar Energy Laws and Regulations in India

Vithika Gupta

B.A.-LL.B. III Semester, Biyani Five Year Law College, Jaipur

Abstract:

Solar energy sources have power to solve the problems of energy which being faced in many developing countries. It can be an important part of India's plan to increase security, environmental concerns etc. this paper is an attempt to observe governance of solar energy in India while spreading the issues that have been interrupting the process of clean energy uptake. It also recommends the possibilities for investments, entrepreneurship and ventures in private

and public sectors in **rural areas for filling the gaps and thus harnessing the power of RE-rich states.**

Keywords: Solar energy, India, clean energy

Laws and regulations:

India is the biggest greenhouse gas emitter after America and China, this become after the formation of Electricity Act 2003. India desire to achieve 175GW of solar energy by the year 2022. In India, solar generation capacity formed a very small share of 3.2% in the overall generation capacity in India. From 2002 to 2016 the sector has seen an expanding growth which is 45.9 GW as on December 2016 which is 15% of the total generation capacity. At present India is sixth largest country in world in electricity generation having approximate capacity of 177 GWs out of which 65% is from thermal, 21% from hydro, 3% from nuclear and the rest 11% is from solar energy sources.

Current Data's:

In February 2019, 200MW was commissioned at Ananthpuram-2 solar park located near Tadipatri. The cumulative capacity is 28,181MW in India in the year of 2019. Till March 2019, the regional solar power generation was 4307.98 GWh. Total photovoltaic capacity was 30990.50MW till 31st July 2019. The smallest segment was off grid solar at 919MW which could help play a role in reaching villages and dwelling without access to the national grid.

Conclusion:

When prices for fossil fuels are going down, at that time India is working hard to grasp solar energy. The government says India has a solar energy power of about 900GW but for achieving the green dream, clarity in policy making is needed. India's energy import bill of about \$150 billion is expected to reach \$300 billion by 2030. In the long run, India is heading towards a cleaner future by trying to keeping up with the UN Sustainable Development Goals.

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Human Trafficking in India: Legal Protection and Laws

Sandhya Kumari

B.A.-LL.B-I Year (Semester-1), Biyani Law College, Jaipur

This article is based partially or entirely on public domain works of U.S Govt. Help by rewriting it from a neutral viewpoint.

Although illegal under Indian law, human trafficking remains a significant problem. People are frequently illegally trafficked through India for the purposes of commercial sexual exploitation and forced/bonded labour. Although no reliable study of forced and bonded labour has been completed, men, women and children are trafficked in India for diverse reasons. Women and girls are trafficked within the country for the purpose of commercial sexual exploitation and forced marriage, especially in those areas where the sex ratio is highly skewed in favour of men. A significant portion of children are subjected to forced labour as factory workers, domestic servants, beggars, and agriculture workers, and have been used as armed combatants by some terrorist and insurgent groups.

India is also a destination for women and girls from Nepal and Bangladesh trafficked for the purpose of commercial sexual exploitation. Nepali children are also trafficked to India for forced labour in circus shows.

Human trafficking in India results in women suffering from both mental and physical issues. Mental issues include disorders such as PTSD, depression and anxiety. The lack of control women have in trafficking increases their risk of suffering from mental disorders. Women who are forced into trafficking are at a higher risk for HIV, TB and other STIs. Condoms are rarely used and therefore there is a higher risk for victims to suffer from an STD.

Profile and Demographics of Traffickers

Traffickers of young girls into prostitution in India are often women who have been trafficked themselves. As adults they use personal relationships and trust in their villages of origin to recruit additional girls.

Prosecution

The govt. of India penalises trafficking for commercial sexual exploitation through the Immoral Trafficking Prevention Act (ITPA), with prescribed penalties of seven years to life imprisonment. India also prohibits bonded and forced labour through the Bonded Labour Abolition Act, the Child Labour Act and the Juvenile Justice Act.

Indian authorities also use sections 366(A) and 372 of the Indian penal code, prohibiting kidnapping and selling minors into prostitution respectively, to arrest traffickers. Penalties under these provisions are a maximum of ten years imprisonment and a fine.

Bonded labour and movement of sex trafficking victims may occasionally be facilitated by corrupt officials. They protect brothels that exploit victims and protect traffickers and brothel keepers from arrest and other threats of enforcement.

India's central bureau of investigation incorporated anti-trafficking training by Dr. Gilly McKenzie of Interpol trafficking and organizes crime division, into its standard curriculum. In November the state of Maharashtra developed a action plan to combat trafficking it did not, however, allocate appropriate funding to accomplish the objectives of this plan.

The govt. does not break down these statistics by section of the law, meaning the law enforcement data regarding trafficking offences may be conflated with data regarding arrests of women in prostitution pursuant to section 8 of the ITPA.

Protection:

India's efforts to protect victims of trafficking vary from state to state, but remain inadequate in many places. Victims of bonded labour are entitled to Rs. 10,000 (us\$ 185) from the central govt. for rehabilitation, but this programme is unevenly executed across the country. Govt. Authorities do not proactively identify and rescue bonded labourers so few victims receive this assistance. Although children trafficked for forced labour may be housed in govt. shelters and are entitled to Rs. 20,000 (\$370), the quality of many of these homes remains poor and the disbursement of rehabilitation funds is sporadic.

The ministry of labour and employment displays full-page advertisement against child labour in national news paper at periodic intervals. The govt. has also instituted pre departure information sessions for domestic workers migrating abroad on the risk of exploitation. These measures include distinguishing b/w 'Emigration Check Required' (ECR) and 'Emigration Check Not Required' (ECNR) passports.

A dream of better future often hares the people abroad and hence trafficking cannot entirely be prevented India ratified the 2000 UN TIP protocol 2011.

The govt. of India launched an anti human trafficking web portal in February 2014 that they hope will be an effective way for interested parties to share information for human trafficking in India.

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Wild Life Protection Law and Its Challenge for Tourism

Anurag Bhardwaj

B.A.-LL.B I Semester, Biyani Law College, Jaipur

Abstract:

The **Wildlife Protection Act, 1972** is an Act of the Parliament of India enacted for protection of plants and animal species. Before 1972, India had only five designated national parks. Among other reforms, the Act established schedules of protected plant and animal species; hunting or harvesting these species was largely outlawed.^[1] The Act provides for the protection of wild animals, birds and plants; and for matters connected there with or ancillary or incidental thereto. It extends to the whole of India, except the State of Jammu and Kashmir which had its own wildlife act. It has six schedules which give varying degrees of protection. Schedule I and part II of Schedule II provide absolute protection - offences under these are prescribed the highest penalties. Species listed in Schedule III and Schedule IV are also protected, but the penalties are much lower. Schedule V includes the animals which may be hunted. The specified endemic plants in Schedule VI are prohibited from cultivation and planting. The hunting to the Enforcement authorities have the power to compound offences under this Schedule (i.e. they impose fines on the offenders). Up to April 2010 there have been 16 convictions under this act relating to the death of tigers.

Keyword: Schedules, Protected, Wild Animals

Wild Conservation

The value of American wildlife spans economic, ecological, and spiritual realms. Wildlife create jobs through outdoor recreation, sustain food and water supplies, and help us develop meaningful bonds with our natural world. Unfortunately, over the last century many of our wildlife species have seriously declined due to rapid and large-scale changes to their habitats and ecosystems. We're working to grow wildlife populations by transforming the way we approach wildlife conservation, these actions are vital to helping fish and wildlife and their habitats adapt to major shifts.

Keyword: Conservation, Help, Grow

Recovering Wildlife Populations

The National Wildlife Federation protects and restores wildlife populations of both game and nongame species. Our work includes restoring bison to key public and tribal lands in the West,

including the Charles M. Russell National Wildlife Refuge. We work with local ranchers and tribal members to make restoration successful in their communities, and protect and connect habitat for bison, bighorn sheep, grizzly bears, and other species through our Adopt a Wildlife Acre program.

Unique campaigns and initiatives shine a spotlight on species we're actively working to protect. The National Wildlife Federation's Save LA Cougars campaign advocates for a critical wildlife corridor for southern California's mountain lions. Part of the National Wildlife Federation's Garden for Wildlife™ program, Butterfly Heroes brings awareness to the plight of declining monarch butterfly populations. The program connects gardeners, kids, and families alike in creating habitats to help monarchs and other pollinators.

The National Wildlife Federation also works to recover threatened red wolves, reverse the decline of mule deer, and save the greater sage-grouse.

Keyword: Population, Garden, National

Grassroots Programs

The National Wildlife Federation's Garden for Wildlife™ program helps people restore habitat and wildlife populations to our cities, towns, and neighborhoods. Since 1973, the program has been educating and empowering people to turn their own small piece of the Earth—their yards and gardens—into thriving habitat for birds, butterflies, and other wildlife. In doing so, the Garden for Wildlife program helps wildlife and gives people a daily connection to the natural world.

Keyword: Earth, Wildlife, Nature

Protecting Endangered Species

Scientists estimate that up to one-third of U.S. species are at increased risk of extinction, and more than 1,600 U.S. plants and animals already have been federally listed as threatened or endangered and protected under the Endangered Species Act.

The National Wildlife Federation has long has been focused on protecting the most vulnerable of our wild species. We are committed to defending, strengthening, funding, and ensuring effective implementation of the Endangered Species Act and other wildlife laws to maximum benefit of fish and wildlife populations.

Keyword: Federation, Committed, Species



Child Labour & Human Trafficking Laws & Its Applications

Nikhil Sharma

B.A.-LL.B I Semester-I, Biyani Law College, Jaipur

What is Child Labour?

DEFINATION:- The term 'child labour', suggests ILO, is best defined as work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. Interferes with their schooling by depriving them of the opportunity to attend school; obliging them to leave school prematurely; or requiring them to attempt to combine school attendance with excessively long and heavy work.

UNICEF defines child labour differently. A child, suggests UNICEF, is involved in child labour activities if between 5 and 11 years of age, he or she did at least one hour of economic activity or at least 28 hours of domestic work in a week, and in case of children between 12 and 14 years of age, he or she did at least 14 hours of economic activity or at least 42 hours of economic activity and domestic work per week.

Poverty is the main cause of child labour:

Child labour stems from the vicious cycle of poverty. Poverty leads to the mentality of 'more hands, more income'. Child labour emanates from poverty and illiteracy. Poor people are inclined towards having more children. The main premise of having more children is to send the children to work. In economic terms, the opportunity cost of going to school is quite high and thus not an attractive option. For poor parents, losing the advantage of any earnings opportunity open to children, far outweighs the money, time and effort spent towards school education. The benefits of child labour usually outweigh the costs of schooling, for poor parents. As long as this is the case, child labour would remain persistent and pervasive.

Child labour and role of Indian laws:

As per the Child Labour (Prohibition and Regulation) Act, 1986, amended in 2016 ("CLPR Act"), a "Child" is defined as any person below the age of 14, and the CLPR Act prohibits employment of a Child in any employment including as a domestic help. It is a cognizable criminal offence to employ a Child for any work. Children between age of 14 and 18 are defined as "Adolescent" and the law allows Adolescent to be employed except in the listed hazardous occupation and processes which include mining, inflammable substance and explosives related work and any other hazardous process as per the Factories Act, 1948.¹In

2001, an estimated 1% of all child workers, or about 120,000 children in India were in a hazardous job. Notably, the Constitution of India prohibits child labour in hazardous industries (but not in non-hazardous industries) as a Fundamental Right under Article 24 UNICEF estimates that India with its larger population, has the highest number of labourers in the world under 14 years of age,

As per the Child Labour (Prohibition and Regulation) Act, 1986, amended in 2016 ("CLPR Act"), a "Child" is defined as any person below the age of 14, and the CLPR Act prohibits employment of a Child in any employment including as a domestic help. It is a cognizable criminal offence to employ a Child for any work. Children between age of 14 and 18 are defined as "Adolescent" and the law allows Adolescent to be employed except in the listed hazardous occupation and processes which include mining, inflammable substance and explosives related work and any other hazardous process as per the Factories Act, 1948. In 2001, an estimated 1% of all child workers, or about 120,000 children in India were in a hazardous job. Notably, the Constitution of India prohibits child labour in hazardous industries (but not in non-hazardous industries) as a Fundamental Right under Article

Law against human trafficking in India:

Human Trafficking means action or practice of illegally transporting people from one country or area to another, for the purposes of forced labour or sexual exploitation.

Human trafficking can be for-

- | | |
|----------------------------|--------------------|
| 1. Sexual exploitation | 2. Bonded Labour |
| 3. Domestic servitude | 4. Begging |
| 5. Drug peddling/smuggling | 6. Forced marriage |
| 7. Forced criminality | 8. Child soldiers |

Factors Leading to Trafficking

- | | |
|--|-------------------------------------|
| 1. Poverty | 2. Lack of employment opportunities |
| 3. Religious/ Traditional Prostitution | 4. Child Marriage |
| 5. False promises for job/marriage | 6. Migration |

Human Trafficking in India:-Legal Protection and Laws:

Human trafficking in India: Although illegal under Indian law, remains a significant problem. People are frequently illegally trafficked through India for the purposes of commercial sexual exploitation and forced/bonded labour. Although no reliable study of forced and bonded labour has been completed, NGOs estimate this problem affects 20 to 65 million Indians. Men, women

and children are trafficked in India for diverse reasons. Women and girls are trafficked within the country for the purposes of commercial sexual exploitation and forced marriage, especially in those areas where the sex ratio is highly skewed in favour of men. Men and boys are trafficked for the purposes of labour and may be sexually exploited by traffickers to serve as gigolos, massage experts, escorts, ETC

Child labour: Obstruction in development

Any work that snatches away the dignity, potential and most importantly the childhood of a child is termed as child labour. Child labour has often been associated with work that is harmful to the physical as well as mental development of the child

Obstruction in development: Lack of social security, hunger and poverty are the fundamental drivers of child labour. The expanding gap between the rich and poor people, privatization of fundamental organizations and the neo-liberal monetary strategies are causes of significant areas of the population remaining out of business and without essential needs. This antagonistically influences kids more than some other age groups. A significant concern is that the real number of child workers goes un-distinguished. Laws that are intended to shield youngsters from unsafe work are ineffectual and not executed accurately.



Child Labour

Ankita Sharma

LL.B. 1 Year Student, Biyani Law College, Jaipur

Introduction:

It is a serious matter in most of the developing countries. Small age group children are being involved in the child labour hugely by the people of high status. They are avoiding the fact that children are the bug hope and future of the nation millions of children's have been deprived of the childhood and proper education in our country which is a dangerous sign . Such children do not get the chance of living healthy life as they are no satisfied physically, mentally and socially from their childhood .

According to Indian law children below the age of 14 years cannot be employed to any type of work forcefully weather by the parents or owner in factories, officers or restaurants. it is a

common practice in India as well as other developing countries in a small scale industry , domestic aid , restaurant to service , stone breaking , shopkeepers assistant, every household industry, book binding etc.

Cause of Child Labour:

There are various reasons of child labour in our country some of the causes of global child labour are similar however differ country to country. Most common reasons are like poverty, improper education, limited rules and laws on child labour etc.

Following are some important points regarding causes of child labour:

1. Poverty and high level of unemployment in the developing countries are the main reason of child labour.
2. According to the U.N. statistics of 2005 more than one forth of people worldwide are living in extreme poverty
3. Lack of access to the regular education in many countries it was found in 2006 that around 75 million children were away from the school life.
4. Small children get involved in the child labour in order to increase income of their family to manage two times food.
5. They are hired by the industries to get more work at reduced labour cost.

Solution of Child Labour

In order to eliminate the social issue of child labour there is need to follow some effective solutions on urgent basis to save the future of any developing countries.

1. Create more union may help in preventing the child labour as it will encourage more people to help against child labour.
2. Every family must earn their minimum income in order to survive and prevent child labour. It will reduce the level of poverty and thus child labour.
3. Family control will also help in controlling the child labour by reducing the families burden of child care and education.
4. Child trafficking should be completely abolished by the govt. of all countries.
5. Business owners of factories, industries, mines etc. should take the pledge of not involving children in any type of labour.

Child Labour as a Crime:

Child labour is still practiced in many countries even after being a big crime. Business owner of are using child labour at great level in order to get more work at low labour cost. Poor children

are more prone to be involve in the child labour as they are forced by parents to earn some money to give economic help to their family inn a very young age instead of getting proper education and play with friends in childhood

Conclusion:

Child labour is a big social problem which needs to be solved on urgent basis by the support of both, people (especially parents and teachers) and govt. children's are very little however they carry a prosperous. Future of any developing country so they are the big responsibility of all the adult citizens and should not be used in negative ways. They should get proper chance to develop and grow within the happy environment of families and school. They should not be limited by the parents only to maintain three economical balancer of the family and by the business to get labour at low cost.

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Role of Judiciary in Environment Protection

Surbhi

L.L.B. 1 Year Student, Biyani Law College, Jaipur

Abstract:

The protection of environment wars very less in India after independence because of increment in number of industries and disturbance in political area. However after Bhopal gas tragedy the environment protection was become very serious topic at central level. The supreme court and high worked for make in environment as a fundamental right which mean s right for companion, clean, water and air for protection of in environmental the court odder many rules an policies such as CNG in Delhi solid waste reels and many amendments in different policies Act.

Keywords : Environment Protection, India

Role of Judiciary:

In previous year the judiciary of India has fill an important position in the politics of nation. The court have made their mark on all the issues wheatear it is politics waste management clean airs, education policy etc.

According to Mehta the court has been recognized as one of the world most powerful judiciary body whose judges play a new governing rules judicial activism is a critical cure for an harsh disorder called politics.

The judiciary activism can means many things; interpretation of legislation, creation of new law, or exercise of policy by review of executive action.

According to judge hand people rest on many hopes upon constrict law and courts these all are falls hopes.

The project is emigrate following prime minister Narendra Modi personal commitment to clean up the river and the Ganga cases for executing the law and violating the limits imposed by separation of power.

The central and state govt. have taken some active steps to present judicial and community pressure however these were a direct result to various supreme court and high court in case public interest environment.

Conclusion :

It is evident that there is spare of constitutional and legislative provision on environment protection in India but it spilt of these legislation rules and regulation protection and preservation of the environment is still big 8iissue the main stimulus for environment judicial activism come from Bhopal gas tragedy.

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Wildlife Management

Abhishek Meena

B.A.-LL.B I Semester Student, Biyani Law College, Jaipur

Abstract:

Wildlife management is interdisciplinary that deals with protecting endangered and threatened species and subspecies and their habitats, as well as the non-threatened agricultural animals and game species. The Wildlife Management program emphasizes both applied and basic research in wildlife ecology, management, education and extension.

Wildlife management takes into consideration the ecological principles such as carrying capacity of the habitat, preservation and control of habitat, reforestation, predator control, re-introduction of extinct species, capture and reallocation of abundant species and management of “desirable” or “undesirable” species.

Keywords: Agricultural, Animals, Control

There are two general types of wildlife management:

Manipulative management involves regulating numbers of animals directly by harvesting or by influencing numbers by altering food supply, habitat, density of predators etc.

Custodial management is preventive or protective and minimizes external influences on the population and its habitat. It is done by setting up national parks where ecological conditions are protected and threatened species are conserved by law.

The Wildlife Management program focuses on the following:

- Predator-prey relationship
- Migratory wildlife species
- International wildlife
- Urban and suburban wildlife
- Wildlife-human interaction

Elements of Wildlife Management:

Management of wildlife depends on certain elements such as public support and awareness to protect wildlife and their habitats.

Public Participation: It is necessary to make local people realise and accept the idea and importance of wildlife protection. Public interaction can help in making local people responsible and cooperate in enforcement of wildlife management laws and regulations. Their feedback should also be taken for effective functioning of wildlife management.

Public Awareness: People should understand the concept of conservation of natural resources. The wildlife managers and other responsible persons should held public discussions, shows, and talks and should also take help of other media like newspapers, magazines, radio and television to make people aware about the basic concepts behind. The role of education in public awareness programs is very important. There should be environmental subjects based on wildlife conservation in school and college curricula. The well-educated and trained specialists on environmental and forest issues should participate in public training and interact with people and solve their queries to make them more responsible towards their wildlife management duties.

Nature Interpretation Centers: Nature interpretation centers may include setting up of educational camps or exhibition in nearby regions of protected areas such as zoological gardens, parks and wildlife sanctuaries. It is usually taken up by the concerned forest departments. The interpretation centres should be handled by qualified and trained staff in order to explain and motivate the concepts of wildlife management to the tourists and people of the nearby-protected areas.

Coordination: Wildlife management is operated at four basic levels – local, state, national and international. Government agencies plan the policies of protecting, conserving and managing wildlife. All the management levels participate in passing wildlife management tools and many a time, conflicts arise.

Forms of Wildlife Management:

Habitat Restoration and Management: Habitat management is a primary tool wildlife biologists use to manage, protect, and enhance wildlife populations. Increased wildlife diversity in an area may be a wildlife management goal. It is difficult to develop strategies for managing each species separately. Several wildlife species can benefit when a complete ecosystem is improved or preserved intact to meet the needs of threatened or endangered species or groups of species.

Managers may enhance grassland areas by clearing brush (prescribed burning, cutting, herbicides) and removing trees, as well as over-planting them with native prairie species. This helps reduce cover used by edge predators (skunks, raccoons, red-tailed hawks) and improves the quality of the habitat for grassland animals.

Endangered Species Management

Endangered or threatened species require intensive management. Critical habitat and locations of existing populations must be identified so they can be managed successfully. An animal species is considered endangered when its numbers become so low that experts think it may become extinct unless action is taken to save it.

Threatened species' populations are showing signs of unnatural decline or they are vulnerable to becoming endangered. Many endangered or threatened species are specialists that have very restrictive habitat needs and eat specialized foods. The leading cause for a species becoming endangered or threatened is habitat loss.

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Policies to Save Water

Sumitra

LL.B. I Year Student, Biyani Law College, Jaipur

The policy and action plan presented take into account the larger and long term goals for management of water resources before the nation.

A report for the planning commission presents the water policy and action plan for the year 2020 for the country. The goals part forward in the policy is such as would do justice to all users of water and would be practical and achievable. At present it is the central and state governments that play the key role in the managements of water resources. The policy proposed on the other hand seeks to involve all the people at the level of the local communities so that they can conserve develop and manage the water resource at that local level itself.

The policy put forward suggests suitable changes at the macro level in the governmental organizational structures and the adoption of the river basin approach to the integrated planning and management of water resources. At the micro level the policy suggests the setting up of community organizations throughout the country watershed management associations in rained areas. Water users associations in irrigated areas joint forest management. Committees in forest areas and resident welfare associations in urban areas. These community organist ions will be the organizational mechanism through which people can be involved in the management of water resources.

The action programme and implementation schedule proposed by the authors along with this policy clarifies the practical implications of the changes proposed in the policy. Suggests an approach for action and emphasizes the urgency of carrying out the proposed changes. The organizational and institutional changes suggested can come about only if there is an attitudinal change among the government functionaries as well as the people with respect to de-centralization and transferring authority and responsibility to the people at the community level please save water.

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Functions of Judiciary

Shalini Soni

LL.B. I Year Student, Biyani Law College, Jaipur

Meaning of Judiciary:

The judiciary is the branch of authority in a country which is concerned with law and the legal system

Most Essential Functions of the Judiciary in India

1. Interpretation of Law:

The primary function of the judiciary is to interpret law and apply them to specific cases that come before it. As gentle remarks "Constitutions and Laws are Always Rigid, Flexibility must Be Given to them by Judges"

2. Custodian of the Constitution:

The judiciary acts as guardian of the constitution in federal government it has not only protected the construction but has expended it and adopted it to the modern conditions through interpretation of its original provisions.

3. Legislative Functions of the Judiciary:

- A. The judges not only interpret and apply law but also expend and make law. The courts thus find the exact meanings of the law, expend it's details and apply general principles of justice and morality.
- B. The judiciary also plays an important legislative role in other respects as well. The judges add flesh and blood to the dry bones of law by their interpretations and judgments.

4. Guardian of the Law:

The judiciary is the guardian civil liberties of the people. It protects individual liberty by punishing those who encroach upon it. The courts issue injunctions to prevent commission of wrongs and issue writs of various kinds like writs of "HABEAS CORPUS", "MANDAMUS". etc.

5. Advisory Functions:

The courts also give advisory opinions when requested to do so by the executive or by the legislative. R

6. Administrative Functions:

The Supreme Court and high courts are also empowered to appoint their local officials and subordinate staff.

7. Miscellaneous Functions:

Any other functions which are remaining are included in miscellaneous functions.



Sustainable Development, Environment Pollution Issues and Human Rights in 21st Century

**Dr. N. L. Gurjar¹, Smt. Dheeraj Choudhary², Dr. Rehana Khan³,
Shubha Mathur⁴**

¹Principal, Biyani Law College, Kalwar, Jobner Road, Jaipur 303706

²Advocate, Rajasthan High Court, Jaipur

^{3,4}Assistant Professor, Biyani Law College, Kalwar, Jobner Road, Jaipur 303706

Abstract

The concept of sustainable development is based on co-ordination and balance between environment and developments plans projects and schemes of the government. Sustainable Development goals were decided by the United Nation Organization in the year of 2015 up to 2030. World Commission on environment and development defined “Sustainable Development is development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. “In its report” our common future in 1987 and widely accepted. In its modern form, ‘Sustainable Development’ was born and developed in the world conservation strategy produced jointly in 1980 by the IUCN, WWF and UNEP. It aimed “To help advance the achievement of sustainable development through the conservation of living resources.” Environmental degradation/pollution has already been massive through natural or manmade activities. Environmental pollution may be described as the unfavorable alteration of our surroundings. The act of making something foul, unclear, dirty, improve contaminated, defined tainted, or desecrated. Air, water, land, thermal pollution and radioactive. It includes release of materials into atmosphere which make the air unsuitable for breathing harm the quality of water and soil and damage the health of human beings, plants and animals and creatures. The Zero defect and effect formula supplies the object of sustainable

development. At world level United Nations organized Prithivi 1 (Rio-1992), Prithivi 2 (Johansberg-2002) Prithvi 3 (Rio-2012) conferences so in the continuity of sustainable development. We shall protect environment and energy and none to be needed green lifestyle, ecological auditing and spaceship economy. The concept of sustainable development was firstly propounded by Former Prime Minister of Norway Dr. Gro Harlem Brundtland world level eminent environment list in the year of 1987 in report. "our common future". The follow in measures:-

1. In the field of production eco friendly technique to be adapted.
2. Environmental protection.
3. Ecological Balance.
4. Economy efficiency process to be used for evaluation of any projects.
5. Effective accountability system to be developed.
6. In the field of economic development and manufacturing zero defects and zero effect should be used.
7. Eco- literacy effective global movement to be conducted.

So in Sustainable Development

1. Environment 2. Society 3. Economy triangle shall be very useful.

So society, environment, economy, healthy, just efficient sustainable stages are basic requirement for sustainable developments needs. The following indicator shall be very useful for improvement in sustainable development in the global level necessities.

1. Natural
2. Ecological, geographical, biological, economical, socio culture, Environmental and anthropological indicators are playing vital role. So today zero effect development to be implemented use of non - conventional energy sources to be appreciated.
3. Easy transfer of environmental techniques to be used.
4. Organic farming system production to be used.
5. Eco mark is mandatory for stands of productions.
6. Initiative of saving and protection of energy to be adapted.
7. Spaceship economy should be started.

Those rights basic to humanity are termed as Human Rights. They may include right to life, liberty, shelter, equality, dignity, justice and all security, health of an individual. Inherent dignity of all members of the human family is the foundation of freedom ,justice, liberty, brotherhood and peace in the world, rights to an adequate standard of living, right to own property, right to freedom of opinion and expression, right to education, freedom of thought, conscience and religion and right to freedom from torture and degrading treatment among

others. These rights are to be enjoyed by all human beings of the global village men, women, and children as well as by the group of society, disadvantaged weaker or vulnerable groups of our society so health is more important than development. It is clear cut violation of human rights. If preference is given to development rather than health.

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Quality Education with a focus on United Nation's Agenda 2030

Yogeeta Ahlawat

M. Phil Scholar, Jaipur National University, Jaipur

Abstract:

United Nations agenda 2030 presents a vital aspect of 'Quality Education' which is a call by all countries to provide revolutionary alteration in the field of proper learning and knowledge.

I reflect in my research about ongoing paradigms of quality education for children with disabilities, primary level education, and focusing to make education curriculum more inclusive. My research also includes organizations which are working in collaboration with United Nations, and Government of India to strengthen the structure of literacy, and quality education standards.

In this project, I went to primary schools to really observe and collect information to know, how United Nations, and government policies are working on ground level to form a proper root for education. I have also gathered some data through various research articles, survey reports, and working policies which are implanted in regard to reframe improved basic literary system.

United Nations' firm vision is all about providing basic education for children who are marginalized or abruptly stopped their primary schoolings. In its agenda of 2030, the prominent aim is to share equal rights of primary education for 6 to 14 years children before the end of 2030. For this UNs fruitful initiative, Ministry of Human Resource Development Of India is giving its consent by collaborating with UNs master schemes.

Keywords: United Nations, Literacy, Govt. of India, Education, Right to education, UN goal 2030

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साँभर झील बेसीन में नमक उत्पादन का पर्यावरणीय अध्ययन

डॉ मदन सिंह जाखड़¹, निखिल चतुर्वेदी²

^{1,2} सहायक प्रोफेसर, एस.बी.एस. गर्ल्स पीजी कॉलेज, जयपुर

सारांश:

साँभर झील बेसीन का अक्षांशीय विस्तार $26^{\circ}30'5''$ से $27^{\circ}30'15''$ उत्तरी अक्षांश व देशान्तरीय विस्तार $74^{\circ}35'5''$ से $75^{\circ}55'10''$ पूर्वी देशान्तर के मध्य स्थित है। इस झील की समुद्र तल से औसत ऊंचाई 367 मीटर है। साँभर झील का कुल अपवाह क्षेत्रफल 195 वर्ग किमी. है। इस झील में जल की आपूर्ति करने वाली प्रमुख नदियाँ मेंढा, खारी, खण्डेल व रूपनगढ़ है। इन नदियों व नालों द्वारा ही प्रतिवर्ष साँभर झील में पर्याप्त मात्रा में सोडियम क्लोराइड (NaCl) एकत्रित होता रहता है, जो नमक उत्पादन के लिए आवश्यक है।

परिचय:

शोध कार्य का अध्ययन क्षेत्र राजस्थान के जयपुर जिले की फुलेरा तहसील में स्थित साँभर झील बेसिन है। साँभर झील राजस्थान की ही नहीं अपितु भारत की सबसे बड़ी खारे पानी की झीलों में से एक होने के कारण इसका महत्व और बढ़ जाता है। भौगोलिक दृष्टि से साँभर झील अरावली पर्वत श्रृंखलाओं के मध्य में करीब 15–20 किमी. चौड़े प्राकृतिक अन्तराल पर स्थित है। साँभर झील बेसिन जयपुर शहर से लगभग 70 किमी. दूर पश्चिम में जयपुर–जोधपुर रेल मार्ग पर स्थित है। साँभर झील जयपुर, अजमेर, सीकर व नागौर जिलों की प्राकृतिक सीमा निर्धारित करती है।

आधुनिक विचार:

झील तली की चट्टानों के रासायनिक अपक्षय से नमक बनता है। इन चट्टानों में फ़ैल्सपार जैसे खनिज है जो तरल सोडियम लवणों को जन्म देते हैं। जल ग्रहण क्षेत्र की नदियों द्वारा भी नमक झील में आता है। परन्तु 1981 के बाद वर्षा की निरन्तर गिरावट के कारण नमक की अपवाह क्षेत्र से आवक लगभग नगण्य हो गई है। इसके साथ-साथ सरकार द्वारा चलाये जा रहे अकाल राहत कार्यक्रमों द्वारा जगह-जगह एनिकटों का निर्माण कर वर्षा जल को रोक लिया गया है। अतः झील बेसीन में वर्षा जल नहीं पहुँच पाता है जिससे नमक उत्पादन निरन्तर कम होता जा रहा है।

नमक का विपणन: साँभर में 1 अक्टूबर 1964 में साँभर झील पर केन्द्र सरकार का स्वामित्व हो गया, तब से नमक का उत्पादन हिन्दुस्तान साल्ट लिमिटेड की सहायक कम्पनी साँभर साल्ट

लिमिटेड द्वारा किया जाने लगा। वर्तमान में नमक का विपणन राष्ट्रीय व अन्तर्राष्ट्रीय स्तर पर होने लगा है। अन्तर्राष्ट्रीय स्तर पर नमक का निर्यात नेपाल को होता है। राष्ट्रीय स्तर पर कई निजी कम्पनियों को भी नमक का व्यापार किया जाता है। साँभर झील से भारत की लगभग 70 कम्पनियों को नमक का निर्यात किया जाता है।

शोध कार्य के मुख्य उद्देश्य: झील की समस्याओं का अध्ययन करके उनके समाधान के उपाय बताना।

1. नमक उत्पादन के धारणीय – विकास की रूपरेखा प्रस्तुत करना।
2. नमक उत्पादन व विकास के आर्थिक व गैर आर्थिक कारकों का विश्लेषण करना।
3. सतत विकास में विभिन्न वर्गों यथा सरकार, जनसामान्य व उद्यमियों की भूमिका की पहचान करना।

शोध परिकल्पनाएँ:—प्रस्तुत शोध अध्ययन की निम्नलिखित परिकल्पनाएँ रही है –

1. वर्षा की मात्रा में निरन्तर घटस से नमक उत्पादन निरन्तर घटता जा रहा है, जिसका प्रभाव स्थानीय लोगों के रोजगार पर पड़ा है। यह उद्योग स्थानीय कृषि क्षेत्र में छिपी-बेरोजगारी कम करने का एक उपाय है।
2. बढ़ती जनसंख्या के लिए रोजगार सर्जन व धारणीय विकास में सन्तुलन बनाना।
3. नमक उत्पादन बढ़ाने व पर्यटन-स्थल के रूप में विकास की आवश्यकता है।

शोध परिणामों की व्याख्या

1. नमक का गुणवत्ता प्रबन्धन दोषपूर्ण हैं। साँभर झील के नमक की प्राकृतिक गुणवत्ता में गिरावट आती जा रही है।
2. साँभर झील के नमक का अन्तर्राष्ट्रीय व्यापार बढ़ाएं जाने की आवश्यकता है। अन्तर्राष्ट्रीय व्यापार का स्तर सन्तोषजनक नहीं है।
3. मानव स्वयं मरुस्थलीकरण व झील के अपरूपण में योगदान दे रहा है।
4. झील का क्षेत्र सिकुड़ता जा रहा है। इस समस्या के लिए मानव व प्रकृति दोनों जिम्मेदार है।

निष्कर्ष:

साँभर झील भारत की ही नहीं वरन् एशिया महाद्वीप की भी बड़ी नमकीन झीलों में से एक है। इस झील से भारत का 8.7 प्रतिशत नमक उत्पादित होता है। यहाँ लगभग 196000 टन नमक

प्रति वर्ष उत्पादित होता है। इस झील का अपवाह तंत्र फुलेरा, चौमू, (जयपुर) किशनगढ़ (अजमेर) नौवा, परबतसर (नागौर), श्रीमाधोपुर, दातारामगढ़ (सीकर) तक विस्तृत है।

झील की आन्तरिक संरचना का ज्ञान हमें ब्लेनफोर्ड के अपक्षालन व संकुचन सिद्धान्त, सक्सेना व शोषाद्री के पवनप्रवाह सिद्धान्त व गॉडबॉल के सागरीय जलोत्पत्ति के सिद्धान्त से होता है।

सुझाव

साँभर झील बेसिन के धारणीय विकासार्थ और पर्यावरणीय उन्नयनार्थ अग्रलिखित सुझाव उभरकर सामने आते हैं:-

1. साँभर झीलिय बेसिन में धारणीय विकास के लिए एक समग्र कार्ययोजना बनाए जाने की महती आवश्यकता है।
2. समय-समय पर जनजागरण, संगोष्ठी आयोजन, प्रशिक्षण व शोधकार्य की नितान्त आवश्यकता है।
3. झील प्रबन्धन व नमक के गुणवत्ता नियंत्रणार्थ स्थानीय जागरूक जनता व स्वशासन की संस्थाओं को रुचि लेनी चाहिए।
4. झील बेसिन से स्थानीय कृषकों द्वारा अतिक्रमण एवं भूमिगत जल के दोहन पर निगरानी के लिए एक कमेटी का गठन किया जा सकता है जो समय-समय पर सरकार को अपनी रिपोर्ट दें। इससे अतिक्रमण व जलदोहन पर नियंत्रण हो सकेगा।

मुख्य बिन्दु: नमक उत्पादन, शोध का महत्व, शोध परिकल्पनाएँ, प्रक्रिया

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सतत् विकास में समावेशी लोकतंत्र एवं चुनाव सुधार की भूमिका

मानसिंह गुर्जर

भारतीय समावेशी लोकतंत्र में सभी वर्गों की सभी स्तरों पर समान सहभागिता व प्रतिनिधित्व को सुनिश्चित करने हेतु सार्वभौमिक वयस्क मताधिकार की संकल्पना को अपनाया गया है। इतिहास देखने पर लगता है कि राजनीतिक लोकतंत्र और वयस्कों को मिलने वाले मताधिकार ने भारतीय

लोकतंत्र की यात्रा की शानदार शुरुआत कर दी हैं ताकि देश को नियोजित प्रक्रिया से इस सामाजिक अधिकार सामाजिक विकास, आर्थिक प्रगति और ढांचागत लक्ष्यों को प्राप्त कर सकें।

भारतीय समावेशी लोकतंत्र में निरन्तर होने वाले चुनावों को वृहद प्रक्रिया की तरह देखा जाता है और चुनावों को भारत के लोकतंत्र की निरन्तरता का सबसे सटीक प्रमाण माना जाता है। इन स्वतंत्र निष्पक्ष चुनावों की प्रवृत्ति संसदात्मक प्रवृत्ति होने के कारण सुदूर गांवों तक इसका व्यापक प्रभाव है। चुनावों के दौरान विभिन्न राजनीतिक दलों द्वारा स्थानीय व क्षेत्रीय व राष्ट्रीय मुद्दों को चुनावी घोषणा पत्र में शामिल कर लोकहित की पृष्ठभूमि में व्यापक संहभागिता पर बल दिया जा रहा है। हालांकि यह भी सत्य है कि प्रायः चुनावों में लोगों को वास्तविक मुद्दों से काटकर सम्प्रदायवाद, क्षेत्रीय संकोर्णता, मिथ्यवादों तथा छद्म मुद्दों तक सीमित करने का काम भी बड़े पैमाने पर होता है जिन इलाकों में किसानों के पास अनाज तथा सिंचाई की समस्या है वहां भी अन्तराष्ट्रीय आंतकवाद की दुहाई देने के लिए नेता पहुंच जाते हैं। यहां तक कि कई समस्याएं सीधे चुनावों से जुड़ी हैं जैसे राजनीतिक हिंसा धार्मिक-जातीय समुदायों के बीच विद्वेष, काले-धन का प्रयोग और जन संचार के माध्यमों का प्रयोग और जन-संचार के माध्यमों का दुरुपयोग आदि। देश के कई क्षेत्र अभी ऐसे हैं जहां चुनावों के समय कार्यकर्ताओं के वेश में स्थानीय दंगों की भर्ती शुरू हो जाती है पहले बाहुबल से धनबल प्राप्त होता था पर अब धनबल से बाहुबल को अस्थायी रूप से जुटाकर उसका दोहन किया जाता है।

वर्तमान चुनावी व्यवस्था में चुनाव प्रसार ने उद्योग का रूप ले लिया है जिसमें टीवी एंकर, खिलाड़ी, फिल्म कलाकार, विज्ञापन एजेंसियां और समाचार-पत्र सभी इस प्रचार उद्योग में किसी न किसी रूप से सम्मिलित कर लिए जाते हैं। टीवी चैनलों की वृद्धि ने चुनावी विषयों और प्रचार के पैटर्न पर सर्वाधिक असर डाला है। जन संचार के माध्यमों पर जनता का सबसे अधिक भरोसा उन राजनीतिक पक्षों के काम आ रहा है जो पानी की तरह पैसा बहाकर इन माध्यमों को नियंत्रित करने की भावित रखते हैं पिछले आम चुनावों में पेड न्यूज की विकराल स्थिति सामने आई अब अखबारों में राजनेताओं की चुनावी रैलियां, घोषणाओं और चुनावी दोरों के विज्ञापन खबरों के रूपाकार में छपने लगे और अखबार यह कोशिश करने लगे कि पाठक चुनावी विज्ञापनों को समाचार के रूप में ही पढ़ें क्योंकि समाचारों की विश्वसनीयता हर हाल में विज्ञापनों से अधिक मानी जाती है यह पाठकों के साथ धोखाधड़ी है क्योंकि पाठकों को पता नहीं चल पाता कि वे जिसे समाचार मानकर पढ़ रहे हैं, वह वास्तव में विज्ञापन है।

हालांकि देश में चुनाव सुधारों के लिए पिछले कई दशकों से निरन्तर प्रयास किए जा रहे हैं। यह भी अनुभव रहा है कि इस प्रकार के चुनाव सुधार एक झटके में नहीं किए जा सकते बल्कि यह निरन्तर सुधार प्रक्रिया में समाज के सभी वर्गों चाहे वे राजनेता हों, या न्यायपालिका, सभी की इसमें हिस्सेदारी होनी चाहिए चुनाव भारतीय लोकतंत्र के स्वास्थ्य को प्रतिबिंबित करते हैं और

प्रयास होने चाहिए कि चुनावों की भूमिका लोकतंत्र को दूषित करने में नहीं बल्कि उसे अधिक कारगर बनाने की हो। विभिन्न समितियों यथा तारकुंडे समिति रिपोर्ट 1975 गोस्वामी समिति रापोर्ट 1990, चुनाव आयोग अनुशंषाएं 1998 और इन्द्रजीत गुप्ता समिति रिपोर्ट 1998 ने समय समय पर चुनाव सुधारों के क्षेत्र में प्रयास किए हैं। चुनावों के विकास क्रम को इस बात से भी समझा जा सकता है कि पहली बार पाचवे आम लोकसभा चुनावों में 1971 में चुनाव आचार संहिता को लागू किया गया, यह मानकर कि अब आम चुनावों में विशेष प्रकार के व्यवहार को रोकने तथा उन्हें स्वच्छ बनाने का समय आ गया है उसके बाद से आचार संहिता में लगातार नये नये उपायों को शामिल किया जाता रहा है जिनमें सबसे महत्वपूर्ण आचार संहिता के जागू होने की तिथि से किसी नयी सरकारी योजना के शिलान्यास या उदघाटन आदि कार्यक्रमों पर पूरी तरह से रोक। जनप्रतिनिधित्व अधिनियम में परिवर्तन करके दो साल से अधिक सजा प्राप्त करने वाले लोगों के चुनाव लड़ने पर प्रतिबंध ने भी अपराधीकरण की समस्या पर बहुत हद तक अंकुश लगाया है परन्तु अभी भी संसद और विधानसभाओं में ऐसे कई लोग मौजूद हैं जिनपर गंभीर अपराधों के मामले चल रहे हैं। प्रायः अदालतें इन मामलों में सजा सुनाने में देरी करती हैं और अपराधी वर्ग इस बीच राजनीति में निरन्तर हस्तक्षेप बनाए रखते हैं। भारत में चुनावों को अपराधीकरण धन-बल, बाहुबल मिडीया सम्बन्धी दुरुपयोग जाति धर्म से मुक्त कराने की आवश्यकता है। इस बात की भी जरूरत है कि कोई राजनैतिक समूह क्षेत्रीय अस्मिता या धार्मिक साम्प्रदायिकता के नाम पर सत्ता प्राप्त करने का प्रयास नहीं करे चुनावों के निकट आने पर कुछ राजनीतिक दल धार्मिक आस्था से जुड़े मुद्दों को उछालने लगते हैं क्योंकि उन्हें पता होता है कि आम जनता आसानी से इन मुद्दों के कारण भटकायी जा सकती हैं अतः अधिक से अधिक गंभीरता से लोगों को इस बात के लिए जागरूक करना चाहिए कि राजनीति के लोकतंत्रीकरण का प्रश्न धर्मनिरपेक्षता से स्पष्ट तौर पर जुड़ा हुआ है।

मुख्य बिन्दु: समावेशी लोकतंत्र, राष्ट्र मुद्दे, मतदान



सतत् विकास मे कला की भूमिका—योगासनों के संदर्भ में

डॉ. रमाकान्त गौतम

सहायक आचार्य, दृश्यकला विभाग, बियानी गर्ल्स कॉलेज, जयपुर

शोध पत्र सारांश

प्रस्तावना: योगासनों से संबंधित चित्रों व मूर्तियों को आधार लेकर, सतत् विकास में कला की भूमिका स्पष्ट करना इस पत्र का उद्देश्य है।

शब्द 'सतत् विकास' का सबसे पहली बार प्रयोग 'वर्ड कन्जर्वेशन स्ट्रेटजी' द्वारा किया गया जिसे 'प्रकृति और प्राकृतिक साधनों के संरक्षण के लिये अंतर्राष्ट्रीय संघ' ने 1980 में प्रस्तुत किया। ब्राण्डलैण्ड रिपोर्ट के अनुसार सतत् विकास का अर्थ है, वर्तमान पीढ़ी की आवश्यकताओं को भविष्य की पीढ़ियों की आवश्यकताओं से समझौता किये बिना पूरा करना।

स्वास्थ्य की दृष्टि से "योग" भी हमारे जीवन का अभिन्न अंग बन गया है। वर्तमान परिदृश्य में योग, योगासनों के रूप में विशेषतः विकसित हो रहा है। हमारे प्राचीन ऋषि-मुनियों ने जीवन में इसकी उपयोगिता के आधार पर इसके प्रचार-प्रसार को महत्व दिया। इससे कलायें भी अछुती नहीं रही। चित्रों तथा मूर्तियों के माध्यम से योगासनों को आमजन तक पहुँचाकर 'सतत् विकास' की परिकल्पना में कलायें भी अपना अमूल्य योगदान दे रही हैं। इसके विभिन्न उदाहरण हमें भित्तिचित्रों, लघुचित्रों तथा मूर्ति शिल्पों में योगासनों के अंकन के रूप में देश के विभिन्न प्रांतों से प्राप्त होते हैं, जो सतत् विकास में कला की भूमिका को सिद्ध करते हैं।

मुख्य बिन्दु: सतत् विकास, योग, योगासन, कला।

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भविष्य के लिए ई-कचरा प्रबन्धन

वीरेन्द्र कुमार

सहायक आचार्य, बियानी गर्ल्स कॉलेज, जयपुर

आज मनुष्य ने विज्ञान और तकनीकी में बहुत विकास कर लिया है। अब तकनीकी के बिना रह पाना नामुमकिन सा प्रतीत होता है। इसने हमारे जीवन को सरल और सुविधाजनक बना दिया है। यदि हम विज्ञान में प्रगति नहीं करते तो आज भी हमारा जीवन पहले की तरह दुष्कर व कठिन होता। नवीन आविष्कारों ने हमें बहुत लाभ पहुँचाया है। हमारे चारों तरफ अनेक तकनीकी मौजूद है। किन्तु वर्तमान विकसित होती तकनीकी जहाँ एक ओर सरल व सुविधाजनक है वहीं दूसरा पहलू विनाश की ओर अग्रसित है।

ई-कचरा—जब हम इलेक्ट्रॉनिक उपकरणों को लम्बे समय तक प्रयोग करने के पश्चात् उसको खराब होने पर फेंककर दूसरा नया उपकरण प्रयोग में लाते हैं तो इस अनुपयोगी उपकरण को ई-कचरा कहा जाता है। जैसे—कम्प्यूटर, मोबाईल फोन, प्रिंटर, फोटोकॉपी मशीन, इन्वर्टर, टेलीविजन, रेडियों कैमरा इत्यादि। विश्व में प्रतिवर्ष लगभग 300 से 600 लाख मीट्रिक टन कचरा जनित होता है। केंद्रीय प्रदूषण नियंत्रण बोर्ड, नई दिल्ली द्वारा किये गये एक सर्वेक्षण के अनुसार वर्ष 2012 में भारत में ई-कचरे की कुल मात्रा 8 लाख मीट्रिक टन थी जो कि वर्ष 2018 में बढ़कर लगभग 12.50 लाख मीट्रिक टन हो गई है। भारत में जनित ई-कचरे की मात्रा विगत 6 वर्षों में लगभग 1.5 गुना हो गई है। अधिकतर उपकरण प्लास्टिक के बनें होते हैं। जिसका निदान करना आसान नहीं है। तथा इसमें निरंतर होती वृद्धि राष्ट्र के समक्ष एक चुनौती बन गई है। विदेशों में अपनाई जाने वाली विभिन्न तकनीकों का अनुसरण कर इस समस्या से निजात पाया जा सकता है। जिसमें पुनःचक्रण, सड़क निर्माण, ऊर्जा उत्पादन आदि के द्वारा इनका सदुपयोग किया जा सकता है। इसके लिए सरकारी स्तर पर ई-कचरे के निस्तारण हेतु कठोर कानून अथवा समाधान हेतु उपयुक्त योजनाओं को क्रियान्वित करना आवश्यक है।

संकेतांक: पुनःचक्रण, ऊर्जा, प्लास्टिक, निस्तारण व तकनीकी।



बाल श्रमिक : एक सामाजिक अभिशाप

अनिता मीना

सह-आचार्या-राजनीति विज्ञान, राजकीय कन्या महाविद्यालय, चौमूं (जयपुर)

भारत विश्व का सबसे बड़ा लोकतन्त्र है, किन्तु सर्वश्रेष्ठ लोकतंत्र बनने के मार्ग में सबसे बड़ी बाधा हमारी आर्थिक और सामाजिक असमानता है। जिसके कारण एक बालक जीवन यापन हेतु मजदूरी करने को विवश हो जाता है।

भारतीय संविधान की धारा 24 के अनुसार 14 वर्ष से कम आयु के वे सभी बालक जो आर्थिक आवश्यकताओं की पूर्ति के लिए किसी फैक्टरी, खदान या किसी अन्य स्वास्थ्य के प्रतिकूल परिस्थितियों में काम करने को बाध्य हैं, बाल श्रमिकों की श्रेणी में आते हैं। संविधान की धारा 45 के अनुसार यह प्रावधान किया गया था कि संविधान लागू होने के 10 साल के भीतर सभी बच्चों को निशुल्क एवं अनिवार्य शिक्षा प्रदान की जाए, परन्तु आज भी इस समस्या से भारतीय समाज अभिशापित हैं। बाल श्रमिक समवर्ती सूची का विषय हैं, जिस पर संघ एवं राज्य दोनों ही सरकारें कानून बना सकती हैं। 1987 में राष्ट्रीय बाल श्रमिक नीति को अंगीकार किया गया। 10 अक्टूबर 2006 से घरों एवं ढाबों में बच्चों से मजदूरी कराना दंडनीय अपराध है। विभिन्न योजनाओं द्वारा बाल श्रम से मुक्त हुए बालकों की शिक्षा एवं पुनर्वास का प्रयास किया जा रहा है। बच्चें राष्ट्र की अमूल्य निधि हैं और इस निधि को सुरक्षा प्रदान करना समाज का प्रमुख दायित्व है।

मुख्य बिन्दु: बाल श्रमिक, संविधान

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वन्यजीव संरक्षण अधिनियम

ममता खण्डेलवाल

सहायक आचार्या, भूगोल विभाग, एस.एस. जैन सुबोध कॉलेज ऑफ ग्लोबल एक्सीलेंस, सीतापुरा, जयपुर

पर्यावरण असंतुलन, वन्य जीव अपराधों की रोकथाम, अवैध शिकार पर लगाम और वन्यजीव उत्पादों के अवैध व्यापार पर रोक लगाने के लिये 1972 में वन्यजीव संरक्षण अधिनियम लागू किया गया जिसमें वन्यजीवों की सुरक्षा से संबंधित अनेक बिन्दु अत्यन्त प्रभावी रूप से सम्मिलित हैं। भारतीय संविधान के अनुच्छेद 51 (क) में इसे मूल कर्तव्य के रूप में बताया गया है। इस अधिनियम में कुल 6 अनुसूचियां हैं जो अलग-अलग तरह से वन्यजीवों को सुरक्षा प्रदान करती

हैं। इस अधिनियम के अनुसार वन्यजीवन का विनाश अपराधिक कृत्य है। प्राकृतिक आवास दोहन, ईंधन हेतु जंगल में लकड़ी काटना अपराधिक श्रेणी में आता है तथा वन्यजीवों के लिये अनुकूल पारिस्थितिकी वाले क्षेत्रों को अभ्यारण के रूप में संरक्षित व विकसित करना है। इस अधिनियम में दुर्लभ व संकटग्रस्त वन्यजीवों की 5 सूचियां बनाई गयी, जिन्हें पूरी तरह सुरक्षा मिलनी चाहिए। वन्यजीव संरक्षण के अर्न्तगत भारत में प्रथम परियोजना अप्रैल 1973 में प्रोजेक्ट टाईगर शुरू की गयी। अधिनियम 1972 में सन् 2003 में संशोधन किया गया इसका नाम भारतीय वन्यजीव संरक्षण (संशोधित) अधिनियम 2002 रखा गया जिसके तहत इसमें दण्ड और जुर्माना और कठोर कर दिया गया। इस अधिनियम में कुल 6 अनुसूचियां हैं, जो अलग-अलग तरह से वन्यजीव को सुरक्षा प्रदान करता है।

अनुसूची 1 व 2 के द्वितीय भाग में वन्यजीवन को सुरक्षा प्रदान करते हैं, और इसमें कठोरतम सजा का प्रावधान है। अनुसूची 3 व 4 में भी वन्यजीवों को संरक्षण प्रदान करती हैं किन्तु निर्धारित सजा बहुत कम है। वहीं अनुसूची 5 में वे जानवर शामिल हैं जिनका शिकार हो सकता है। अनुसूची 6 में दुर्लभ पौधों और पेड़ों पर खेती और रोपण पर रोक है।

मुख्य बिन्दु: अवैध, संरक्षण, अधिनियम, अनुच्छेद, दोहन अभ्यारण, पारिस्थितिकी, दुर्लभ, अनुसूची, प्राकृतिक आवास, पर्यावरण असंतुलन।

सन्दर्भ ग्रंथ:

- ज्याग्राफी ऑफ राजस्थान – डॉ. भल्ला
- राजस्थान का भूगोल :- डॉ. पी. के. शर्मा
- पर्यावरण विज्ञान :- डॉ. शर्मा
- राजस्थान का भूगोल :- डॉ. एस. एच. शर्मा

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सतत विकास : एक सामाजिक परिप्रेक्ष्य

डॉ. नीलम त्यागी

सहायक आचार्य, निम्स यूनिवर्सिटी, जयपुर

सतत विकास से हमारा अभिप्राय ऐसे विकास से है, जो हमारी भावी पीढ़ियों की अपनी जरूरतें पूरी करने की योग्यता को प्रभावित किए बिना वर्तमान समय की आवश्यकताएं पूरी करे। भारतीयों के लिए पर्यावरण संरक्षण, जो सतत विकास का अभिन्न अंग है, कोई नई अवधारणा नहीं है।

भारत में प्रकृति और वन्यजीवों का संरक्षण अगाध आस्था की बात है, जो हमारे दैनिक जीवन में प्रतिबिम्बित होता है और पौराणिक गाथाओं, लोककथाओं, धर्मों, कलाओं और संस्कृति में वर्णित है।

सतत विकास लक्ष्यों का उद्देश्य सबके लिए समान, न्यायसंगत, सुरक्षित, शांतिपूर्ण, समृद्ध और रहने योग्य विश्व का निर्माण करना और विकास के तीनों पहलुओं अर्थात् सामाजिक समावेश, आर्थिक विकास और पर्यावरण संरक्षण को व्यापक रूप से समाविष्ट करना है। इन नए लक्ष्यों का उद्देश्य विकास के अधूरे कार्य को पूरा करना और ऐसे विश्व की संकल्पना को मूर्त रूप देना है, जिसमें कम चुनौतियां और अधिक आशाएं हों।

हम पृथ्वी को माता मानते हैं और सतत विकास सदैव हमारे दर्शन और विचारधारा का मूल सिद्धांत रहा है। सतत विकास लक्ष्यों को प्राप्त करने के लिए अनेक मोर्चों पर कार्य करते हुए हमें महात्मा गांधी की याद आती है, जिन्होंने हमें चेतावनी दी थी कि धरती प्रत्येक व्यक्ति की आवश्यकताओं को तो पूरा कर सकती है, पर प्रत्येक व्यक्ति के लालच को नहीं। भारत लंबे अरसे से सतत विकास के पथ पर आगे बढ़ने का प्रयास कर रहा है और इसके मूलभूत सिद्धांतों को अपनी विभिन्न विकास नीतियों में शामिल करता आ रहा है।

मुख्य बिन्दु: सतत विकास, उद्देश्य, सिद्धान्त

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सतत विकास क्रम में भारत की विदेश नीति और अफगानिस्तान

निखिल चतुर्वेदी

शोधार्थी (राजनीति विज्ञान विभाग), महाराज विनायक ग्लोबल विश्वविद्यालय, जयपुर (राज.)

सारांश:

अफगानिस्तान और भारत लोकतांत्रिक राष्ट्र हैं, जबकि अफगानिस्तान अभी आतंकवाद से ग्रसित देश है। लेकिन तालिबान शासन को समाप्त करने के बाद अन्तर्राष्ट्रीय समुदाय के समर्थन एवं सहयोग से अफगानिस्तान में लोकतंत्र को विकसित करने का प्रयास किया जा रहा है। अफगानिस्तान—भारत की प्राथमिकता एक स्थिर अफगानिस्तान के निर्माण की है। साथ बातचित करने के लिए तैयार करना होगा। भारत—अफगानिस्तान के मध्य द्विपक्षीय सम्बन्धों में 9/11 की घटना के बाद लगातार सुधार हो रहा है। लेकिन कई आतंकी घटनाओं ने सम्बन्धों में बाधा डालने का प्रयास किया, लेकिन भारत—अफगानिस्तान के दृढ़ विश्वास ने इन सम्बन्धों पर कोई

नकारात्मक प्रभाव नहीं पड़ने दिया। वर्तमान वैश्विक परिदृश्य में अमेरिका—भारत, अफगानिस्तान सम्बन्धों का त्रिपक्षीय अध्ययन महत्वपूर्ण है।

मुख्य बिन्दु: स्वतन्त्र विदेश नीति, आतंकवाद राष्ट्र हित चुनौतियों का समाधान समृद्धि की प्राप्ति।

प्रस्तावना:

- भारत ने नवम्बर, 2001 के बाद अफगानिस्तान के पुनर्निर्माण की दिशा में कार्य करने का निर्णय लिया है, जो अफगानिस्तान की स्थिरता और सामाजिक—आर्थिक विकास के लिए महत्वपूर्ण है। अफगानिस्तान में भारत लघु विकास कार्यक्रमों व ढाँचागत परियोजनाओं में निवेश कर अफगानिस्तान के पुनर्निर्माण में सहयोग कर रहा है।
- उदीयमान अन्तर्राष्ट्रीय व्यवस्था में भारत और अफगानिस्तान के पारस्परिक सम्बन्ध दक्षिण एशिया सहित सम्पूर्ण विश्व राजनीति को प्रभावित करेंगे। भारत और अफगानिस्तान दोनों राष्ट्रों के मध्य राजनैतिक सामरिक आर्थिक एवं व्यापारिक और विज्ञान एवं प्रौद्योगिकी में सम्बन्ध उदीयमान अन्तर्राष्ट्रीय व्यवस्था की दशा और दिशा निर्धारण में महत्वपूर्ण भूमिका निर्वाह कर सकते हैं।

उद्देश्य:

स्वतन्त्र विदेश नीति

- तालिबान और अलकायदा के खिलाफ युद्ध में भारत ने अमेरिका का तहेदिल से समर्थन किया लेकिन ईराक के खिलाफ अमेरिकी युद्ध में भारत ने अमेरिकी नीति का समर्थन नहीं किया जो भारत की स्वतन्त्र विदेश नीति को दिखाता है।

आतंकवाद

भारतीय विदेश नीति के समक्ष आने वाली बाधाओं के बारे में उल्लेख किया गया। भारतीय विदेश नीति का पड़ोसी देशों के साथ सम्बन्धों व उभरते हुए अफगानिस्तान में आतंकवाद विषय पर विस्तार से चर्चा की गई है। भारत का अफगानिस्तान के साथ बढ़ते द्विपक्षीय रिश्तों पर अध्ययन किया गया है। भारतीय विदेश नीति के समक्ष आने वाली सुरक्षा चुनौतियों का गंभीरता से पुनर्विचार करने पर बल दिया गया। अफगानिस्तान से आतंकवाद को समाप्त करने के लिए सार्क को अधिक मजबूत बनाने के लिए जोर दिया गया है।

राष्ट्र हित:

वर्तमान अन्तर्राष्ट्रीय परिस्थितियों में अपने राष्ट्र हित को ध्यान में रखते हुए भारत ने अपनी विदेश नीति के स्वरूप में परिवर्तन किया है तथा आज भारत अफगानिस्तान के साथ अपने संबंधों को बढ़ा रहा है।

चुनौतियों का समाधान:

- पुनः यह स्वीकार करते हुए कि आतंकवाद, हिंसक उग्रवाद, कट्टरता, अलगाववाद और सम्प्रदायवाद और इन सभी में सम्बन्ध—ये सभी हार्ट ऑफ एशिया क्षेत्र और बाकी के अन्तर्राष्ट्रीय समुदाय द्वारा सामना की जाने वाली सबसे गंभीर चुनौतियाँ हैं और ये समस्याएँ सम्प्रभुता, क्षेत्रीय एकता, आर्थिक विकास, द्विपक्षीय और क्षेत्रीय सहयोग के लिए लगातार खतरा बनी रहेंगी, हम हार्ट ऑफ एशिया क्षेत्र के सभी देशों के मध्य विस्तृत सहयोग को मजबूत बनाने की अपनी दृढ़ प्रतिबद्धता को पुनः नवीन करते हैं और आतंक के खिलाफ एकजुटता दिखाई।

समृद्धि की प्राप्ति

- हम हार्ट ऑफ एशिया क्षेत्र में अफगानिस्तान की महत्वपूर्ण भूमिका को क्षेत्रीय सम्पर्क बढ़ाने और आर्थिक एकीकरण के बीच एक प्राकृतिक भूमि सेतु के रूप में स्वीकार करते हैं और हम अफगानिस्तान द्वारा इसकी भौगोलिक स्थिति को विस्तृत क्षेत्रीय आर्थिक सहयोग बढ़ाने में प्रयुक्त करने के प्रयासों के प्रति अपना दृढ़ समर्थन दोहराते हैं। हम आगे बल देते हैं कि आर्थिक विकास अफगानिस्तान और इस क्षेत्र में चिरस्थायी शांति और स्थिरता को प्राप्त करने में योगदान देगा, और क्षेत्रीय आर्थिक एकीकरण को बढ़ाए
- अफगानिस्तान और समुद्री बंदरगाहों के जोड़ने वाले आधारभूत निर्माण के विकास से प्रोत्साहित है। हम अफगानिस्तान के लिए क्षेत्र के सबसे बड़े बाजारों तक बढ़ते हुए और विश्वस्त समुद्री भूमि पहुँच की अत्यन्त महत्वपूर्ण सार्थकता को स्वीकार करते हैं।

महत्वपूर्ण परियोजनाएं इस प्रकार हैं:

- इन्दिरा गांधी बाल स्वास्थ्य संस्थान तथा हबिबा स्कूल का पुनर्निर्माण सितम्बर 2003 में शुरू हुआ।
- हेरात, शेबरगन और कंधार में भारतीय चिकित्सा मिशन खोले गए।
- दिल्ली पब्लिक स्कूल सोसाइटी में अफगानिस्तान के शिक्षा मंत्रालय के सात अध्यापकों को 4 से 15 सितम्बर, 2003 तक सेवाकालीन प्रशिक्षण दिया गया।
- अफगानिस्तान के कृषि मंत्रालय को लगभग 67 टन सब्जियों के बीजों की आपूर्ति की गई।
- कंधार में 5000 टन क्षमता वाला एक कोल्ड स्टोरेज का निर्माण किया गया।

निष्कर्ष:

अफगानिस्तान भारत का मित्र राष्ट्र है। अफगानिस्तान में पश्तून, उजबेक, ताजिक एवं हजार नामक नृजातीय समूह का निवास है। भारतीय विदेश नीति में गुटनिरपेक्षता की नीति अपनाई गई

तथा अफगानिस्तान के शासक 'जहीर शाह' ने भी गुटनिरपेक्षता की नीति अपनाई। फलस्वरूप भारत और अफगानिस्तान के मध्य क्षेत्रीय एवं वैश्विक मुद्दों पर मित्रतापूर्ण संबंध बने रहे इस काल में अफगानिस्तान एक शांतिप्रिय देश था।

भारत अपनी सुरक्षा चिन्ताओं और अफगानिस्तान में चल रही गतिविधियों से प्रभावित अपने राष्ट्रीय हितों पर चर्चा करने में सक्रिय रहा। इस मुद्दे पर मार्च, 2000 में अमेरिका के राष्ट्रपति बिल क्लिंटन की भारत यात्रा के दौरान चर्चा हुई। भारत-अमेरिका, अफगानिस्तान के संबंध में अपनी द्विपक्षीय चर्चाओं को संस्थागत रूप देने पर सहमत हुए।

भारत-अफगानिस्तान: नवीन सम्बन्धों की शुरुआत तालिबानी शासन समाप्त होने के बाद भारत के द्वारा पुनः अफगानिस्तान के साथ प्रगाढ़ सम्बन्धों का विकास किया। अफगानिस्तान में शांति एवं लोकतांत्रिक सरकार के निर्माण के लिए दिसम्बर, 2001 में जर्मनी में 'बोन समझौता' हुआ, जिसके द्वारा अफगानिस्तान में एक अंतरिम प्रशासन का निर्माण किया गया, जिसके चैयरमैन हामिद करजई थे। वर्ष 2004 में अफगानिस्तान में पहला राष्ट्रपति चुनाव हुआ एवं हामिद करजई राष्ट्रपति के रूप में निर्वाचित हुए। भारत-अफगानिस्तान सम्बन्धों को नई सुदृढ़ता प्राप्त हुई तथा अफगानिस्तान के साथ द्विपक्षीय क्षेत्रीय मुद्दों पर सम्बन्धों में प्रगाढ़ता उत्पन्न हुई। 14वें सार्क सम्मेलन के दौरान अफगानिस्तान को सार्क का सदस्य भी बना दिया गया। अफगानिस्तान के राष्ट्रपति की मार्च 2003 में भारत की यात्रा पर आए। भारतीय नेताओं के साथ अपनी मुलाकात में उन्होंने द्विपक्षीय सहयोग और क्षेत्रीय मसलों पर चर्चा की। वार्ता के दौरान राष्ट्रपति करजई ने उल्लेख किया कि अफगानिस्तान को दी गई भारतीय सहायता अत्यन्त महत्वपूर्ण रही है और उन्होंने भारत द्वारा अफगानिस्तान को दी गई सभी प्रकार की सहायता के लिए आभार व्यक्त किया।

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अर्थशास्त्र के शिक्षकों एवं विद्यार्थियों की सतत् विकास के प्रति जागरूकता का अध्ययन

राजू पंसारी

शोधार्थी (शिक्षा विभाग), राजस्थान विश्वविद्यालय, जयपुर

प्रस्तावना :

प्रस्तुत शोध पत्र अर्थशास्त्र शिक्षक एवं विद्यार्थियों की सतत् विकास के प्रति जागरूकता सम्बन्धित शोध निष्कर्ष को प्रदर्शित करेगा। सतत् विकास ऐसा विकास है जो वर्तमान पीढ़ी की आवश्यकताओं को भावी पीढ़ियों की आवश्यकताओं की पूर्ति क्षमता का समझौता किये बिना पूरा करे। देश के सतत् विकास हेतु शिक्षा के माध्यम से सतत् विकास के प्रति समझ एवं ज्ञान उत्पन्न किया जा सकता है। और इसी उद्देश्य की पूर्ति हेतु वर्तमान में अर्थशास्त्र शिक्षक एवं विद्यार्थी सतत् विकास के प्रति कितने जागरूक हैं, का अध्ययन करना अपरिहार्य हो गया है। क्योंकि अर्थशास्त्र शिक्षक एवं विद्यार्थी सतत् विकास करने के प्रति जितने जागरूक होंगे उतनी ही धारणीय विकास में महत्वपूर्ण भूमिका का निर्वहन करेंगे। अतः शोधकर्त्री ने अर्थशास्त्र शिक्षक एवं विद्यार्थियों की सतत् विकास के प्रति जागरूकता का अध्ययन करना निश्चित किया है।

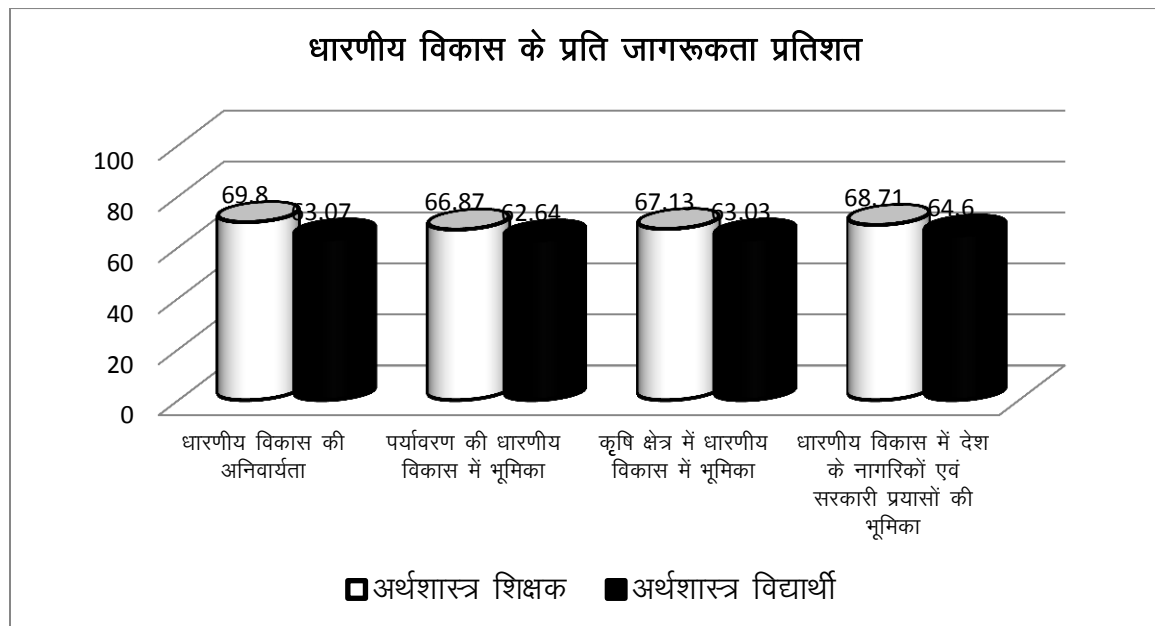
तकनीकी शब्दावली : सतत् विकास, अर्थशास्त्र शिक्षक, अर्थशास्त्र विद्यार्थी

सारांश :

प्रस्तुत शोध का उद्देश्य अर्थशास्त्र के शिक्षक एवं विद्यार्थियों की सतत् विकास के प्रति जागरूकता का अध्ययन करना है। इस हेतु शोधकर्त्री ने 150 अर्थशास्त्र विद्यार्थी एवं 50 अर्थशास्त्र शिक्षकों का न्यादर्श के रूप में चयन किया गया। न्यादर्श चयन हेतु जयपुर जिले के उच्च माध्यमिक स्तर के विद्यालयों से सौद्देश्य न्यादर्श विधि के माध्यम से न्यादर्श का चयन किया गया। दत्त संकलन हेतु शोधकर्त्री द्वारा स्वनिर्मित प्रश्नावली को शोध उपकरण के रूप में प्रयोग किया गया है। शोध सांख्यिकी के रूप में प्रतिशत वार विश्लेषण विधि का प्रयोग किया गया। शोध में प्राथमिक व द्वितीयक दोनों प्रकार के स्रोतों का प्रयोग किया गया है। शोध की प्रकृति मात्रात्मक है। शोध विधि के रूप में सर्वेक्षण विधि का प्रयोग किया गया है। प्रस्तुत शोध हेतु शून्य परिकल्पना "अर्थशास्त्र के शिक्षक एवं विद्यार्थियों की सतत् विकास के प्रति जागरूकता नहीं पायी जाती है।" निर्धारित की गयी।

व्याख्या एवं विश्लेषण :

आयाम	सतत् विकास के प्रति जागरूकता प्रतिशत	
	अर्थशास्त्र शिक्षक	अर्थशास्त्र विद्यार्थी
सतत् विकास की अनिवार्यता	69.80	63.07
पर्यावरण की सतत् विकास में भूमिका	66.87	62.64
कृषि क्षेत्र में सतत् विकास में भूमिका	67.13	63.03
सतत् विकास में देश के नागरिकों एवं सरकारी प्रयासों की भूमिका	68.71	64.60



परिकल्पनाओं का सत्यापन :

अर्थशास्त्र के शिक्षकों एवं विद्यार्थियों में सतत् विकास के प्रति जागरूकता नहीं पायी जाती है। अर्थशास्त्र के शिक्षकों की सतत् विकास के प्रति जागरूकता 68.12 प्रतिशत रही तथा अर्थशास्त्र के विद्यार्थियों की सतत् विकास के प्रति जागरूकता का 63.33 प्रतिशत रहीं। जिसके आधार पर

हम कह सकते हैं कि शोधकर्त्री द्वारा निर्मित शून्य परिकल्पना अस्वीकृत होती है। क्योंकि शोध निष्कर्ष के आधार पर अर्थशास्त्र शिक्षक एवं विद्यार्थियों में सतत् विकास के प्रति जागरूकता पायी गयी है।

निष्कर्ष: शोध से प्राप्त निष्कर्ष के आधार पर कहा जा सकता है कि उच्च माध्यमिक स्तर के अर्थशास्त्र के शिक्षक एवं विद्यार्थी को सतत् विकास के प्रति पूर्ण रूपेण जागरूक बनाने हेतु प्रयास आवश्यक है। क्योंकि सतत् विकास के प्रति जागरूकता सतत् विकास करने हेतु आवश्यक है।

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वैश्विक पर्यावरण संरक्षण

डॉ. राजेश कुमार जोशी

सहायक आचार्य, राजकीय महाविद्यालय कोलायत, बीकानेर

2016 में पेरिस में हुए विश्व जलवायु सम्मेलन में जो तथ्य उभरकर आए उनसे परिचित होना वैश्विक पर्यावरण संरक्षण के लिये नितान्त आवश्यक है। पिछली दो-तीन दशाब्दियों से धरती के औसत तापमान का बढ़ना निरन्तर जारी है। अभी यह एक और सम्भवनाएं जताते हुए इसे रोक पाने में असमर्थता जता रहे हैं। दुनिया भर के वैज्ञानिकों ने धरती के बढ़ते तापमान को चार डिग्री तक स्थिर किये जाने का लक्ष्य रखा है। किन्तु यहाँ तक आते-आते धरती की आधी आबादी, असंख्य जीवों और वनस्पतियों को बहुत बड़ी कीमत चुकानी पड़ेगी।

विश्व जलवायु सम्मेलन में वैश्विक पर्यावरण संरक्षण के लिये सभी देशों का एकमत नहीं हो पाना दुर्भाग्यपूर्ण है। पूँजीवादी और विकसित अर्थव्यवस्था वाले देश भारत जैसे विकासशील देशों पर ही दबाव डालकर मीलों, कारखानों और वाहनों से निकलते कार्बन की मात्रा को कम कराने पर दबाव बनाये हुए हैं। प्रधानमंत्री नरेन्द्र मोदी ने विकास के साथ पर्यावरण के वैश्विक सन्तुलन को बनाये रखने के लिये जो फॉर्मूला दिया, उसकी सभी ने प्रशंसा की। मोदी ने सभी देशों से कार्बन उत्सर्जन की मात्रा को कम करने का आग्रह करते हुए सौर ऊर्जा और वर्षा जल संरक्षण की अनिवार्यता पर बल दिया।

पर्यावरण में ब्रह्माण्ड के पाँच महत्वपूर्ण तत्वों जल, थल, अग्नि, आकाश और वायु के साथ वनस्पतियाँ भी सम्मिलित हैं। ऋग्वेद के प्रथम शब्द 'अग्निमीले' से ही वैदिक ऋषियों की सूर्य अथवा अक्षय ऊर्जा के प्रति आस्था की अभिव्यक्ति होती है।

भूमि माता की तरह हमारा पोषण, वर्द्धन और रक्षण करती है। मानव को भी पुत्र के समान अपने उत्तरदायित्वों का निर्वहन करते हुए धरती के संरक्षण की दिशा में आगे आना होगा। “जल है तो कल है” जल की इसवास्तविक मौलिकता को बनाए रखना ही जल के प्रति कृतज्ञता हो सकती है। यदि हमने वर्षा जल संरक्षण पर ध्यान नहीं दिया तो बहुत जल्द भूगर्भ के मीठे पानी के स्रोत समाप्त हो जायेंगे और उनका स्थान समुद्र का खारा पानी ले लेगा। अतिवृष्टि और अनावृष्टि के संकेतों से सावधान नहीं हुए तो नाश अवश्य है। विश्व के अनेक शहरों और भारत के शिमला और बैंगलुरु आदि में पानी की किल्लत एक झांकी मात्र है। पूरी पिक्चर तो अब शुरू होने वाली है। आज नदियाँ सीवर के गन्दे पानी की निकासी का स्रोत मात्र बन गई हैं, जिससे गंगा जैसी पवित्र नदी भी प्रदूषण की भयंकर मार झेल रही है। वैदिक काल में नदियों और वर्षा के जल को बहुत अधिक महत्व दिया गया। सप्तसैन्धव नदियों के तटों पर ही वैदिक जीवन फलीभूत हुआ, जिससे नदियों के साथ उनका आत्मीय सम्बन्ध कायम हुआ। ‘शुद्ध वायु जीवन के लिये परमावश्यक है’। आज ग्रीन हाउस प्रभाव और दूषित पर्यावरण के चलते ओजोन मण्डल में हुए छिद्र से मानव जीवन खतरे में है। सूर्य की पैराबैंगनी किरणों को पृथ्वी से बचाने वाली ओजोन की मोटी परत का वेदों में उल्लेख होना वैदिक ऋषियों के पर्यावरण के प्रति संवेदनशील होने का बड़ा प्रमाण है। हमारा यह दायित्व है कि वेदों के इस महान् संदेश का प्रसार करें। भारतीय संस्कृति में पेड़-पौधों और खेतों की पूजा के प्रति सम्मान दृष्टिगोचर होता है। आज भी भारत में विभिन्न व्रत-त्योहारों पर स्त्रियों द्वारा पीपल, तुलसी, नीम, वट, शमी, आम्र, केल और जामुनादि की पूजा होती है। वैज्ञानिक पक्ष से अनभिज्ञ होते हुए भी भारतीय नारियों में धार्मिक और सामाजिक भावना के कारण ही वृक्षों के प्रति सम्मान बना हुआ है।

ज्ञान और सद्कर्म के समन्वय से ही हम अपने वर्तमान और भविष्य को संवार सकते हैं अन्यथा आने वाले प्रलयकारी समय को कोई नहीं रोक सकता।

मुख्य बिन्दु: पर्यावरण संरक्षण, ओजोन मण्डल, अतिवृष्टि, अनावृष्टि

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भारत में बालश्रम की दशा एवं दिशा

डॉ. रमेश चन्द्र शर्मा

सह-आचार्य, राजनीति विज्ञान विभाग, श्रीमती पानादेवी मोरीजावाला राजकीय कन्या
महाविद्यालय कोटपूतली जयपुर, राजस्थान जयपुर

शोध-पत्र:

प्रस्तुत शोध पत्र का शीर्षक भारत में बालश्रम की दशा एवं दिशा की विवेचना करता है। जिसमें शोधपत्र का उद्देश्य, बाल श्रम की पृष्ठभूमि, बालश्रम के कारण, बालश्रम सुरक्षा सम्बंधी कानून, भारतीय संविधान निहित बालश्रम प्रतिषेध के प्रावधानों पर प्रकाश डालते हुए भारत में बालश्रम की स्थिति, पुलिस की भूमिका एवं सुझाव प्रेषित करता है।

मानव का पृथ्वी पर प्रादुर्भाव बालक के रूप में होता है। अन्तर्राष्ट्रीय स्तर पर 1989 में बाल अधिकार कन्वेंशन बालको के मौलिक अधिकारों के रूप में स्वीकार किया गया। जिसे विश्व के अधिसंख्यक 191 राष्ट्रों ने हस्ताक्षरित स्वीकृति प्रदान की है। बाल अधिकारों को इतिहास के आयने में देखा जावे तो 1924 जैनेवा घोषणा पत्र के अनुच्छेद 25 में बच्चों के विशेष संरक्षण की व्यवस्था के प्रावधान निहित है। बाल मातृत्व सम्बंधित प्रस्ताव नवम्बर 1989 में संयुक्त राष्ट्र संघ में पारित किया गया। जिसमें बाल अधिकारों की घोषणा की गई। सम्पूर्ण विश्व में बालको को हर जगह कानून द्वारा हर सम्भव तरीकों से संरक्षण दिया जाना चाहिए। उनकी बुनीयादि जरूरतें पूरी करना हर राज्य का कर्तव्य है। विश्व के नागरिकों व सरकारों से बाल सुरक्षा सहायता की, यह प्रस्ताव अपील करता है। संयुक्त राष्ट्र संघ द्वारा पारित बाल अधिकार कन्वेंशन में बच्चों के सर्वांगीण विकास हेतु अनुच्छेद 10 से अनुच्छेद 54 तक प्रमुख प्रावधान निहित है:

शोध पत्र का उद्देश्य:

1. भारत में बालश्रमिकों की स्थिति को ज्ञात करना।
2. बालश्रम सम्बंधी संवैधानिक एवं कानूनी प्रावधानों की जानकारी प्रस्तुत करना।
3. बालश्रम के प्रति जनचेतना जागृत करना।
4. पुलिस प्रशासन की बालश्रम के प्रति भूमिका को प्रतिबिम्बित करना।
5. बालश्रम की चुनौतियाँ एवं सुझाव।

बालश्रम क्या है ?

“बच्चों द्वारा किया जाने वाला कोई भी कार्य जिसमें उसके पूर्ण भौतिक विकास, न्यूनतम शिक्षा, न्यूनतम मनोरंजन में बाधा पड़ती हो वह बालश्रम कहलाता है”—होमर फ्लेक्स। ऐसे सभी

व्यावसाय जिनमें बच्चों का नियोजन उसके भौतिक, मानसिक, सामाजिक एवं जैविक विकास में बाधा डालते हैं, वह बालश्रम में आता है। बालश्रम का अर्थ बच्चों को उत्पादन से सम्बंधित ऐसे लाभकारी व्यवसाय में लगाना, जिससे उनके स्वास्थ्य को खतरा हो, विकास में बाधा उत्पन्न होती हो, बालश्रम के अधीन रखा जाता है।

भारत में बालश्रम के कतिपय कारण:

गरीबी, बेरोजगारी, अशिक्षा, अज्ञानता, रोजगारोन्मुखी शिक्षा का अभाव, कम पैसों पर अधिक कार्य करने वाले श्रमिकों की प्राप्ति, जनसंख्या वृद्धि, अधिसंख्यक परिवारों की दयनीय आर्थिक स्थिति, उपभोक्तावादी संस्कृति का बढ़ता प्रभाव।

बाल श्रमिकों की समस्याएँ:

शोध विषय के संदर्भ में समस्याओं को इंगित किये बिना सुरक्षा के उपाय, चर्चा अधूरी रहेगी।

1. निर्धारित आयु से कम के बच्चों को कार्यों पर रखना।
2. पुरुष बालक से अप्राकृतिक यौनाचार, आपराधिक कार्य तथा मलिन बालश्रमिक से अनैतिक कार्य जैसे वैश्यावृत्ति एवं बलात्कार करना।
3. न्यूनतम से भी कम मजदूरी देना तथा अधिक घंटों काम लेना।
4. कार्यस्थल की बुरी दशाएँ। जैसे अंधेरे कमरे में काम करना इत्यादि।
5. बालकों को देश के बाहर भेजना और बेच देना।
6. बाल तस्करी, अश्लील ब्लू फिल्मों का निर्माण करवाना।

विश्व का कोई भी ऐसा क्षेत्र नहीं है जहाँ बालश्रम गैर कानूनी कार्यों में नहीं लगा हो। बालश्रम की समस्या वैश्विक स्तर पर व्यापक और गम्भीर है। बालश्रमिकों का शारीरिक एवं वित्तिय दोनों प्रकार का शोषण होता है। बाल विज्ञापन समय से पूर्व बालक को वयस्क बना देते हैं। बाल क्रिड़ाओं से वंचित करना बाल शोषण करना ही है।

निम्नांकित उद्योगों में कार्यरत बालश्रम:

पटाखा निर्माण उद्योग, काच चूड़ी उद्योग, ताला चाकू सलेट पैन्सील निर्माण उद्योग, ईंट भट्टा उद्योग, गलिचा उद्योग, ज्वैलरी उद्योग, चमड़ा उद्योग, चाय खोमचा रेस्टोरेंट, हलवाई, कचरा एकत्रित करना, गृह सफाई इत्यादि उद्योग।

विभिन्न राज्यों के उद्योग धन्धों में बालिका श्रमिक:

भारत में खतरनाक उद्योगों में लगी बालिका श्रमिक मुख्यतः शिवकाशी (तमिलनाडू) माचिस पटाखा उद्योग, फिरोजाबाद चुड़ी उद्योग, जयपुर कालीन एवं वस्त्र उद्योग, उत्तरप्रदेश व

मध्यप्रदेश में बीड़ी उद्योग, स्लेट उद्योग घरेलू कार्य सफाई, बच्चों का रख-रखाव इत्यादि कार्यों में संलग्न है।

भारत के राज्यों में बालिका श्रमिक (बीड़ी उद्योग) तालिका:

क्र. सं.	राज्य का नाम	कुल	बालिका श्रमिक	बालिका प्रतिशत
1.	भारत	188443	160592	85.01
1.	आंध्रप्रदेश	57964	55455	95.67
2.	बिहार	5720	3915	68.44
3.	कर्नाटक	21779	20021	91.93
4.	केरल	1774	1635	92.16
5.	मध्यप्रदेश	17730	12960	73.10
6.	महाराष्ट्र	3872	3624	93.60
7.	उडिसा	5641	4125	73.13
8.	तमिलनाडू	18912	15704	83.04
9.	उत्तरप्रदेश	8948	6291	70.31
10.	पश्चिम बंगाल	44563	35403	79.44

विश्लेषण: 85 प्रतिशत बालिका श्रमिक बिड़ी उद्योग में लगी है। आंध्रप्रदेश में इनकी संख्या सर्वाधिक है। बालिकाओं से श्रम नये कपड़े, चूड़ियों, पॉकट मनी देने के नाम पर करवाया जाता है। बालिकाओं के स्वास्थ्य पर प्रतिकूल प्रभाव तम्बाकू में निकोटीन का जहर फेफड़ों में जमा हो जाता है। टी.बी., अस्थमा, ब्रोन्काइटिस, अनीमिया, नेत्र दोष, कमर झुकना इत्यादि बीमारियों की शिकार हो रहे हैं। बाल श्रमिक शोषण से मुक्ति की और देख रहा है।

संवैधानिक कानूनी उपाय:

भारतीय संविधान के अनु0 15, 23, 24, 39, (2), 45, 21 क, (51 क, अ) बाल कल्याण के विशेष उपबंध निहित हैं जो बालको के क्रय-विक्रय, बैंगार बलात्श्रम पर रोक लगाते हैं। 14 वर्ष से कम आयु प्राप्त बच्चों को कारखाने, खतरनाक कार्यों पर लगाने से प्रतिबन्धित करते हैं।

बालश्रम रोकथान सम्बन्धित निर्मित अधिनियम—

बालश्रम अधिनियम 1933, बालश्रम नियुक्ति अधिनियम 1938, कारखाना अधिनियम 1948, न्यूनतम मजदूरी अधिनियम 1948, दूकान/प्रतिष्ठान अधिनियम 1948, बालश्रम अधिनियम 1951, खदान

अधिनियम 1952, वाहन यातायात अधिनियम 1961, बीड़ी सिगार अधिनियम 1966, बालश्रम आयोग महिला एवं बाल विकास संस्थान इत्यादि।

देश की कुल आबादी का 16 प्रतिशत बच्चे हैं जिनमें 11 प्रतिशत बालश्रम निहित है। भारत में 10 श्रमिकों में से 1 बालश्रम है। विश्व के बालश्रमिकों की जनसंख्या का लगभग 21 प्रतिशत भारत में निहित है।

बालश्रम पुलिस की भूमिका:

भारतीय संविधान के अनु0 312 में पुलिस सेवा सम्बन्धी स्पष्ट प्रावधान है। पुलिस के अभाव में अराजकता, अशान्ति, असुरक्षा फैल सकती है। अनुभव यह बताता है कि, कोई भी कार्य पुलिस की सहायता के बिना अपराधों की रोकथाम में सम्भव नहीं हो सकता। पुलिस बालश्रम के संरक्षण की दिशा में उतनी सतर्क नहीं होती, जितना उनको रहना चाहिए ऐसा अनेकों बार देखा गया है। बालको के अपहरण पर पुलिस एफ.आई.आर तक दर्ज नहीं करती। कहती है रिश्तेदारों या दोस्तों के गया होगा इन्तजार करो जानकारी लो। अपहरण की खोज में विशेष रुची पुलिस नहीं लेती अन्यथा हजारों गायब हुए बच्चे क्यों नहीं मिलते। पुलिस कार्यवाही करती भी है तो राजनैतिक दलों से सम्बद्ध कार्यकर्ताओं नेताओं, सम्पन्न व्यक्तियों अपराधियों की पहुँच के होते हैं। पुलिस अपने कार्य में लापरवाही करती है।

सुझाव:

1. ऐसी सामाजिक, आर्थिक नीतियाँ नीति आयोग द्वारा निर्मित की जावे जिससे बाल श्रम उत्पन्न न हो, बाल अभिभावकों को नौकरी के अवसर प्राप्त हो सकें।
2. नैतिक मूल्यों एवं रोजगार से समाविष्ट शिक्षा योजना के साथ जो माता-पिता बालक को शिक्षा से वंचित रखते हैं, उन पर जुर्माने की व्यवस्था तथा बालक को भोजन, आवास, शिक्षा निःशुल्क अनिवार्य प्राप्त हो।
3. बच्चे के स्वास्थ्य, गरिमा, गुणवत्ता को उत्पन्न करने वाली राष्ट्रीय नीति निर्मित की जावे।
4. बच्चों की शिक्षा पोषण विकास उत्तर जीविका पर ध्यान केन्द्रित करने की आवश्यकता है।
5. संचालित उद्योगों में बालश्रम होने की पुष्टि के साथ तत्काल उनका लाईसंस निरस्त किया जावे।
6. निर्धन माता-पिता के पारिवारिक भरणपोषण की गारन्टी दी जाये।
7. बालिका श्रमिकों की समस्या पर विशेष ध्यान रखने के साथ ओचक निरक्षण की व्यवस्था की जाये।
8. कानूनी प्रावधानों को सत्य निष्ठा से क्रियान्वयन किया जाने पर जोर दिया जाये।

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सतत् विकास की अवधारणाएं

रविन्द्र कुमार

सहा. आचार्य (इतिहास), राजकीय महाविद्यालय कोटपूतली

सतत् विकास आधुनिक समय में एक ज्वलंत नारा है। जब-जब पर्यावरण संरक्षण की बात आती है। तब तब सतत् विकास की अवधारणा उसके साथ चलती है। सतत विकास या टिकाऊ विकास शब्द का प्रथम बार प्रयोग 1987 को ब्रंट लैण्ड कमीशन रिपोर्ट में किया था। सतत टिकाऊ विकास एक विकास है जिसमें वर्तमान पीढ़ी अपनी आवश्यकताओं की पूर्ति आने वाली पीढ़ियों की आवश्यकताओं की पूर्ति को बिना नुकसान पहुँचाये करती है। यह विकास प्रकृति के साथ मानव का सहयोग, साहचर्य एवं उसके प्रति श्रद्धा व सम्मान की भावना पर आधारित है।

संपोषणीय विकास का अर्थ है सतत् पोषणीय विकास अर्थात् ऐसा विकास जो मानव समाज की केवल तात्कालिक आवश्यकताओं की ही पूर्ति नहीं करे बल्कि वह स्थायी तौर पर भविष्य के लिए भी विकास का आधार प्रस्तुत करे। वास्तव में संपोषणीय विकास प्रयत्नों में गुणवत्ता के विस्तार पर अधिक बल देती हैं।

सतत् विकास के सम्मेलन: पृथ्वी तथा उसके पर्यावरण की सुरक्षा और पारिस्थितिकीय सन्तुलन को बनाये रखने के लिए जून 1992 में ब्राजील के रियो डी जेनेरा नगर में यूएनओं के तत्वावधान में संयुक्त राष्ट्र पर्यावरण एवं विकास सम्मेलन का आयोजन किया गया था जिसमें विकसित तथा विकासशील 178 देशों के प्रतिनिधियों ने भाग लिया। इसे प्रथम पृथ्वी सम्मेलन या रियो सम्मेलन के नाम से जाना जाता है। इसी सम्मेलन में कार्यक्रम-21 के नाम से जो रूपरेखा प्रस्तुत की गयी थी। उसमें सम्पोषणीय विकास के लिए निर्देशक सिद्धान्त दिये गये हैं।

द्वितीय पृथ्वी सम्मेलन जून 1997 में न्यूयार्क में आयोजित किया गया किन्तु इसमें निश्चित मसौदे प्रस्ताव पर कोई ठोस समझौता नहीं हो पाया।

तृतीय पृथ्वी सम्मेलन अगस्त 2002 दक्षिण अफ्रीका की राजधानी जोहान्सबर्ग में आयोजित किया गया। इसका मुख्य विषय सतत् पोषणीय विकास था जिसके कारण इसे सतत् पोषणीय विकास विश्व शिखर सम्मेलन के नाम से भी जाना जाता है। इस सम्मेलन में भारत जैसे विकासशील देशों में इस मुद्दे का उठाया कि अति उत्पादन और अति उपभोग पोषणीय नहीं है। विकसित देशों का उपभोग स्तर बहुत उँचा है। अपने जीवन स्तर के उन्नयन की मनुष्य की लगातार बढ़ती आकांक्षा के कारण सभी प्रकार के नए तकनीकी अविष्कार हुये हैं। इन अविष्कारों और नवाचारों ने जीवन को अधिक आरामदेह बना दिया है। किन्तु इसके बदले भोजन, वायु, जल, खनिज और उर्जा की मांग बढ़ रही है। पृथ्वी की नवीकरण की क्षमता सीमित होने के कारण से संसाधन भी सीमित है। जलवायु परिवर्तन के प्रति अनुकूल नहीं हो पाने के कारण डायनासोर के विलुप्त होने

की बात सभी जानते हैं। डर है कि पृथ्वी की एक चौथाई प्रजातियां 2050 तक विलुप्त हो सकती हैं।

सतत् विकास के उपाय: वर्तमान की महती आवश्यकता सतत् विकास हेतु निम्न उपाय है – विकास एवं उत्पादन वृद्धि हेतु पर्यावरण मित्र प्रौधागिकी का विकास एवं प्रसार। नवीन परियोजना की स्थापना से पूर्व पर्यावरण सुरक्षा पारिस्थितिकीय सन्तुलन और आर्थिक दक्षता का उपयुक्त मापन कर लिया जाये। पर्यावरण अवनयन रोकने हेतु कठोर कानून बने और उनका कड़ाई से पालन हो। सरकार, नौकरशाही, मिडिया गैर सरकारी संगठनों की प्रभावी एवं रचनात्मक भूमिका बढ़ाई जायें।

मुख्य बिन्दु: सतत् विकास, सम्मेलन, पारिस्थितिकी

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पंचायती राज एवं महिला नेतृत्व विकास—एक विमर्श

सुमन नरुका

शोधार्थी

“पंचायती राज संस्थाओं में महिला नेतृत्व विकास वर्तमान भारत का एक बेहद जरूरी विमर्श है। चूंकि यह महिला स्वतंत्रता, समानता, मजबूती और महत्ता की हिमायत करता है, इसलिए इसे सम्पूर्ण मानव समाज के आधे हिस्से की बेहतरी से जुड़ा विमर्श कहा जा सकता है इस बेहतरी की स्थापना हेतु भारत में स्थानीय स्वायत्त संस्थाओं की विकेंद्रीकरण प्रणाली प्रारम्भ की गयी। यह विकेंद्रीकरण जमीनी स्तर पर हुआ है तथा इन संस्थाओं में महिलाओं के लिए एक—तिहाई स्थान आरक्षित (वर्तमान में कई राज्यों में 50 प्रतिशत) किये जाने से जमीनी स्तर पर काफी बदलाव हुए हैं। आज भारत में 12 लाख से अधिक महिला निर्वाचित प्रतिनिधि हैं। जो दुनिया के किसी भी देश में नहीं हैं। इतना ही नहीं अगर पूरी दुनिया के निर्वाचित महिला प्रतिनिधियों की संख्या जोड़ी जाये तो वह संख्या इन भारतीय निर्वाचित महिला प्रतिनिधियों से कम ही है।” महिलाओं की भागीदारी ने स्थानीय स्तर पर सामुदायिक जीवन और चेतना तह संस्कृति में भी परिवर्तन लाया है। इन निर्वाचित महिला प्रतिनिधियों ने सत्ता के जातीय समीकरण को ही नहीं, बल्कि सामाजिक और आर्थिक समीकरण को भी बदल है। ग्राम सभा से लेकर संसद तक राष्ट्रीय स्तर पर महिलाओं की भागीदारी दिनों दिन बढ़ती जा रही है।

मुख्य बिन्दु: पंचायती राज, महिला नेतृत्व

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शेखावाटी सर्किट के पर्यटन उद्योग के सतत विकास में भित्ति-चित्रों का महत्व

विक्रम सोनी

शोधार्थी, भूगोल विभाग, सम्राट पृथ्वीराज चौहान राज. महाविद्यालय, अजमेर
महर्षि दयानन्द सरस्वती विश्वविद्यालय, अजमेर

शोध सारांश:

राजस्थान की कला, संस्कृति एवं ऐतिहासिक वैभव विश्वभर के पर्यटकों के आकर्षण का केन्द्र रहे हैं। इस मरुभूमि के उत्तरी-पूर्वी भाग में स्थित शेखावाटी क्षेत्र अपने भित्ति-चित्रों के कारण विश्वभर में प्रसिद्ध है। यहाँ पर्यटन उद्योग के सतत विकास में भित्ति-चित्रों का महत्वपूर्ण योगदान है। प्रस्तुत शोधपत्र में शेखावाटी सर्किट के पर्यटन उद्योग के सतत विकास में भित्ति-चित्रों के महत्व को इंगित करने का प्रयास किया गया है।

संकेताक्षर : पर्यटन, सर्किट, वर्णित, सूचक, सृजन, वैभव, सुशोभित, हैण्डी क्राफ्ट।

परिचय:

सतत विकास भविष्य की पीढ़ियों की अपनी आवश्यकताओं को पूरा करने की योग्यता को प्रभावित किए बिना वर्तमान की आवश्यकताओं को पूरा करने वाले विकास के रूप में वर्णित है। पर्यटन उद्योग का सतत आर्थिक विकास में महत्वपूर्ण योगदान है। वर्ष 2017 में अंतराष्ट्रीय पर्यटन से 1.340 खरब डालर की आय प्राप्त हुई है। विश्व पर्यटन संगठन की रिपोर्ट के अनुसार 2030 तक पर्यटन 3.3 प्रतिशत की दर से वृद्धि करेगा। भारत जैसे देश में पर्यटन उद्योग का विकास विशेष आर्थिक प्रगति का सूचक है। पर्यटन उद्योग से विभिन्न रूपों में रोजगार का सृजन होता है तथा विदेशी मुद्रा भी प्राप्त होता है। भारत के पर्यटन स्थलों में राजस्थान का विशेष महत्व है। भारत में आने वाला हर तीसरा पर्यटक राजस्थान आता है। इस पावन मरुभूमि के उत्तरी-पूर्वी भाग में स्थित शेखावाटी सर्किट अपने भित्ति-चित्रों के कारण विश्वभर में प्रसिद्ध है। शेखावाटी पर्यटन सर्किट राजस्थान के उत्तरी-पूर्वी भाग में स्थित है। इस शुष्क-अर्द्ध शुष्क मरुस्थलीय प्रदेश के भित्ति-चित्रों के अन्तर्गत सीकर, झुन्झुनू एवं चूरू जिले का पूर्वी भाग शामिल है, जिसका अक्षांशीय विस्तार 27° 21' उत्तर से 29° 00' उत्तर तथा देशान्तरीय विस्तार 73° 40' पूर्व से 76° 06' पूर्व के मध्य है।

उपर्युक्त शोध विषय के लिए निम्न लिखित उद्देश्य है:—

1. शेखावाटी सर्किट के भित्ति-चित्रों का कलात्मक वैभव प्रदर्शित करते हुए पर्यटन उद्योग के सतत विकास में भित्ति-चित्रों के महत्व का वर्णन करना।

2. शेखावाटी सर्किट में पर्यटन उद्योग के सतत विकास को इंगित करते हुए, विकास की संभावनाओं का आंकलन करना।

उपर्युक्त शोध हेतु प्राथमिक एवं द्वितीयक आंकड़ों का संकलन किया गया है। प्राथमिक स्रोतों के अंतर्गत क्षेत्र भ्रमण कर सर्वेक्षण, साक्षात्कार एवं स्वनिर्मित प्रश्नावली द्वारा आँकड़ों का संकलन किया गया है। वहीं द्वितीयक स्रोतों के अंतर्गत सम्बन्धित प्रकाशित एवं अप्रकाशित साहित्य, पुस्तकें, शोध-ग्रन्थ, लेख, जर्नल पेपर, सरकारी तथा गैर सरकारी वार्षिक रिपोर्ट, समाचार-पत्र, पत्रिकाएँ एवं इन्टरनेट वेबसाइट से आँकड़े प्राप्त किये गये हैं।

शेखावाटी सर्किट के भित्ति-चित्र एवं पर्यटन उद्योग:

शेखावाटी प्रदेश का नाम यहाँ के शासक 'राव शेखा' के नाम से पड़ा है। राव शेखा के आठवें वंशज राजा शार्दूल सिंह ने शार्दूलसिंह की छतरी तथा गोपीनाथ जी के मन्दिर को कलात्मक भित्ति-चित्रों से सुसज्जित करवाया। इसके बाद शेखावाटी क्षेत्र में भित्ति-चित्रण की परम्परा सी चल पड़ी। यहाँ के धनवान बनियों एवं शासक वर्ग ने अपनी मातृभूमि में भित्ति-चित्रों से सुशोभित इमारतों का निर्माण करवाया। शेखावाटी क्षेत्र के सबसे प्राचीन भित्ति-चित्र (1740 ई.-1750 ई. के मध्य के) गोपीनाथ जी के मन्दिर (झुंझुनू), ठाकुर शार्दूलसिंह जी की छतरी (परसरामपुरा) तथा कल्याणजी का मन्दिर (झुंझुनू), मण्डावा का गढ़ आदि में उपलब्ध है।

'ओपन आर्ट गैलरी' के नाम से प्रसिद्ध शेखावाटी सर्किट के मण्डावा, नवलगढ़, मुकुन्दगढ़, बिसाऊ, झुंझुनू, लक्ष्मणगढ़, फतेहपुर, रामगढ़, महनसर, अलसीसर, चूरू जैसे नगरों के दुर्ग, महल, मन्दिर, हवेलियाँ व छतरियाँ आज भी अपना वैभवपूर्ण अस्तित्व बनाते हुए पर्यटन उद्योग के सतत विकास में महत्वपूर्ण योगदान प्रदान कर रहे हैं। पर्यटन की दृष्टि से यह क्षेत्र राजस्थान में ही नहीं अपितु सम्पूर्ण भारत व वि. व. में भी अपनी विशिष्ट पहचान रखता है। यह क्षेत्र सीमित क्षेत्र होते हुए भी विदेशी मुद्रा अर्जित करने एवं प्रत्यक्ष व अप्रत्यक्ष रोजगार के साधन प्राप्ति का माध्यम बन गया है। आर्थिक विकास को गति देने के लिए यहाँ पर्यटन का विशेष महत्व है। अन्य सहायक उद्योगों जैसे होटल व्यवसाय, हैण्डी क्राफ्ट उद्योग, परिवहन संसाधनों आदि के विकास पर पर्यटन उद्योग का महत्वपूर्ण प्रभाव है। इस क्षेत्र में पर्यटन उद्योग के सतत विकास से अकाल व सूखे से होने वाली आर्थिक हानि की मार से भी बचा जा सकता है। वर्तमान में शेखावाटी सर्किट में पर्यटन उद्योग आर्थिक लाभ अर्जित करने के प्रमुख स्रोत के रूप में विकसित हो रहा है। चर्चित फिल्म 'पीके' और 'बजरंगी भाईजान' की शूटिंग शेखावाटी क्षेत्र में हुई है, जिससे एक बार फिर से यह क्षेत्र चर्चा में आया है। पिछले कुछ वर्षों में देशी एवं विदेशी सैलानियों के बीच यह क्षेत्र एक प्रमुख पर्यटक स्थल के रूप में तेजी से उभरा है। इस प्रकार यह क्षेत्र पर्यटन की अपार संभावनाओं से युक्त है।

तलिका-1: शेखावाटी के प्रमुख पर्यटक स्थलों पर आने वाले पर्यटकों का केन्द्रवार विवरण

वर्ष	पर्यटक स्थल एवं पर्यटकों की संख्या			
	सीकर		झुन्झुनूं	
	देशी	विदेशी	देशी	विदेशी
2011	43909	260	133151	43625
2012	68659	142	128283	42718
2013	83012	0	104155	36136
2014	116905	0	126184	46828
2015	48305	16	86555	37420
2016	102282	826	127687	24477
2017	152416	1941	174883	35999

स्रोत: प्रगति प्रतिवेदन, पर्यटन विभाग, राजस्थान

निष्कर्ष:

शेखावाटी सर्किट में पर्यटन की अनुकूल दशाएँ व संभावनाएँ विद्यमान हैं। यहाँ के भित्ति-चित्र पर्यटकों को अपनी ओर आकर्षित करते हैं। अतः इस क्षेत्र के पर्यटन उद्योग के सतत विकास में भित्ति-चित्रों का विशेष महत्व है। पर्यटन के विकास से इस क्षेत्र के आर्थिक पिछड़ेपन के दूर होने के साथ-साथ यहाँ के सामाजिक, सांस्कृतिक व धार्मिक स्वरूप को समझने के अवसर की प्राप्ति एवं भित्ति-चित्रण की कला का संरक्षण भी सुदृढ़ होगा।

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वैश्विक नागरिकता के सतत विकास में मीडिया की भूमिका

डॉ. संगीता माथुर

सह-आचार्य, एल.बी.एस. कॉलेज, कोटपूतली

वैश्विक नागरिकता के सतत विकास में मीडिया की भूमिका अत्यन्त महत्वपूर्ण व आवश्यक है। मीडिया की भूमिका, वैश्विक नागरिकता व सतत विकास की अवधारणा को समझने के लिए सर्वप्रथम नागरिकता व वैश्विक नागरिकता को जानना आवश्यक है। 'नागरिकता' एक देश विशेष के अंदर एक विशेष सामाजिक, राजनैतिक, राष्ट्रीय या मानव संसाधन समुदाय का एक सदस्य नागरिक होने की अवस्था मानी जा सकती है। नागरिक अपने देश विशेष में सामाजिक अनुबंध के सिद्धांत के तहत नागरिकता की अवस्था में अधिकार और उत्तरदायित्व दोनों की व्यवस्था से जुड़ा होता है। 'सक्रिय नागरिकता' का दर्शन अर्थात् नागरिकों को सभी नागरिकों के जीवन में सुधार करने के लिए आर्थिक सहभागिता, सार्वजनिक स्वयंसेवी कार्यों और इसी प्रकार के प्रयासों के माध्यम से अपने समुदाय को बेहतर बनाने की दिशा में कार्य करना चाहिए।

वैश्विक नागरिकता से तात्पर्य सम्पूर्ण विश्व के देशों में निवास करने वाले नागरिकों को अधिकार व उत्तरदायित्वों के अनुसार विश्व व्यवस्था में विकास करना है। आज वैश्विक नागरिकता के विकास में मीडिया एक ऐसा साधन है जो महत्वपूर्ण ही नहीं आवश्यक भी है। लोकतांत्रिक व्यवस्था के तीन स्तम्भ कार्यपालिका, न्यायपालिका और विधायिका के साथ ही मीडिया को भी लोकतंत्र के चौथे स्तम्भ के रूप में माना गया है।

मीडिया संचार का एक ऐसा साधन है जिसके द्वारा हम समाज, राज्य व अन्तर्राज्यीय राज्यों में घटित हो रही किसी भी घटना, किसी भी प्रकार की जानकारी को सहजता से एक व्यक्ति, समाज व राज्य तक आसानी से पहुंचा सकते हैं।

मीडिया प्रिंट, इलेक्ट्रॉनिक और सामान्तर स सोशल मीडिया जैसे फेसबुक, ट्विटर व इंस्टाग्राम के रूप में माना जाता है।

आज के दौर में सोशल मीडिया जिन्दगी का एक अहम हिस्सा बनता जा रहा है। मीडिया की भूमिका वैश्विक नागरिकता के सतत विकास में जो दिखाई देती है वह सोशल मीडिया के रूप में ही देखी जा सकता है यद्यपि अन्य मीडिया की भूमिका भी महत्वपूर्ण है।

सोशल मीडिया अपरंपरागत मीडिया है। यह एक वर्चुअल वर्ल्ड बनाता है, जिसे इंटरनेट के माध्यम से विश्वस्तर पर पहुंच बन सकती है। यह एक विशाल नेटवर्क है जो पूरे विश्व को जोड़े रखता है, पूरे विश्व की घटनाओं की सूचना तुरंत प्रभाव से विश्व स्तर पर पहुंचाता है।

मीडिया मुख्यतः सोशल मीडिया विकास हेतु सकारात्मक भूमिका अदा करता है, जिससे यह किसी भी व्यक्ति, संस्था, समूह व देश आदि को आर्थिक, सामाजिक, सांस्कृतिक और राजनीतिक रूप से समृद्ध बनाता है। यह किसी भी देश की एकता, अखण्डता, पंथनिरपेक्षता, समाजवादी गुणों की भी वृद्धि करता है।

मुख्य बिन्दु: वैश्विक नागरिकता, सोशल मीडिया।



वैश्विक नागरिकता और पोषणीय विकास के लिए महिला सशक्तिकरण में मीडिया की प्रभावी भूमिका

कमलेश मीना¹, डॉ. पूनम चौधरी², डॉ. एन. एल. गुर्जर³

¹शोधार्थी समाजशास्त्र विभाग, राजकीय स्नातकोत्तर महाविद्यालय पुष्कर महर्षि दयानन्द विश्वविद्यालय, अजमेर

²सहायक आचार्य भूगोल विभाग, दिगम्बर स्नातकोत्तर महाविद्यालय, दिबई बुलन्द शहर, उत्तरप्रदेश

³प्राचार्य, बियानी लॉ कॉलेज, जयपुर

संक्षिप्तकी :

मीडिया समाज का आइना या सेतु होता है मनुष्य का व्यवहार उसके व्यक्तित्व का दर्पण होता है। कोई व्यक्ति चाहे कितना ही विद्वान, धनवान हो या हवेली में रहता हो, यदि उसका व्यवहार अच्छा नहीं है तो उसे हम व्यक्तित्व का गरीब या दरिद्र कहते हैं। व्यक्तित्व विकास में हमारे व्यवहार और सद्गुणों की बड़ी महत्वपूर्ण भूमिका होती है। कोई व्यक्ति कितना बड़ा व महान है यह इससे सिद्ध होता है कि उसका व्यवहार एवं कार्य दूसरों के प्रति कैसा है। व्यक्तित्व विकास सबसे बड़ा शत्रु अहंकार है। मनुष्य का व्यवहार वह दर्पण है जो उसका चित्र दिखाता है।

व्यवहार ज्ञान को सुशोभित करता है और संसार में वैश्विक नागरिकता के अभिवृद्धि के मार्ग को सरल बनाता है। न तो कोई किसी का मित्र है और न कोई किसी का शत्रु है व्यवहार से मित्र और शत्रु बन जाते हैं। एक श्रेष्ठ व्यवहार रखने वाला मीडियाकर्मी सर्वश्रेष्ठ एवं सर्वोत्तम वाक एवं अभिव्यक्ति का भली प्रकार संरक्षण करने वाला होता है।

समाज में महिलाओं की आर्थिक, सामाजिक, राजनैतिक विज्ञान, प्रौद्योगिकी व्यवसाय, व्यापार, वाणिज्य, सांस्कृतिक, शैक्षणिक प्रस्थिति एवं उनके अधिकारों में अभिवृद्धि द्वारा स्वावलम्बी एवं आत्म बलशाली बनाने का नाम ही महिला सशक्तिकरण है। आज वैश्वीकरण के दौर में नारीवादी परिप्रेक्ष्य बहुआयामी स्वरूप धारण कर चुका है। महिला को सशक्त और बराबरी का दर्जा देने के लिए लैंगिक समानता पर बल दिया जाता रहा है। महिला सशक्तिकरण की दिशा में संयुक्त राष्ट्र संघ द्वारा प्रतिवर्ष 8 मार्च को महिला दिवस मनाया जाता है। संविधान के अनुच्छेद 14, 15(1) हमने लिंग के आधार पर भेदभाव की प्रतिबंधित करने के साथ अनुच्छेद 15(2) के अन्तर्गत महिलाओं और बच्चों के लिए अलका संरक्षण की व्यवस्था की गई है। संविधान के 73वें और 74वें संशोधन में अनुच्छेद 243(डी) एवं 243 (टी) के अन्तर्गत स्थानीय निकायों के सदस्यों एवं उनके प्रमुखों की एक तिहाई सीटें महिलाओं के लिए आरक्षित की गई है। 21वीं सदी में लैंगिक न्याय की दिशा में आशाधिक प्रगति हुई है। आज की महिला पुरुष के साथ कंधे से कंधा मिलाते हुए प्रत्येक क्षेत्र में बहुत आगे तक उन्नति/प्रगति एवं स्थायी विकास के पथ पर चल रही है।

यह अधिकार भारत के संविधान में अनुच्छेद 19(1)(क) के अन्तर्गत केवल नागरिकों को दिया गया है। इसमें मीडिया अभिकरणों, पत्र-पत्रिकाओं, समाचार-अभिकरणों संस्थानों को (1) प्रचार एवं परिचालन करना (2) दूरभाष पर वार्तालाप करना (3) रेडियो एवं दूरदर्शन द्वारा प्रसारण करना (4) राष्ट्रीय ध्वज फहराना (5) मतदान करना (6) जानकारी करना (7) व्यापारिक विज्ञापन (8) जनसम्पर्क करना (9) प्रचार करना (10) प्रदर्शन करना (11) फिल्मांकन करना (12) व्यापार करना मीडिया में समस्त दृश्य-श्रव्य जनसंचार के माध्यम शामिल किए गए हैं। मीडिया को वाक एवं अभिव्यक्ति की आजादी पर निम्नलिखित युक्तियुक्त आधारों पर प्रतिबंध अनुच्छेद 19(2) के अन्तर्गत निम्नांकित आधार लिए जा सकते हैं। (1) भारत की प्रभुता और अखण्डता (2) राज्य की सुरक्षा (3) विदेशी राज्यों के साथ मैत्री पूर्ण सम्बन्ध (4) लोक व्यवस्था (5) शिष्टाचार एवं सदाचार (6) न्यायालय अवमानना (7) मानहानि और (8) अपराध उद्दीपन इत्यादि आधार युक्तियुक्त प्रतिबंध कहलाते हैं।

प्रेस की स्वतंत्रता का आधुनिक प्रयोग मीडिया द्वारा विचारण करने का हक दिया गया है। वाक औह अभिव्यक्ति की स्वतंत्रता के साथ-साथ मौलिक कर्तव्यों की तरफ बयान रखना परमावश्यक है। मीडिया को हमारे संविधान में चौथी सत्ता या पाया या स्तम्भ कहा जाता है। मीडिया की विभिन्न विधाओं पर लिखना एक कला है। आज मीडिया लेखन का महत्व दिन प्रतिदिन बढ़ता जा रहा है। मीडिया लेखन के द्वारा अन्तर्राष्ट्रीय पर कई ख्यातनाम पत्रकारों ने पर्यावरण बचाने की आड़ में सतत विकास को भलीप्रकार समझते हुए पत्रकारिता की अवधारणा, परिप्रेक्ष्य और विविध पहलुओं को प्रकाशित, प्रसारित, प्रचारित किया जाता है। मीडिया लेखन में समाचार,

सम्पादकीय, आवरणकथा, स्तंभ, रेडियो, दूरदर्शन, छायांकन, उद्घोषणा, फिल्म फीचर एवं रिपोर्टाज लेखन का निर्वहन किया जाता रहा है। आजकल मीडिया कमियों द्वारा स्टिंग ऑपरेशन, पेड न्यूज, आनलाइन मीडिया मल्टी मीडिया आदि कार्यप्रणाली शामिल है। भारत अनेक महर्षियों, संतो, ज्ञानियों ने पर्यावरण जागरूकता और उसके सतत विकास का अभिनव प्रयोग को महत्व दिया गया है। मीडिया कर्मी द्वारा समग्र मीडिया के आयामों को अपनाया जाता है। आज सूचना एवं प्रौद्योगिकी विकास की क्रांति का चुग चल रहा है। सूचना-तकनीक के सुविकसित होने, इंटरनेट के जाल ने पूरी दुनिया को वैश्विक गांव को प्रस्थिति उभरकर सामने आई है। आज मीडिया पर शब्दकोश के साथ-साथ मीडिया विश्वकोश की रचना करने का अभिनव प्रयोग करके मीडिया के नित्य नये नवाचारों को प्रतिस्थापित किया जा रहा है। मीडिया विस्तृत भूमिका का सफल निर्वहन किया जाना ही सतत विकास को अग्रसर करना इसकी प्रभावी भूमिका कही जा सकती है। लेकिन मीडिया मिशन को भूलावा देकर उत्पाद का रूप धारण कर रहा है। बाबा रामदेव ने मीडिया को प्रभावी बनाने में योग संदेश मासिक हिन्दी पत्रिका में प्रचार-प्रसार के माध्यम से योग एवं आयुर्वेद को वैश्विक बाजार का दर्जा दिलाने में अहम भूमिका निभाई है। भारत का योग, पर्यावरण, विज्ञान, कला संस्कृति में वैश्विक स्तर की पहचान बनाई है। इसके पीछे समाचार समीक्षा की पहल ने आगे प्रगति एवं विकास का रास्ता प्रशस्त किया है। मीडिया की इस तरह विश्व नागरिकात और स्थायी विकास करवाने में अपनी अहम् भूमिका का सफलतम निर्वहन किया है। अन्य मीडिया भूमिका के बिन्दू विश्व सम्मेलन के तकनीक सत्राध्यक्ष की अनुमति लेकर प्रस्तुत कर दिए जायेंगे।

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टिकाउ एवं सतत् विकास में मीडिया का योगदान

आशाराम खटीक

रिसर्च स्कॉलर, पत्रकारिता एवं जनसंचार विभाग, वर्धमान महावीर खुला विश्वविद्यालय, कोटा

भारत में पत्रकारिता एवं जनसंचार शिक्षण व प्रशिक्षण के विशेष संदर्भ में

मीडिया, प्रेस अथवा पत्रकारिता से जुड़े लोग इसमें अपनी महती भूमिका निभाते हुए सकारात्मक योगदान दे सकते हैं। भारत में पत्रकारिता एवं जनसंचार प्रशिक्षण का क्षेत्र भी इस दिशा में सक्रिय रहा है। पत्रकारिता एवं जनसंचार विधा वर्तमान परिप्रेक्ष्य में सूचना क्रांति की सहयोगी एवं सूत्रधार रही है। आजादी के बाद से भारत में सस्टेनेबल डवलपमेंट को लेकर विशेष आग्रह रहा और भारतीय जनसंचार माध्यमों ने समय-समय पर इसकी कमी को इंगित किया।

सर्वत्र गरीबी और भूखमरी समाप्त कर खाद्य सुरक्षा, सतत कृषि को बढ़ावा और बेहतर पोषण के साथ स्वस्थ जीवन एवं समावेशी व न्यायसंगत गुणवत्तापूर्ण शिक्षा सुनिश्चित करना, सभी के लिए आजीवन शिक्षा प्राप्ति के अवसरों को बढ़ाना देना, लैंगिक समानता तथा महिला व बालिका सशक्तीकरण, स्वच्छ जल की सतत उपलब्धता और प्रबंधन, सभी के लिए किफायती, भरोसेमन्द व सतत ऊर्जा की उपलब्धता, समावेशी व संचारणीय आर्थिक विकास, पूर्ण और लाभकारी रोजगार, समुत्थानशील अवसंरचना का निर्माण, समावेशी और संधारणीय औद्योगीकरण को बढ़ावा, नवोन्मेष को प्रोत्साहन, विभिन्न देशों के अन्दर व उनके बीच असमानता को कम करना, शहरों और मानव बस्तियों को समावेशी, सुरक्षित समुत्थानशील व संचारशील बनाना, जलवायु परिवर्तन और इसके प्रभावों से निपटने के लिए तात्कालिक कार्रवाई, महासागरों, समुद्रों और समुद्रीय संसाधनों का संरक्षण, स्थलीय पारिस्थितिकी तंत्र का संरक्षण एवं पुनरुद्धार, वनों का सतत विकास तथा मरुस्थल रोधी उपाय करना, भूमि अवक्रमण को रोकना और प्रतिवर्तित करना व जैव विविधता की हानि को रोकना, न्यायपूर्ण, संवेदनशील एवं शांतिपूर्ण, कारगर व समावेशी संस्थाओं का निर्माण, कार्यान्वयन के उपायों का सुदृढीकरण करना और सतत विकास के लिए वैश्विक भागीदारी इत्यादि बिन्दू सतत अथवा टिकाऊ विकास की परिकल्पना के भीतर आते हैं।

सतत विकास लक्ष्य (एसडीजी) वर्ष 2030 तक गरीबी के समस्त आयामों को समाप्त करने के लिए एक साहसिक और सार्वभौमिक समझौता है जो सबके लिए एक समान, न्यायपूर्ण और सुरक्षित सृष्टि का सृजन कर चहुंमुखी विकास व समृद्धि के लिए प्रतिबद्ध है।

सस्टेनेबल डवलपमेंट में मीडिया की सकारात्मक भूमिका:

भारत को पश्चिमी मॉडल के आधार पर एक आधुनिक मुल्क बनाने के लिये टिकाऊ विकास की सबसे ज्यादा आवश्यकता महसूस की गई। इन विकास मानकों में मानव विकास और संसाधनों का विशेष महत्त्व रखा गया। इस महत्ता को सुनिश्चित करने में संचार माध्यमों ने सकारात्मक भूमिका का निर्वाह किया और विकास के विजन ऑडिटिंग को केन्द्र में रखकर आमजन को मिलने वाले लाभ को ध्यान में रखते हुए रिपोर्टिंग की गई। इस सकारात्मक रिपोर्टिंग ने आम आदमी को आधारभूत और ढांचागत विकास के महत्त्व को समझाया और भारतीय राजनीति में सस्टेनेबल डवलपमेंट एक प्रमुख मांग के तौर पर उभरा। ग्रामीण विकास में इस सकारात्मक रिपोर्टिंग ने मनरेगा और पंचायतीराज जैसे नवाचारों को मजबूत बनाने का काम किया।

सस्टेनेबल डवलपमेंट और हिंदी रिपोर्टिंग:

90 के दशक तक हिंदी पट्टी की ज्यादातर रिपोर्टिंग अपराध और राजनीति पर आधारित रही और विकास आधारित खबरों पर लेख और समाचारों का प्रतिशत कम ही रहा है। 90 के बाद आये उदारवाद के बाद हिंदी अखबारों और माध्यमों को भी विकासात्मक रिपोर्टिंग का महत्त्व

समझ में आने लगा। इसके बाद इन माध्यमों में आधारभूत और सतत् विकास को लेकर खबरों और लेखों की संख्या में इजाफा हुआ। इलेक्ट्रॉनिक न्यूज चैनल ने तो अपने शुरुआती दौर से ही सस्टेनेबल डवलपमेंट पर बेहतरीन स्टोरीज की। उदारवाद ने न सिर्फ अखबारों को बल्कि हिंदी बेल्ट को भी सतत् विकास के महत्व को समझाने में अहम भूमिका का निर्वहण किया।

सस्टेनेबल डवलपमेंट रिपोर्टिंग के साथ समस्याएँ और चुनौतियाँ

विकास एक ऐसा विषय है जिससे जुड़ी खबरे सिर्फ क्षेत्र विशेष से सम्बन्धित होती है। साथ ही इसका अप्रत्यक्ष लाभ इतना अधिक छुपा हुआ होता है कि इससे मिलने वाले लाभ को लेकर सूचना प्राप्तकर्ता लगभग उदासीन हो जाता है। सस्टेनेबल डवलपमेंट के रिजल्ट बहुत ही धीमी गति से आते हैं ऐसे में इसे एक बार में रेखांकित कर पाना किसी रिपोर्टर के लिये बहुत ही मुश्किल काम होता है। इससे जुड़ी सूचनाएँ भी काफी नीरस और आंकड़ों पर आधारित होती है, इसलिये इसमें रोचकता और रोमांच का समावेश करना भी एक मुश्किल काम हो जाता है। इन चुनौतियों को पार करते हुये एक पढ़ी जाने योग्य खबर लिख पाना आसान नहीं है। इन वजहों से भी सतत् विकास से सम्बन्धित खबरों को मीडिया में वह स्थान नहीं मिल पाया है जो इसे मिलना चाहिये।

पत्रकारिता की केन्द्रीय सत्ता में रहे पत्रकार, संपादक या मालिकों ने भी इस विषय पर शीतलता बरती और यह क्षेत्र उपेक्षित सा ही रहा। कार्पोरेट सामाजिक उत्तरदायित्व के साथ अपनी जिम्मेदारी का एहसास कहीं न कहीं हमारी मानसिकता व फोकस नहीं करने की कमी के चलते विकासात्मक संचार में आशातीत वृद्धि न हो सकी।

वाक् और अभिव्यक्ति को सशक्त रूप से प्रतिष्ठापित करने के लिए पत्रकार भारतीय समाज में महत्वपूर्ण निभाता है। इसके लिए संवाददाता, संपादक अथवा पत्रकारिता की कोई भी योजक या सहभागी कड़ी के साथ ही जनसंचार के विविध माध्यमों की उपयोगिता एवं महत्व को कदापि नहीं नकारा जा सकता। पत्रकार अथवा जनसंपर्क कर्मियों को समाचार एवं विचारों के सतत् संपर्क, समन्वय और संप्रेषण के लिए मुद्रित माध्यमों (प्रकाशन) या जनसंचार माध्यमों (प्रसारण) अथवा जनसंपर्क माध्यमों, विज्ञापन एवं आधुनिक बहूपयोगी संचार के दृश्यश्रव्य माध्यमों (न्यू/सोशल/डिजिटल/हाइपर मीडिया) का प्रचुर व प्रभावी उपयोग विकासात्मक संचार के लक्षित क्षेत्र सूचना, शिक्षा और मनोरंजन के लिए किया जाता है।

भारतीय संविधान के अन्तर्गत यद्यपि पत्रकारिता एवं जनसंचार, विज्ञापन, जनसंपर्क, समाचार चैनल्स तथा समाचार एंजेंसियों में कार्यरत कर्मियों को पृथक से वाक् एवं अभिव्यक्ति की स्वतंत्रता का अधिकार प्रदत्त नहीं किया गया है। लेकिन खबर पालिका को मजबूत बनाने के लिए अधूनातन अद्यतन निर्णयों में प्रतिपादित उसूलों, सिद्धान्तों एवं दिशा-निर्देशों के माध्यम से विश्व व

भारतीय न्यायपालिका द्वारा अनेक वैधानिक व संवैधानिक अधिकारों और कर्तव्यों का पालन किये जाने के लिए सशक्त बल, प्रभावी व स्तरीय भूमिका का न्यायपालिका द्वारा जनहित याचिकाओं के माध्यम से निर्वहण करवाया गया है। अवाम की आवाज, जनवाणी, जनगण के मन की बात या जनार्दन की खबर को सरकार तक पहुंचाने के लिए पत्रकार व जनसंचार कर्मियों द्वारा भी लोकहित में अनेक जनहित याचिकाएं खबरपालिका के सदस्यों के द्वारा न्यायालय में प्रस्तुत कर उपयुक्त दिशा निर्देश दिलवाये गए हैं। इन सबका समूचा श्रेय पत्रकारिता जगत को ही जाता है।

मीडिया को सरकार के संचालन एवं नियंत्रण सहित सभी सूचनाएं संप्रेषित करने के लिए लोकतंत्र के चौथे पाए की प्रस्थिति प्रदान की गई है। प्रत्येक देश में सफलतम सुशासन संचालित करने के लिए देश के सर्वोच्च, पवित्र आधार भूत दस्तावेज अर्थात् संविधान में प्रदत्त प्रावधानों के अनुसार ही शासन व प्रशासन चलाया जाता है। शासन व प्रशासन व्यवस्था की दशा एवं दिशा के दृष्टिकोण से जनपालिका, व्यवस्थापिका एवं खबरपालिका इत्यादि संविधान के अभिन्न भाग माने गए हैं।

भारत में पत्रकारिता एवं जनसंचार शिक्षण व प्रशिक्षण संस्थानों, महाविद्यालयों, विश्वविद्यालयों एवं केन्द्रों की भूमिका व उपादेयता को नगण्य नहीं किया जा सकता। पत्रकारिता एवं जनसंचार शिक्षण व प्रशिक्षण में व्याप्त चुनौतियों एवं समस्याओं का निराकरण करवाने के क्षेत्र में सैद्धान्तिक व व्यावहारिक, तकनीकी एवं व्यावसायिक शिक्षण व प्रशिक्षण देने के लिए मुक्त विश्वविद्यालयों, सरकारी व गैरसरकारी शिक्षण एवं प्रशिक्षण संस्थानों, स्वायत्त एवं संवैधानिक तथा अन्य संचालित संस्थानों का अपरिमित योगदान अविस्मरणीय एवं अद्वितीय है।

पत्रकारिता और जनसंचार के विकास और संचार माध्यमों व सूचना और प्रौद्योगिकी में अद्यतन परिवर्तन आ जाने के कारण इसके शिक्षण व प्रशिक्षण देने में भी व्यापक परिवर्तन आया है। वर्तमान परिदृश्य के सूचना क्रांति युग में पत्रकारिता की बेहतर गुणवत्तापूर्ण शिक्षा दिनों दिन कम और जनसंचार माध्यमों द्वारा प्रशिक्षण देने की अधिकता बढ़ती जा रही है। अतः वर्तमान में यह आवश्यकता महसूस की जा रही है कि पत्रकारिता एवं जनसंचार के पाठ्यक्रमों एवं इससे संबंधित प्रशिक्षण देने वाले संस्थानों में आमूलचूल परिवर्तन कर उन्हें अत्याधुनिक, तकनीकी व व्यावसायिक एवं प्रौद्योगिकी प्रशिक्षण को आधुनिक बनाया जाये। साथ ही इनमें अधिकाधिक प्रयोगात्मक एवं व्यावहारिक उपादेयता में अभिवृद्धि लाने के उपागम किए जायें।

इसी प्रकार विभिन्न राज्यों में पत्रकारिता एवं जनसंचार विभाग एवं संस्थान तथा उनके द्वारा प्रदत्त स्नातक, स्नातकोत्तर, शोधोपाधि एवं शोधोपरांत अध्येतावृत्ति, उपाधिपत्र, अल्पावधि, पूर्णकालिक, दूरस्थ एवं पत्राचार व ऑनलाइन पाठ्यक्रम, शिक्षण व प्रशिक्षण आदि प्रदान किये जा रहे हैं। देश में 200 से अधिक विश्वविद्यालय मीडिया शिक्षण दे रहे हैं। भारत में पत्रकारिता व जनसंचार प्रशिक्षण को पांच भागों में विभक्त किया गया है—

1. विश्वविद्यालय स्तर पर दिए जा रहे प्रशिक्षण।
2. मुक्त या खुले विश्वविद्यालयों द्वारा चलाए जा रहे पाठ्यक्रम।
3. पत्राचार अध्ययन संस्थान के पाठ्यक्रम।
4. सरकारी संस्थाओं द्वारा आयोजित पाठ्यक्रम।
5. समाचार पत्रों के संस्थान और निजी स्तर पर चलाए जा रहे पाठ्यक्रम।

वर्तमान परिदृश्य की प्रासंगिकता एवं सार्थकता को देखते हुए इन सभी बिन्दुओं पर गहन सिंहावलोकन तथा व्यापक विश्लेषण की जरूरत है। जिससे शोधोपरांत एक ठोस एवं प्रभावी निष्कर्ष तक पहुंचा जा सके। ताकि लोकतंत्र के चतुर्थ स्तंभ पत्रकारिता एवं उनके स्तंभकार कलमकारों को पत्रकारिता एवं जनसंचार के शिक्षण व प्रशिक्षण की दृष्टि से समुचित, वास्तविक, उपादेय और सार्थक ज्ञानार्जन सुलभ हो सके। और वे अपनी मुखर बुलंद आवाज एवं लेखन से अधिकारों के साथ कर्तव्यों, कार्यप्रणाली, सामाजिक दायित्वों एवं आदर्श आचरण संहिता के साथ पीत पत्रकारिता, पेड न्यूज आदि से बचते हुए तटस्थ, निडर व बतौर खबरची समाज का आइना और राष्ट्रहितकारी साबित हों। इसी दिशा में विकासात्मक संचार के सिद्धान्तों का प्रतिपादन करवाते हुए टिकाऊ या सतत् विकास के क्षेत्र में इष्टतम रिपोर्टिंग व कवरेज के माध्यम से जनजागरण कर इसे जनान्दोलन आज की जरूरत है वरना आने वाली पीढ़ियां हमें विरासत में मिले संसाधनों के दुरुपयोग के लिए हमें माफ नहीं करेंगी।

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सुस्वास्थ्य एवं स्वच्छता अभियानों में कुष्ठ रोगियों के मानवाधिकार एवं स्थायी विकास लक्ष्य : शिक्षा के विशेष संदर्भ में एक मूल्यांकन

प्रियंका वर्मा¹, माया गुर्जर²

¹एम.ए. समाजशास्त्र शोधार्थी, राजकीय स्नातकोत्तर महाविद्यालय, पुष्कर, अजमेर (राजस्थान)

²एम.ए. हिन्दी शोधार्थी, आईटीआई, संस्कार भारती स्नातकोत्तर महाविद्यालय, बगरू, जयपुर (राजस्थान)

सारांशिका :

दुनिया का प्रथम परमसुख निरोगी काया को रखना है। यह परमसुख सुस्वस्थ एवं स्वच्छता भरे माहोल में रहने पर आता है। वैश्विक राष्ट्रीय एवं राज्य स्तर पर अनेक स्वास्थ्य एवं स्वच्छता अनेक नीतियाँ, अभियान और कार्य प्रणालियाँ प्रचलन में चल रही है। इसी तरह स्वच्छता के रहने पर शरीर का स्वास्थ्य भी भली प्रकार बरकरार रहता है। शरीर के स्वस्थ नहीं रहने पर कई

बीमारियों में साध्य एवं असाध्य गंभीर प्रकृति की बीमारी से भी व्यक्ति भयंकर रूप से भी ग्रस्त हो सकता है। कई बीमारियों संक्रामक एवं छुआछुत जैसी प्रकृति की होती है। ऐसी ही घातक, संक्रामित एवं असाध्य बीमारी का नाम कुष्ठ या कोड या हानसेन रोग होता है। भारत में सन् 1983 से यह रोग विविध दवाई के द्वारा ईलाज योग्य है। वर्ष 2005 में इस रोग में औपचारिक उन्मूलन के पश्चात् से इसकी कमी में धीमापन आ गया है। इसके बावजूद वर्ष 2017 में पूरे विश्व में कुष्ठ रोगियों के नये मामलों की 50 प्रतिशत संख्या भारत में है। वर्ष 2013-14 में ही भारत में कुष्ठ रोग के 1.27 लाख नए मामले सामने आये हैं। इनमें बहुसंख्यक बच्चे हैं। जो कम उम्र में ही अलग-थलग होने का खतरा झेल रहे हैं। हालांकि कुष्ठ रोग अत्यधिक उग्र रूप का होने पर स्थाई विकलांगता को जन्म दे सकता है। परन्तु आधुनिक चिकित्सकीय खोजों के कारण यह रोग अब पूरी तरह उपचार योग्य है। इस रोग की सबसे बड़ी समस्या इससे जुड़े सामाजिक लांछन की है। इसी कारण कई कुष्ठ रोगियों को इस लांछन से बचने के लिए समाज से अलगाव में रहना पड़ता है। इस बीमारी से वहाँ संक्रामित रोगी बचपन से पढाई लिखाई शिक्षा एवं दीक्षा से पूर्णतया वंचित होकर रह जाता है।

इसी संदर्भ में न्याय मूर्ति ए.पी. शाह की अध्यक्षता वाले 20वें भारतीय विधि आयोग की "कुष्ठ रोग से प्रभावित लोगों के खिलाफ भेदभाव का उन्मूलन" शीर्षक से जारी 256वाँ प्रतिवेदन भारत में कुष्ठ रोग से निपटने की दिशा में महत्वपूर्ण सिद्ध हो सकती है। आयोग द्वारा दी गयी सिफारिशों में दलित एवं वंचित लोगों को प्रदत्त की जा रही सुविधाएँ भी कुष्ठ रोगियों को भी देने तथा उन प्रावधानों को समाप्त करने की सिफारिश की गयी है। जो कुष्ठ रोगियों को चुनाव लड़ने, समाज की संगत करने, शिक्षा हांसिल करने से रोकती है। कई बनाये गये कानून कुष्ठ रोगियों के साथ भेद भाव कर रहे हैं जैसे— भारतीय जीवन बीमा निगम अधिनियम 1956 के तहत जानकर—बूझकर अत्यधिक जोखिम को दृष्टिगत रखते हुए कुष्ठ रोगियों से अधिक प्रीमियम वसूल करने का प्रावधान किया गया है।

इसी तरह हिन्दू विवाह अधिनियम—1955, तथा मुस्लिम विवाह विच्छेद अधिनियम—1939 के तहत मूल वंश कुष्ठ रोग को "असाध्य एवं जहरीला" माना गया है इन कानूनों में कुष्ठ रोग को तलाक का आधार भी माना गया है। इस तरह विकलांगता अधिनियम—1995 में भी कुष्ठ रोग से ग्रसित सभी श्रेणी के लोगों को अपने दायरे में नहीं लाता है। जिससे उन्हें इस कानून के तहत मिलने वाले विशेषाधिकार नहीं मिल पाते हैं। यही नहीं, राज्य भिक्षावृत्ति कानून के अन्तर्गत कुष्ठ रोगियों को "विक्षिप्त" लोगों की श्रेणी में रखा गया है ये कानून रोग ग्रसित कुष्ठ रोगियों को हिरासत में लेने या कुष्ठ आश्रयों में अनिश्चित काल तक के लिए डालने की अनुमति देता है। इसके लिए बनाये गए प्रतिवेदन में कुष्ठ रोगियों के साथ भेद भाव समाप्त कर कुछ सकारात्मक कदम उठाने की सिफारिश की गई है ताकि उनका रोजगार एवं शैक्षणिक संस्थानों में व्यापक समाकलन हो

सके एक आदर्श प्रारूप विधेयक भी बनाकर सौपा गया है जिसके जरिये कुष्ठ रोगियों के साथ बढ़ते जा रहे भेद भाव को समाप्त कर उनके लिए समाज में उचित माहौल तैयार किया जा सके। इस विधेयक के प्रारूप के अन्तर्गत कुष्ठ रोगियों को निम्नलिखित हक एवं हित देने के बारे में सुझाव व्यक्त किये गये हैं।

1. कुछ कानूनों को रद्द करना और संशोधन की पहल में कोड कानून-1998 को समाप्त करने का सुझाव दिया गया है।
2. भेदभाव के खिलाफ उपाय : कुष्ठ रोगियों के साथ स्वास्थ्य, पर्यटन आवास, शिक्षा रोजगार, अन्य बुनियादी सुविधाओं तक पहुँच करने का अधिकार दिया जाना चाहिए।
3. भूमि पाने का हक।
4. रोजगार करने का हक।
5. शैक्षणिक एवं प्रशिक्षण पाने का हक।
6. उचित भाषा कोडी शब्द के प्रयोग करने पर प्रतिबन्ध।
7. यात्रा करने की आजादी का हक।
8. ईलाज में रियायत पाने का हक।
9. सामाजिक जागरूकता में रहने का हक।
10. छुआछूत के विरुद्ध हक देने की सिफारिश की गयी है।

भारत में कुष्ठ रोग उन्मूलन की दिशा में:

1. राष्ट्रीय कुष्ठ रोग नियंत्रण कार्यक्रम सन् 1955 में आरम्भ हुआ।
2. स्वामीनाथन समिति का गठन सन् 1981 में कुष्ठ रोग की व्यापकता।
3. सन् 1983 में राष्ट्रीय कुष्ठ रोग उन्मूलन कार्यक्रम शुरू किया गया था तथा बहुदवा ईलाज प्रणाली की शुरुआत हुई।
4. सन् 1993 से वर्ष 2000 तक विश्व में कुष्ठ रोग उन्मूलन कार्यक्रम प्रारम्भ किया गया था।
5. वर्ष 2001 में राष्ट्रीय स्वास्थ्य नीति के तहत दिसम्बर 2005 तक भारत में कुष्ठ रोग उन्मूलन का लक्ष्य रखा गया अर्थात् कुष्ठ रोगियों की संख्या प्रति 10 हजार की आबादी पर 1 से कम रोगी आंकलित किये गये हैं।
6. वर्ष 2012 में देश के 16 राज्यों/केन्द्र शासित प्रदेशों में कुष्ठ रोग की अधिक संकेन्द्रण वाले 209 जिलों में विशेष कार्ययोजना लागू की गयी थी।

अन्तर्राष्ट्रीय स्तर पर वर्ष 2010 में कुष्ठ रोग से ग्रसित लोगों के खिलाफ भेदभाव का उन्मूलन कर संयुक्त राष्ट्र महासभा का प्रस्ताव पारित कर दिया गया है। वर्ष 2007 का विकलांग लोगों के

अधिकारों पर संयुक्त राष्ट्र अभिसमय बनाया गया था। भारत ने इन दोनों समझौतों पर हस्ताक्षर कर रखे हैं और वह संयुक्त राष्ट्र महासभा का सदस्य है। जिसने कुष्ठ रोग को समाप्त करने के बारे में सर्वसम्मति से एक प्रस्ताव पारित कर रखा है। कुष्ठ से पीड़ित स्कूल में पढ़ रहे बच्चों की शिक्षा की दशा प्रारम्भिक शिक्षा से उच्च शिक्षा में नगण्य स्थान है। शिक्षा के हक को मौलिक अधिकार प्रदत्त करने के बावजूद दन विद्यार्थियों की शिक्षा ग्रहण करने में 0.002 फीसदी स्थान है। अन्य पुख्ता आधार तकनीकी सत्र में अध्यक्ष महोदय की अनुमति लेकर प्रस्तुत किये जायेंगे।

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मानव तस्करी : भारत के परिपेक्ष्य में

सुमन कुमारी

एल.एल.बी. प्रथम वर्ष, बियानी लॉ कॉलेज, जयपुर

भारत में मानव तस्करी मुख्यतया भारतीय दंड संहिता, 1860 के अंतर्गत एक अपराध है। संहिता कहती है कि तस्करी का अर्थ है, बलपूर्वक तरीकों से, शोषण के लिए (प) किसी व्यक्ति की भर्ती, (पप) उसका परिवहन, (पपप) उसे रखना, (पअ) उसे ट्रांसफर करना, या (अ) उसकी प्राप्ति। इसके अतिरिक्त ऐसे कानून भी हैं जो विशिष्ट कारणों से की गई तस्करी को रेगुलेट करते हैं। उदाहरण के लिए यौन उत्पीड़न के लिए मानव तस्करी के संबंध में अनैतिक तस्करी (निवारण) एक्ट, 1986 है। इसी प्रकार बंधुआ मजदूरी रेगुलेशन एक्ट, 1986 और बाल श्रम रेगुलेशन एक्ट, 1986 बंधुआ मजदूरी के लिए शोषण से संबंधित हैं। इनमें से प्रत्येक कानून स्वतंत्र तरीके से काम करता है, उनकी अपनी प्रवर्तन प्रणाली है और ये कानून मानव तस्करी से संबंधित अपराधों के लिए दंड का प्रावधान करते हैं।

राष्ट्रीय अपराध रिकॉर्ड्स ब्यूरो के अनुसार, भारत में 2016 में भारतीय दंड संहिता, 1860 के अंतर्गत मानव तस्करी के कुल 8,132 मामले दर्ज किए गए थे।¹ पिछले वर्ष की तुलना में इसमें 15% की वृद्धि थी। उसी वर्ष (2016) तस्करी के शिकार 23,117 लोगों को छुड़ाया गया था। इनमें से बलात श्रम के लिए तस्करी का शिकार हुए व्यक्तियों को सबसे अधिक संख्या में छुड़ाया गया था (45.5%)। इसके बाद वेश्यावृत्ति का स्थान था (21.5%)। तालिका 1 में विभिन्न कारणों से तस्करी का शिकार हुए लोगों का विवरण है (2016 का)।

2011 में भारत ने यूनाइटेड नेशंस कन्वेंशन अगेंस्ट ट्रांसनेशनल ऑर्गेनाइज्ड क्राइम्स, 2000 और मानव तस्करी के निवारण, उसके शमन और दंड से संबंधित प्रोटोकॉल को मंजूरी दी थी।¹⁸ 2015 में सर्वोच्च न्यायालय के आदेश के बाद महिला एवं बाल विकास मंत्री ने एक कमिटी का गठन किया ताकि मानव तस्करी पर व्यापक कानून बनाने की व्यावहारिकता की जांच की जा सके।¹⁹

18 जुलाई, 2018 को महिला एवं बाल विकास मंत्री मेनका गांधी ने मानव तस्करी (निवारण, संरक्षण और पुनर्वास) बिल, 2018 को लोकसभा में पेश किया। 26 जुलाई, 2018 को बिल एक सदन में पारित हो गया। बिल तस्करी के शिकार लोगों के बचाव, उन्हें छुड़ाने और उनके पुनर्वास का प्रावधान करता है।

प्रमुख विशेषताएं

बिल कहता है कि उसके प्रावधानों को दूसरे कानूनों के संयोजन से पढ़ा जाएगा और उसके प्रावधान तभी लागू होंगे, जब किसी प्रकार असंगति होगी। बिल की प्रमुख विशेषताओं में निम्नलिखित शामिल हैं:

तस्करी की परिभाषा: बिल कहता है कि बलपूर्वक तरीकों से, शोषण के लिए (प) किसी व्यक्ति की भर्ती, (पप) उसका परिवहन, (पपप) उसे रखना, (पअ) उसे ट्रांसफर करना, या (अ) उसकी प्राप्ति तस्करी है। इन तरीकों में धमकी देना, बल का प्रयोग करना, अपहरण करना, धोखाधड़ी और चालाकी करना, ताकत का दुरुपयोग करना या लालच देना शामिल हैं। उत्पीड़न में शारीरिक या यौन उत्पीड़न, दास बनाना, या जबरन शरीर के अंग निकालना शामिल हैं।

गंभीर प्रकार की तस्करी: बिल कुछ विशेष उद्देश्यों से की गई तस्करी को तस्करी के 'गंभीर' प्रकार कहता है। इनमें: (प) बलात श्रम करवाने, (पप) बच्चे पैदा करने, (पपप) कम उम्र में यौन परिपक्व करने के लिए रासायनिक पदार्थ या हारमोन्स देने, या (पअ) भीख मंगवाने के लिए तस्करी शामिल है। गंभीर किस्म की तस्करी के लिए सजा सामान्य तस्करी से अधिक है।

तस्करी के पीड़ितों को छुड़ाना और उसकी जांच: बिल तस्करी के शिकार लोगों को छुड़ाने और अपराधों की जांच के लिए जिला, राज्य और राष्ट्रीय स्तरों पर विभिन्न अथॉरिटीज की स्थापना करता है।

जिला स्तर पर राज्य सरकार एंटी ट्रैफिकिंग पुलिस अधिकारियों को नियुक्त करेगी और लोगों को छुड़ाने तथा अपराधों की जांच करने के लिए एक या अधिक जिलों में एंटी ट्रैफिकिंग यूनिट्स की स्थापना करेगी। छुड़ाए गए लोगों को मैजिस्ट्रेट या बाल कल्याण समिति (अगर पीड़ित बच्चा है) के सामने पेश किया जाएगा। अथॉरिटीज से अपेक्षा की जाएगी कि वे अपराध की जांच

एफआईआर दर्ज होने की तिथि से 90 दिनों के अंदर पूरी करें। जिला पुलिस नोडल अधिकारी जिला प्रशासन के कार्यों का निरीक्षण करेगा, जिसे राज्य सरकार द्वारा नियुक्त किया जाएगा।

राज्य सरकार, राज्य स्तर पर भी एक नोडल अधिकारी को नियुक्त करेगी, जिसके निम्नलिखित कार्य होंगे: (प) राज्य में मानव तस्करी को रोकना, (पप) जिला स्तरीय एंटी ट्रैफिकिंग अधिकारियों के कामकाज का निरीक्षण करना, और (पपप) राज्यों के भीतर और बाहर पीड़ितों, गवाहों, सबूतों और अपराधियों के ट्रांसफर का समन्वय करना, और उनका निरीक्षण करना। जिला पुलिस नोडल अधिकारी, राज्य नोडल अधिकारी को रिपोर्ट करेगा।

राष्ट्रीय स्तर पर केंद्र सरकार राष्ट्रीय एंटी ट्रैफिकिंग ब्यूरो बनाएगी जोकि दो या उससे अधिक राज्यों से आने वाले मामलों की जांच कर सकती है।

संरक्षण और पुनर्वास: बिल अपेक्षा करता है कि पीड़ितों को शरण, भोजन, काउंसिलिंग और मेडिकल सुविधाएं प्रदान करने के लिए केंद्र या राज्य सरकार संरक्षण गृह बनाए। इसके अतिरिक्त केंद्र या राज्य सरकार प्रत्येक जिले में पुनर्वास गृह भी बनाए ताकि लंबे समय के लिए पीड़ितों का पुनर्वास किया जा सके। बिल केंद्र और राज्य सरकारों से यह अपेक्षा भी करता है कि वे पीड़ितों के पुनर्वास के लिए जिला, राज्य और राष्ट्रीय स्तर पर एंटी ट्रैफिकिंग कमिटियां बनाए।

जिला स्तर की एंटी ट्रैफिकिंग अथॉरिटीज जब किसी व्यक्ति को छुड़ाए तो उनसे यह अपेक्षा की जाएगी कि वे बचाव अभियान के बारे में जिला स्तरीय एंटी ट्रैफिकिंग कमिटी को सूचना देंगी। इसके बाद कमिटी छुड़ाए गए व्यक्ति को अंतरिम राहत और पुनर्वास सेवाएं प्रदान करेगी। जिला कमिटी निम्नलिखित कार्य भी करेगी: (प) पीड़ितों का संरक्षण, उनका पुनर्वास और बहाली सुनिश्चित करने के लिए संरक्षण और पुनर्वास गृहों को निर्देश जारी करना, और (पप) अगर छुड़ाए गए व्यक्तियों से बंधुआ मजदूरी कराई जा रही थी, तो उनके अंतरराज्यीय प्रत्यर्पण को आसान बनाना।

राज्य स्तर पर एंटी ट्रैफिकिंग कमिटी निम्नलिखित के लिए जिम्मेदार होगी: (प) कर्मचारियों के प्रशिक्षण और संवेदीकरण (सेंसिटाइजेशन) का प्रबंधन करना, और (पप) अपराधों, विशेषकर ऐसे अपराधों को रोकने में मदद करना और इनपुट्स देना, जिनका असर अंतरराज्यीय हो या जिनकी विशिष्टता संगठित अपराध जैसी हो।

पीड़ितों का पुनर्वास आरोपी के खिलाफ आपराधिक कार्यवाही शुरू होने या उस कार्यवाही के परिणाम पर निर्भर नहीं करेगा। केंद्र सरकार एक पुनर्वास फंड भी बनाएगी जिसे संरक्षण एवं पुनर्वास गृह बनाने में इस्तेमाल किया जाएगा।

बचाव उपाय: जिला और राज्य स्तरीय एंटी ट्रैफिकिंग कमिटियां ऐसे उपाय करेंगी जिनसे अति संवेदनशील लोगों को सुरक्षा मिले और उन्हें तस्करी का शिकार होने से रोका जा सके। इन उपायों में निम्नलिखित शामिल हैं: (प) अति संवेदनशील समुदायों के लिए जीविकोपार्जन और शैक्षणिक कार्यक्रम चलाना, (पप) तस्करी को रोकने के लिए विभिन्न सरकारी कार्यक्रमों और

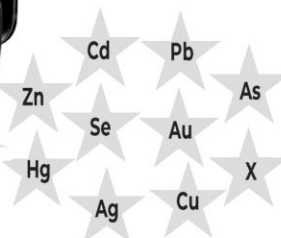
योजनाओं के कार्यान्वयन को आसान बनाना, और (पपप) तस्करी के निवारण को सुनिश्चित करने के लिए कानून और व्यवस्था संबंधी फ्रेमवर्क बनाना।

विशेष अदालतें: बिल कहता है कि प्रत्येक जिले में निर्दिष्ट अदालतें बनाई जाएं जोकि तस्करी के मामलों में एक वर्ष के अंदर ट्रायल पूरा करने का प्रयास करें।

सजा: बिल विभिन्न अपराधों के लिए सजा निर्दिष्ट करता है। तालिका 2 में इनका विवरण दिया गया है। सभी अपराध संज्ञेय (यानी पुलिस अधिकारी किसी व्यक्ति को बिना वारंट के गिरफ्तार कर सकता है) और गैर जमानती हैं। उल्लेखनीय है कि अगर कोई व्यक्ति इस बिल और किसी दूसरे कानून, दोनों के अंतर्गत दोषी पाया जाता है तो जिस कानून के अंतर्गत अधिक बड़ी सजा निर्दिष्ट है, वही लागू होगा।

□□□

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Se

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Rb

Sr

Y

Zr

Nb

Mo

Tc

Ru

Rh

Pd

Ag

Cd

In

Sn

Sb

Te

I

Cs

Ba

Hf

Ta

W

Re

Os

Ir

Pt

Au

Hg

Tl

Pb

Bi

Po

At

■ Analysis application developed
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Biyani BioSolutions Pvt. Ltd.

R-4, Sector-3, Vidhyadhar Nagar, Japur-302039, India

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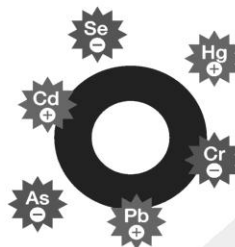
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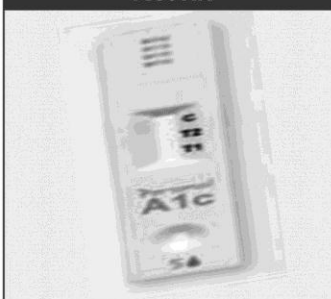
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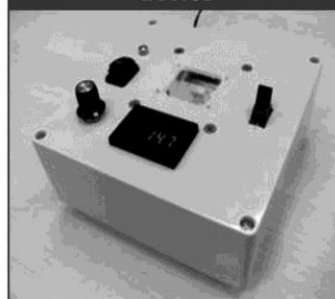
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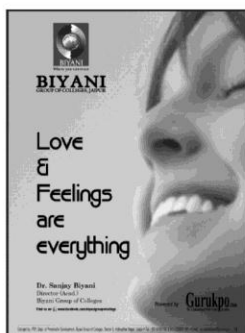
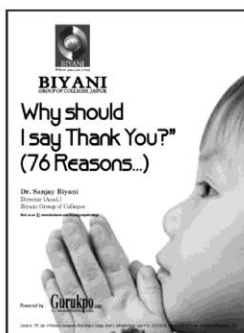
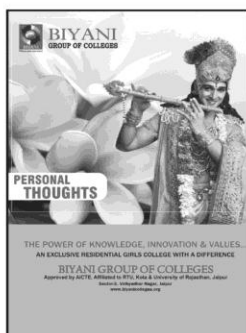
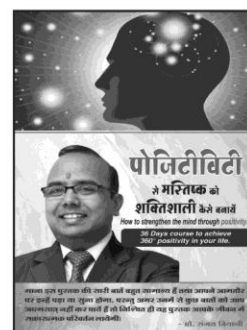
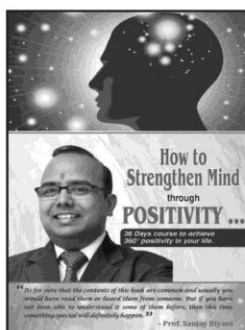
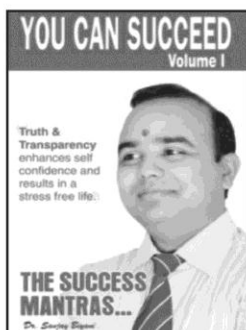
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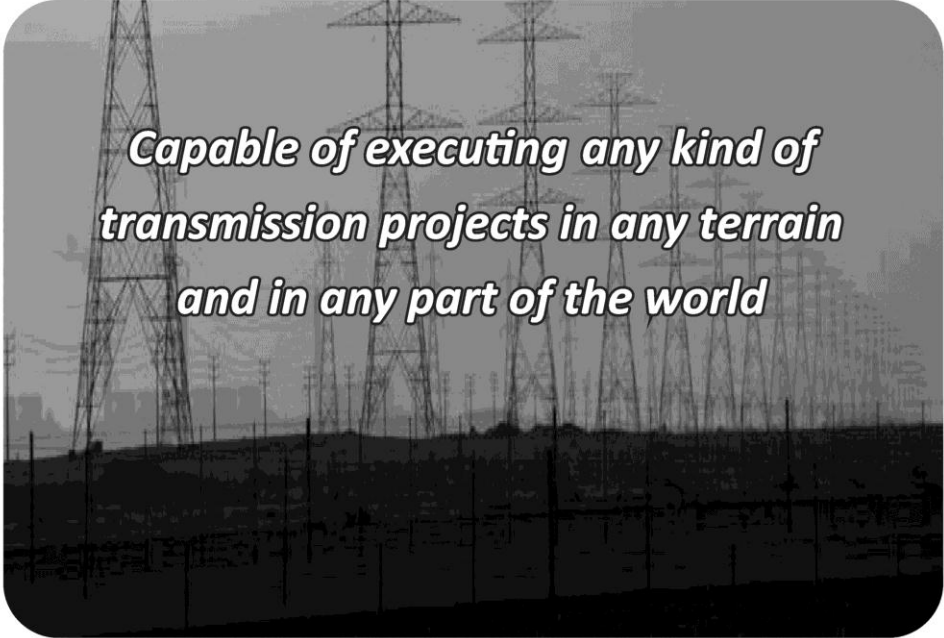
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