Impact of Environmental Stressors on Human and Disaster Management

Editor
Prof. Ashwani Kumar Dubey (FIASc; FESW; FSLSc)
(Zoology, Ichthyology, Biochemistry, Free Radical Biology,
Toxicology & Stress Monitoring)

09th Annual national research conference: 2022

Impact of Environmental Stressors on Human and Disaster Management

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ESW IX Annual National Research Conference on
Impact of Environmental Stressors on Human and Disaster Management

30 & 31 January, 2022 at World Heritage site Khajuraho, India.

Organizes by

Environment and Social Welfare Society, Khajuraho, MP

In Association with

Dr. Bheem Rao Ambedkar University of Social Science, MHOW, Indore

Vikram University, Ujjain, Madhya Pradesh

Rani Durgavati Vishwavidyalaya Jabalpur, Madhya Pradesh

Govt. Degree College, Chenani, Udhampur, Jammu & Kashmir, India

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DR. ASHWANI KUMAR DUBEY **(FESW, FIASc., FSLSc.)** is a Leading Scientist in the 21st century in India. He is serving as Executive Director, Godavari Academy of Science & Technology, Environment and Social Welfare Society, Chhatarpur, Madhya Pradesh, India. *He is dedicated to Environment, Education, Art and Sciences & Technology entire India since bi-millennium.*

He started his career as Scientist (R&D) Rank Industries Ltd., Nellore, in Andhra Pradesh State (1995-97). **Assistant Professor of Zoology** at RBS College, Rajnagar, MP (1997-04). **Guest Lecturer of Zoology**, in Higher Education Department, Government of Madhya Pradesh (2004-17). **Officer, Information Technology**, Maharaja Chhatrasal Bundelkhand University, Chhatarpur, MP (2017-18). Presently serving as **Professor** of Zoology, Dean Faculty of Science and Chairman Board of Studies in Shri Krishna University, Chhatarpur, MP.

He has born in Village Nahdora near world heritage Khajuraho in July 01, 1970. He is a graduate & Post Graduate of Government Maharaja College, Chhatarpur Madhya Pradesh and obtained his Ph. D. Degree at Vikram University, Ujjain Madhya Pradesh, India at the age of 25.

Research field: Zoology, Ichthyology, Biochemistry, Free Radical Biology, Toxicology and Stress Monitoring, Aquaculture Pathology, Water Quality Assurance, Biodiversity, Environmental Impact Assessment and Bio-Resources Conservation.

Twenty eight Research papers have been published in International, National Journals, Proceeding and in Book. **Thirteen Book** published by reputed publisher from India & Germany including **"**Cell and Developmental Biology**" "**Genetics" "Vertebrates and Evolution" "Climate change and global health management" "Tools and Techniques in Biology" "Environmental Studies and Disaster Management**", Seventy seven abstract published** in Souvenir/Abstract book. **Seven Interdisciplinary** academic article in Standard Magazine, ***Two Scientific talk broadcasted*** *by All India Radio.* ***Hundred forty four + Research paper*** *presented in International and National Conferences/ Seminar/ Symposium as Invitee lecture and Delegates*.

Honorary as **Co-ordinator,** DNA Club, DBTs Natural Resources Awareness Club, The National Academy of Sciences, India (2006 to present). **Casual Announcer,** All India Radio, Chhatarpur. (2014-2016). **Mentor (Trustworthy Advisor)** Chitrakoot Gramoudai University, Chitrakoot, MP (2015 to 2017). **Academic Counselor**, (Honorary) Environment, Indira Gandhi National Open University (IGNOU), New Delhi, CES Programme, Chhatarpur, MP (2016-present). **Volunteer** Science Portal India, New Delhi (2017-present). **Volunteer Educate:** Earth Day, Washington, DC, US (2020- Present). **Volunteer** World Wide Fund, Switzerland. Active Member of International Union for Conservation of Nature, Switzerland (2017 to 2020 & 2021 to2025) and Empanelled with Centre for Entrepreneurship Development Madhya Pradesh (CEDMAP) Bhopal MP.

His personal interests include Reading, Writing, Traveling and Photography.

Dr. Ashwani is widely regarded as one of India's foremost experts on Zoology & Environmental sciences. He **awarded** many prestigious awards by National and International institution. He is in editorial board member of Research Journals in India, America, United Kingdom, Egypt, France, Syria, Nepal, Iraq, Sudan, Malaysia, Romania and Japan. And he is an Advisor of Research Board of America, USA.

Research output: Proposed peroxidative theory of mucous secretion in *Heteropneustes fossilis* published in Comp Biochem Physiol C Pharmacol Toxicol Endocrinol. 1995 Nov; 112(3): 309-13.

Currently: Honored for **Vigyan Ratn** 2020 from Singapore.

डॉ. धृति बैनर्जी
निदेशक
Dr. Dhriti Banerjee
Director

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Government of India
Zoological Survey of India
Ministry of Environment, Forest and Climate Chang

Azadi Ka Amrit Mahotsav

MESSAGE

I am delighted to know that the Environment and Social Welfare Society (ESW Society), Khajuraho, Madhya Pradesh, India is being organized ESW 9th Annual National Research Conference on "Impact of Environmental Stressors on Human and Disaster Management" during 30 & 31 January, 2022 at World Heritage site of India Khajuraho, Madhya Pradesh.

Disaster management aims to reduce, avoid and the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery.

I congratulate to Dr. Ashwani Kumar Dubey organizing secretary and team members for organizing this conference. I am greatly hopeful that this conference will provide a platform to researchers, academicians and policy makers to interact and enable exchange of ideas for the Environmental Stressors on Human and Disaster Management.

Dhriti Banerjee

Dr. Dhriti Banerjee

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कुलपति

Prof. Kapil Deo Mishra
Vice-Chancellor

Jan. 07, 2022

Message

I am delighted to know that 'Environment & Social Welfare Society' Khajuraho, Madhya Pradesh which is dedicated to Environment, Education, Art, Science & Technology throughout India, since, bi-millennium, is organizing IX Annual National Research Conference on **"Impact of Environmental Stressors on Human and Disaster Management"** in association with Dr. Bheem Rao Ambedkar University, MHOW, Indore, Vikram University, Ujjain, Madhya Pradesh, **Rani Durgavati Vishwavidyalaya, Jabalpur, Madhya Pradesh** and in collaboration with Govt. Degree College Chenani, Jammu & Kashmir and ICAR – Central Agroforestry Research Institute, Jhansi, Uttar Pradesh to be held during 30th & 31st January, 2022 at World Heritage site of India Khajuraho.

The conference provides the opportunity to the environmentalists, researchers and academicians to deliberate upon the vital and key issues pertaining to **Environmental Stressors on Human and Disaster Management** and to share their ideas on the relevant subject.

I congratulate Dr. Ashwani Kumar Dubey for organizing this National conference and wish him great success of the conference. I am greatly hopeful that this programme will provide a platform to students, researchers, academicians and policy makers to interact and enable exchange of ideas for the Environmental Stressors on Human and Disaster Management for the benefit of living world.

(Kapil Deo Mishra)

प्रो. अखिलेश कुमार पाण्डेय
कुलपति
Prof. Akhilesh Kumar Pandey
Vice Chancellor

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MESSAGE

I am glad to know that 'Environment & Social Welfare Society' Khajuraho, Madhya Pradesh is organizing IX Annual National Research Conference on "**Impact of Environmental Stressors on Human and Disaster Management**" to be held during 30 & 31 January, 2022 at World Heritage site of India Khajuraho, Madhya Pradesh. The conference provides the opportunity to the environmentalists, researchers and academicians to deliberate upon the vital and key issues pertaining to **Environmental Stressors on Human and Disaster Management** and to share their ideas on the relevant subject.

Environmental stress refers to physical, chemical, and biological constraints on the productivity of species and on the development of ecosystems. When the exposure to environmental stressors increases or decreases in intensity, ecological responses result. Stressors can be natural environmental factors, or they may result from the activities of humans. Some environmental stressors exert a relatively local influence, while others are regional or global in their scope. Stressors are challenges to the integrity of ecosystems and to the quality of the environment.

I convey my sincere best wishes to Dr. Ashwani Kumar Dubey, the Organising Secretary and entire team of the organising committee of National conference for great success of the conference.

8/1/22

(Prof. Akhilesh Kumar Pandey)

महात्मा गाँधी चित्रकूट ग्रामोदय विश्वविद्यालय, चित्रकूट
MAHATMA GANDHI CHITRAKOOT GRAMODAYA VISHWAVIDYALAYA, CHITRAKOOT
District -Satna (M.P.) - 485 334, INDIA
(Established by the Govt. of Madhya Pradesh through legislature by Act No.09 of Year 1991)
Grade 'A' Accredited by 'NAAC'

Prof. Bharat Mishra
Vice- Chancellor

Ref. : VC /22/1820
Date 13-01-2022

MESSAGE

I am glad to learn that 'Environment & Social Welfare Society, Khajuraho, Madhya Pradesh' is organizing the IX Annual National Research Conference on "**Impact of Environmental Stressors on Human and Disaster Management**" on 30 & 31 January 2022 at Khajuraho, Madhya Pradesh.

I hope this conference will provide the opportunity to the researchers, academicians and students to deliberate upon the vital and key issues pertaining to environment and disaster management of the country and to share their ideas on the subject.

I am very much sure, this will go a long way to imbibe spirit to face the challenges in the youth and this platform will provide an opportunity to the youngsters for deep interactions with experts from various Institutions and Universities of the country presence on the occasion

I herewith extend my best wishes to the Organising Secretary and Committee of this National Conference for the grand success of the Conference.

13.01.22

(Bharat Mishra)

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No.: GDC/2022/01
Date: 8.01.2022

MESSAGE

It is immensely gratifying that Environment & Social Welfare Society, Khajuraho is organizing the ESW IX Annual National Research Conference on "Impact of Environmental Stressors on Human and Disaster Management' on 30th and 31st Jan. 2022 at the World Heritage Site, Khajuraho. I am even more delighted that Govt. Degree College, Chenani, Dist. Udhampur (J&K) is collaborating along with the three prestigious Universities of Madhya Pradesh with ESW in organizing this mega event.

Organizing such an event at this point of time reinforces our objective of pondering over the development of a sustainable environment for the future of the planet earth.

The program has already shaped up to an excellent level, and the opportunities will be indeed outstanding. The backdrop of the beautiful and historic town of Khajuraho will add to the pleasure of the meeting and provide lasting memories beyond the science.

I add my best wishes for successful and fruitful deliberations by all the participants and my thanks to all the organizers. I hope that the conference serves as a locus for interdisciplinary exchange, a space for discourse and collaboration.

My best wishes!

8.01.2022

Dr. Pragya Khanna

Dr. Anil Kothari
डॉ. अनिल कोठारी
Director General
महानिदेशक

Madhya Pradesh Council of Science & Technology
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MESSAGE

I am delighted to know that the Environment and Social Welfare Society, Khajuraho, Madhya Pradesh is organizing its ESW IX Annual National Research Conference on **Impact of Environmental Stressors on Human and Disaster Management** during 30 & 31 January, 2022 at World Heritage site Khajuraho, India.

This conference would provide a common platform to thinkers, planners, policy makers and executors to interact on burning theme and yield some positive fruitful conclusion.

I extend my best wishes for the grand success of the conference

Dr. Anil Kothari

Acknowledgement

This is an honor for Environment and Social Welfare Society, Khajuraho organize its ESW 9th Annual National Research Conference on "Impact of Environmental Stressors on Human and Disaster Management" during 30 & 31 January, 2022 at Khajuraho.

I am Thankful to Prof. Asha Shukla, Honourable Vice Chancellor, Dr. Bheem Rao Ambedkar University, MHOW, Indore, Dr. Akhilesh Kumar Pandey, Honourable Vice Chancellor, Vikram University, Ujjain, Madhya Pradesh, Prof. Kapil Deo Mishra, Honourable Vice Chancellor, Rani Durgavati Vishwavidyalaya, Jabalpur, Madhya Pradesh, Dr. Pragya Khanna, Principal, Govt. Degree College Chenani, Jammu & Kashmir, Dr. Arunachalam, Ayyanadar**,** Director, ICAR – Central Agroforestry Research Institute, Jhansi, Uttar Pradesh, Dr. Sunita Sharma, President, Mahakoushal Vigyan Parishad, Unit of Vigyan Bharti, Jabalpur, Dr. Yelloji-Rao K Mirajkar, Piscataway, NJ, International Convenor, Global Indian Scientists and Technocrats Forum, Dr. Satya Prakash Mehra, Rajputana Society of Natural History, Rajasthan, Dr Jayanta Choudhury, Global Forum for Sustainable Rural Development, Guwahati for Support this conference.

I am thanking to International institute Dr. Hafeez Basha, Technology Basha Research Corporation, Singapore. Dr. Monika Axini, MONACHUS, Group of Scientific Research and Ecological Education, Hortensiei Alley, Constanta, Romania, Dr. Fawaz Azki Geological Museum, Kismin, Syria and Dr. Shahram Dadgar, Iranian Ornamental Fish Society, Tehran for its association in IX ESW ANRC-K 2K22.

It is my privilege and pleasure to express my profund gratitude to our Inaugural and Valedictory session Chief Guest Dr. Dhriti Banerjee, Director, ZSI, Ministry of Environment, Forest and Climate Change, Govt. of India, Kolkota, West Bengal.

I am heartily thankful to honorable Invitee Guest who have very kindly consented and given us an opportunity to share valuable thought which will provide milestone on the way of leading Scientists in the Conference.

I am heartly thankful to Dr. Nandita Pathak, Social Entreprenuer Founder Director Udyamita Vidyapeeth JP Foundation at Social Work, Dr. Bharat Pathak, Brand Ambassador Namami Gange, GoI India, Mr. D. P. Dwivedi, SDM Rajnagar who have kindly consented for Valedictory function & Award Ceremoney of this ESW IX ANRC-K 2K22

I am especially thankful to all delegates who actively participated in this Conference. I am thankful to Electronic and Print Media. I am profoundly thankful to my Board of Director and All members of ESW Society for their invaluable cooperation, and those entire person who are directly or indirectly concerned with this conference.

Dr. Ashwani Kumar Dubey

Environment and Social Welfare Society

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EDITORIAL

Environmental stress refers to physical, chemical, and biological constraints on the productivity of species and on the development of ecosystems. When the exposure to environmental stressors increases or decreases in intensity, ecological responses result. Stressors can be natural environmental factors, or they may result from the activities of humans. Some environmental stressors exert a relatively local influence, while others are regional or global in their scope. Stressors are challenges to the integrity of ecosystems and to the quality of the environment.

The **ESW 9th Annual National Research Conference** on "**Impact of Environmental Stressors on Human and Disaster Management**" during 30 & 31 January, 2022 at World Heritage site Khajuraho. The theme is "To take some positive steps towards improving our Earth for future generation" which will underpin the need for collaboration and cooperation of individuals from a wide range of professional backgrounds.

The ESW Conference will strive to offer plenty of networking opportunities, providing you with the opportunity to meet and interact with the leading professionals as well as sponsors and exhibitors. And also to provide a platform to Educational Administrators, College Principals, Deans, Readers, Head of Departments, Professors, Assistant Professors, Scientists, Environmentalist, Stakeholders, Researchers, Young scientists and Students to disseminate knowledge related to Nature Conservation, Resource Management and possible solution by Technological Approach.

Dr. Ashwani Kumar Dubey

About Environment & Social Welfare Society, Khajuraho

Environment & Social Welfare Society (ESW Society) *Dedicated to Environment, Education and Sciences & Technology entire India since bi-Millennium* is an ISO 9001:2015 certified organization of the India. Now it's worldwide known by its impact. ESW Society has been to develop relationship between Environment and Society envisions the promotion of Education and Sciences among the University, College and School students as well as in the society for Environment and Social welfare as well as Human Welfare.

It is registered under the society Act 1973, Government of Madhya Pradesh, India on 31 January 2000 with No SC2707. It was affiliated by Nehru Yuva Kendra Sangathan, Ministry of Youth Affairs and Sports, Government of India. It accredited by Madhya Pradesh Jan Abhiyan Parishad, Government of Madhya Pradesh, since 2013, also enrolled in Navankur Yojana with enrollment number NV2016CHH0062 Dated 29/09/2016. It is also registered with NGO-PS, Government of India And having The NGO-Partnership System, Portal (NGO-DARPAN), NITI Aayog, (National Institution for Transforming India), Govt. of India. ID MP/2014/0076324.

Object of The ESWSociety:

1. To establish, arrangement and management all around development in the field of Education and expansions of educational institutions.
2. To develop Ideal morality, Character building in the Children according to Indian tradition and Culture.
3. All around development of the Children. Arrange training programme to establish Self Employment Centre.
4. To organize Seminar for Environmental management, Pollution control, and establish Awareness centre for the same.
5. To make awareness for Social welfare. Check against Animal cruelty and to protect against cruelty and Tyrany.
6. Open animal house for improvement of animal health and provid necessary facility for them.
7. To highlight modern Technology, Computer, Games & Sports, Music, Art, Literature, and various languages Hindi, English, Urdu, and other foreign languages in the field of Education.
8. Establish Research Centre

International Journal of Global Science Research (IJGSR)

Abbreviated title: Int. J. Glob. Sci. Res.
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Focus subject, **Environmental Sciences**
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ESW IX Annual National Research Conference on 30 & 31 January, 2022
Impact of Environmental Stressors on Human and Disaster Management

About ESW IX Annual National Research Conference

Dear
It gives us immense pleasure to invite and welcome you in the **Environment and Social Welfare Society (ESW Society),** Khajuraho, Madhya Pradesh, India to participate in **ESW 9th Annual National Research Conference** on "**Impact of Environmental Stressors on Human and Disaster Management**" being organized by Environment and Social Welfare Society, Khajuraho, India to be held during 30 & 31 January, 2022 (Sunday & Monday) at World Heritage site Khajuraho, MP, India.

Object: To provide a platform to Vice Chancellors, Educational Administrators, Academicians, Professors, Readers, Associate Professors, Assistant Professors, Scientists, Environmentalist, Researchers, Young scientists and Post Graduate Students to disseminate knowledge related to **Environmental Stressors and Disaster Management.**

Goal: The principal goal of this conference will be to present some of the latest outstanding breakthroughs in **Environmental Stressors and Disaster Management**, to bring together both young and experienced scientists from all regions of the world, and to open up avenues for research collaborations at regional and global level.

Theme: To take some positive steps towards improving our **Environmental Stressors and Disaster Management** for our future generation

THE GENERAL TOPICS COVERED IN THE CONFERENCE WILL BE AS UNDER

1. **Biological Sciences:** Biological Sciences, Agricultural Science, Anthropology and Behavioral Sciences, Animal Husbandry, Aquaculture, Biodiversity, Biotechnology, Biochemistry, Bioinformatics, Cell and Molecular Biology, Fish and Fisheries, Home Sciences, Immunology, Life Sciences, Limnology, Medical Sciences, Microbiology, Nutrition, Plant Sciences, Taxonomy, Tissue Culture, Toxicology, Veterinary Sciences, Wildlife Conservation, Zoology.

2. **Environmental Sciences:** Environmental Ethic, Environmental Legislation, Environmental Impact Assessment, Environmental Management, Environmental Policies, Environmental Pollution, Natural Resources Conservation.

3. **Earth and Atmospheric Sciences:** Mineralogy, Wildlife.

4. **COVID-19:** All aspect

5. **Disaster Management**

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Dr. Shahram Dadgar, Iranian Ornamental Fish Society, Tehran, Iran

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Mr. Shaligram Soni, Founder President, Vasundhara Institute of Bioagricultural Research & Development, Champa, C.G.

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Biological Sciences

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Effect of phosphorus and KSB levels on growth, yield and quality of field pea (*Pisum sativum L.*)

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ABSTRACT

To study the effect of phosphorus and KSB levels on growth and yield of field pea, an experiment was conducted at Instructional Farm of Department of Agronomy, Faculty of Agriculture, AKS University, Sherganj, Satna (M.P.) during winter season of 2020-21. The experiment consisted of randomize block design having Factorial arrangement with three replications. In this experiment, 12 treatment combinations including four levels of phosphorus and treatments were P_0- 0 kg/ha, P_1- 40 kg/ ha, P_2- 50 kg/ ha and P_3- 60 kg/ha, while KSB levels were tested are K_1- 5 l it/ha, K_2- 10 lit/ha and K_3- 15 lit/ha. During the course of the study, it was found that phosphorus and KSB application significantly affected plant height, number of branches per plant, number of pods per plant, length of pod, number of grains per pod, seed index, grain &straw yield and protein contentof field pea. Higher plant height (53.24 cm) and number of number of branches per plant (11.40) at maximum crop growth stage of 90 DASwere recorded in plots treated with phosphorus @ 60 kg/ha in combination with application of KSB @ 15 lit/ha. Similarly, resulted in maximumnumber of pods per plant (23.07), length of pod (12.19 cm), number of grains per pod (6.53), seed index (21.98 g), grain yield/ha (26.86 q/ha),straw yield/ha (42.03 q/ha)and protein content (22.72 %) recorded under same treatment combination of phosphorus @ 60 kg/ha with application of KSB @ 15 lit/ha.It was concluded from the results that application of phosphorus @ 60 kg/ha with application of KSB @ 15 lit/ha improved yield and yield components of field pea.

Keywords: phosphorus, branches, grains, pod, seed index, straw yield

Effect of sulphur levels and varieties on growth, yield and quality of Mustard (*Brassica juncea L.*)

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ABSTRACT

Sulphur and varieties are yield limiting factors for rapeseed production in the sandy loam soil (Inceptisols) of the Madhya Pradesh, India. A field experiment was conducted to study the effect of Sulphur and varieties on growth, yield and quality of mustard at student instructional farm of department of Agronomy, Faculty of Agriculture, AKS University, Sherganj, Satna (M.P.) during winter season of 2020-21. The experiment consisted of randomize block design having factorial arrangement with three replications. In this experiment, 12 treatment combinations including four levels of Sulphur and treatments were S_0- 0 kg/ha, S_1- 50 kg/ha, S_2- 60 kg/ha and S_3- 70 kg/ha, while three mustard varieties were tested are V_1- Varuna, V_2- Shekhar and V_3- Pusa bold. Higher plant height and number of branches per plant at maximum crop growth stage of 90 DAS (162.19 cm and 24.03, respectively) was recorded in plots treated with Sulphur @ 70 kg/ha with mustard variety Varuna. Similarly, resulted in maximumnumber of siliquae per plant (425.99), number of seeds/siliquae (17.47), test weight (4.39 g), seed and Straw yield (18.56 and 59.04 q/ha, respectively)as well as oil content (39.80 %) recorded under same treatment combination of Sulphur @ 70 kg/ha with mustard variety Varuna. It was concluded from the results that application of Sulphur @ 70 kg/ha with mustard variety Varunaimproved yield and yield components of mustard.

Keywords: mustard, Sulphur, variety, siliqua, test weight, straw yield

Effect of Nitrogen levels and varieties on growth and yield of Barley (*Hordeum vulgare L.*)

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ABSTRACT

To study the effect of nitrogen and varieties on growth, yield and quality of barley, an experiment was conducted at student instructional farm of department of Agronomy, Faculty of Agriculture, AKS University, Sherganj, Satna (M.P.) during winter season of 2020-21. The experiment consisted of randomize block design having factorial arrangement with three replications. In this experiment, 12 treatment combinations including four levels of nitrogen and treatments were N_0- 0 kg N/ha, N_1- 80 kg N/ ha, N_2- 100 kg N/ ha and N_3- 120 N kg/ha, while three barley varieties were tested are V_1- JB-1, V_2- JB- 58 and V_3- local check. During the course of the study, it was found that nitrogen and varieties significantly affected plant height, number of leaves per plant, number of grains/spike, test weight, grain and Stover yield of barley. Higher plant height and number of leaves per plant at maximum crop growth stage of 90 DAS (83.99 cm and 18.47, respectively) was recorded in plots treated with nitrogen @ 120 kg/ha with barley variety JB- 1. Similarly, resulted in maximumnumber of grains/spike (36.87), test weight (42.47 g), grain and Stover yield (60.03 and 71.31 q/ha, respectively) recorded under same treatment combination of nitrogen @ 120 kg/ha with barley variety JB-1. It was concluded from the results that application of nitrogen @ 120 kg/ha with barley variety JB- 1improved yield and yield components of barley.

Keywords: barley, nitrogen, variety, spike, test weight, Stover yield

Micellar enhanced removal of water hardness by pseudoactivated carbon prepared from wheat husk of Agra U. P. (India)

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ABSTRACT

Hardness is the property of water which prevents lather formation with soap and increases its boiling point. It is caused by polyvalent metallic ions dissolved in water principally calcium (Ca^{2+}) and magnesium (Mg^{2+}), although other metals such as aluminium (Al^{3+}), barium (Ba^{2+}), iron (Fe^{3+}), manganese (Mn^{2+}), and strontium (Sr^{2+}) contribute to a lesser extent as they are present in small amounts. However, hardness is usually expressed in the terms of an equivalent concentration of $CaCO_3$ in ppm. Batch tests were conducted using four groundwater samples which showed high levels of total hardness such as 600, 800., 1088. and 1278.38 mg/L as $CaCO_3$, so water is not suitable for several industries. The present work aimed to evaluate the feasibility of using powdered pseudoactivated carbon (PAC) prepared from wheat husk for the removal of water hardness and also to study of impact of sodium dodecyl sulphate (SDS) micelles on the removal. The ability of 0.05, 0.1, 0.5, 1.0 and 5.0 g/L PAC to soften a water was investigated by shaking 50 mL hard water with PAC at pH 5.0 and 25ºC for 180 minutes. The effect of SDS was studied by running parallel tests with 10 mL of 3 g/L SDS solution. Equilibrium was attained within 2 hours with PAC and 1.25 hours with PAC + SDS. The maximum removal was found 27.8 % with 5 g/L PAC at pH 5, 25oC for 600.17 mg/L hardness. With PAC + SDS the removal was enhanced to 81.1 % with 10 mL of 3 g/L SDS and 5 g/L of PAC for the same.

Keywords: Water hardness, pseudoactivated carbon, wheat husk, Agra

Heavy metals and metalloids in soils and groundwater contamination in Fatehpur sikri and Sikandra area of Agra district (India)

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ABSTRACT

Assessment of heavy metal and metalloids pollution in soils and groundwater was carried out at the two key sites in Fatehpur sikri and Sikandra area of Agra district of U.P. (India). The geological structure, hydrogeological conditions and contamination of soils and groundwater were studied at the key sites and contaminants migration in the vadoze zone and groundwater was simulated. The results of statistical analysis prove that at the key site in Agra was elevated concentrations of some chemical elements leading to soil pollution with heavy metals as : Cd, Cu, Pb and Zn are related to technogenic and industrial activities. The modeling of ground- and surface water contamination showed that the area of sewage influence on groundwater is limited and that there is no hazard of river water contamination in the long term perspective. The fill ground and ancient alluvium at the key site in Agra district (India) the multi element (Pb, Cu, Zn, Ni, Cd, Mn, Cr, As, oil products) contamination of soil, which is substantially variable both by depth and area. The modeling results permitted assessing the hazard of contaminated soils as the secondary long acting source of groundwater contamination. The geological structure and hydrogeological differences between the key sites determined the use of different models for the investigation of heavy metals migration in the aquifers.

Keywords: Heavy metals, metalloids soils and ground water, Agra district

Nutritional mineral supplements, multivitamins and energy drinks consumed by school adolescents students and their effects on body mass index (BMI) in urban area of Aligarh district of U.P. (India)

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ABSTRACT

There has been an increase in the consumption of energy drinks and dietary supplements in India. However, the benefit of regular consumption of multivitamin and nutritional mineral supplements are still remains questionable. The present study was conducted with an aim to obtain data about the type of nutritional mineral supplements and energy drinks consumed by school adolescents students for their consumption, with particular emphasis on the effect of consumption on body mass index (BMI). The investigation were conduct among 120 school adolescents students of the age group 14–19 years. Data was collected with the aid of a semi structured questionnaire. Questions pertaining to diet were asked using a 24-hour dietary recall method and their physical activity was also determined by the questionnaire. The height and weight of the subjects were measured and BMI was calculated. In this study, the use of energy and sports drinks over last two weeks period was reported to be 55% and 43% of the respondents reported the consumption of one or the other type of multivitamin and nutritional mineral supplements without assessing any need or consulting any physician. The most commonly consumed vitamins without prescription were Vitamin C (5%) and D (5%), while in terms of minerals, iron (6%) and calcium (5%) were being used by the study subjects without prescription. Some of the reasons for using energy and sports drinks were curiosity followed by peer pressure, whereas students those reported to be consuming reported perceived short term health benefits and supply by the parents as the common cause. The body mass index (BMI) has also been found to be associated statistically significant with the consumption of the energy and sports drinks. Thus, the health education programs should incorporate the perceptions, aspirations and motivations of young people into the planning of interventions and activities in order to make them most relevant and effective.

Keywords: Energy drinks, nutritional mineral supplements, multivitamins, Adolescent, Aligarh

Investigation of cytogenetical in *Citrullus* and *Cucurbita* species of family - Cucurbitaceae of Mainpuri district of Uttar Pradesh (India)

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ABSTRACT

Cytogenetically the family - Cucurbitaceae has been reviewed by several workers for differentiation and evolution of *Citrullus* and *Cucurbita* species. *Citrullus vulgaris, Citrullus colocynthis, Citrullus lanatus, Citrullus ecirrhosus* and *Citrullus fistulosus* are a xerophytic and monotypic species Cytogenetic investigatins support the segregation of *Praecitrullus* from *Citrullus*. *Citrullus* species were carried out cytogenetically formed 22 chromosomes in *Citrullus vulgaris* while 24 chromosomes were observed in *Citrullus fistolosus*. Seeds and fruits are intermediates in shape and size, monoecious or andromonoecious and shows genetic in nature. They are differ in size, only one pair of chromosome is more in *Citrullus fistulous*. The category of genotypic factors, structure and numeral changes are responsible for variations in chromosome behaviour and structure. Heterotypic one pair of chromosome was clearly established both in mitotic and meiotic study of male diploid plant. Cytogenetically the *Cucurbita* species can be divided into mesophytic and xerophytic species as *Cucurbita pepo, Cucurbita moschatia* and *Cucurbita maxima*. They reported 20 small rod shaped chromosomes in all *Cucurbita* species. *Cucurbita* species are numerous and show wide variations in fruit characters. Small size of mitotic chromosome makes them trouble some to count accurately while long chromosomes have pronounced centromere region.

Keywords: Cytogenesis of *Citrullus, Cucurbita*, chromosomes in fruit

The Role of Aquaponics Technology on Sustainable Utilization of Arid Land & Water

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ABSTRACT

Aquaponics, a name of sustainable farming system which can produce different types of organic crops by utilizing a limited land area & water. This system supports the recirculating aquaculture combined with hydroponics method for growing fish & vegetables together in a single space at the same time. This technology can reduce the impact on the environment by recycling the natural component for toxic-free organic crop production. A small unit of NFT aquaponics technology can produce 9.127 kg leafy vegetables with 27.16 kg IMC fish within 6 months by utilizing only 1000 sq. ft. arid land & rain water. A flexible layout of operating the system with regular monitoring work chart help to lower the risk of the system's default & save the crops from severe damage.

Keywords: Aquaponics system, arid land, Leafy vegetables, IMC fish.

Removal of Cr(VI) from wastewater using Powdered Activated Carbon, Flyash, Rice Husk and Saw Dust

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ABSTRACT

Hexavalent chromium, Cr(VI), is used in various industries including metallurgy, chemical, chrome plating, manufacture of stainless steel, dyes, ink and pig- ments, leather tanning and wood preserving. It is also used in small amounts in drilling muds, rust and corrosion inhibitors, textiles and toner for copying machines. Because of its extensive use, Cr contamination of soil and water has become a prevalent problem. The most often observed oxidation states of Cr in natural water systems are +3 and +6. In an attempt to evaluate the suitability of non-conventional adsorbents such as powered activated carbon (PAC), fly ash (FA), rice husk (RH) and saw dust (SD) for the removal of hexavalent chromium from wastewater, A comparative study was carried out using all these adsorbents. PAC, FA, SD and RH could remove 95.3, 77.6, 88.4 and 87.3% Cr(IV) at initial metal concentration 10 mg/l, pH 6.0, temperature 25^0C, agitations time 2 h and adsorbent dose 10 g/l. The order of metal removal capacities adsorbents was found to be: PAC>FA>SD>RH. The effect of various parameters affecting the adsorption such as in metal concentration, adsorption dose, contact time and pH was determined. Adsorption decreases with rise in metal concentration and pH but increases with increase in adsorbent dose and contact time. Equilibrium was attained in 1.5 h and the maximum removal was at pH 2. Thus, acidic medium favoured the removal of Cr (IV).

Keywords: Removal chromium, waste water, metal concentration, adsorption

Utilization of Fish bone Waste to Prepare Anti-osteoporotic Functional Food and its effect on promoting the proliferation, differentiation and mineralization of osteoblasticMC3T3-E1 cells

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ABSTRACT

Osteoporosis is a serious problem in aged old people. Drugs (bisphosphonates) applied for treatmentare often accompanied by adverse side effects. Thus, collagen hydrolysates/peptides from marine source could be a safe source of anti-osteoporosis agents. In this study, fish bone waste was hydrolyzed using 1% alcalase and lyophilized to obtained fish bone collagen peptides (FBCP) having <3 KDa molecular mass and 74.31±2.1% protein. The total amino acids of FBCP contained 82.791mg/100mg protein, constituted mainly Gly, Pro and Asp amino acids. The major mineral were Ca, Mg and Fe. The FBCP were encapsulated using soy protein isolate (SPI) as carriers by a spry drying. The zeta potential and glass transition temperature (T_g)of the SPI encapsulated CP (SPI-ECP) were -20.5 and 70 ^oC, respectively.Thereafter, mouse pre-osteoblast cell line ME3T3-E1 was used to test the anti-osteoporotic properties of SPI-ECP based on cell proliferation, cell differentiation, alkaline phosphatase and bone mineral assays. The results showed that SPI-ECP (100 µg/mL) could promote cell proliferation. Nevertheless, SPI-ECP at 100 µg/mL had enhanced differentiation, ALPs activity and increased mineralization during the 21 days of culture. Moreover, SPI-ECP cells had higher calcium depositions than the control. The SPI-ECP showed the better results than the FBCP alone. *In-vitro* gastrointestinal digestion study proved the bio-accessibility of SPI-ECP showed 61.5% in vitro digestibility. Therefore, this indicated the ECPs prepared with SPI utilizing fresh bones accelerated bone growth and shall serve as a functional food to treat bone loss. In addition, this is the best way to utilize the fish waste and to save the environment.

Keywords: Fish bone Waste, Anti-osteoporotic Functional Food, osteoblasticMC3T3-E1 cells

Study On The Gonosomatic Index Of *Channa punctatus* (Male Fish) Collected From the Chachai Dam

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ABSTRACT

Study on gonosomatic index (GSI) of male *Channa punctatus* were studied during one year from January 2017 to December 2017. Fish samples were collected from chachai dam of chachai, 36 km away from the Shahdol district. The experiments were conducted during all three seasons of fish reproduction, pre spawning, spawning and post spawning. After measuring morphometric parameters, gonads were dissected out and preserved in bouin's fluid for 24 hours for further experiment. Simultaneously GSI also calculated using formula of Brooks *et. al*., (1997). After observation we concluded that as the monthly GSI values in male of this species were high during June (0.30) to August (0.29) and even to September (0.25), the spawning season of *Channa punctatus* to fall between June to September.

Keywords: GSI, *Channa punctatus*, Reproduction, Chachai Dam

Successful captive breeding of wild stock of state fish mahseer (Tor tor) and its conservation in forested River

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ABSTRACT

Narmada river termed as Life line of Madhya Pradesh has recently been subjected to vast ecological changes due to construction of series of dam in recent past. One of the adversely affected species due to changes in aquatic ecosystem in Narmada Mahseer(***Tor tor*** Hamilton 1822) which is considered as flagship species and the pride of the riverine environment of Narmada has been notified as the state fish by the government of M.P in 2011. Statistics indicate that about that about half Mahseer comprised about 25-28% of the overall fish population in Narmada (Desai, 1967).Despite their abundance at one time, the population of this important fish species is declining rapidly due to various anthropogenic mainly due to construction of Dams and subsequent changes in nature and duration of flow in streams. As per current estimates, the population of Mahseer in central Narmada sub basin has gone down to less than 3%. Information gathered from fisherman and Fish markets shows declining trends of Mahseer species. This paper deals with in situ conservation in forested perennial streams of barwaha district and successful captive breeding of wild stock for ex situ conservation of germplasm.

Keywords: Mahseer, Narmada river, In-situ Conservation or Ex- situ Conservation

Effect of Dietary Safed Musli (*Chlorophytum borivilianum*) on Hematological parameters of Jayanti rohu

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ABSTRACT

Safed Musli (*Chlorophytum borivilianum*) roots are commonly utilized in Ayurvedic and Unani medicine for a variety of medicinal purposes. A six months trial was conducted to evaluate the dietary effect of Safed Musli root powder on hematological parameter of Jayanti Rohu. The total no of 400 Jayanti Rohu was randomly distributed in four earthen ponds at stocking density of 100 fish per treatment. The male and female was stocked at the ratio of 60: 40. Four isoproteinous diet was prepared by using of different level of CB (Safed Musli), the level of CB was added @ 0 g/kg in control diet (C_1), 0.25 g/kg in treatment C_2 diet, 0.50 g/kg in treatment C_3 diet, and 0.75 g/kg in treatment C_4 diet. The Jayanti rohu broodstock were fed with test diets @ 3 per cent of body weight during experimental period. The hematological parameter of experimental fish was recorded at an interval of 30 days. The best results of Jayanti Rohu blood parameter (Hemoglobin, RBC, WBC, PCV, MCV, MCH, and MCHC) were found in treatment C_3. The lowest results of Jayanti Rohu blood parameter (Hemoglobin, RBC, WBC, PCV, MCV, MCH, and MCHC) were found in treatment C_1 and C_4. It was concluded that Safed Musli (*C. borivilianum*) contains are beneficial for fish health. Because this plant has a lot of potential as a versatile therapeutic agent, more clinical trials should be conducted to confirm its utility.

Keywords: Safed Musli, Therapeutic, Hematological, Potential

Mercury retention after *Panax ginseng* treatment against mercuric chloride intoxication in hepato-haemato indices in albino rats

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ABSTRACT

Mercuric chloride was introduced per Os in albino rats (*Rattus norvegicus*) as per the LD_{50} (9.26 mg/kg b.w.). The assessment of mercuric chloride toxicity was done both after acute (0.926 mg/kg b.w.) and sub-acute (0.033 mg/kg b.w.) per Os treatment, while *Panax ginseng* was also introduced (10 mg/kg b.w.) per Os in the albino rats separately. Mercuric chloride treatment significantly increases mercury retention in liver and blood serum along with increase in liver weight, while *Panax ginseng* alone caused significant decrease in liver weight and mercury retention in liver and blood. Increase in mercury retention in blood serum and liver is due to the reactivity between –SH protein of blood serum and liver with oxidized form of mercury (Hg^{++}), while decrease in *Panax ginseng* treatment is due to antioxidant activity of *Panax ginseng* the ginsenosides. Moreover, mercuric chloride followed by *Panax ginseng* and *Panax ginseng* followed by mercuric chloride treatment revealed significant modulation for raised mercury retention and liver weight towards normal level along with blood serum and liver changes. The results suggest a modulating role of *Panax ginseng* extract against raised mercury concentration in blood serum and liver under stress of mercuric chloride.

Keywords: Mercuric chloride, *Rattus norvegicus*

Studies on Diversity of Edible Wild Mushrooms in Semarsot Wildlife Sanctuary, Sarguja, Chhattisgarh

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ABSTRACT

The number of mushroom species documented in India is about 1,200, out of which 300–315 species are considered edible. The tropical forests of Semarsot provide favorable growth conditions for wild edible mushrooms. Extensive surveys and interviews conducted in the Semarsot sanctuary forest reveals 41 wild mushrooms in the forest area of sanctuary. Out of these 20 are edible wild mushrooms, most common of them are *Asteraus hygromertricus, Russula* spp. and *Termitomyces* spp. 05 are medicinal of which *Ganoderma lucidium* is the important one, 02 fairly edible, 13 non edible and 01 poisonous Species of wild mushroom. Of these 20 edible wild mushrooms

Keywords: Semarsot sanctuary, Edible mushrooms, Habitat.

2.

Community structure of Zooplankton in Chandloi River (District Kota) Rajasthan

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ABSTRACT

Chandloi River is a small, semi-perennial left bank tributary of Chambal River. Its location is 25.23 Latitudinal and 75.99 Longitudinal near Kota City, Rajasthan, India. Zooplankton communities colonize almost all fresh water territories. The zooplankton diversity was studied in a segment of Chandloi River (from its origin up to Kaithun village, district Kota, Rajasthan) for a period of two years from October 2018 to September 2020. In the period of present study, a total of 46 species of zooplankton were recorded - 16 species of Rotifera, 14 species of Cladocera, 5 species of Ostracoda and 4 species of Copapoda. Apart from these 7species of protozoans were also observed during the study period. Among these zooplanktons Rotifera was found as the dominant group throughout the study period. The highest diversity was recorded in summer while lowest was observed in winter season. Group Rotifera (34.9%) was dominated over Cladocera (30.5%), Copapoda (8.6%), Ostracoda (10.8%) and Protozoa (15.2%).

Keywords: *Chadloi River, Cladocera, Copapoda, Ostracoda, Protozoa, Rotifera, Semi-perennial, Zooplankton.*

Pathological effects of helminth parasites on Skin and Gills of some Catfishes of River Narmada.

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ABSTRACT

Background and Aim: Present study was carried out to study the effect of ecto-parasitic helminth forms on catfishes of Indore, Madhya Pradesh. Two famous species of catfishes namely *Clarias batrachus* and *Clarias gariepinus* were chosen in this study from various sites of River Narmada which included; Site I-Omkareshwar, Site II-Maheshwar, Site III-Mandleshwar and Site IV-Barwani. Objectives of this study were to isolate, identify and classify the helminth parasites; find out seasonal distribution, infection rate, variation with host sex; study the effect of parasites on the health of host fishes; study the devations in the haematological indices of infected catfishes with respect to control and to evaluate the histopathological effects in the skin and gills of infected catfishes.

Methods: Sampling of fish specimens was carried for a period of two years from December, 2017 to November, 2019 seasonally during which live samples of *Clarias batrachus* and *Clarias gariepinus* were collected. A total number of 453 fish samples of *Clarias batrachus* and *Clarias gariepinus* were collected from River Narmada falling in the vicinity of Indore city to investigate the pathological changes induced by ectoparasitic forms of helminth parasites. Among *Clarias batrachus*, 236 specimens consisting of 143 males and 93 females were collected for the entire period of two years. In case of *Clarias gariepinus*, a total of 217 specimens were examined for the period of two years among which 117 were males and 100 were females. All the collected fish specimens were subjected for the examination of for the presence of ectoparasites. As soon as the live fishes were brought to the laboratory, they were separated on the basis of host species and gender and the morphometric characteristics including Total length (TL), Head Length (HL), and Body Weight (BW) were measured. Fishes were divided into three length groups designated as small (13cm), medium (14-18cm) and large (> 18cm). For examination of ectoparasites the external surface of the fishes; skin, gills, fins was examined.

Results: Results indicated that the three species of parasites were found in this study which included *Gyrodactylus* sp., *Dactylogyrus* sp. and *Lernea*. Haematological findings

revealed that Hb, TEC, PCV, MCV and MCH were found decreased in the fishes infected with parasites as compared to the normal ones. However, TLC, ESR and DLC were found increased in the parasitized fishes when compared to the healthy ones depicting the pathological conditions. The deviation pattern in all the blood indices was found same in case of both fish specimen.

Conclusion: Present study revealed various transformations in the physiological and tissue changes in *Clarias batrachus* and *Clarias gariepinus* due to the infestation of ectoparasites. While correlating the present study with the earlier works done in this field, it is suggested that the natural water bodies and culture units may be protected from increased levels of water pollution in order to avoid any parasites to get attached with them. Once attached on the skin or gills, parasites derive their nutrition from the host fishes thereby leading to changes in their physiology like haemogram, morphometric characteristics, growth and also cause damage of tissues. Thus parasites not only pave fatal to fishes when present in abundance, but also cause severe reduction in growth of fishes when present in less. Water bodies must be checked for the presence of pollutants and fishes must be examined for the presence of parasites in order to grow them nutritionally better.

Keywords: Helminth parasites (*Gyrodactylus*, *Dactylogyrus*, *Lernea*), Skin, Gills, *Clarias batrachus, Clarias gariepinus*.

Study on the Gonosomatic Index of Oreochromis mossambicus (Female fish) Collected From River of Shahdol district

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ABSTRACT

Study on gonosomatic index (GSI) of female fresh water teleost *Oreochromis mossambicus* tilapia fish were studied during one year January 2017 to December 2017. Fish samples were collected from river of shahdol district. In teleost fishes the gonadosomatic index is the basic indicator of gonadal functioning. The experiments were conducted during all three seasons of fish reproduction, pre spawing, spawing and post spawing. After measuring morphometric parameters, gonads were dissected out and preserved in bouin's fluid for 24 hours for further experiment. Simultaneously GSI was also calculated using formula (Khallaf and Authman, 2010). After observation we concluded that as the monthly GSI values in females of this species were lowest in March (1.3) and steadily increased to a peak in August (4.9). The GSI value showed a declining trend from September onward and reached the lowest during October and after that the GSI value increased with a peak in January (4.4). Two peak spawning period occurring August and January, This means that female fish could breed more than once in a year.

Keywords: Gonosomatic index (GSI), *Oreochromis mossambicus*, Reproduction.

Ichthyofaunal Diversity of Angoori Barrage, Datia of Madhya Pradesh, India

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ABSTRACT

The present research work was carried out to explore the ichthyofaunal diversity of Angoori Barrage in Datia district of Madhya Pradesh from January 2020 to December 2021. The study was conducted in four different sampling sites of Angoori Barrage for analyzing the different varieties of piscian species, which includes Gandhari, Lamacha, Pisnaari and Dam head. During the present study, a total 18 species of fishes were documented which were classified under the 08 orders and 12 families. Order Cypriniformes (38.88%) contribute maximum number of piscian species followed by Siluriformes (27.77%), Beloniformes, Ophiocephaliformes, Osteoglossiformes, Perciformes, Anguilliformes and Cichliformes (5.55%) respectively. In the present study share percentage composition of piscian species of order Cypriniformes was dominant with 07 species followed by Siluriformes with 05 species, while order Beloniformes, Ophiocephaliformes Perciformes, Osteoglossiformes, Anguilliformes and Cichliformes were represented by single species respectively.

Keywords: Ichthyofaunal diversity, Angoori Barrage, Madhya Pradesh.

Enhancement of Aquaculture Using Emerging Technologies towards Environmental Sustainablity

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ABSTRACT

Total global fish production was estimated at 178.5 mmt. In global level, production of Aquaculture rank is 2nd. Aquaculture demand has been steadily increasing globally. Currently applying the emerging technologies to the existing aquaculture may enhance the production methods. How the aquaculture systems can be transformed by such interventions to further enhance its contribution to food security which is at the heart of all the Sustainable Development Goals has been elaborated. In aquaculture, sustainability means not only the development in terms of output but also the socio-economic and ecological parameters. As the availability of land & quality of land are decreased day by day application of inorganic fertilizer pesticides, herbicides and antibiotic etc. The effect of prolonged and over usage of chemicals on soil results in human hazards and pollution of the environment. Hence the different types of emerging technologies in farming systems such as 3D Print [Recirculating Aquaculture System, Aquaponics, hydroponics, Biofloc System, Aquamimicry, Minimal water use aqua-systems, Sewage fed fisheries and Integrated Multi-trophic Aquaculture (IMTA)], Drones, Sensors and Robots (Automation in artificial feeding), and Probiotics. These technological innovations are showing a positive impact on aquaculture Research towards Food and Nutritional Security. The development of technology in aquaculture should provide a means of producing healthy and fast growing aquatic species, through environmentally friendly means. This information and discussion between fishermen, researchers and producers from different regions will undoubtedly help to further develop with the view to increasing sustainable aquatic animal production globally.

Keywords: Sustainable Aquaculture, emerging technologies, Biofloc systems

Tools of conservation of State Bird of U.P. Sarus Crane Grus antigone in Unnao region, U. P.

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ABSTRACT

The Indian Sarus Cr*ane* is tallest flying bird in the world. Once widely distributed in India from Punjab, Nepal, it has now been restricted only to the northern Terrai region in U.P.During the surveys carried out in the study period from February 2019 to Decemder 2021,the estimated population of Indian Sarus Crane was almost 1200-1400 cranes in Unnao, a major sarus prone area of U. P. Population estimates were done by Line transcit method using pair of binoculars along the roadside from their breeding sites, congregation places, while foraging, roosting, or at rest during day hours.

As the breeding success is directly associated with availability of food, to increase the number of Indian Sarus Crane, their foraging grounds need to be maintained well. But due to rapid industralisation and arthopogenetic activities, their foraging sites are under threats, so if not conserved now, may result in decline in number of Sarus, the State bird of U.P..Few measures have been put forward in the study for Sarus conservation in Unnao region.

Keywords: conservation, Unnao, Indian Sarus Crane, *Grus antigone*

Biofloc technology

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ABSTRACT

Biofloc technology (BFT) is considered the new "blue revolution" in aquaculture. Such technique is based on in situ microorganism production which plays three major roles:
(i) maintenance of water quality, by the uptake of nitrogen compounds generating in situ microbial protein;
(ii) nutrition, increasing culture feasibility by reducing feed conversion ratio (FCR) and a decrease of feed costs; and
(iii) competition with pathogens. The aggregates (bioflocs) are a rich protein-lipid natural source of food available in situ 24 hours per day due to a complex interaction between organic matter, physical substrate, and large range of microorganisms. This natural productivity plays an important role recycling nutrients and maintaining the water quality. The present chapter will discuss some insights of the role of microorganisms in BFT, main water quality parameters, the importance of the correct carbon-to-nitrogen ratio in the culture media, its calculations, and different types, as well as metagenomics of microorganisms and future perspectives.

Keywords: microbial floc, shrimp, fish, microorganisms, nitrogen compounds, metagenomics.

Anti-hyperglycaemic activity and *in silico*molecular docking studies of (–)- epicatechin: through *in vitro* and *in vivo* validation to treat diabetes mellitus

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ABSTRACT

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both.The present investigation was deliberated to evaluate *in vitro* and *in vivo* antidiabetic activity of (-)-epicatechin and its *in silico* validation. Impact of (-)-epicatechin on regulation of hyperglycemia in alloxan-induced diabetic wistar male albino rats was targeted in this research. (-)-epicatechin was administered to the experimental rats at dose; 100 mg/kgbw, 200 mg/kgbw, 400 mg/kgbw orally daily for three weeks. The efficiency of (-)-epicatechin to regulate hyperglycemia was evaluated in comparison with metformin at its recommended dose (5mg/kgbw orally).Results indicated that (-)-epicatechin showed hypoglycemic activity presented as significant reduction in blood glucose levels. The diabetic animals blood glucose levels dropped from 308.62 mg/dl to 125.25 mg/dl on the 21st day after receiving 400 mg/kgbw of epicatechin. The effects of 5 mg/kgbw Metformin on blood glucose levels were compared. Validation of *In vivo*anti diabetic activity of (-)-epicatechin was conducted through *in silico* molecular docking studies. The docking results showed that Epicatechin has the greatest binding affinity against α-Glucosidase, with -9.41 kcal/mol, and interacts with four hydrogen bonds with GLY: 533; ARG:520; SER:521. Therefore, the findings of this studyadvised (-)-epicatechin as a druglike molecule which could be further extrapolated to clinicalstudies for the development of therapeutics to treat type2 diabetes mellitus.

Keywords: Diabetes mellitus, hyperglycemia

Status of Animal Discoveries in India

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ABSTRACT

India is the seventh largest country in the world with 2.4% global space and a total area of 3,287,263 sq km and belongs to Oriental realm. It is the Asia's second largest nation and provides shelter to about 100,000 animal species. About 6.6 % of world's known animal species are found in India. India is famous for its mega biodiversity and has so far protected 4.5% of its total land area. It has rich biodiversity in Himalayas and Western Ghats. India holds a unique position with the priority of conservation of natural resources and sustainable development. India is very rich in terms of animal diversity due to its unique zoogeographical location, diversified climatic conditions and enormous ecological and geographical diversity. Various organizations in the country have engaged themselves in documenting flora and fauna. The Zoological Survey of India a premier taxonomic institution under the ministry of environment, forest and climate change. The Zoological Survey of India (ZSI) was established on 1st July, 1916. It is constituted as a national centre for zoology. It is an institute to survey and explore the faunal resources of the country and its documentation, taxonomic research and creating environmental awareness. Zoological Survey of India is the designated repository for the National Zoological Collection (NZC) in India as per section 39 of the national biodiversity Act, 2002. Zoological Survey of India has started compiling "Animal Discoveries" from the year of 2007. In the present communication the authors reviewed the status of animal discoveries in India. On the basis of the annual reports of ZSI since 2013 to 2020, total 33922 new species of animals were discovered in world while 2432 species discovered by Indian zoologists. On the basis of the ZSI annual reports it can be concluded that total 4240 animal species discovered every year in the world out of them 304 new species contributed by India. Thus about 7.16% new animal species discovered by Indian taxonomists every year.

Keywords: Animal discoveries, Biodiversity, Faunal group, India, Species, ZSI.

Biopesticides: An overview of their mode of action, utility and importance

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ABSTRACT

Agriculture has an imperative role in the economy of developing countries. It is associated with a variety of food materials such as vegetables, fruits and cereal crops. Many people depend upon it as a staple meal and as a source of their income. These agricultural food products are broadly damaged by a variety of pests including insects, mites and rodents. The consequences of damage are manifested in both quantitative and qualitative forms. Over the years, synthetic pesticides have been widely used for pest management, but these pesticides pose hazards to the environment and human health, and long-term repetition of these products develops resistance in insects, due to which their efficacy starts to reduce, or they have no effects on the insects after a certain period of time. Therefore, the production and exploration of maximum degraded natural resources are very important to prevent these serious threats.

Biopesticides are usually derived from several plant species which are easily available and cause less or no adverse effect on the environment. Biopesticides are generally host-specific, therefore it does not affect the non-target organisms including humans. Small quantities of bioproducts prove to be effective and useful against pests and are also easy to decompose. Biopesticides can be used as safer alternatives to controlling pests and are frequently part of Integrated Pest Management plans.

Keywords: Biopesticides, Agriculture, Environment, IPM.

Allelopathy in sustainable weed management: A critical review

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ABSTRACT

Allelopathy could be a development whereby, the donor plants unharness chemical compounds (known as allelochemicals) into the atmosphere through decomposition, natural action (caused by rain water), volatilization and root exudates. Allelochemicals from the donor plants can stimulate and/or inhibit the germination and growth of the receiver plants. Allelopathic effects will be categorized supported the following: the effect of the weed on the crop, the impact of the weed on totally different weeds, the results of the crop on the weed and so the results of trees on the weed or crop. Thus, allelopathic analysis can involve many ways like bioassay, application of plant scrap, application of plagued soil, the sandwich technique, the dish pack technique and so the plant box technique. The allelopathic approach is applied for dominant weeds through the utilization of allelochemicals (as natural herbicides) and also the allelopathic plants as cowl crops/mulch. However, the allelopathic effects of plants depend upon organic phenomenon and abiotic factors and then, extra analysis should be disbursed to beat these factors. The allelopathic approach would cause reduction within the dependency on chemical pesticides that area unit established contaminants of the atmosphere.

Keyword: Allelopathic, Allelochemicals Bioassay, Weed management

Alpha Diversity of Moths (Lepidoptera - Insecta) in Veerangana Durgavati Wildlife Sanctuary, Damoh, Madhya Pradesh.

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ABSTRACT

The present paper deals with the species diversity and richness of moth fauna of Veerangana Durgavati Wildlife Sanctuary (VDWLS), Madhya-Pradesh. Alpha diversity represents the diversity within a community or ecosystem, and often expressed by the species richness in that particular ecosystem. Intensive and extensive collection cum survey tours were conducted during June 2009 to November 2011 in the localities of Veerangana Durgavati Wildlife Sanctuary (VDWLS), Madhya Pradesh. Moths were collected by using light trap method and were pinned, relaxed, labeled and identified up to species level. All - specimens of moths are deposited in the National Zoological Collection (NZC) of - Zoological Survey of India, Central Zone Regional Centre, Jabalpur. During the study period, a total of 437 individuals were collected, which belong to 95 species, under 85 genera in 13 families. Family Erebidae is a dominant family of the sanctuary with 38 species under 31 genera. Based on the studies conducted, the diversity indices were also calculated for 11 study sites. The highest species richness (S) of moths were recorded from Bhainshaghat region (40 species) and second highest was found from Danital region (30 species) of VDWLS. Margalef index lies between 8.544 to 0.72 and Menhinick index ranges between 4.143 to 1 for moth species. The Shannon-Wiener index (H) varies from 3.307 to 0.56 and Simpson's diversity index (1-D) ranges between 0.946 to 0.375 for the different localities of the sanctuary. The highest species diversity was recorded from Bhainshaghat region (H= 3.307, 1-D= 0.9466) and minimum at Sajtalaiya (H=0.5623, 1-D=0.375). Extensive sampling resulted in many varieties of species, this indicates that the faunal diversity of moth at VDWLS is very high and further surveys will yield more data.

Keywords: Alpha diversity, Indices, Lepidoptera, Moths, Madhya Pradesh, Veerangana Durgavati Wildlife Sanctuary (VDWLS).

Study of the impact of noise on human health and its abatement

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ABSTRACT

Noise has become a permanent part of our lives these days because of the developments being made in machinery, industry, traffic and technological developments. Noise harms not only our body but also our mind. In fact, noise is indeed associated with the mental, physical, emotional and psychological well-being of an individual, be it human beings or animals. Noise received by humans depends on factors related to the man; these are age, sex, and mood. It is more severe and widespread than ever before, and it will continue to increase in magnitude and severity because of population growth, urbanization, and the associated growth in the use of increasing environmental risks including loss of hearing, lack of concentration, abortion, blood pressure, nervous system, sleeplessness, the poor quality of crops. Noise produces direct and cumulative adverse effects that impairs health and degrade residential, social, working, and learning environments with corresponding real (economic) and intangible (well-being) losses. Noise pollution may arrest by the different species of tree along with shrubs and grasses such as *Butea manosperma, Terminalia arjuna, Saccharum munja and Nyctanthus arbortristics etc.* This paper emphasizes on the various study carried out by different researcher across the world and the harmful effects of noise on the environment has been reported.

Keywords: Noise, Sound level meter, pervasive, persistence,*Butea monosperma*.

An Overview of Nutraceuticals: A Review

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ABSTRACT

Nutraceuticals are nutritive supplements, consumed to enrich health, suspend senescence, avert infections and ailments, and support the proper functioning of the human body. Presently, nutraceuticals are achieving considerable consideration due to their nutritional and therapeutic abilities. Based on their sources, they are categorized into diverse categories. Herbal nutraceutical helps in keeping health and stimulating optimal longevity and quality of life. Various studies undertaken so far have shown encouraging results of nutraceuticals to treat numerous diseases, such as cancer, neurodegenerative disorders, cardiovascular diseases, etc. In the present review, an overview of nutraceuticals (carbohydrates, lipids, edible flowers, alkaloids, medicinal plants, etc.) and their role in health benefits, has been discussed.

Keywords: Nutraceuticals, classification, traditional and non-traditional Nutraceuticals, fortified and recombinant Nutraceuticals.

Women Empowerment through financial liberation: A study of tahsil Chenani, District Udhampur, Jammu & Kashmir, India

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ABSTRACT

Women's empowerment and financial liberation are closely inter-related, on one hand, economic empowerment alone can play a major role in bringing down inequality between men and women; on the other hand, empowering women may help economic development. This in every way infers that pushing just one of these two aspects would set a constant circle in motion. This paper reviews the literature on both sides of the empowerment- financial liberation bond, and maintains that the inter-relationship amongst the two is still probably too weak to be self-sustaining in our region, and that incessant policy assurance to equality for its own sake may be needed to bring about equality between men and women.

Keywords: Women empowerment, financial liberation

Role of Science and technology in achieving global food security

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ABSTRACT

Food security is a complex sustainable development issue, linked to health through malnutrition, but also to sustainable economic development, environment, and trade. There is a great deal of debate around food security with some arguing the conflicting thoughts:

- There is enough food in the world to feed everyone sufficiently; the predicament is distribution.
- Future food needs can - or cannot - be met by current levels of production.
- National food security is vital - or no longer necessary because of global trade.
- Globalization may - or may not - lead to the persistence of food insecurity and poverty in rural communities.

The other related issues being discussed worldwide include:

- The importance of the net impact of the further liberalization of food and agricultural trade, considering the widely differing situations in developing countries.
- The degree of extension of domestic economic and social policies and food, agricultural and rural development policies compensate for the varied (and possibly negative) impacts of international policies, such as those relating to international trade.
- The measure of by and large economic gains from trade benefit to those who are most likely to be suffering from food insecurity.
- How much do the gains “trickle down” to augment the economic access to food for the poor?
- How can food and agricultural production and trade be controlled from the over-exploitation of natural resources that may endanger domestic food security in the long term?
- How to guarantee the acceptability of quality and safety of imported food products?

About 795 million people, or every ninth person, is undernourished, with the majority living in developing countries and rural areas. New, existing, and emerging technologies can address the four dimensions of food security. However, harnessing the potential of such technologies for food security requires investments in research and development, human capital, infrastructure and knowledge flows. Creating an environment for agricultural innovation also benefits from an enabling environment, gender-sensitive approaches to technology development and dissemination, regional and international collaboration, and technology foresight and assessment for agricultural innovations.

This paper shall identify, analyse and present for discussion key issues concerning the role of science, technology and innovation (STI) in ensuring food security by 2030, particularly in developing countries.

Keywords: Science and technology, sustainable development

Utilization of agricultural waste in mushroom cultivation technology and use of substrate in vermi-compost production for commercial crops

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ABSTRACT

Mushroom is one of the vital and potent sources of healthy diet for human beings since ancient time in across the globe including India. Among all countries, China is one of the major producers of mushroom with maximum share in global production. In contrast to other major mushroom producing countries, India is still far lagging behind in terms of diversity, production, productivity and also quality parameters. Mushroom is one of the major source of protein and also used as nutraceuticals by both vegetarian and non-vegetarian as well. Keeping the significance of mushroom in human daily diet, a systematic and scientific approach has been employed to establish a spawn cum mushroom production unit at unconventional place at Jhansi, being a well connected Centre with prominent tourist places, have great demand of fresh and quality mushroom in different hotels and by consumers. Besides, the demand of spawn of mushroom in Bundelkhand is growing very faster by marginal growers. To coup of such gaps between supply and demands, the production of Milky, Oyster and Button mushroom has been started at Mushroom Unit Jhansi followed by production of spawn in well established lab at Jhansi since January 2016. During last 4 years, a huge quantity of compost has been prepared at production site for cultivation of Button mushroom while wheat straw used a base substrate for Oyster and Milky mushroom under hut of bamboo stick and dried Muja grass. During over the period of time approximately 700kg of Oyster, 100kg of milky and 100kg of button mushroom yet harvested. Similarly, a handsome amount of spawn of all the three oyster, milky and button has been produced and used for cultivation and selling as well. Fresh and dry mushroom has been used for value addition by making pickles, powder, chips, snacks, bhujia, namkeen, sweets, soup, pizza, burger, biryani etc.

For the management of waste material produced from mushroom cultivation, a well established vermi-compost unit is constructed for making vermicompost behind mushroom production unit. After estimation of quality parameters, vermicompost is being sold to different customers in and around the Jhansi District. In addition to this, same vermi-compost is also used at our own cultivated field for growing flowering crops e.g. ground nut, mung bean, urd bean, mustard crops etc. to assist the honeybee for organic bee keeping at our farm. Presence of honey bee is also greatly help to the crops for better pollination particularly in cross pollinated crops and subsequently honey bee enhanced the yield of crops by producing better pods number. Vermicompost produced from mushroom waste, being rich sources of copper, is a very vital source for farmers to coup the deficiency of copper in their orchard, vegetable, field crops etc.

Mushroom being underutilized crops require special emphasis and must be popularized in order to utilize their potential modules to combat many lifestyle related acute and chronic ailments by increasing in production, productivity, quality, improved diverse genetic resources of individual mushrooms for doubling of income of growers and enhancement of the human health for achieving goal of fit India movement. The increase in area and production of these crops will not only provide nutritional security and save money on import but also export of mushroom crops and spawn in further expected to boost region economy. Mushroom being a underutilized crops also provide many fold employment opportunities in agro-based industries, packaging, storage, preservation, canning and transportation.

Keywords: mushroom, vermi-compost

Sighting Red-whiskered Bulbul *Pycnonotus jacosus* (Linnaeus, 1758) (Passeriformes : Pycnonotidae) at Heera Patti, Azamgarh, Uttar Pradesh with unusual feeding behavior

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ABSTRACT

Pycnonotus jacosus, the Red-whiskered Bulbul, belonging to family Pycnonotidae under order Passeriformes, is a beautiful bird with characteristic red face patch and red vent combination. It, being a garden song bird, is generally seen in gardens. Recently it was located in a residential area of Azamgarh (Uttar Pradesh) and recorded here with its systematic account, distribution, habitat, food & feeding with unusual feeding behaviour, breeding, life-span and conservation status.

Various recognised subspecies with their range have also been listed.

Keywords: Sighting, *Pycnonotus jacosus*, Azamgarh.

Importance of Wetlands

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ABSTRACT

Wetlands are essential parts of our landscape known for the presence of water. Many wetlands are present in transitional zones between upland and aquatic ecosystems. In contrast, others are scattered across the landscape in upland depressions that collect water or in zones where groundwater comes to the surface. Wetlands are essential as genetic reservoirs for various species of plants, including rice (staple food for 75% of the world's population), different species of birds, etc. Ramsar Convention on wetlands is an International treaty formed for the conservation and sustainable use of different types of wetlands. The 2ndof February each year is known as World Wetlands Day. The Ramsar Convention works on wise use of wetlands, i.e., maintaining ecological character within sustainable development.

India is blessed with a wealth of wetland ecosystems distributed across different geographical regions. Most wetlands in India are (directly or indirectly) linked with river systems such as those of Ganga, Kaveri, Godavari, Krishna, and Tapti. India has 27,403 wetlands, of which 23,444 are inland wetlands, while 3959 are coastal wetlands. Wetlands occupy a total of 18.4% of the country's area (excluding rivers), of which 70% are under paddy cultivation (according to the Directory of Asian Wetlands (1989)). The coastal wetlands occupy an estimated 6750sq km and are primarily dominated by mangrove vegetation. Wildlife Institute of India's survey reveals that 70-80% of individual freshwater lakesand marshes in the Ganga flood plains have been lost in the last five decades. At present, only 50% of India,s wetland remains. There are 47 Ramsar sites in India. These are disappearing at 2% to 3% per year. Indian mangrove areas halved almost 700,000 hectares in 1987 to 453,000 hectares in 1995. The loss of wetlands leads to environmental and ecological problems, which directly impact the socio-economic benefits of the associated populations. This could result in severe consequences, including increased flooding, species decline, deformity, extinction, and decline in water quality. Sowe must protect reservoirs and raise social awareness on this topic.

Keywords: Wetland, landscape, Ramsar Convention, Ganga, Kaveri, Godavari, Krishna, Tapti

Thyroid dysfunction in type 2 diabetes mellitus patients in local middle aged population of Indore: an epidemiological study

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ABSTRACT

India has been declared a diabetes capital of the world. Indore is the most populated and the largest city in the Indian state of Madhya Pradesh, located on the southern edge of Malwa Plateau, at an average altitude of 550 meters above sea level. Type 2 diabetes mellitus (T2DM) is a major health burden worldwide even in Indore and factors such as sedentary lifestyle, dietary modifications, ethnicity, and obesity have led to a dramatic increase in the incidence of T2DM, especially in the twenty-first century. Thyroid diseases are among the most prevalent endocrine disorders worldwide. Based on the estimation from various studies, it has been projected that about 42 million people in India suffer from thyroid diseases. T2DM and thyroid disorders coexist and have been shown to influence each other. Associations between both the conditions have long been reported. It has been observed that there is an increased frequency of thyroid dysfunction with advancing age and a higher prevalence of thyroid diseases in women as compared to men to non-diabetics. However, the prevalence of thyroid dysfunction and associated clinical variables in middle aged patients of T2 DM in local population has not beeninvestigated so far. It is important to determine the incidence and prevalence of thyroid dysfunction in patients with T2DM in relation to their age and sex, because many patients encounter thyroid dysfunction later in their life. The aim of this study wasto determine the possible relationship between glycemic status(Acetylated hemoglobin,HbA1cand mean plasma glucose) and thyroid function related hormones(fT3,fT4,TSH) in local middle aged patients of Indore. A total of 108 T2DM middle aged patients were recruited for this study,out of which 54 were males (mean age 45.24±12.93) and 54 were females (mean age 40.98±9.39).Their pathological reports on HbA1c, mean plasma glucose, fT3,fT4,TSHand lipid profile were evaluated. Male population was found to have more glycemic value (HbA1c) than female population. Data showed no significant effect of thyroid function on glycemic status of patients of Indore city.

Keywords: T2DM,HbA1c,Mean plasma glucose,fT3,fT4& TSH

Prevalence of diabetes and its co-relation with occupation

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ABSTRACT

Diabetes is one of the most common and challenging public health problem and globally prevalent health emergencies of the 21st century. Increased prevalence of diabetes in India is considerably high among the urban population. The present study was based on cross sectional survey, conducted in 3026 participants in the urban population of Jabalpur. Data was collected from different pathological labs during the period 2016-2019. Questionnaire was used to collect data. Occupation was categorized into seven categories viz service, business, homemaker, labor, student, retired and unemployed. Our study indicated that service class had highest percentage of diabetes (17.1%) and there was no diabetic respondents reported in the labor class. The impact of occupation in the prevalence of diabetes or sedentary occupation was higher. The study indicated that, there was a significant relationship between the occupation and diabetes. Service class respondents have sedentary nature of occupation which results in change the body's metabolism and insulin resistance, which can lead to diabetes. It is important to maintain better balance between personal and professional life to avoid obesity and hypertension, which will help in prevention of diabetes.

Keywords: Diabetes, Prevalence, Occupation, Sedentary

Evaluation of soil quality around Parichha Thermal Power Plant for Sustainable Development using GIS

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ABSTRACT

Soil is the most important natural resource for the existence of all living things on earth, however as the world population increases, the scarcity of rich soil is increasing year by year. Chemical factories and the indiscriminate use of harmful fertilizers in agricultural operations are examples of modern industrialized practices that lead to environmental deterioration. The aim of the present research is to assess the physico-chemical data and calculate the soil quality index. To build a characteristic database, soil samples taken from around the thermal power plant are evaluated for physico-chemical characteristics. Using the curve-fitting approach in GIS software, geographical distribution maps of selected soil quality metrics, such as organic carbon, pH, EC, Nitrogen, Phosphorus, Potassium, S, B, Fe, Cu, Zn and Mn are created based on the analysis results. The properties of physico-chemical analysis and the computation of SQI are useful in classifying soil samples as good, average, or bad. The spatial distribution of SQI obtained in this work will be extremely useful to planners in land resource management and monitoring.

Keywords: Soil quality, Soil contamination, Physico-chemical properties, GIS software, Soil monitoring.

Study of Diversity of Anisoptera in an Urban Landscape

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ABSTRACT

The dragonflies are versatile predatory insects and ecological indicators reflecting the biotic and abiotic state of the natural and urban environment. Our present study aims at finding out the diversity of dragonflies at a location of Indore city. Our study location is 22.7023°N, 75.8056°E. The study was conducted in a small area of approximately 2000 square feet, with a high diversity of plants for about 2 months during the monsoon and post-monsoon period. The point count method was used for conducting this study. A total of six species were observed which belong to two families i.e., Aeshnidae and Libellulidae. The most commonly found species in the region belongs to the family Libellulidae. In the monsoon season, the population of two species namely *Pantala flavescens* and *Hemianax ephippiger* was found to be the highest, however, the population of *Tramea basilaris* was dominant during the post-monsoon period. Therefore, the study location is rich in the diversity of dragonflies. It can also be hypothesized from the study that some of the species found in the study can be synanthropic. The study can be useful in setting up primary data for future researches and can be used as a foundation for conservation efforts.

Keywords: Dragonflies, Diversity, Ecological indicator

Role of mushroom enzymes in Biotechnology

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ABSTRACT

The rapidly growing global population and expansion in the agriculture sector and food industries have resulted in the generation of a large amount of agro-industrial waste annually. Agro-industrial waste is a major lignocellulosic component. This form of waste includes cellulose, hemicelluloses and lignin, which are normally referred to as "lignocellulosic materials". The disposal and burning of this waste have created major global environmental problems. Agro-industrial waste mainly consists of cellulose, hemicellulose and lignin, all of which are collectively defined as lignocellulosic materials. This waste can serve as a suitable substrate in the solid-state fermentation process involving mushrooms. Mushrooms degrade lignocellulosic substrates through lignocellulosic enzyme production and utilize the degraded products to produce their fruiting bodies. Therefore, mushroom cultivation can be considered a prominent biotechnological process for the reduction and valorization of agro-industrial waste. Such waste is generated as a result of the eco-friendly conversion of low-value by-products into new resources that can be used to produce value-added products. This overview has focused on the use of agro-industrial waste as a growth substrate for mushroom cultivation and lignocellulolytic enzyme production.

Keywords: Mushroom, Enzyme, Biotechnology, hemicelluloses.

Nutritional and Mineral Composition of Selected Vegetables of Indo-Gangetic plains of Prayagraj district

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ABSTRACT

Vegetables play important role in food and nutrition security. Vegetables are considered an exceptional source of vitamins and minerals. The present study aims to assess the nutritional significance of some of the commonly consumed vegetables collected from the 3 different Ghats of Prayagraj district namely Phaphamau, Bakshibandh and ChatnagGhat. The Vegetables selected for this study were *Spinaciaoleracea, Coriandrum sativum, Trigonella foenum-graceum, Cucurbita, Lagenariasiceraria, Cucumissativus*. These vegetables are cheaply available for the local population and are commonly cultivated in the indo-Gangetic plains of the Prayagraj district. The nutritional composition of vegetables was analysed using the AOAC method and for mineral estimation, Atomic Absorption Spectrophotometer method was used. The results ranged as follows; moisture (86.3 - 96.2) moisture (86.30 ±2.55 - 96.26 ±2.27%), ash (1.03 ± 0.38 – 2.49 ±0.22 %), fat (0.2 ±0.06 - 0.45 ±0.2 %), fibre (7.88 ±0.61 - 15.30 ±0.59 %), protein (0.53 ±0.04 -3.52 ±0.06 %) and carbohydrate (2.38 ±0.09 - 5.65 ±0.11%). The ranges of mineral composition are as follows: Sodium (116.4 ±3.8 - 190.2 ±2.6 mg/100g), potassium (124.5 ±2.9 - 627.3 ±2.4 mg/100g), Phosphorus (22.06 ±3.8 - 78.20±3 0.08 mg /100gm), calcium (54.9 ±2.2 - 272.6 ±2.8mg/100g) and magnesium (12.3 ±2.5 - 86.6 ±4.2 mg/100g).The outcomes show that the vegetables contain a lot of fundamental micronutrients; admission of these vegetables could give wholesome necessities important to growth, development and assurance against different diseases.

Keywords: Nutritional composition, Micronutrient, Nutrition security, Vegetables.

Organophosphorus pesticides induced changes in the ovarian activity of air breathing fish: *Heteropneustes fossilis*

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ABSTRACT

Degradation of pesticides and organic materials in water results in the change of pH of water, making the lethal compounds more soluble and ultimately more available to aquatic organisms. It is a well-known fact that pollution refers to the environment with harmful and undesirable wastes. One of the major agricultural chemical groups is pesticides which play an important role in increasing agricultural productivity through controlling pest but they also cause off damage to the terrestrial and aquatic environment. Aquatic organisms including fish accumulate pollutants directly from contaminated water and indirectly via food chain. In India pesticides are one of the major classes of toxic compounds for pest management in agricultural sectors and control of insect vectors of human diseases the general histological tests are used to establish normal health status and to diagnose diseases caused by various factors like toxicants, pesticides, parasitic infection, environmental pollution etc in human and veterinary science. Malathion is a widely used organophosphorus pesticide is being used in India. Aquatic organisms exhibit a broad range of responses to organophosphate insecticide depending on the compound, exposure time, water conditions and species. H*eteropneustes fossilis* is an edible freshwater fish and it is of great economic importance. H*eteropneustes fossilis,* an air breathing cat fish of family saccobranchidae was exposed to sub-lethal concentration of organophosphorus pesticide namely Malathion. The fish represent an easily available model to examine the risk factor value for a compound, for two reasons: - The hypersensitivity and easy maintenance therefore, the present study to find out the significant role in the toxicological influences with fish ovarian activity. Finally, it was observed that reduced diameter of different stages of oocyte. The density of ovarian materials both in number and quality has largely been damaged.

Keywords: sub-lethal, contaminated, hypersensitivity, toxicological influences.

Dye removal from water using green synthesized magnetic iron and its oxide nanoparticles: A Review

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ABSTRACT

Rapid increase in industrialization and the human population havecaused contamination of water bodies with several toxins and pollutantslike pesticides, dyes, heavy metals, radionuclides, and phenolic compounds and are making water unsafe for drinking purposes. Dyes specifically are among the major group of chemical pollutants causing water pollution. They are non-biodegradable and have a tendency to remain in the environment for prolonged time hence theirremoval is the need of the hour. Several techniques like coagulation, adsorption, membrane separation, oxidation, etc., have been applied to treat such wastewaters. Among all, adsorption is considered suitable because the process has been proved to be simple, successful, efficient, non-toxic and cost-effective technique. Various nanomaterials were developed as adsorbents from time to time with increased absorption capacity, increased affinity, selectivity towards contaminates, etc. and properties like a smaller size, higher surface-area to volume ratio, strong sorption power, high reactivity, etc., make them powerful candidates. Magnetic iron and its oxide nanoparticles are preferred in wastewater treatment because of their rapid adsorption ability and interstice reactivity and furthermore, they can be easily separated post adsorption process using a magnet. Additionally, iron and its oxide nanoparticles have been reported to possess excellent properties like dispersibility, enhanced catalytic activity, high adsorption capacity, amphoteric surface activity, biocompatibility, chemical stability and magnetic behaviour. Hence the current work reviews various green synthesized iron and its oxide nanoparticles which have been used for the treatment of water contaminated with dyes and provides a deep insight into their future perspective.

Keywords: pesticides, dyes, heavy metals, radionuclides, phenolic compound

Livestock farming: An approach towards livelihood improvement of farm women

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ABSTRACT

Livestock sector has emerged as one of the fastest growing agricultural sub-sectors in India. It is a rich source of high quality foods such as milk, meat & eggs and also a source of income and employment to millions of rural farmers specially women. Livestock sector plays a prominent role in strengthening socio-economic life in India. This sector play a significant role in family incomes and generating employment for rural India besides provide food & nutritional security to millions of people. Livestock regarded to be the best insurance against the natural calamities like drought, famine etc. Livestock sector posses' potential in eradicating complex problems like malnutrition and poverty. Diversification in agriculture by livestock helps in eradicating poverty and also leads to prosperous & dignified life for farm women. Globally, about 42% of economically active women are engaged in agriculture and they comprise about 43% of total work force in agriculture. In developing countries, 52.7% of women workers are in agriculture. In India, high proportions of economically active women are engaged in agriculture and allied activities. On the basis of survey conducted in Rampur das village, block- Kotwali, district-Bijnor on 2021, it was found that 82% of farm women participates in livestock management. Rural women participates actively in livestock sector activities like animal feeding, milking, breeding, cleaning and providing health care to the animals. The study reveals that, more men migrating towards non-farm sector, the share of women in total agricultural work force increasing. In this context, there is immense need to develop capacity of rural women, to more effectively and actively participate in it. Livelihood improvement of farm women is possible through livestock sector by the way of specific training and critical need based support from extension professionals.

Keywords: Livestock, Milk, Egg

A Brief Review of Innovation with MycoherbicideUsed for Biological Control of Lantana Weed

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ABSTRACT

Innovation starts with objectives. We normally find only what we are looking for. Unexpected directions may occur in rare cases. It is however very complicated to rely on unknown events from innovation point of view. Innovators develop their research strategies based on agronomic requirements or demands of the consumer of agricultural products, based on economic expectations, on regulatory restrictions, on research institute strength and on research institute portfolio requirements.

Chemical Herbicides have been indispensable tool for farmers to in developed countries for more than 50 years. High labour costs, energy prices, erosion as an environmental problem and competition resulted in the reduction of mechanical weed measures and resulted in a leading role of chemical herbicides as agrochemicals. Due to the recent trends in environmental awareness concerning the side effects ofherbicides, public demands for development of safer, more environmental friendlyapproaches for weed control. The development of weeds resistant by the applicationofherbicides demands new alternate to cope with the problem since economic losses generated by weeds can be higher than those caused by other pests. Innovators are continuously searching for identification and characterization of most effective,economical and environmentally safer synthetic herbicides by screening large number ofsynthetic organic molecules, synthesizing analogs of patent herbicides,designing newherbicide molecules based on target site approach and screening of natural products forfriendly trends in weed management force scientists to reach forinnovative sources and tools.

Fungi are well recognized for their ability to produce diversebiologically active metabolites including herbicides. The herbicidal properties of fungi can be exploited successfully as atool for the management of weeds. The Large number of secondary metabolites produced by fungi provides ecofriendly, diverse and challenging chemical structures. The biological control of weeds by mycoherbicides (fungal weed pathogens and/their metabolites) have received considerable consideration. Mycoherbicides offer an innovative approach to the managementof Lantana weeds using formulated fungal phytopathogen or their natural metabolite extracts would serve as an important component in integrated management strategy. In this research paper, we present the work for the management of *Lantana camara*noxious weeds of India & with isolated indigenous fungal pathogens and by their metabolites.

Keywords: Noxious Weeds, Biocontrol, Indigenousfungi, Mycoherbicide, Marasmins

Biochemical changes due to synthetic pyrethroid type II deltamethrin in poultry

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ABSTRACT

The biochemical responses of *Gallus domesticus* to synthetic pyrethroid type II deltamethrin was assessed in this study. A total of hundred, day old chicks were divided equally into four groups and were orally administered groundnut oil with and without (control) deltamethrin synthetic pyrethroids for 6 weeks. Body weight, was unaffected due to treatment. However, an increase in serum alkaline phosphatase activity, blood glucose and cholesterol was noted while serum acetyl cholinesterase and total protein was decreased in all treated groups. It is concluded that chronic exposure of low dose of synthetic pyrethroids leads to significant biochemical and neurological changes and cause adverse effect on metabolism of birds.

Keywords: *Gallus domesticus*, Synthetic pyrethroid, deltamethrin, chronic exposure, toxicity.

Seasonal Assessment of Heavy Metal Pollution in Water Resources and their Impacts on Aquatic Life: A Review

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ABSTRACT

Heavy metals in water, though essential to living organisms up to some extent, are one of the most common environmental pollutants and their presence in the aquatic ecosystem has become a major global environmental problem. Besides natural sources, rapid industrialization, sewage discharge, agricultural runoff and other anthropogenic activities are the sources through which heavy metals enters the aquatic system. They contains different pesticides, fertilizers and heavy metals which can affect the ecosystem through bioaccumulation and biomagnifications process and are potentially toxic to the environment and human life. The study reviews the sources, impacts and assessment of heavy metal pollution in aquatic environment.

Keywords: *Heavy metals; environmental pollutants; aquatic ecosystem*.

Isolation of fungal strains from the textile effluent contaminated soil for the enzyme production and decolourization of textile dyes

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ABSTRACT

Dyes are versatile chemicals which are consumed by a number of chemical industries like textile, printing, paper, food and cosmetics industries. Significant water pollution is due to the discharge of textile dyeing effluent directly to the environment or drainage system is major concern by the people. This study aimed to isolate fungal strains from the textile dyeing effluent contaminated soil collected from textile industry with special reference to textile dye degradation through bioremediation. Soil samples from different locations in the premesis of textile industry were analyzed for potential fungi for the decolourization of Reactive Red and Reactive Blue dyes. Isolation and cultivation of fungi from dye contaminated soil was done on Potato dextrose agar. A total of 14 fungi were extracted from dyes contaminated soil, with 6 fungi were found capable of producing lignolytic enzymes and showed moderate zone indicating decolourization. The Four fungal isolates screened for decolorization of Reactive dyes were identified morphologically and microscopically as *Aspergillus niger*, *Aspergillus terreus*, *Aspergillus fumigatus* and *Penicillium glabrum*. The selected fungal isolates were acclimatized with increasing concentrations of Reactive dyes which showed the ability to tolerate high concentrations of reactive dyes.

Keywords: Decolourization, Reactive Dyes, Lignolytic Enzymes *Aspergillus niger*, *Aspergillus terreus*, *Aspergillus fumigatus* and *Penicillium glabrum*.

UV Photodetection for Measuring Germicidal Radiation

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ABSTRACT

In the current scenario of the global pandemic, UV radiation-based disinfection procedures have a gained a significant momentum for stopping the spread of Corona virus. The devices used for UV disinfection; it is also important to measure the power of UV available to a surface. Irradiancequantifies the radiation power irradiating a unit surface area. Due to various pros,ZnO thin films and nanostructures have emerged as a valuable material for application in UV detection. The conductivity of ZnO changes on being exposed to UV light. Using sol-gel spin coating, zinc acetate dihydrate, ethanol and ethanolamine, the solution for ZnO thin films are prepared. The resulting solution is then stirred at room temperature for one hour. The deposition is then carried out using a Spin Coater. After coating, ZnO thin films are pre-annealed, followed by post annealing. The structural analysis of ZnO thin films can be carried out using XRD technique. The lattice parameters, d-spacing, texture coefficient (TC), crystalline size, lattice strain, dislocation density cans becalculated from the XRD data.

Keywords: UV, XRD, nanostructure, sol-gel

Bumper production of Linseed under cluster demonstration

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ABSTRACT

The study was carried out during rabi seasons of 2017-18 in five village namely Rithi, Chhijwar, Padri, Khokam and Puraina village of Rewa districts of Madhya Pradesh to assess the impact of cluster front line demonstration conducted by Krishi Vigyan Kendra, Rewa on yield and economics of Linseed production. The data were collected from 75 farmers. The findings of the study results revealed that improved technology recorded a mean yield of (2025 kg/ha) which was 93 per cent higher than obtained by farmers practices (1050 kg/ha). The higher net returns (Rs. 56075/ha) and benefit: cost ratio of (3.97) was obtained with improved technologies in comparison to farmer's practices.

Keywords: Linseed, Cluster front line demonstration

Physico-chemical and Bacteriological analysis in Drinking Water of Chitrakoot Nagar Panchayat Area

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ABSTRACT

The physico-chemical parameters of drinking water samples were collected from PHE, hand pump,Mandakini river and dug well at various locations of Chitrakootnagar panchayat area. Physico-chemical and bacteriological parameters like, Temperature, pH, Alkalinity, TDS, Total Hardness, DO, BOD and E.coliwere determined. The results were compared with standards prescribed by WHO (2012). Temperature, pH, DO and BOD of all the samples were found below the permissible limit set by WHO. It is concluded that the water of different sources is not highly polluted but there is an indicating of increasing pollutant due to anthropogenic activities. Proper monitoring is needed to avoid anthropogenic contamination.

Keywords: Physico-chemical and bacteriological Parameters, drinking water, Nagar panchayat area

Role of Social maturity in shaping Environment in contemporary era

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ABSTRACT

Social maturity is a necessary aspect for individual as well as his socio-cultural environment. Each individual is expected to show mature behaviour towards environment because the socially immature behaviour of individual may prove harmful for socio-cultural environment. Keeping in view, present study was intended to explore the role of social maturity in shaping the environment in contemporary era. The study was carried with the help of descriptive researcher method. The secondary data was used for generalising the results of the study. On the basis on the data analysed the researcher found that social maturity plays key role in shaping the environment in contemporary era. Especially, it inculcates the environmental ethics among students. Subsequently after achieving environmental ethics it promotes the consciousness toward shaping the contemporary environment.

Keywords: Social Maturity, Environmental Ethics. Environment

The fort at Agra: An Architectural work of Mughal emperor

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ABSTRACT

The Mughal emperor Akbar (reigned 1556–1605) influenced the development of the Akbar era architecture in India. The Akbar period's architecture is distinguished by a strength that is made attractive and graceful by its rich ornamental work, which incorporates many traditional Hindu motifs. The fort at Agra (built 1565–74) and the magnificent town of FatehpurSikri (1569–74) are the best examples of the style, but fine examples can also be found in the gateway to the Arab Sara (guesthouse at Humayun's tomb), Delhi (1560–61), the Ajmer fort (1564–73), the Lahore fort with its outstanding decoration (1586–1618), and the Allahabad fort (1583–84). The researcher concluded that Agra Fort is a historical fort in the city of Agra in India. It was the main residence of the emperors of the Mughal Dynasty until 1638, when the capital was shifted from Agra to Delhi. Before capture by the British, the last Indian rulers to have occupied it were the Marathas. In 1983, the Agra fort was life inscribed as a UNESCO World Heritage Site.[1] It is about 2.5 km northwest of its more famous sister monument, the TajMahal.

Key words: Architecture, the fort at Agra,

Ignored wetland of avifaunal importance - Lake Rajsamand, Rajasthan, India

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ABSTRACT

Wetlands play crucial role in the ecosystem, and provide habitats to diverse life forms. Avifauna is one of the eye catching groups of aquatic fauna. The occurrence of the avifaunal species also gives an idea of the health of the wetland ecosystem. Furthermore, the abundance, composition and the diversity of bird species for any wetland gives an opportunity to the humans to assess the importance of the wetland. The largest state of India, Rajasthan is known for its desert habitat which correlates the state with the dryland habitats. Contrary to this, the eastern and southern parts of Rajasthan owe diverse form of aquatic habitats. Among such aquatic habitats, Lake Rajsamand is one of the ignored wetlands. This investigation presents the global importance of this wetland habitat with respect to the avifaunal diversity. The periodic seasonal surveys were carried out from 2006 to 2021 to observe the bird species from the Rajsamand Lake. Approximately 300 species were recorded from the lake. Out of these, 28 bird species were having the global significance. The paper highlighted the historical relevance and the conservation issues of the Rajsamand Lake along with the threats. Based on the observations, it is strongly recommended to include the lake into the list of sites of conservation priority.

Keywords: wetland, avifauna, Rajsamand, Rajasthan

Role of yoga practices in stress management

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ABSTRACT

Modern age is the age of competition**.** Modern life is full of hassles, deadlines, frustrations, and demands. For many people, stress is so commonplace that it has become a way of life. Stress isn't always bad. Stress is a natural human response to pressure when faced with challenging and sometimes dangerous situations. That pressure is not only about what's happening around us, but often also about demands we place on ourselves. Stress is "a state manifested by a specific syndrome which consists of all the non-specifically induced changes within the biological system" How we perceive a stress provoking event and how we react to it determines its impact on our health. We may be motivated and invigorated by the events in our lives, or we may see some as "stressful" and respond in a manner that may have a negative effect on our physical, mental, and social well-being. By understanding ourselves and our reaction to stress-provoking situations, we can learn to handle stress more effectively. The researcher in this study found that yoga provides a combination of benefits such as breathing exercises (pranayama), stretching exercises, fitness program, and meditation practice and guided meditations all in one technique. Just by doing this individual can have great benefits with the practice of yoga. So in conclusion yoga can be a great remedy for stress and can offer some stress relief.

Keywords: Stress, yoga.

Phyto and Physico Chemical Profiling of *Linum usitatissimum Linn.*

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Linum usitatissimum Linn. commonly known as flaxseed is an important medicinal plant of family Linaceae. *Linum usitatissimum L*. is very rich in health-promoting bioactive compounds like as secoisolariciresinol diglucoside (SDG), omega-3 fatty acid, alpha-linolenic acid (ALA) etc. In present investigation seed samples of were subjected for phyto and physico chemical analysis according to guideline of Ayurvedic Pharmacopeia of India. During phytochemical analysis extract has been prepared by using soxhlet extraction assembly and qualitative estimation of different bioactive ingredients was carried out. For the physico chemical analysis various parameters i.e. moisture content, alcohol soluble extractive, water soluble extractive, ash value, water and acid insoluble ash value has been determined. In phytochemical analysis flavanoid, saponin resins and tannin give positive results. Whereas the negative results has been observed in alkaloid and carbohydrate which show the absence of these biomolecules. In physico-chemical analysis all the reported values of several parameters follow the API standard. This study was very useful and reproducible for development of quality standards for validation and standardization.

Keywords: *Linum usitatissimum Linn.***,** medicinal plant

An Assessment on Self-Concept of Volley Ball and Kabaddi Players

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ABSTRACT

Self-concept play an important role in shaping physical and physiological profile of players in any type of game. The study was intended to explore the self-concept of volleyball and Kabaddi players. The present study was carried with the help of descriptive research design. 400 volleyball and Kabaddi were selected by using convenient sampling technique. The results of the study indicate no significant difference has been found between volleyball and Kabaddi players on their level of self-concept. Thus, from the study it was inferred that the type of game played by the respondents was found insignificant impact on the level of self-concept of the players.

Keywords: Self-concept, Volley Ball Players, Kabaddi Players.

Synthesis and Characterisation of Copper(II) Complexes with Tridentate NNO Functionalized Ligand: Density Function Theory Study, DNA Binding Mechanism, Optical Properties, and Biological Application

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ABSTRACT

The photo physical properties of two mononuclear pentacoordinatedcopper(II) complexes formulated as [Cu(L)(Cl)(H_2O)] (1) and [Cu(L)(Br)(H_2O)] (2) HL = (1-[(3-methyl-pyridine-2-ylimino)-methyl]-naphthalen-2-ol) were synthesized and characterized by elemental, physicochemical, and spectroscopic methods. The density function theory calculations are used to investigate the electronic structures and the electronic properties of ligand and complex. The interactions of copper(II) complexes towards calf thymus DNA were examined with the help of absorption, viscosity, and fluorescence spectroscopic techniques at pH 7.40. All spectroscopy's result indicates that complexes show good binding activity to calf thymus DNA through groove binding. The optical absorption and fluorescence emission properties of microwires were characterized by fluorescence microscope. From a spectroscopic viewpoint, all compounds strongly emit green light in the solid state. The microscopy investigation suggested that microwires exhibited optical waveguide behaviour which are applicable as fluorescent nanomaterials and can be used as building blocks for miniaturized photonic devices. Antibacterial study reveals that complexes are better antimicrobial agents than free Schiff base due to bacterial cell penetration by chelation. Moreover, the antioxidant study of the ligand and complexes is evaluated by using 1,1-diphenyl-2-picrylhydrazyl (DPPH) free-radical assays, which demonstrate that the complexes are of higher antioxidant activity than free ligand.

Keywords: DNA, Biological application, free radical

Molecular Profiling of *Agaricusbisporus* and *Volvariellavolvacea*by Randomly Amplified Polymorphic DNA Genetic Marker

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The present study has been targeted for molecular profiling of *Agaricusbisporus and Volvariellavolvacea*. During the investigation fresh sample of button and paddy straw mushrooms has been collected from different geographical location of India and identified on the basis of morphological examination by using botanical investigation. Sample has been subjected for DNA isolation by column method. Quality and quantity have been evaluated by performing gel electrophoresis and spectrophotometric analysis respectively. A bunch of 10 RAPD markers tried for molecular profiling of *Agaricusbisporus and Volvariellavolvacea*. The significant results have been observed via all reproduciblemarkers generated for every types of *A. bisporus*and *V. volvacea* Mushroom. In case of *A.bisporus*, the 90 alleles have been recognized in which 43 alleles were monomorphic and47alleles were polymorphic. The scope of number of alleles produced by various spreliminaries was 2 to 7 whereas in case of *V. volvacea* Mushroom, the 210 alleles havebeen recognized in which 185 alleles were monomorphic and 25 alleles were polymorphic. The scope of number of alleles produced by various preliminaries was 1to5.

Keywords: *Agaricusbisporus, Volvariellavolvacea*, Polymorphic DNA Genetic Marker

Efficacy of Ca ionophore and 6-dimethylaminopurine on activation of prepubertal ovine oocytes

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ABSTRACT

The present study was carried out to compare the different activation protocols for production of parthenogenetic embryos from prepubertal sheep ovarian oocytes and to compare the *in vitro* fertilization derived embryos. *In vitro* fertilization (IVF) embryos were produced by adopting IVFMC of oocytes collected from prepubertal sheep ovaries from local slaughter house, Ziaguda (Hyderabad). The overall cleavage rate was 57.5 ± 0.38, 53 ± 0.87 and 8 ± 0.24%, respectively in treatments I (10% ESS + 10 µg/ml FSH + 10 µg/ml LH + µg/ml estradiol + 50 µg/ml gentamicin + TCM 199 B), II (10 µg/ml FSH + 10 µg/ml LH + µg/ml estradiol + 50 µg/ml gentamicin + TCM 199 B) and III (50 µg/ml gentamicin + TCM 199 B), respectively. The cleaved cells attained 2-cell, 4-cell, 8-cell and Morula stage were 38.5 ± 0.28, 27.25 ± 0.28, 24.5 ± 0.23 and 14 ± 0.16%, 31 ± 0.71, 20 ± 0.60, 11 ± 0.51 and 2 ± 0.21%,, 3 ± 0.24, 1 ± 0.20, 0 and 0%, respectively in treatments I, II and III. Among the three treatments, Treatment I achieved significantly (P<0.05) higher percentage of cleaved cells.

Parthenogenetic embryos were produced by using different concentrations of calcium ionophore + 6-dimethyl aminopurine (6-DMAP) in the concentrations of 1 µg/ml + 1 mM, 5 µg/ml + 2 mM and 10 µg/ml + 5 mM in protocol I, II and III. respectively and also a control was maintained using TCM 199 B + synthetic oviduct fluid (SOF). The results of embryonic development showed that there was significant (P<0.05) difference in cleavage rate between the activation treatments. Treatment II resulted in significantly (P<0.05) higher cleavage rate (66 ± 0.37%) followed by *in vitro* fertilization (IVF) (57.5 ± 0.38%), Treatment III (46.75 ± 0.62%) and Treatment I (38.5 ± 0.41%). No significant difference was observed between Treatment II and IVF pertaining to attainment of 2-cell stage, but differed significantly (P<0.05) when compared to Treatments I (21.75 ± 0.24%) and III (27.5 ± 0.32%). Pertaining to attainment of 4-cell stage, Treatment II resulted in significantly higher rate (30.25 ±

0.32%) followed by *in-vitro* fertilization (27.25 ±0.28%), Treatment III (23 ± 0.36%) and Treatment I (16.5 ± 0.18%). Pertaining to attainment of 8-cell stage, Treatment II resulted in significantly higher rate (26.75 ± 0.33%) followed by *in-vitro* fertilization (24.5± 0.23%), Treatment III (13.25± 3.20%) and Treatment I (15 ± 0.19%). Pertaining to attainment of Morula stage, Treatment II resulted in significantly higher rate (16.5 ± 0.23%) followed by *in-vitro* fertilization (14 ± 0.16%), Treatments III (12 ± 0.20%) and I (9.5± 0.16%).

Based on the results of the present study, it can be concluded that the exposure of *in vitro* mature oocytes to calcium ionophore at a concentration of 5 µg/ml for 5 min followed by 3 hrs incubation with 2 mM 6-DMAP (Protocol-II) was found to be the best for parthenogenetic embryo production in prepubertal ovine ovaries. Comparison of 2-cell stage between treatment II and IVF was similar. Other stages (4-cell, 8-cell and Morula stage) were significantly ($p<0.05$) higher in parthenogenetic activation of oocytes.

Keywords: Calcium ionophore, 6 DMAP, *in vitro* fertilization

Mollusc Seasonal Diversity at Different Study Sites of Kshipra River

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ABSTRACT

Molluscs are second largest group of animal after insect. They are highly adaptive and occupy all possible habitats. Biological monitoring of rivers using macro invertebrate is accept as useful tool for the assessment of water quality. However most studies have investigated streams and relatively small rivers and there is a pressing need to obtain biological information on the large rivers many of which are pressure due to population growth and urbanization. Molluscan community is good indicators of localized conditions, indicating the water quality. In the present study mollusc are recorded in three seasons *viz;* postmonsoon, winter and summer at three different study sits of Kshipra River. During the study period 17 species of mollusc diversity were recorded in summer than winter and minimum in post monsoon season. This work highlighted seasonal abundance of mollusk in various season with respect to evaluate the river condition.

Keywords: Mollusc, Duversity seasonal

Effect of Saprolegniasis on Catfish *Heteropneustes fossilis* (BLOCH)

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ABSTRACT

Fungi are group of organism that requires living or dead matter for growth and reproduction. Fungi can become a problem if fish are stressed by disease, by poor environmental conditions, receive poor nutrition or are injured. Fungal pathogenicity is one of the commonest occurrances in aquatic medium. Fish, being master of aquatic environment are more prone to fungal infection in natural as well as in artificial aquarium of lab. Saprolegniasis is a fungal disease of fish caused by saprolegnia species called water molds. Pathological examination revealed a fungal growth resembling a tuft of cotton seen on localized area of skin & gills of H. fossilis. Microscopically the fungal hyphae were seen deep in skin and under lined muscles with mark degenerative and inflammatory reactions. It can be concluded that saprolegnia species infection induced marked tissue alteration as well as hematological changes.

Keywords : *H. fossilis*, Saprolegniasis, Hematology, Skin, Gills.

Dietary manipulations and hormonal biotechnology in advancing gonadal maturation for quality seed production of Indian major carps and catfish

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The steadily growing importance of culture fisheries during the recent years owing to stagnation of marine fish production worldwide has stimulated to improve the techniques necessary for securing the basic requirement, production of young ones (fry and fingerlings) for stocking. Therefore, the artificial propagation technique needs constant refinement for obtaining quality fish seed at the desired times of year. Recent advances in fish endocrinology have led to a better understanding of the hormonal factors involved in the control of gamete production, mode of their action and regulation of secretions during different phases of reproductive cycle. Environmental stimuli like photoperiod, temperature and rainfall are perceived by the brain which releases gonadotropin-releasing hormone (GnRH). Though GnRH appeared first in cnidarians (coelenterates), it has also been recorded from molluscs, echinoderms and protochordates. This neuro-peptide (10 amino acids) has also been reported from non-hypothalamus tissues where it perform autocrine/paracrine functions.

With evolution of hyothalam-hypophysial-ganad (HPG) axis, GnRH plays pivotal role in neuroendocrine regulation of reproduction in chordates. It binds specifically to receptors in the pituitary gonadotrops and stimulates secretion of gonadotropic hormones (GTh-I, II). The circulating GTh-I functions at the target site in two ways- it induces synthesis and secretion of estradiol-17 β during pre-vitellogenic phase which, in turn, induces vitellogenesis or yolk production during post-vitellogenic phase, GTh-II triggers synthesis and secretion of maturation-inducing hormone, 17α,20β-dihydroxyprogesterone (17,20-P) which is responsible for the final maturation of gametes leading to ovulation and spermiatioin. The recent identification of three GnRH isoforms (GnRH-1, GnRH-2 and GnRH-3), kiss proteins and two kiss genes (kiss-1. kiss-2) and two kiss receptors ((GPR-54)-kiss-1r and kiss-2r as well as cytochrome P450 aromatase gene (CYP19) in brain and gonads (ovary and testis) have given better insight into the mechanisms of hormonal interactions in fish reproduction. Further, role of pheromones are also gaining importance

during advanced phases of reproduction involving the synchronization of maturity, attraction of prospective mates, triggering spawning behaviour and release of gametes.

Role of nutrition in broodstock management for quality seed production in fishes has been appreciated only during the recent years. Success of induced breeding depends on proper gonadal maturation because fishes reared without adequate food supply do not show full maturity. Also, the breeding of females and males do not synchronize under improper rearing conditions. Semi-balanced diets (28-30% protein for carps, 30-32% protein for catfishes) fortified with essential amino acids for broodstocks as well as hormonal treatments have resulted in advancement of maturity in the Indian major carps (*Catla catla*, *Labeo rohita* and *Cirrhinus mrigala*) and catfish (*Heteropneustes fossilis*) by 2 months under pond conditions giving scope for re-maturation and multiple breeding of the same fish (58-64 days for re-maturation after the first spawning) for better gamete output. The catfish (*H. fossilis*) has been successfully bred for the four times from April to November under hatchery conditions through hormonal and dietary manipulations. Maternal treatments (injections/dietary) of thyroxine (T_4) to broodstock of the carps and catfish improved survival and quality of the gametes. Interestingly, stocking together (both sexes) of broodstock of Indian major carps and catfish during breeding peak led to better induced spawning success and gamete output.

Feed utilization parameters such as weight gain percentage, specific growth rate, feed conversion ratio FCR) and feed efficiency ratio (EER) were also improved in fry and fingerlings of these fishes reared on the diets supplemented with thyroxine (T_4). Growth and survival of *H. fossilis* larvae were also enhanced following thyroxine (T_4) and cortisol treatments (through emersion treatments) during the early days of rearing. Modern fish industry is highly specialized exploring more and more possibilities to manipulate reproduction. In spite of all the recent advances in the reproductive physiology and nutrition, we are still far behind to understand the basic mechanism (s) involved in the process of fish propagation in nature. Altering sexual cycles, induction of advanced and delayed maturation, ovulation and spermiation as well as artificial fertilization are to be practiced for production of quality gametes for the expansion of aquaculture.

Keywords: Indian major carps, *Catla catla, Labeo rohita, Cirrhinus mrigala, Heteropneustes fossilis*

Nesting ecology of Vultures (Gyps spp.) in Bundelkhand region India

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ABSTRACT

Many animals build structures for protecting and raising their offspring during reproduction, which are usually called nests.Nesting in vulture starts from the month of November at each breeding attempt. The nest is constructed and maintained each year when breeding season start. *Gyps* species used to construct their nest out of human habitation.*Gyps* vulture placed their nest on mature trees, old historical monument, and cliffs in Bundelkhand region. They select their nesting siteon the basis of availability of food at particular distance, availability of nesting material, Distance of breeding habitat from human habitation, presence of Water body, and forest area, height of tree, cliff and monument. For tree nesting they have to focus on some different factors such as maturity of trees, branches of trees, tree condition, and tree canopy in Bundelkhand region situated in the heart of India. The study was carried out in breeding areas of 14 districts of mixed dry deciduous forests of bundelkhand region from 2015 to 2019. Data supported by GPS, and direction with the help of compass. Map of study area was prepared by using Q GIS software. they select their nesting habitat on tree (31.01m) /cliff (25.44m) /monument (17.07m) away from human disturbance (max-10.47 to min-3km) and near to water body (max- 3.033 to min-0.33km).Distance of nesting territory to feeding site was 8.87km, forest at 4.14km and agricultural land at 3.53km. The nestinghabitats facing the direction of sunlight towards the east are highly selected for breeding.*Gyps* vultures are colonial birds. Largest colony size was 98 and smallest colony size was 58 individuals.Most of nesting sites situated on vertical cliffs, east-facing closed territory was highly selected by *Gyp*s vultures for breeding in the Bundelkhand region. Anthropogenic habitat, unavailability of food, tourism, Electrocution, habitat loss is the major threats to the breeding site. Maintenance of forest openings, diclofenac ban, alternative to diclofenac, community education, establishment of vulture restaurants', Vulture safe zone, Giddha mitras, Nest guarding, forestry services and conservation through awareness.

Keywords: Vultures Nesting ecology, Tree, Cliff, Monument, Threats, conservation.

Impact of Dichlorvos (DDVP) on the Kidneys of a Carp Fish, *Cyprinus Carpio*: A Histopathological Study

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ABSTRACT

Dichlorvos is a widely used pesticide. The impact of dichlorvos on kidney of *Cyprinus carpio* was studied with light microscopy. The result showed dangerous histopathological damages to kidney. The proximal convoluted tubule exhibited clumped erythrocytes; diminished lumen, nuclei concentrated to lumen with lower toxicity (2.5ppm), necrosis in distal convoluted tubule with higher doses (4.5ppm), nuclei become enlarged, extensive necrosis in proximal convoluted, shrinkage of glomerulus that augmented with time (20days).

Keywords: Dichlorvos, necrosis, shrinkage, pesticide

Environmental Sciences

Environmental Ethic, Environmental Legislation, Environmental Impact Assessment, Environmental Management, Environmental Policies, Environmental Pollution, Natural Resources Conservation.

Environmental Policies and Threats for Biodiversity Conservation

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ABSTRACT

The term Biodiversity was first coined by Walter G. Rosen in 1985.It generally means 'variety and variability of life forms on Earth'. It includes genetic, species and ecological variety.Biodiversity is species richness (plants, animals and microorganisms) occurring as an interacting system in a given habitat.It represents the sum total of various life forms such as unicellular fungi, protozoa, bacteria and multicellular organisms such as plants, fishes and mammals at various biological levels including genes, habitats and ecosystem.Biodiversity is the totality of genes, species, and ecosystem in a region (IUCN, UNEP, 1992). As defined in Convention on Biological Diversity (CBD) signed at Rio De Jemerrio (Brazil) in 1992 by 154 countries, the biodiversity defined as "the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which the area part- this includes diversity within species, between species and of ecosystem".Acc. to IUCN (1998) "the variety and variability of species of their population, the variety of species of their life forms, the diversity of the complex association with species with their interaction and their ecological process which influences perform.Everything that lives in an ecosystem is part of the web of life, including humans. Each species of vegetation and each creature has a place on the earth and plays a vital role in the circle of life. Plant, animal and insect species interact and depend upon one another for what each offers such as food, shelter, oxygen and soil enrichment.Maintaining a wide diversity of species in each ecosystem is necessary to preserve the web of life that sustains all living things.Many wild plant species make important contribution to human food supplies. Norman Myers estimated that 80,000 edible wild plant species could be utilized by humans. Villagers in Indonesia, are thought to use some 4000 native plant and animal species for food, medicines, and other valuable products.

Keywords: Environmental Policies, Threats, Biodiversity Conservation

Open cast Stone crushing unit in and around Jhansi region and their environmental impact

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ABSTRACT

Mine and stone crushing industry in India has been growing rapidly due to increasing demand from the construction industries and the present emphasis on developing the country's infrastructure. The aim of the present study was to assess the effects of mining on air, especially dust particles and their effects on plant species in and around mining areas of Jhansi, Bundelkhand region, India. Undoubtedly, the mining and stone crushing activities have considerable effects on the environment and well-being of living organisms. The dust emissions and possibility of leaching of contaminants during the stone mining and its allied activities may contaminate the air and water therefore affecting the exposed living organisms. Stone crushing and associated activities mainly contribute SPM to surrounding environment and studies showed that the mean minimum and maximum values of SPM at crushing and residential sites were recorded of 1064.2 µg/m^3, 1266.5 µg/m^3 and 545.86 µg/m^3, 599.26 µg/m^3 respectively. The variation in terms of dust deposition with various selected species specific result has been observed during the study. Decreasing of leaf pigment concentration indicate the positive impact of dust pollution. Present observation may be helpful to find out some species which is resistant or to cope with open cast mining generated dust pollution in and around mining areas and adopt also for the beautification of highways.

Keywords: Bundelkhand region, Open cast mining, Dust pollution, water pollution.

Environmental Stressors and their Management

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ABSTRACT

Environment consists of both biotic as well as abiotic components. In both the biotic as well as abiotic components there are certain factors also referred to as stressors that tend to impact our environment, ecosystem and productivity. These stressors constrain productivity, reproductive success, and ecosystem development. The main groups of environmental stressors are climatic stressors, chemical stressors, wildfire, physical stressors, and biological stressors. To some degree, stressors affect all organisms as well as their populations, communities, and ecoscapes. Stressors may be natural in origin, being associated with such environmental influences as competition, predation, disease, and other interactions among organisms; constraints related to climate or to inadequate or excessive nutrients, moisture, or space and disturbances such as wildfire and windstorms. It is not necessary that environmental stressors have always negative effects. Some individuals, populations, and communities may benefit from the effects of natural stress, even while others suffer a degree of damage. In the recent times stressors related to the anthropogenic activities are having a profound effect on the environment. It has led to degradation of our natural resources that are vital to sustain life on this planet, loss of biodiversity and disruptions in food chains ultimately affecting the whole ecosystem. Climate change is one such aspect where the anthropogenic activities have a profound effect and the resultant stressors are associated with an increase in temperature, increased incidences of floods, droughts, abnormal precipitation rates. Similarly some chemical stressors lead to conditions where the availability of certain substances becomes too low to satisfy biological needs or becomes high enough to become toxic.

The management of environment thus includes minimizing the negative impacts of stressors. It can be done by judicious use of our natural resources based on the principle of reuse, reduce and recycle. The anthropogenic activities that interfere with nature should be discouraged. Agriculture sector which is affected a lot by environmental stressors should also be reinvigorated with sustainable practices. Chemical intensive farming should be replaced with natural farming techniques like Zero Budget Natural Farming, Organic farming with a more focus on conversion of animal waste into high quality organic manure to act as a substitute for chemical fertilizers.

Keywords: Environment, stressors, Natural Farming, Organic farming

Indigenous knowledge: A preserve of communities living closest to the natural resources

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ABSTRACT

A demographic survey was conducted among the communities adjacent to the sacred forests in Kaya Kauma and Kaya Tsolokero, in Kenya. These communities are anticipated to be custodians of ethnobotanical knowledge. A stratified random survey was conducted on respondent's age, gender, marital status, education level, occupation and relationship to the village. A systematic sampling was conducted to identify respondents to the survey questionnaire. A total of 179 and 103 respondents were interviewed in Kaya Kauma and Kaya Tsolokero, respectively. The data was analysed using Kruskal-Wallis H Test using SPSS Statistics. Kaya Kauma forest surrounded by eighteen (18) villages was inhabited by the Kauma, Duruma, Chonyi, Digo, Giriama and Kambe Mijikenda sub-groups while Kaya Tsolokero forest with eight (8) adjacent villages was inhabited by the Chonyi, Giriama, Jibana and Kauma sub-groups. The Kauma community was the most knowledgeable in useful plant species whereas at Kaya Tsolokero the Chonyi were most knowledgeable. The statistical analysis depicted significant ($p<0.05$) differencesamong diverse categories of respondents. In Kaya Kauma there was a significant difference in knowledge on food plants by age ($p=0.012$) and marital status ($p=0.027$). Respondents with no formal education especially medicine men were significantly ($p=0.0284$) more knowledgeable on medicinal plants. This indicates that indigenous knowledge is still a preserve of communities living closest to the natural resources. However, sites, age and forest resource use of different categories, diffusion of cultures and dynamics in formal education are contributing to loss of ethnobotanical knowledge.

Keywords: Kaya Kauma, Kaya Tsolokero, Kenya, Ethnobotany

E-Waste Management Strategies: A Systematic Review of Literature Using SALSA Framework and VOSviewer

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ABSTRACT

The global market of electrical and electronic equipment (EEE) has shown tremendous growth over the past two decades and is expected to grow continuously in the upcoming years. Since these products are ending up in rubbish dumps and recycling centers, a new threat is posed upon policymakers. This paper aims to carry out a systematic review of literature for the identification of e-waste management strategies.The study uses the SALSA framework for the systematic review of literature along with VOSviewer software which helps in creating map based on text and bibliographic data. Under the SALSA framework, SLR is carried out in 4 steps that are search, appraisal, synthesis, and analysis. This framework helps in assessing the existing knowledge as well as overcoming the gap between strategies identified and practiced in reality. While VOSviewer is a tool which is used for constructing and visualizing bibliographic networks. The research paper concludes that rules and regulations, take-back programs, EPR, reuse, repair, recycle, reducing, green computing, and registered e-waste collectors as the efficient strategies for the management of e-waste. This paper is used for future researches.

Keywords: E-Waste, Management, Strategies, Recycling, Repair, Reuse, Sustainability

Pollution and Water resource

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ABSTRACT

The impacts of population on the quantitative water needs of a locality are related to population density (that is, how the population is distributed geographically), and to the rate of increase or decrease in population growth. Because population changes affect such variables as the economy, the environment, natural resources, the labor force, energy requirements, infrastructure needs, and food supply, they also affect the availability and quality of the water sources that can be drawn upon for use. Population is highly correlated with public water supply, about 56 percent of which is allocated for domestic (household) purposes. India accounts for 18% of the world population and about 4% of the world's water resources India harnessed 761 cubic kilometres (183 cu mi) (20 percent) of its water resources in 2010, part of which came from unsustainable use of groundwater. Sustainable water supply involves a sequence of combined actions and not isolated strategies. It depends on the individual's willingness to save water, governmental regulations, changes in the building industry,industrial processes reformulation, land occupation, etc. The challenge is to create mechanisms of regulation, incentives and affordability to ensure the sustainability of the system.

Keywords: Water Resources, Population, Scarcity Future, Prevention, Sustainable, India, Actionplans, Humans.

Societies Impacted by Stressors Caused uue to Environment Degradation

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ABSTRACT

Environmental stressors are things or events in our surroundings that cause stress, such as destructive weather events, noise, crowding, and war. Explore the definition, types, and examples of environmental stressors and learn how they impact human beings. Stressors that are found in our surroundings are called environmental stressors. Everyday life is full of environmental stressors that cause minor irritations. If you use an alarm clock to wake up, the loud noise from your alarm is an environmental stressor. Extreme temperatures are also environmental stressors and can lead to discomfort. Other common environmental stressors include – Noise, Crowding, Air quality, Colors, natural disasters, manmade disasters, Light and Insects. Natural disasters have a potentially negative impact on mental health, with increasing levels of post-traumatic stress disorder, depression, anxiety, and use of psychotropic medications in populations post-disaster.We canminimize environmental stressors impact on disaster management& humans by creating awareness, education, preparedness, and prediction and warning systems can reduce the disruptive impacts of a natural disaster on communities. Mitigation measures such as adoption of zoning, land-use practices, and building codes are needed, however, to prevent or reduce actual damage from hazards.Disaster preparedness is a continuous and integrated process resulting from a wide range of risk reduction activities and resources rather than from a distinct sectoral activity by itself. It requires the contributions of many different areas—ranging from training and logistics, to health care, recovery, livelihood to institutional development

Keywords: *Disaster, preparedness, stressor, destructive, surroundings, mitigation, adoption, disruptive.*

Toxic response of Environmental toxicant on Human Health

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ABSTRACT

Environmental toxicants are associated with health problems**.** According to estimations of the World Health Organization (WHO), environmental risk factors account for an appreciable part of global deaths and life years spent with disability. Exposure to environmental toxicants such as airborne particulate matter, industrial chemicals, and heavy metals may alter the immune system, increasing human susceptibility to infection.This Forum addresses the impact of the environmental risk factors such as traffic noise exposure, air pollutants, mental stress/loneliness, and the life style risk factor (water-pipe) smoking on human health and various diseases.Eco-physiology is the study of the physiological mechanisms that allow animals to cope with and adapt to changes in temperature, humidity, atmospheric pressure, and other natural factors of their physical environment these ideal test conditions are clearly not representative of the fluctuations in the natural environment encountered by humans and other animals on a day-to-day basis. Variations in the natural environment will alter physiological responses to toxicants. Temperature are well-studied parameters in the fields of environmental physiology and toxicology. In general, high temperatures aggravate the toxic effects of many environmental toxicants. Quantitative and qualitative understanding of the effects of a small group of toxicants has advanced significantly. The prospect of global warming also warrants a better assessment of how higher environmental temperatures may impact on the response of humans and other species to toxic chemicals. Hence, this paper focuses on the important features of the interaction between environmental stress and physiological response to toxic agents with particular emphasis on temperature.

Keywords: Heat stress; Toxic response; Environmental physiology; Epidemiology, Air toxicants.

Environmental, Bio-Social and Economic Impact of Road Construction at Kunjwani-Nagrota Bypass Highway, Jammu Dist. (J&K), India.

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ABSTRACT

Road infrastructure is one of the key components of development of any area. In as much as new roads bring development to previously underdeveloped areas, sometimes this development can cause substantial effects on the subtle environments and the lives of the people living near or using the road.

The present study finds that development of the Kunjwani-Nagrota bypass highway has had various alterations to the social, economic and environmental state of the households and businesses/institutions located along the road. This change have been mostly positive especially with regards to the increased business prospects and greater markets but found to be negative in reference to the environment and in specific vegetation and wildlife as most of the places under study were experiencing unplanned development of small businesses and investments.

The researcher endorses the use of environmental impact assessment to be used to a means before the instigation of such projects and monitoring done during the development of the road projects in order to reduce loss of wildlife and eco-balance.

Keywords: Environment, Bio Social, Economic Impact, Road Construction, Highway

Comprehensive review of steps taken to rejuvenate upthrust wells and prevent rockslides due to road projects on Chenani-Sudhmahadev section of Udhampur District Jammu and Kashmir

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ABSTRACT

In today's materialistic world our society is heading more towards a capitalist society. Our youth preferably know the price of every commodity but not the value of those commodities.In this fast pace of development we are crushing the sustainable development goals far behind.The concrete jungles are right everywhere in every nook and corner of country. Our cities are in the list of most polluted cities of the world and yet we are doing conscious enough to raise an awareness campaign from the basic roots of society. As rightly said by someone that "change starts from within".Hence we have tried to present a comprehensive study of a road project where hundreds of trees were cut and many upthrust wells which were the only source of water for the locals have been destroyed. Many steps have been taken thereafter to rejuvenate the aquifers and balance the ecosystem.

Keywords: rejuvenate, sustainable development

Environmental, Forests and trees outside forest legislations at crossroads

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ABSTRACT

Legislations in India empower as well as mandates the executive to conserve and protect the pristine natural ecosystems. However, the number of legislations - acts, policies, and rules increased after Independence. Legally the Constitution delineates the powers to the state and separates for the sake of effective governance via three lists. Thus, enabling both the state and central governments to enact legislations. Incidentally, rich biodiversity of India could not be protected under little central legislation. Therefore, many states enacted specific legislations such as – TN Sandalwood Protection Act, J&K Preservation of Specified Trees Act 1969, etc. This entire set-up did not have discrepancies until there was need to increase forest and green cover. Among the different means to increase green cover, agroforestry gained momentum with adoption of National Agroforestry Policy 2014. The crucial question – Agroforestry is predominantly growing trees/woody perennials in farmlands, which is agriculture *per se*. The state has sole authority in regulating and managing agriculture domain. This is well evident as the Ministry of Agriculture & Farmers Welfare enacted the National Agroforestry Policy. However, the trees/woody perennials are governed by a series of legislations, which differ from state to state hindering the agroforestry adoption. Even a solution from the government-appointed Expert Committee appears to be confusing for a layman's level. This paper outlines the intricacies and nuances of agroforestry falling under agriculture list, while environment and forest under the concurrent list which has made state and central legislations at cross roads.

Keywords: Agroforestry, ToFs, Trees, Farmlands, Act, Policy

An Insight into the present status of right to Environment

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ABSTRACT

The environmental concerns are no longer being observed solely from the angle of the pollution affecting the industrialized countries but rather as a universal threat intimidating the planet and the whole of mankind, as well as future generations. The understanding of the global character of environmental problems is confirmed by the progress made in understanding the phenomena that create hazards for the planet, threaten the living condition of human beings and damage their fundamental rights. This paper highlights consequence of wholesome environment and damage caused to it in various forms in context of Right to Life, which is a basic assurance for growth and development of individual, society and nation itself. Since, human beings are the central concern for sustainable development, they are entitled to a healthy and productive life in harmony with Nature, various laws have been erected and implemented to safeguard it.

Keywords: mankind, future generations

Environment Ethics

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ABSTRACT

It is a great problem in the world. Environmental pollution is a superb problem of the world, there are two components of the environment, biological and non-natural elements such as Earth Air Fire Water Sky This is the basic element, According to Atharvaveda, the water air has been called the environmental element as well as the inexpensive trees. According to the Vedas, these elements are said, Chands. The meaning of chandas is the casing or environment, according to the Atharva Veda statement, climate vegetation is the basic element of the entire environment. Each element is mandatory for life force in the human world. If the original element is not, it is not possible to survive. In the present round, climate land etc. is being abundant, in the quantity, the problems are increasing in the quantity, the use of mechanical modern resources is increasing. The only source of oxygen is a source tree latex, which is being misused. If there is no tree, life will remain extracted from the air without oxygen. Vedic Rishis have described the climate and tree flora to the climate and tree flora to stop environmental pollution. Environment is protected from natural basic elements, if there was a tapping of primary vegetation and natural water air on the global, the environment will be corrupted. If the human community does not understand the values of natural flora, natural elements, then the human community will be able to breathe. When the human community comes to the hoax of the contaminated atmosphere, many diseases will be born and taking that will be considered difficult to deal with. There is a detailed description of vegetation in Vedic literature. The manifest human beings, so they are the guardians and parents of the vegetation to give life to the human life, so they are called 'male biography', but their punch limb If there is a tree, we are not a tree, we are not our tomorrow, our family is not, our dynasty is not our human community, and then there is no value of resources. We have to protect ourselves, protect the environment, it has to be protected, it is the moral responsibility of all of us, and ethics.

Keywords: pollution, latex, Vedic literature, human life

Environmental Impact of *Cannabis sativa* (*Hemp*): A Review

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ABSTRACT

The Cannabis preparations are the most commonly considered as illegitimate drug all over the world. The herbs continue to have religious association in India, and during religions ceremony Hindu devotees offered Cannabis to Lord Shiva. Riding the global waves of decriminalization, medical or recreational use of Cannabis Sativa is now legal in more than 50 countries and U.S. As governments regulate this formerly crop, there is an urgent need to understand how Cannabis may impact the environment. In this review, we will discuss about, how Cannabis can reduce air, water and soil pollution in the environment.

Keyword: Hemp, literature, water, soil, air.

Assessment of drinking water quality of Chitrakoot nagar panchayat area Madhya Pradesh

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ABSTRACT

The physico-chemical and bacteriological parameters of drinking water samples were collected from 4 locations of Chitrakoot nagar panchayat area i.e PHE, hand pump, Mandakini river and dug well. Physico-chemical parameters like, Temperature, pH, EC, Turbidity, TDS, DO, COD and bacteriological parameters i.e E. coli, Salmonella and E. Coliwere determined. The results were compared with standards prescribed by WHO (2012). Temperature, pH and DO of all the samples were found below the permissible limit set by WHO. It is concluded that the water of different sources is not highly polluted but there is an indicating of increasing pollutant due to anthropogenic activities. Proper monitoring is needed to avoid anthropogenic contamination.

Keywords: Physico-chemical, bacteriological, drinking water, Nagar panchayat

Biodiversity Laws, programmes and conventions

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ABSTRACT

Globalization or the global concern for environment, wild life and natural resources has caused the development of legal frame work both at national and international level to conserve the biodiversity. Rules were established by the authority, mutual consensus or traditions to regulate the behavior of individuals, members of a community or concerned countries for the protection of environment and natural resources. In the Indian constitution, it is clearly stated that it is the duty of the state to protect and improve the environment and the safe guards the forest and wild life of the country. Reference to the environment is also being made the Directive Principals of state policy as well as the fundamental rights. This later became the ministry of environment and forests in 1985. The EPA (1986) came into force soon after the Bhopal gas tragedy and is considered an umbrella legislation as it feels many gaps in the existing laws. Since then a large number of laws e.g. the objective of hazardous waste (management and handling) rules 1989; the public liability insurance act (1991) and amendment, 1992; The national environmental tribunal act 1995; the biomedical waste (management and handling) rules, 1998; the biological diversity act 2002 etc. India also participates with many international agreements and programmers concerned with the aspects of nature conservation and sustainable development. These range from legal instruments such as the, convention on biological diversity to scientific programmers. Such as the UNESCO man and the biosphere program, a global programs of international scientific cooperation.

Keywords: Biodiversity, Environment, EPA

Effects of environmental stressors

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ABSTRACT

External stimuli that cause disharmony, irritation, annoyance or disturbance to individuals are environmental stressors. They refer to physical, chemical and biological constraints on the productivity of species and on the development of ecosystems. Stressors affect all organisms as well as their population, communities and ecoscapes. Environmental stressors may occur as intense, short -lived event of destruction, also known as disturbance. It results in ecological responses when the exposure to environmental stressor increases or decrease in intensity. Organisms may suffer a decrease in productivity and show acute effects such as tissue damage and death if there is an increase in the intensity of one or more chronic stressors.

Keywords: Stressors, Ecological, Chronic

Earth and Atmospheric Sciences

Mineralogy and Wildlife.

Rainfall Data Analysis and Climate Change Scenario of Chhatarpur District, Madhya Pradesh, India

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ABSTRACT

Climate change is most likely going to affect the natural resources in the region. In this study, an analysis has been carried out for rainfall trends on a monthly, seasonal and annual basis at Chhatarpur district of Madhya Pradesh, over 71 years (1950–2020). Statistical data analysis is carried out such as mean annual rainfall (1119.088), median (1123.193), standard deviation (259.743), co-efficient of dispersion (0.2321024), co-efficient of variation (23.210239), skewness (-0.0005701), and kurtosis (-0.8283381) are calculated. To observe the spatial distribution of rainfall trends and calculate linear regression values of rainfall data based on a monthly, seasonal and annual basis. Mann–Kendall test and Sen's slope estimator test were used to detect trends and magnitude of changes over time. All statistical data analysis was done with the help of Machine Learning Program R with RStudio. A detailed study has been carried out for the identification of rainfall behavior in the region. The current research is used for the planning of forest, agricultural, and water resources development management of the region.

Keywords: Rainfall trends, climate change scenario, statistical data analysis, Mann-Kendall test, Sen's slope estimator test, Chhatarpur district, Madhya Pradesh.

Biodiversity Conservation to Mitigate Climate Change through Technological Interventions

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ABSTRACT

UNSDG 13 targets the mitigation measures against climate change by 2030. This policy brief focuses on integrating the biodiversity conservation with technological interventions to tackle the crises of biodiversity loss and climate change. Collapse of Biodiversity is a key driver in emergence of zoonotic diseases which gets transmitted from wild animals. Covid-19 pandemic evidenced the consequences of the anthropogenic interferences with nature especially destruction of wild life and their habitats. The actions are equally responsible for the threats of climate change. Henceforth, financing the conservation efforts through technological interventions, and social behavioral change could address the risks, provide opportunities and welfare of the human beings along with other life forms. Governance is also encouraging such initiations to counter alarming increase in Illegal Wildlife Trafficking and habitat loss by using advanced surveillance systems and strict law enforcement measures. This investigation concludes with strengthening the execution of technological interventions and law enforcement to check the illegal wildlife trade and to activate the role of governance to take conservation at the priority subject. This study is an attempt to recommend flattening the curve of climate change through use of technology in conservation so that we can meet sustainable future and aligning our targets to achieve UN SDGs by 2030.

Keywords: biodiversity, climate change, covid-19, illegal wildlife trade, zoonotic disease

Aquatic avifaunal pattern in and around Keoladeo National Park (Bharatpur, Rajasthan, India) in context of Climate Change

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ABSTRACT

Keoladeo National Park (KNP), also known as Keoladeo-Ghana NP is known for its wetland which harbours the migratory waterfowls in winters. It is due to the large congregation of the aquatic birds which encouraged the conservationists to mark the site as Paradise for Birders. The congregation of the countless numbers of the waterfowls at Keoladeo-Ghana wetland gave it a status of Ramsar Site. It was the only wintering home in India for the Siberian Crane identifying it as the Natural World Heritage Site. The present investigation is an attempt to find the correlation of the climate change on the avifaunal diversity of the in and around Keoladeo-Ghana wetland. The impact of the climate change could mostly be observed on the water regime of the area. Together with the mis-managed surface water allocation to Keoladeo-Ghana, the change in the habitat was observed. Water stress conditions infested the wetland with the hard exotic species, i.e., *Prosopis juliflora*. The counts of the waterfowls decreased from the lakhs to the thousands. The waterfowl diversity too affected by and large. Thus, the investigation took the observations of the last three decades and the historical literature to analyse the climate change impact on the water profile and the aquatic avifaunal composition. The observations on the recent decade (2011-2020) were also recorded to analyse the impact of the new approach of managing surface water in the KNP. As per the UNSDG 13, the impact of climate change and the mitigation steps for the human community is doubtful solution for the waterfowls of the Keoladeo-Ghana wetlands. We strongly recommend reviving the traditional water sources of this site, if the we have to bring back the lifeline of the KNP to achieve the target of the UNSDG14.

Keywords: Keoladeo-Ghana, Ramsar, wetland, climate change, waterfowl

Effects of climatic conditions and infectiousness diseases in human

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ABSTRACT

Climatic conditions are an important factor for infectiousness disease because temperature and humidity directly cause an impact the growth of the various microorganisms. Therefore, climatic conditionals play an important role in human health. Environments have various abiotic and biotic factors but temperature and humidity is major factor for the disease which causes effects on the population of microbes. The climatic variation includes various types of infectious diseases, including vector-borne, water-borne, air-borne, and food-borne diseases. However, climate change will continue to affect the health risk for human infectious diseases, limiting some disease transmission but creating opportunities for other diseases. Infectious agents (such as protozoa, bacteria, viruses, and another parasitic organism), and their associated vector organisms (such as mosquitoes, ticks, sand flies, etc) are devoid of thermostatic mechanisms, and reproduction and survival rates are thus strongly affected by fluctuation in temperature. A climatic change includes various alternations including precipitation, temperature; sunshine, and wind which are major factors for infectious disease in human beings. All these changes may impact the survival, reproduction, or distribution of disease pathogens and various hosts and means of their transmission in the environment. Many of the most common infectious diseases, and particularly those transmitted by insects, are highly sensitive to climate variation. Other infectious diseases, such as cholera, salmonellosis, and giardiasis, may show increased outbreaks due to elevated temperature and flooding. The health effect of such impacts tends to reveal shifts in the geographic and seasonal patterns of human infectious diseases. Variation of temperature has also been found to affect food-borne infectious diseases. For example, higher than average temperatures contribute to an estimated 30% of reported cases of salmonellosis across much of continental Europe. In various countries, the monthly incidence of food poisoning is most strongly associated with the temperatures occurring in the previous two to five weeks. This review of literature discusses the climatic conditions that are also related to human health.

Keywords: Climatic conditions; Infectiousness disease; Human health; Environment.

Effect of climate change on animal diversity

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ABSTRACT

Response of Animal species to climate change is an significant step in managing biodiversity in a changing climate. The forests have the greatest plant biodiversity. Trees in the forests are fundamental components regulate the climate. But a forest is not made up of just plants. Many other forest organisms play ansignificant role in the biodiversity. Diverse species together with plant, animals and microorganisms configure an ecosystem. These ecosystems strength provide vitalfacilities to humanity.Climate change is disturbing the habitats of numerous species, which necessity either acclimatize or drift to areas with more favourable conditions.A diversity of species upsurges the aptitude of ecosystems to do things. Variations in natural ecosystems threaten biodiversity worldwide specially for animal species. Climate change has had a comparativelyuncertain effect on ecosystems and biodiversity of animals.

Keywords: Animal, biodiversity, ecosystems, Climate change

COVID-19

Agriculture in a post COVID-19 ERA

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ABSTRACT

The COVID-19 pandemic has not just crippled the economies of countries, but also has posed a serious threat to the livelihood security of the population. Although the country's economy is on the path of recovery but as with other countries, its economy too suffered and its population and its livelihood security was not far behind. Agriculture in India is a major source of livelihood security for about fifty per cent of the population. Any adverse effect on this sector ultimately has a bearing on the livelihood security of about half of the population of the country. In the wake of COVID-19 restrictions, that resulted in shutdowns, lockdowns, no travel and transport of any kind, the agriculture sector was hit. Supply chains were badly disrupted and the movement of agricultural produce from producing regions to consuming regions was effected adversely. Farmers were not able to complete their harvesting of *rabi* season crops and they also complained of non-availability/non-accessibility of inputs for the next crops due to travel restrictions. In Gujarat, Maharashtra and Rajasthan also, most APMC markets did not conducted any business. This also forced the farming community in rural areas to sell their produce to the village level traders at a price which was less than the MSP. Farmers were seen throwing their perishable produce on the roads as they were not getting remunerative price of their produce. The post COVID-19 era therefore calls for an urgent need for an immediate and purposeful action to save lives and livelihoods besides extending social mobilization and protection towards universal health coverage and income support for those most affected. Appropriate market linkages, credit support, timely and regular input availability should also be ensured for the farming community. Particular attention must be paid to the situation of small and marginal farmers, women, who are over-represented in low-paid jobs and care roles. Different forms of support must include direct benefit transfers, food supplements, child allowances and healthy school meals, ensuring shelter, support for employment retention and self employment ventures and financial assistance for businesses, including micro, small and medium-sized enterprises.

Keywords: COVID-19, health, school;

Pandemics & Biodiversity: Indian Context with the Case studies from Rajasthan

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ABSTRACT

The Pandemic COVID-19 is a result of anthropogenic actions affecting the natural setup. The wildlife is a natural reservoir of several infection causing micro-organisms. The zoonotic diseases are results of the infections through the wildlife or animals. The transmission of infectious diseases from wildlife to humans is a complex process which needs several intermediate causative agents, therefore, wildlife is not the villain in Pandemics like COVID-19.

The Indian perspectives for the nature conservation dates back to the *Vedic* Age. The concept of '*Aranya Samskruti*' (forest culture) deeply embedded in the rituals and customs of the Indians describes the symbiotic relationship of nature and human on the principle of '*Prakruti Purush*' (nature and man). Thus, the socio-ecological systems could be used for site-specific development actions. It was felt that most of the policies overlook indigenous customs and traditional values and adopt foreign approaches, resulting into the present day challenges like COVID-19. The present investigation discussed the successful results through application of the traditional practices from Rajasthan (India) in the field of conservation of natural resources (water and biodiversity) both at the community level as well as individual level.

Using the cultural ethos, the authors attempted to develop globally applicable site-specific Socio-Ecological models from the outcome of the extensive scientific and social research carried out in Rajasthan over the two decades from 2000s and 2010s. The models represented the cultural and traditional linkages of community with components of nature. These linkages were used for the income generation and the livelihood of the local people to develop *Enviropreneurship* on the principle, "*Conservation Practices for Sustainable Livelihood*". The Abu Model link conservation of the habitats and protection of the globally important species Green Avadavat with livelihood of local youth, the Chak Ramnagar Model links revival of the ecological setup around Keoladeo National Park with livelihood of rural women, the Chambal Model is linking nursery development of the indigenous floral species with livelihood and the Kumbhalgarh Model is linking afforestation of the forest trees for local artisans.

It is the need of the time to explore the relevance of the age-old eco-ethical practices in the modern perspectives to achieve the global targets especially livelihood, conservation, DRR.

Keywords: Pandemics, COVID-19, socio-ecological models, conservation, *enviropreneurship*

Mental health implications of COVID-19 and its harmful effects on the people of India

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ABSTRACT

The COVID- 19 pandemic has created a very critical situation all over the world and has caused a great impact in India. It has undoubtedly disturbed the routine of people and has resulted in many unanticipated changes, leading to severe psychological responses and mental health issues.

The purpose of the present study is to identify many psycho-social factors that will help to predict the factors of distress caused among the Indian population during the pandemic. The World Health Organization (WHO) has declared COVID-19 as a Public Health Emergency of International Concern (PHEIC). The consequences of COVID-19 have impacted not only the physical health but also the mental health of an individual resulting in their deteriorated overall development. To study the implications of COVID-19 and its harmful effects on the mental health of people of India, an online survey was conducted to assess the predictors of distress. The prediction capability of the model was compared with the random forest classifier. It was concluded that a prevalence of high distress was experienced by the Indians during the time of COVID-19. It also provided pragmatic implications for psychological health at both macro and micro levels at the time of epidemiological crisis.

Keywords: World Health Organization (WHO); Mental Health Implications; Predictors of Distress; Macro and Micro Levels; Epidemiological Crisis.

Comparing Efficacy of mRNA and Astra Zeneca vaccines against SARS-CoV-2variants of concern

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ABSTRACT

Since upsurge of coronavirus pandemic in December 2019, caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the number of confirmed cases hasincreased more than 308 million worldwide, with nearly 5 million deaths. Vaccines are best way to control covid-19 pandemic as suggested by researchers all over world. Current COVID-19 vaccines were based on the SARS-CoV-2 spike protein, which virus used to bind and infected host cells.But the emerging "variants of concern" appeared to be more transmissible or deadlier than the wild-type SARS-CoV,containedmutations in the spike protein, questioning vaccine efficacy concerns.Multiple vaccines Pfizer-BioNTech, Moderna Sinopharm, Sinovac, Oxford-AstraZeneca, Sputnik V, Novavax have been granted authorization for vaccination against covid -19 in different countries. Despite authorization having been granted for multiple vaccines, as the ongoing global outbreaks demonstrated, the pandemic is far from over. Thisreview discussed mutations in spike proteins and compared effectiveness of mRNA and AstraZeneca against variants of concern.Vaccine effectiveness was increased ≥7 days after the second dose against Alpha for all three vaccines: mRNA-1273=92% (95% CI, 88–95%), Pfizer=89% (95% CI, 87–90%), and AstraZeneca=91% (95% CI, 62–98%). Efficacies for double dose mRNA vaccines are 84%, 88%, and 77% respectivelyagainst both Beta and Gamma variants together in multivariate analysis. Efficacy reported for greater for Beta compared to Gamma variant.Vaccine effectiveness of the two-dose regimenof AstraZeneca after 14 days of the second dose is 77.9% (95% CI, 69.2–84.2) against Covid-19, 87.6% (95% CI, 78.2–92.9) against hospitalization, and 93.6% (95% CI, 81.9–97.7) against death for Gamma variant. The effectiveness of two doses Of Pfizer and AstraZeneca was documented 88.0% (95% CI, 85.3 to 90.1)and 67.0% (95% CI, 61.3 to 71.8) against the Delta variant. There was no effect against Omicron from 15 weeks after AstraZeneca two dose regimens, while VE after Pfizer two dose regimen was 88.0% (95%CI: 65.9 to 95.8%) 2-9 weeks after dose 2, dropping to between 34 and 37% from 15 weeks post-dose regimen.

Keywords: coronavirus, mRNA, SARS-CoV-2variants, COVID-19, vaccine

A retrospective research study on bio-medical waste generated in correlation to patients treated from a tertiary care COVID-19 hospital in Maharashtra

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ABSTRACT

The COVID-19 pandemic outbreak posed greater challenges to all the sectors across the globe. The entire world is still battling with the unprecedented pandemic crisis since December 2019. Containing the spread of COVID-19 has been a multifaceted challenging task, as the disease progress with fresh waves and new variants. The pandemic has also paved new research thrust areas apart from medical frontiers. The most relevant research would be impact of COVID 19 on the environment, and climate. The only positive side of these COVID-19 lockdown measures was noticed on the environmental perspective, particularly in regard to short-term environmental improvement in air quality by drastic reduction in the air pollution, green house gas emissions, nitrogen oxide emissions, and carbon dioxide emissions all across the globe and contrarily, the COVID-19 pandemic sparked a huge surge in bio-medical waste generation. Hence a retrospective research study was conducted to find the correlation of bio-medical waste generated and patients who were treated in a tertiary care COVID-19 hospital in Maharashtra from 2019 to 2021.

Materials & Methods: The data of the bio-medical waste generated and total number of patients treated in the hospital for those three years were statistically analyzed using the Statistical Package for Social Sciences (version 22). The hospital closed the non-emergency medical services in 2020 & 2021 to cater only the COVID-19 patients. The data was summarized using mean, frequency and percentages. The actual values of biomedical waste and patients treated are converted to logarithm value for the convenience of comparison purpose.

Results: It was observed that, over all patients' strength varied (declined drastically) for 2019, 2020 and 2021; however the biomedical waste remained the same during those period.

Conclusion: This clearly signifies the COVID-19 clinical management generates considerable amount of bio-medical waste stressing the existing waste management system and paving way for potential environment stressors to the globe.

Keywords: COVID-19, environment stressors

Use of *Pleurotus djamor* mushroom in nutrition and Covid-19

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ABSTRACT

Mushrooms are macro-fungi with a distinctive fruiting body, either hypogeous or epigeous. There estimated around 140,000 known species of mushrooms belonging mainly to the phyla Basidiomycetes and some to Ascomycetes. Nutritionally, mushrooms are low in energy and are generally a good source of macro and micronutrients and trace elements as vitamins C, E, D, selenium, zinc and the omega 3 fatty acids and bioactive compounds like β-glucans in viral infections, anti-pathogenic, antioxidant such as β-carotene, vitamin A, vitamin C, vitamin E, and selenium, anti-inflammatory, immunostimulant, anti-inflammatory and known to modulate gut bacteria and containing bioactive compounds. Immunomodulator for boosting immunity were *Auricularia auricula*, *Cerrena unicolor*, *Lentinus edodes*, *Pleuretusostreatus*, *Stereumhirsutum*, *Schizophyllum commune*, *Trametes versicolor* and *pleurotusdjamor*. it is recommended that mushrooms should be evaluated as both supplements and natural antiviral drugs against COVID-19. And also helping to maintain spiritual, mental, and physical resilience against COVID-19 as Shiitake mushrooms, Reishi mushrooms.

The goal of this article is to evaluate new findings on the impact of food, specific nutrients and eating habits on immune system function during the COVID-19 pandemic. Nutrition play the vital role in the overall immune response to viral infections. There was evidence that mushroom's play vital roles in enhancing immune system.

Keywords: Immunostimulant, β-glucans, antiviral drugs.

Impact of COVID-19 on Tribal community of Chhatisgarh

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ABSTRACT

Although the lockdown due to covid affected everyone in India, tribals living in and around forests across the country experienced unique challenges due to the covid-19. According to official sources, more than 10 crore forest inhabitants rely on minor forest produce (MFPs) for their livelihood. Because of the extensive lockdown, the government has been unable to provide employment opportunities to tribal people under schemes like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). However, the Pradhan Mantri Van Dhan Yojana (PMVDY) has aided tribal people in Chhattisgarh. As a result, the tribal population's reliance on the sale of forest products has increased. The Ministry of Tribal Affairs (MoTA) should develop more supportive policy measures to mitigate the pandemic's impact on tribal communities' living conditions and forest biodiversity. The study focused on the pandemic's first wave and its effects on tribal communities. This indicates that the tribal community's revenue and sources of income initially decreased then increased due to the joint efforts of the forest department and the MoTA.It was observed that they purchased all the collected MFPs from tribes and provided them with payment at very short intervals. They also provided facilities for primary processing through Van Dhan Vikas Kendras.

Keywords: COVID-19, tribal community of Chhattisgarh, tribe’s livelihood in covid-19 lockdown

Understanding the Deleterious Footprint of Toxicity Generated Due to Covid Waste

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The present pandemic known as the Covid-19 has taken a toll on human health globally. During the lockdown the environment showed positive effects due to reduction in pollution, control of anthropogenic destruction and reduced human mobility. On the other hand, the negative aspects on the environment cannot be overlooked. With the increasing number of patients, we have seen huge accumulation of hazardous waste generated from patients, hospitals and also from common man in the form of masks, sanitizers, PPE kits, face shields, latex gloves, plastic items which are one-time consumables from the hospitals. Apart from this we also hadlarge amount of improperly disposed human dead bodies. It can be easily understood that we were not prepared for such a huge impact and are lacking in infrastructure towards managing the waste generated due to the pandemic. It has led to increased toxicity in our environment. This has disturbed our ecosystem badly and producing effects like generating more potential pathogens, their vectors.The waste is also causing entanglement, infections, injuries and death in terrestrial as well as marine animals. The difficult part is that it will take a huge amount of effort to reverse it.

Keywords: Pandemic, Human Health, Infrastructure, Hazardous Waste, Toxicity, Pathogens

Disaster Management

Eco-anxiety, uncertainty, communication and climatic urgency

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ABSTRACT

This work initially addresses some relationships between uncertainty, environmental and disaster communication, and climatic urgency as contributing elements to eco-anxiety. Some people experience daily bouts of grief and despair, others show sudden panic attacks. Eco-anxiety can be defined as “chronic fear of environmental catastrophe”.

The local effects of climate change are more relevant at the individual level, impacting more people than the general phenomenon of global warming, especially when the direct effects are combined with the news broadcast in the media. Although the news of natural disasters is common, why are some reluctant to understand it? It is a phenomenon called psychological distance, by which terms such as climate change and global warming are conceived on a large scale, but are not related to the consequences they have on a personal level.

Perceiving how a majority does not take action in the face of the climatic emergency and the environmental catastrophe is, for other people, an added stressor. It's about passivity anxiety. Anxiety, sadness, worry and obsessions occur in people for various reasons related to the destruction or vulnerability of the environment. What will we do with the masks, gloves and other types of protection elements that have become everyday objects? Single-use barriers used and discarded by a large part of the world's population that are going to have a great impact on the planet.

Few are the brands that propose the biodegradable version of these articles, some of which are compulsory; other interests prevail over those of the environment. Today we are witnessing a generation that attends scared of the uncertainty for the future. In the last fifty years, the warnings of the scientific community have been ignored to take real action, while world governments look the other way.

Keywords: eco-ansiety, communication, uncertainty, climate change

Social Vulnerability to Floods of Slum Dwellers Using Factor Analysis: A Case Study of Floods in Adyar Basin Chennai, India

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ABSTRACT

This study aims to assess the social vulnerability of floods occurred in the year 2015 and 2021 in Adyar Basin Chennai, Tamil Nadu, India. The methodology used for this research is Descriptive Statistics by using Factor analysis to assess the vulnerability of people living in slums, those are affected in 2015 followed by 2021 flood event at Adyar basin. The negative social impacts of flooding includes lose of livelihoods, damage to infrastructure, population displacement, hindering economic growth. This investigation helps the community and also the government to take appropriate relief measures and alertness in slum areas of Adyar basin.

Keywords: Adyar basin Chennai, Descriptive Statistics, Flood, Factor analysis and SoVI.

Disasters and Leh (Ladakh)

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ABSTRACT

Human civilizations have thrived high altitudes, as evident in Tibet, Bolivia, Ecuador and Nepal, and all these regions have developed intricate cultural systems to conserve their environment while also harnessing its (sometimes scarce) resources. Ladakh is no exception. Leh district part of Ladakh region is the largest district with very low population density. Leh has extreme cold weather with very short summer.

Most of these regions are facing the challenge of social, economic and climatic change. High altitudes are the first to be impacted by climate change, which directly impacts the delicate environmental systems such as glaciers, snowfall, and weather patterns which in turn can lead to floods, agricultural disruption, landslides, and water shortages and so on. Quality of life, security and economy are intricately woven with the climate of the region but the environment has been largely neglected in the course of it's growth—which has not only reduced the natural resources such as clean water and safe land available, but has increased vulnerability to natural disasters.

The impact of poor urban planning and lack of early warning and crisis management systems—and no action has been taken since to address these issues, leaving the town as vulnerable as before. While impacting the climate system is beyond the scope of local action, Leh must still focus on making its residents more environment conscious, revitalise traditional systems and find new solutions to manage and protect natural resources, and increase resilience against future disasters. Such actions will not only collectively help Leh to adapt to the impacts of climate change, but will increase the happiness people feel when living in true harmony with nature.

Keywords: glaciers, snowfall, floods, agricultural disruption, landslides, water

Developmental studies of rice weevil *Sitophil usoryzae* on sorghum

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ABSTRACT

Near about 70% of the world's population depends upon productivity of crops. The Sorghum is grown in two major seasons, viz. Kharif (June – July to September – October) and Raw (September – October to February – March). The decline in area is mostly in Kharif and at present area of both Kharif and rabies more or less equal. Sorghum Storage of Sorghum is main problem because a lot of Stored grain pests attack to our storage houses. Sorghum (Sorghum bicolor), popularly called as Jowar, is one of the most important food and fodder crop in India and occupies third place in area and production. Its grains used by human beings as well as straw for cattles. damage of grains is about 10% which is directly influenced with the population of insect pests. It has been observed that if stored grains once infested by insect pest, it is impossible to get rid of them easily because their grabs remain penetrate in grains and the pest population multiply in geometrical progression. Similarly chemical factors responsible for resistance have also been established in some cases, Protein, Sugar, Starch, Oil and Minerals are important components for insect resistance. For saving the food grains in storage from insect pests it is therefore, needed the systemic research approach to determine the sources of Physico-chemical resistance techniques, so that the resistant factor can be utilized in breeding programme to protect the grains by insect infestation.The study belongs to sorghum pest Sitophilusoryzae with regard to its preoviposition, oviposition, fecundity and incubation period studies to manage control strategies.

Keywords: Oviposition, Preoviposition, Incubation period, *Sitophilusoryzae*, Sorghum

Pesticide residue problem due to excessive use on vegetable and fruits in Uttar Pradesh

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ABSTRACT

Pesticide use is increasing day by day specially in emerging countries like India. The problem to grow more and more crops, vegetables and fruits for increasing population is not new in developing countries. the land and cropping area is limited and the only way is to enhance production by use of fertilizers and to protect the vegetable sand fruits by insect pests by pesticides of various categories. For instance, in potato crops in Uttar Pradesh especially in area of khandauli and western up, the pesticide treatment is started with seed sowing. The first and second spray will be done after 1 month of cropping. Finally to stire vegetables and fruits, the use of pesticide and ripening chemicals is on extreme. The farmers and cultivators are not so literate and cautious to be known for their health hazards. They only know their profit and how to increase their yield. The health hazards include various types of diseases like skin disease, liver, kidney and GI tract diseases. Most of the disease are not curable as they are due to the chemicals and no drug can treat the chemical hazards. Even many types of cancers are there due to pesticide overuse. There is a need to establish a wing from the side of government to check and make control strategies for this excessive use of pesticides to protect human health.

Key words: Pesticide, Residue, Magnification, Pyrethroids

Effect of beta Cyfluthrin, A Pyrethroid on some Haematological parameters of fish Channa punctatus (BLOCH)

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ABSTRACT

Human has tried to protect his crops and himself from various pests from various techniques. Anciently physical technique is a primary system to kill the pest. Then with the increase of knowledge in science, new and advanced techniques and systems has been added to it, the control of pests. From pests, the class insects is more prominent and harmful in every manner to crops, vegetables, fruits as well as for human causing direct impact and vector of many dreadful diseases. For the control of pests many categories of pesticides are there in vogue of which pyrethroids are the specialist one for household and crop uses. The pyrethroids are synthetic analogue compounds of naturally obtained pyrethrum from plants. Many times organophosphates, carbamates and other classes of pesticides has been used as per protocol and need of time. These all pesticides finally goes to aquatic systems through runoff water and by some other manners. Either of the way how they reach the aquatic system, they pose toxic stress to aquatic flora and fauna. Many species are affected specially of fishes in ponds, lakes, rivers and even in marine water. There is a scope to evaluate the toxic stress magnitude of pesticide beta cyfluthrin in fish *Channapunctatus* (Bloch) as a model fish which is very common in India. The effect is measured in form of haematologicalparameters like total erythrocyte count (TEC) and haemoglobinconcentration (Hb. Conc.) and result is decline after beta cyfluthrin treatment. This is due to toxic stress of beta cyfluthrin on experimental fish.

Keywords: Beta cyfluthrin, *Channapunctatus*, Haematology, TEC, Hb. Conc.

IMPORTANT EVENTS IN BRIEF 2020-21

- National Conference on **"**Recent Trends in Agriculture, Bio-sciences, Computer Applications, Environment & Humanities (RTBS-2020) during 18th & 19th of August 2020
- Indian Classical Dance & Music Festival Khajuraho-21 to 23 November, 2020.
- Letter from Home Minister
- ESW 8th Annual National Research Conference on *Anthropogenic Impact on the Environment, Society and Human health* on 30 & 31 January, 2021.
- International Webinar on "*Role of Science and Technology in Global Health and Food Security*" during March 01 to 03, 2021.
- Awareness programme on Challenges, Threats and Conservation Status of our State Bird, House Saprrow on March 20. 2021.
- Earth Day 22 April, 2021
- Science Popularization/Symposia/Seminar/Workshop/Scientific Lecture :
- Library:
- National data bases developed:
- Visual Outputs:

NATIONAL CONFERENCE

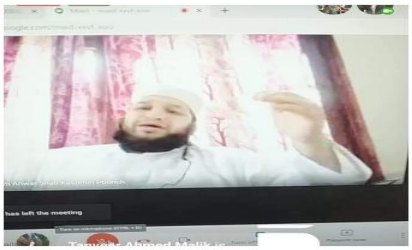
National Conference on "Recent Trends in Agriculture, Bio-sciences,Computer Applications, Environment & Humanities (RTBS-2020) during 18th & 19th of August 2020 organized by Super30 College of Competitions in Association with Shri Krishna Universiry, Chattapur MP, GDC Poonch, ESW Society, Khajuraho, Godavari Academy of Science and technology, Chhatarpur, GNDI Ambala, Geeta Engineering College, Panipat, Alpine Group of Colleges, Dehradun, Bio Nano Frontier, IMRF and Taraq Computer Institute.
The conference was inagurated by Dr. Brigendra singh Gautum Hon'ble Chancellor Shri Krishna Universiry, Chhattapur. The organising committee has received more than 300 abstracts on various issues related to Science, Humanities and Literature. The theme of this conference was "Recent Trends in Agriculture, Bio_Sciences, Computer Applications, Environment and Humanities. The prominent persons who delivered keynote address were Dr. Ashwani Kumar Dubey, Executive Director, ESW Society, Dr. Ratnakar D. Balu, Director IMRF, Dr. P. B. Reddy, Dr. S. Sreedevi, Prof. M. H. Shah, Dr. Pragya Khanna, Dr. Ishfaq khan, Dr. V. M. Jamdhade, Dr. P. M. Dongre, Hazrat Moulana Shazad Anwari, Dr. Rattan lal, Dr. Mohd Azam, Dr. Mahroof Khan, Prof. Sarshad Hussian, Dr. Taraq Sheikh, Dr. Sanjeev Koul, Mr. Maqsood Ahmed, Delhi.

More than 50 participants presented their presentations in issues. The chief guest and other keynote speakers highlighted the developments taking place in different dimensions of science and Technology and various areas where research is being carried out. They appreciated the efforts made by Super 30 College of competitions in organizing Multidisciplinary conference at such a higher level near the line of control during Covid 19 pandemic.

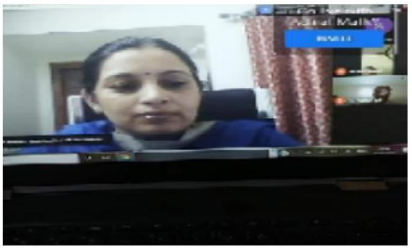
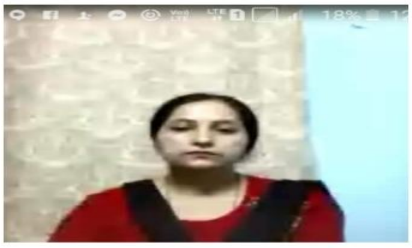
Dr. Shamim Bandey convener multidisciplinary national conference highlighted the objective of organizing the conference and also highlighted various areas in which papers were presented by the participants. Prof. M. H. Shah, Principal Degree College, Poonch presided over the valedictory function and also delivered through provoking lecture on various facets of research and also threw light on the role of teachers in guiding the younger generations on

road to knowledge and Excellence. Award were also given to participants for their excellent role in the field of science and Humanities.

Vote of Thanks was presented by Dr. Shamim Ahmed Bandey convener/organizing secretary of two days multidisciplinary online national conference.



سپر تھرٹی کالج آف کمپیٹیشن پونچھ کے زیر نگرانی دوروزہ آن لائن بین القوامی کانفرنس کا انعقاد

سید نیاز شاہ

پونچھ/تعلیم، ماحولیات، کھیت کھلیان اور کمپیوٹر کی تیز رفتار ترقی کے ساتھ خطہ پیر پنچال کے نوجوانوں میں بیداری لانے کے لیے سپر تھرٹی کالج آف کمپیٹیشن کے زیر انتظام آن لائن انٹرنیشنل کانفرنس منعقد کی گئی جس کی سربراہی کے فرائض ڈاکٹر پروفیسر شمیم احمد بانڈے چیئرمین سپر تھرٹی کالج آف کمپیٹیشن نے انجام دیے، انھوں نے کانفرنس کے آغاز میں اپنے تعارفی کلمات میں کانفرنس کے عناوین پر مفصل گفتگو کرتے ہوئے کہا کہ ماحولیات، ایگریکلچر، کمپیوٹر کی تیز رفتار ترقی پر روشنی ڈالتے ہوئے کہا کہ ہمیں اپنے ملک، ریاست اور بالخصوص خطہ پیر پنچال میں ماحولیات کی لائن سے بیدار ہونے کی ضرورت ہے انھوں نے بتایا کہ ماحولیات کا مضمون، ماحولی تبدیلیوں، ان کے انسانی صحت پر اثرات اور ماحولی تخفظات کے طریقوں سے بحث کرتا ہے۔ چنانچہ ماحولیات کے طالب علم کو آلودگی اور اس کے محرکات کا وسیع مطالعہ کرنا ہوتا ہے۔ ماحولیات کا طالب علم زمین، فضا اور پانی میں آلودگی کا علیحدہ علیحدہ مطالعہ کرتا ہے۔ ساتھ ہی اسے اطلاقی کیمیا اور خورد حیاتیات کا علم بھی حاصل کرنا ہوتا ہے۔ کیونکہ اس کا اصل کام آلودگی کا مشاہدہ، اس کی جانچ پڑتال اور آلودگی پر کنٹرول ہے۔ اس کا زیادہ تر کام آلات کی مدد سے آلودہ ذرات کے نمونے جمع کرنا، ان کا تجزیہ کرنا، ان کے اثرات کا تعین کرنا اور آلودگی کے تدارک کے لیے اقدامات تجویز کرنا ہے۔ اس پورے عمل میں میدانی تحقیق اور مساحت کے علاوہ وسیع تجربہ گاہی تحقیقات شامل ہیں اور اس سلسلے میں ہم اپنے خطے میں اس کانفرنس کے ذریعے سے اہم تجاویز لانے کا مکمل ارادہ رکھتے ہیں۔ انھوں نے ایگریکلچر اور کمپیوٹر کی رفتار ترقی اور اس مادی دور میں ٹیکنالوجی سے بھرپور فائدہ اٹھانے کی ترغیب دلائی، انھوں نے بتایا کہ سپر تھرٹی کالج اس ضمن میں کئی اقدامات اٹھا چکا ہے جس میں گاؤں گاؤں بیداری کیمپ، تعلیم کے مواقع، آلودگی سے بچاؤ اور پچھلے دنوں ماحولیات کی اہمیت کو قریب سے دیکھنے کے لیے سپر تھرٹی کالج سے جڑے سینکڑوں افراد نے معروف نورسٹ سپاٹ جبی طوطی کا سفر بھی کیا تھا جسے طلبہ اور ماحولیات سے دلچسپی رکھنے والوں کے لیے ڈاکومنٹری کی شکل میں محفوظ کیا گیا ہے۔ اس موقع پر انھوں نے بتایا کہ یہ کانفرنس شری کرشنا یونیورسٹی چھترپتی مدھیہ پردیش، گووادوری اکیڈمی آف سائنس اینڈ ٹیکنالوجی، ای ایس ڈبلیو، نظامیہ ایجوکیشن گروپ دہلی، جی این ڈی آئی امبالہ، گورنمنٹ ڈگری کالج پونچھ، گیتا انجینئرنگ کالج پانی پت، الیائن کالج، بنھو فرٹیلیزر اینڈ آئی ایم آر ایف ایم پی کے اشتراک سے منعقد کی گئی ہے جس کے لیے میں ساتھیوں اور ذمہ داروں کا شکریہ ادا کرتا ہوں۔ دو روزہ کانفرنس میں تمام مقررین اور سپیکرز نے کانفرنس کے عنوان پر تفصیلی تبادلہ خیال کیا اور ڈاکٹر شمیم بانڈے کو خراج تحسین پیش کیا، سپیکرز نے کہا کہ اتنے کم وقت میں سرحدی علاقے میں آن لائن کانفرنس کے لیے پروفیسر شمیم بانڈے سلام و شکریے کے مستحق ہیں جنھوں نے اپنے خطے کے طلبہ کے لیے سپر تھرٹی کالج کے زیر نگرانی پلیٹ فارم بنایا پھر انھیں علم کے حصول کے لیے حوصلہ افزائی کر کے روزگار سے جوڑا، سپیکرز نے کہا کہ سپر تھرٹی کالج سے ہماری گہری امیدیں وابستہ ہیں کہ آنے والے وقت میں خطے میں تعلیمی انقلاب برپا کرنے میں مزید اقدامات کرے گا جس سے جہالت کا خاتمہ اور تعلیم کی روشنی کے چراغ جلیں گے۔

Super Thirty College of Competition Poonch hosts two-day online international conference

SAYED NIAZ SHAH
POONCHIAUG 20

An online international conference was organized under the auspices of Super Thirty College of Commissions to bring awareness among the youth of Pir Panchal region with the rapid development of education, environment, field and computer. The conference was chaired by Dr. Prof. Shamim. Ahmed Bande, Chairman, Super Thirty College of Competition, in his introductory remarks at the beginning of the conference, spoke in detail on the topics of the conference, highlighting the environment, agriculture, and the rapid development of computers. There is a need to wake up from the ecological line in the state and especially in the region of Pir Panchal. Therefore, the student of environment has to study the pollution and its triggers extensively. An environmental student studies pollution of land, air and water separately. At the same time, he has to acquire knowledge of applied chemistry and microbiology. Because its main function is to observe, check and control pollution. Its main function is to collect samples of contaminated particles with the help of instruments, analyze them, determine their effects and propose measures to prevent contamination. The whole process involves extensive research in addition to field research and area, and in this regard we intend to make significant changes in our region through this conference. He spoke on the rapid development of agriculture and computer and this material age. Encouraged to take full advantage of technology, he said that Super Thirty College has taken several steps in this regard, including village awareness camps, educational opportunities, pollution prevention and the importance of the environment in recent days. Hundreds of people from Super Thirty College also visited the well-known tourist spot Jabi Parrot, which has been preserved in the form of a documentary for students and those interested in the environment - he said on the occasion that the conference was organized by Shri Krishna University Chhatrapati. Partnership of Madhya Pradesh, Godavari Academy of Science and Technology, ESW, Nizamia Education Group Delhi, GNDI Ambala, Government Degree College Poonch, Geeta Engineering College Panipat, Alpine College, Benin Frontier and IMRFMP Has been held for which I have colleagues Thanks to those responsible - all the speakers and speakers in the two-day conference discussed the title of the conference in detail and paid tribute to Dr. Shamim Bande. The speakers said that Prof. Shamim Bande deserves to be greeted and thanked for the online conference in the border area in such a short span of time. Encouraged by the employment, the speakers said that Super Thirty College has high hopes that it will take further steps in the coming time to bring about an educational revolution in the region which will eradicate ignorance and light the lamp of education.

INDIAN CLASSICAL DANCE & MUSIC FESTIVAL KHAJURAHO-2020

To conserve, promote and develop the Indian's culture in the Students and Artist of School, College, Cultural Institute and University Environment and Social Welfare Society organized Indian Classical Dance & Music Festival Khajuraho-2019 In Association with Godavari Academy of Science & Technology, Chhatarpur, Madhya Prad esh At Khajuraho, Madhya Pradesh during 21 to 23 November, 2020 to give platform at UNESCO heritage Khajuraho, Madhya Pradesh.

For the purpose of preservation and promotion of Indian classical dance and music, operated since Bi millennium and under the joint aegis of Environment and Social Welfare Society Khajuraho affiliated to NITI Aayog, Government of India and Godavari Academy of Science and Technology Chhatarpur like every year this year also Indian Classical Dance and Music Festival was organized. Due to the Kovid-19 epidemic, this program was placed online on Google Meet, the chief guest of the inaugural session, Dr. Nandita Pathak, Brand Ambassador Swachh Bharat Abhiyan and President Dr. Kanhaiya Tripathi, former OSD President, Government of India and thousands of viewers were connected online.

On the first day of the program Gaudiya dance Anirban Dev West Bengal mesmerized the audience with its talent. This dance was based on Raga Mishra Bilabal and Taal Jhap, Bharatnatyam K. Rajyalakshmi Mumbai Maharashtra depicted Lord Shankar and Dev Shakti through dance in which the balance of the universe was told, Sessions Shrimoyi Borah Golaghat Assam told a story based on Ramayana in which Ravana took the form of a beggar and kidnapped Sita ji and later Ramachandra ji went to Lanka to free Sita ji from Ravana's clutches through the monkey army. Bharatnatyam Swati Bade and Madhura Pavaskar Maharashtra presented Shiva Stuti and Mohiniyattam Vineetha Varghese Bangalore Karnataka made all the audience to write appreciative comments in the message box by praising Ganapati.

On the second day of the program on November 22, chief guest Tapan Roy, former cultural ambassador, Indian Embassy, Kazakhstan and presided over by Dr. Brijendra Singh Gautam, Honorable Chancellor, Shri Krishna University Chhatarpur. In classical dance Sanjib Bhattacharyya Manipuri from United States of America, Meera Santosh Laird Bharatnatyam from Kerala, Pallavi Degvekar Sheikh Kathak from New Jersey United States, Neoshekapam

Dina Chanu Thangta from Imphal Manipur and Pallabi Doverah Bharatnatyam from Guwahati Assam.

The Indian Classical Dance and Music Festival, which is running online, dropped the curtain from Bharatnatyam. Senior Kathak dancer and Padma Shri awardee Smt. Shovana Narayan, New Delhi was the chief guest of today's program. Sanchita Lahoti performed Ravindra Nritya from Karnataka, Dr. Dwitti Pandya from Gujarat, Kathak, Dr. Nagabi Chanu from Imphal, Manipuri, Kalamandalam Sreeja R. Krishna from Tamil Nadu, Mohiniyattam and Dr. Smriti Baghela from Gujarat, Bharatnatyam. The program was shown live online on Google from 07:30 to 09:00 every day, as well as on Facebook and YouTube channels, so that millions of viewers could watch the program simultaneously.

सत्ता सुधार www.sattasudhar.com ग्वालियर, सोमवा

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल

विदेशों में ख्याति प्राप्त शास्त्रीय नृत्यांगनायें देंगी प्रस्तुति

कोविड-19 महामारी के कारण ऑनलाइन हो रहा आयोजन

सत्ता सुधार|खजुराहो

भारतीय शास्त्रीय नृत्य एवं संगीत के संरक्षण एवं संवर्धन के उद्देश्य से सहस्त्राब्दी वर्ष से संचालित एवं नीति आयोग भारत सरकार से संबद्ध एनवायरमेंट एंड सोशल वेलफेयर सोसाइटी खजुराहो एवं गोदावरी एकेडमी आफ साइंस एंड टेक्नोलॉजी छतरपुर के संयुक्त तत्वावधान में प्रति वर्ष की भाँति इस वर्ष भी इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल का आयोजन 21 नवंबर से 23 नवंबर तक आयोजित किया जा रहा है कोविड-19 महामारी के कारण यह कार्यक्रम ऑनलाइन गूगल पर रखा गया है वैसे यह आयोजन खजुराहो एवं पर्यटकों के लिए आकर्षण का केंद्र है ।

कार्यक्रम के दूसरे दिन मुख्य अतिथि तपन रॉय पूर्व सांस्कृतिक एंबेसडर इंडियन एंबेसी कजाकिस्तान अध्यक्षता करेंगे डॉ बृजेंद्र सिंह गौतम माननीय कुलाधिपति श्री कृष्णा विश्वविद्यालय छतरपुर। शास्त्रीय नृत्य में संजीब भट्टाचार्य मणिपुरी प्रस्तुत करेंगे यूनाइटेड स्टेट ऑफ अमेरिका से, मीरा संतोष लेयर भरतनाट्यम केरला से, पल्लवी देगवेकर शेख कत्थक न्यू जर्सी यूनाइटेड स्टेट से, नियोशेकपम डिना चानू थांगता इंफाल मणिपुर से तथा पल्लबी दोवेरह भरतनाट्यम गुवाहाटी आसाम से प्रस्तुति देंगें । कार्यक्रम के आयोजक डॉ अश्वनी कुमार दुबे ने सभी दर्शकों से अनुरोध किया है कि वे ऑनलाइन इस कार्यक्रम से जुड़कर अपनी भारतीय कला को प्रोत्साहित करें।

यह कार्यक्रम आनलाइन गूगल पर प्रतिदिन सायंकाल 07:30 से 09:00 बजे तक होगा साथ ही फेसबुक एवं यूट्यूब चैनल पर भी लाइव दिखाया जाएगा जिससे लाखों दर्शक एक साथ इस कार्यक्रम को देख सकेंगे।

छतरपुर

10 प्रदेश टुडे सागर, शनिवार, 21 नवंबर 2020

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल आज से

कार्यक्रम में ख्याति प्राप्त शास्त्रीय नृत्यांगनाएं देंगी अपनी प्रस्तुति

कोविड-19 महामारी के कारण ऑनलाइन होगा फेस्टिवल

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल

कोविड-19 महामारी के कारण ऑनलाइन हो रहा आयोजन

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल का शुभारंभ

शास्त्रीय नृत्य गौडिया, भरतनाट्यम, सत्रिया एवं मोहिनीअट्टम का हुआ प्रदर्शन

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल का शुभारंभ

इंडियन क्लासिकल डांस एंड म्यूजिक फेस्टिवल का शुभारंभ

शास्त्रीय नृत्य गोदिया, भरतनाट्यम, सत्रिया एवं मोहिनीअट्टम का हुआ प्रदर्शन, अनिर्बान देब, राजालक्ष्मी, श्रीमोई बोरा, स्वाति एवं मधुरा, तथा विनीथा ने दी प्रस्तुति

LETTER FROM HOME MINISTER

डी.ओ. सं०...05.01.../एचएमपी-2021
D.O. No...../HMP-2021

अमित शाह
AMIT SHAH

सत्यमेव जयते

गृह मंत्री
भारत
HOME MINISTER
INDIA

दिनाँक 05 जनवरी, 2021

डॉ. अश्वनी कुमार दुबे जी,

आपके द्वारा प्रेषित **नववर्ष शुभकामना पत्र** प्राप्त कर प्रसन्नता हुई। मैं ईश्वर से प्रार्थना करता हूँ कि यह नया साल आपके जीवन में सुख समृद्धि, खुशहाली और हर्षोल्लास लेकर आए व आपका जीवन स्वस्थ एवं मंगलप्रद हो।

आइए, इस वर्ष हम सब मिलकर **माननीय प्रधानमंत्री जी** के **आत्मनिर्भर भारत** के संकल्प को चरितार्थ करने में अपना अहम योगदान दें।

नववर्ष का पर्व आपको सपरिवार मंगलमय हो।

शुभकामनाओं सहित !

आपका,

(अमित शाह)

डॉ. अश्वनी कुमार दुबे
कार्यकारी निदेशक,
पर्यावरण और सामाजिक कल्याण समिति,
खजुराहो गोदावरीपुरम, वार्ड नं. 17,
जिला छतरपुर–471001 (मध्य प्रदेश)

Office : Ministry of Home Affairs, North Block, New Delhi-110001
Tel. : 23092462, 23094686, Fax : 23094221
E-mail : hm@nic.in

ESW 8TH ANNUAL NATIONAL RESEARCH CONFERENCE

Brief Report of

ESW 8th Annual National Research Conference on

Anthropogenic Impact on the Environment, Society and Human health

On 30 & 31 January, 2021.

Organized by: Environment & Social Welfare Society, Khajuraho, India.

Website: www.godavariacademy.com **and** www.ijgsr.com

Event supported by:

Zoological Survey of India, Ministry of Environment, Forest and Climate Change, Government of India, Kolkota.
The National Academy of Sciences India, Bhopal Chapter, Madhya Pradesh.
Central University of Jharkhand, Ranchi, Jharkhand.
Madhya Pradesh Council of Science & Technology, Bhopal.
Shri Krishna University, Chhatarpur, Madhya Pradesh.
Godavari Academy of Science & Technology, Chhatarpur, Madhya Pradesh.

Honourable Prof. Anil Kothari, Director General, M.P. Council of Science and Technology, Bhopal inaugurated ESW 8th Annual National Research Conference-2K21

A PRELUDE: After the success of ESW 7th Annual National Research Conference on *Climate change and Global Health Management* on 01 & 02 February, 2K20 Environment & Social Welfare Society, Khajuraho, Madhya Pradesh, India organized its **ESW 8th Annual National Research Conference on Anthropogenic Impact on the Environment, Society and Human health** during 30 & 31 January, 2021. At Online Zoom app due to pandemic COVID-19 between 11:45 AM to 04:30 PM.

OBJECT: To provide a platform to Vice Chancellors, Educational Administrators, College Principals, Deans, Head of Departments, Professors, Readers, Associate Professors, Assistant Professors, Scientists, Environmentalist, Researchers, Young scientists and Post Graduate Students to disseminate knowledge related to Anthropogenic Impact on the Environment, Society and Human health.

GOAL: The principal goal of this conference will be to present some of the latest outstanding breakthroughs in Climate change and Global health management, to bring together both young and experienced scientists from all regions of the world, and to open up avenues for research collaborations at regional and global level
THEME: To take some positive steps towards improving our Environment, Society and Human health for our future generation

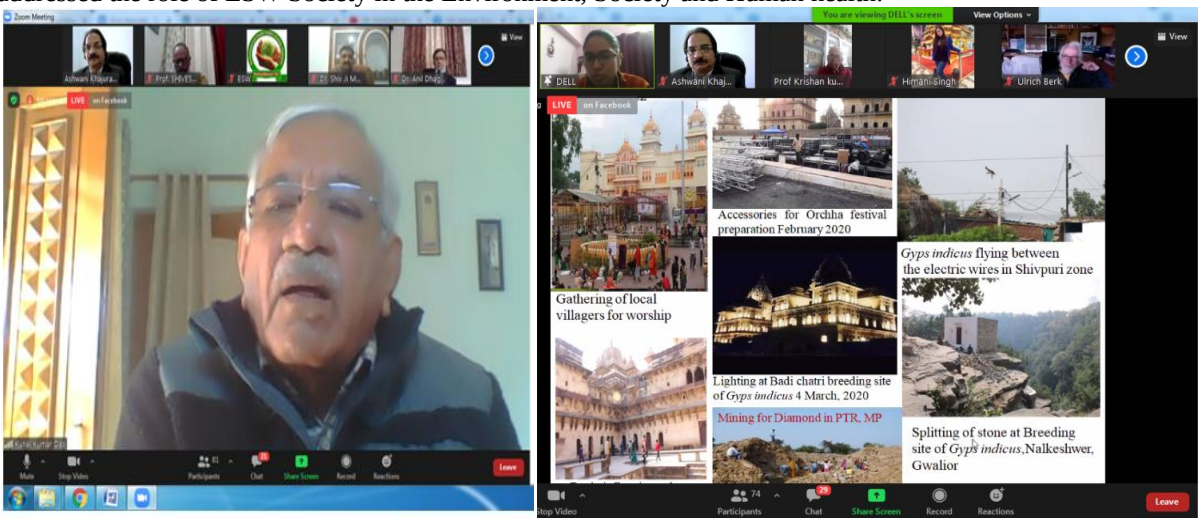
INAUGURAL FUNCTION: The **ESW VIII Annual National Research Conference inaugurated on 30**

January, 2021 by Chief Guest Prof. Anil Kothari, Director General, M.P. Council of Science and Technology, Bhopal **Key note speaker:** Dr. Kunal Kumar Das, Former Scientist, IIRS, ISRO, Dehradun, UK, **Guest of Honour Dr. Shiv Ji Malviya,** Deputy Secretary, Uttar Pradesh Higher Education Service Commission, Prayagraj, Uttar Pradesh, Prof R. K. Day, Vice Chancellor, Central University of Jharkhand, Ranchi, Jharkhand, Prof. K. K. Sharma, Former Vice Chancellor, Maharishi Dayanand Saraswati University, Ajmer**,** Prof. Arvind Chandra Pandey, Central University of Jharkhand, Ranchi, Mr. Santosh Gupta, CEO, Indian Social Responsibility Network, New Delhi, Dr. Anil K. Dhagat, Vice Chancellor, SKU, Dr. K. S. Tiwari, Former Director, IGNOU. and Dr. Ashwani Kumar Dubey, President Environment & Social Welfare Society, Khajuraho, Madhya Pradesh, Fellow/Member of Environment & Social Welfare Society Khajuraho, India, Mrs. Vandana Dubey, Managing Director, Godavari Academy of Science and Technology, Chhatarpur, MP and other distinguished guests, participations from various part of country and thousand+ viewer/listener including social media were participated in conference.

Online Souvenir released with Message of Prof. Anil Kothari, Director General, MPCOST, Bhopal and Dr. Brajendra Singh Gautam, Honorable Chancellor, Shri Krishna University, Chhatarpur. Ninety three research Abstract received from various part of country including India, Nepal, Germany, Argentina and Nigeria. State of India viz. New Delhi, Madhya Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Gujarat, Uttarakhand, Bihar, Jammu & Kashmir, Tamil Nadu, Meghalaya, Laddakh, Odisha and Andman Nicobar.

*Released Souvenir online "***Anthropogenic Impact on the Environment, Society and Human health***" by Guest*
*Released Book online "**Genetics**" edited by Prof. Ashwani Kumar Dubey & Prof. Sunita Singh by Guest*

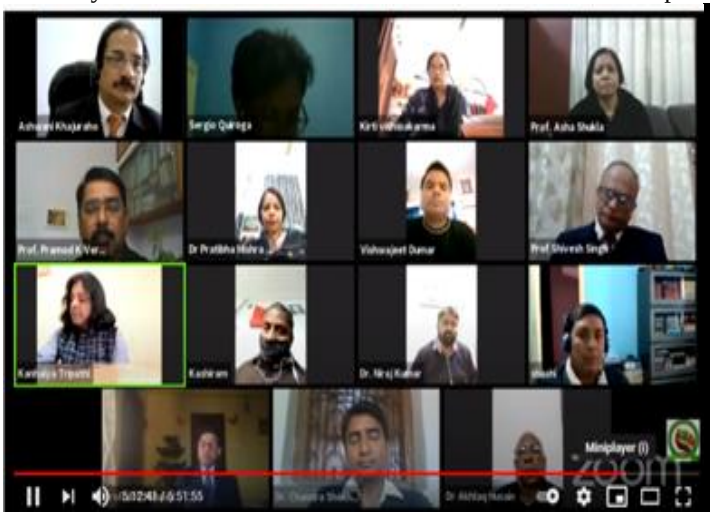
Chief Guest Prof. Anil Kothari addressed on Role of science and technology on human health.
Key note speaker: Dr. Kunal Kumar Das, Former Scientist, IIRS, ISRO, Dehradun, UK, **delivered Key note address on Identifying anthropogenic activities using Earth observation Satellite.**
Guest of Honour Dr. Shiv Ji Malviya, Deputy Secretary, Uttar Pradesh Higher Education Service Commission, Prayagraj, Uttar Pradesh, highlighted on Role of higher education in society.
Prof R. K. Dey, Vice Chancellor, Central University of Jharkhand, Ranchi, Jharkhand, highlighted on Environment management.
Prof. K. K. Sharma, Former Vice Chancellor, Maharishi Dayanand Saraswati University, Ajmer**,** highlighted on Impact of COVID-19 in education.
Dr. Ashwani Kumar Dubey, Executive Director, ESW Society and Organizing Secretary of conference addressed the role of ESW Society in the Environment, Society and Human health.



TECHNICAL SESSION: After the inauguration, the technical session started by Prof. S. N. Pandey, Pro. Chancellor, The Global University, Nagaland. Research papers and posters presented in the technical session by research scholars & academicians.
The general topics discussed in the conference as follows in Five Scientific Session and One Poster session.
Environmental Sciences: Environmental Ethic, Environmental Legislation, Environmental Impact Assessment, Environmental Management, Environmental Policies, Environmental Pollution, Natural Resources Conservation.

Bio-sciences: Agricultural Science, Anthropology and Behavioral Sciences, Animal Husbandry, Aquaculture, Biodiversity, Biotechnology, Biochemistry, Bioinformatics, Cell and Molecular Biology, Fish and Fisheries, Home Sciences, Immunology, Life Sciences, Limnology, Medical Sciences, Microbiology, Nutrition, Plant Sciences, Taxonomy, Tissue Culture, Toxicology, Veterinary Sciences, Wildlife Conservation, Zoology.
Earth and Atmospheric Sciences: Mineralogy and Wildlife.
COVID: All aspects.

21st FOUNDATION DAY OF ESW, VALIDICTORY & AWARD CEREMONY ON 31 January:
Chief Guest Prof. Asha Shukla, Vice Chancellor, Dr. B. R. Ambedkar University, Mahow, **President** Dr. Kanhaiya Tripathi, Former OSD to the President of India, Govt. of India. **Special Guest** Prof P. K. Verma, Former Vice Chancellor, BU University, Bhopal**,** Prof. Akhilesh Kumar Pandey, Vice Chancellor Vikram University, Ujjain, Cdr. Bhushan Diwan, Bombay, Maharashtra, Dr. Nandita Pathak, National Social Entrepreneur, New Delhi, Dr. Yash Pal Singh, New Delhi and Dr. Ashwani Kumar Dubey, President ESW Society were the Guest of Honour of the Valedictory and Award ceremony of the conference and other eminent scientists were present on this occasion.



AWARD CEREMONY:
National Amazing Godavari Memorial Award (NAGMA) "Excellence in Education and Science" Prof Asha Shukla, Vice Chancellor, Dr. B. R. Ambedkar University, Mahow, Madhya Pradesh.

ESW Fellowship
Dr. Arvind Kumar Dwivedi**,** Government Sanjay Gandhi Smriti College, Sidhi, Madhya Pradesh
Dr. Amit Pal, Professor, Institute of Environment & Development Studies, Bundelkhand University, Jhansi, UP.
Dr. Niraj Kumar, Department of Zoology, L.N.D. College, Motihari, Bihar
Dr. Sarda Prasad Mohapatra, Associate Professor of Botany, Narasingh Choudhary College, Jajpur, Odisha
Dr. Alok Sagar Gautam, Asst. Professor of Physics, Hemvati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand

ESW Excellency Award: For excellence in leadership and co-operation for promotion of Environment and Social Welfare Society at the National and International level.Dr. Esha Yadav, Department of Zoology, Bramhanand College, Kanpur
Dr. Chandra Shekhar Dwivedi, Central University of Jharkhand, Ranchi
Dr. Pragya Khanna, Principal, Govt. Degree College, Chenani
ESW Recognition Award: ESW Recognition Award for "Valuable Positive Contribution to Environment and Social Welfare Society for Nature conservation"
Dr. Akhilesh Kumar, Scientist (Plant Protection) JNKVV_KVK, Rewa
Dr. Shiv Ji Malviya, (Dec., 2K20) Deputy Secretary, Uttar Pradesh Higher Education Service Commission, Prayagraj, Uttar Pradesh
Dr. Neetu Mishra, Associate Professor, Department of Home Science, University of Allahabad, UP
Dr.Sangeeta Singh, Asst. Prof of Zoology, S.S.D.P. Girls PG College, Roorkee, Uttarkhand
Dr. Shashi Mishra, Asst. Professor of Korian Language, Central University of Jharkhand, Ranchi
ESW appreciation Award: For support in ESW activities

Dr**.** Smita Singh, KVK, Rewa
Dr. Deepak Kumar Mishra, Associate Prof. Biotechnology, AKS University, Satna
Prof Arvind C Pandey, Prof of Geoinformatics**,** Central University of Jharkhand, Ranchi
Dr. Dinisha Malviya, Department of Botany, Chandra Shekhar Azad Govt. P.G. Nodal College, Sehore (M.P.)
Godavari Academy Impact Award: The purpose of this award is to recognize individuals or teams who have initiative program within their departments or across the University that had a positive impact.
Dr. Arjun Shukla, Gold Medalist Zoologist, Govt. M. H. College of Home Science, Jabalpur, MP
Dr. Sandeep Kushwaha, Scientist, ZSI, Kolkota
Mr. Mohit Kumar, Asst. Prof. of Political Science, Shri Krishna University, Chhatarpur, MP **Dr. Dr. Parveen Kumar,** Scientist, Krishi Vigyan Kendra, Leh, SKUAST-K
Social Innovative ESW National Award: For Outstanding contribution in the field of NGO
Dr. Pushpendra Singh Gautam, Chairman, Shri Krishna University, Chhatarpur
Dr. Ashiq Ahmad Thoker**,** Lecturer of Education, Govt. GHSS Bijbehara-Anantnag, Kashmir
Mr. Mohd. Adil, Volunteer, NYK, Poonch, Jammu & Kashmir.
Mr. Urgin Phuntsog, R/O Gya, District Leh, Ladakh
Mr. Santosh Gupta, CEO, ISRN, New Delhi
Lifetime Achievements Award: For Outstanding contribution in the concern field.
Dr. M. S. Parihar, President, BIOEXONS LLC Washington, USA
Prof. R. K. Dey, Vice Chancellor, Central University of Jharkhand, Ranchi, Jharkhand
Best Scientist Award:
Dr Shivesh Pratap Singh, Professor & Head, Department of Zoology, Govt. P. G. College, Satna, MP
Young Scientist Award:
Dr. Shivam Dubey, Department of Zoology & Biotechnology, Govt. Science College, Jabalpur, Madhya Pradesh
Young Environmentalist Award:
Mr. Vijay Kumar, College of Fisheries Science, Junagadh Agricultural University, Veraval, Gujarat
Innovative Environmentalist Award
Dr. Sushil Kumar Shukla, Assistant Professor, Department of Transport Science & Technology, School of Engineering & Technology, Central University of Jharkhand, Brambe, Ranchi.
Dr. Rakesh Kumar Pandey, Incharge Publication, Makhanlal Vhaturvedi Rashtriya Patrakarita avyam Sanchar Vishwavidyalaya, Bhopal, Madhya Pradesh.
Ms. Aishanya Khare, Asst. Professor of Botany, Shri Krishna University, Chhatarpur, MP

Award for best oral presentation:
Scientific Session I:
Ms. Himani Singh, Department of Molecular Biology and Genetic Engineering, C.B.S.H., G.B.P.U.A.&T., Pantnagar, Uttarakhand, India
Ms. Ruby Yadav, Biodiversity & Wildlife Conservation Lab, Department of Zoology, University of Lucknow
Scientific Session II
Ms. Priya Namrata Topno, Tata Institute of Social Sciences, Mumbai
Scientific Session III
Ms. Riddhiben Govindbhai Vagh, College of Fisheries Science, Veraval, Gujrat
Scientific Session IV
Ms. Dayana Joseph, JSS College of Arts, Commerce and Science, Mysuru, Karnataka
Scientific Session V
Mr. Arunik Baruah, Department of Geoinformatics, Central university of Jharkhand, Ranchi
Scientific Session VI
Mr. Deepika Tiwari, Govt. Madhav Science College, Ujjain, MP
Award for best poster presentation Poster Session I
Mr. Lakhan Lal Pandey, Parasitological Lab, Department of Zoology, Bundelkhand University, Jhansi (U.P.) India

Vote of thanks by Dr. Shivesh Pratap Singh, Secretary, NASI, Bhopal Chapter.
Beneficiary: Thousands+ of viewer/Listeners/Research scholars/Students/Academician/Social workers were present online in this research conference
RECOMMENDATIONS:
Three Important Ways to Slow the Spread COVOD-19 accepted by7 scientists**.** Wear a mask to protect yourself and others and stop the spread of COVID-19. Stay at least 6 feet (about 2 arm lengths) from others who don't

live with you. Avoid crowds. The more people you are in contact with, the more likely you are to be exposed to COVID-19. Further research is needed in this subject.

Ms. Dayana. J The Groundwater is the main source of drinking water for the people of Nagamangala taluk of Mandya district of southern Karnataka, India. After evaluating data of fluoride concentration in groundwater, it is higher than the upper limit of WHO and BIS. Prevention is the most important key to treatment. Hence, there is a need to take measures to prevent dental fluorosis and skeletal fluorosis through safe drinking water supply and teaching better dietary habits using various effective medias.

Deepika Tiwari Suggested that Vermicomposting technology could be broadly used for the management and recycling of nirmalaya or floral wastes lowering the bulk and level of pollution at the generation site itself. It could be the best organic fertilizer for producing organic vegetables, organic fruits and ornamental plants and cost effective. Since vermicompost produces high population of beneficial microflora its application to cultivated land will also increase their population increasing soil fertility. Actinomycetes has been reported in composting, especially during late curing stage (Strom, 1985) They are very active in mineralization of organic matter and produce most of the antibiotics they help to reduce pathogenic organisms in vermicompost to some extent. Microflora analysis will let us to know the microbial diversity mainly involving in decomposition process which will be beneficial to prepare a microbial consortium culture that can be used to achieve even faster decomposition in short period of time.

Completely turn off equipment like televisions and stereos when you're not using them. Anthropogenic changes to the natural environment, including land-use change, climate change, and the deterioration of all ecosystem services, are all accelerating. These threats include increasing exposure to infectious disease, water scarcity, food scarcity, natural disasters, and population displacement.

News Gallery:

National news paper, Local news paper and electronic channel covered this event promptly.

ई एस डब्ल्यू सोसाइटी की आठवीं राष्ट्रीय शोध संगोष्ठी

• हजारों वैज्ञानिक करेंगे सहभागिता
• कोविड 19 के कारण ऑनलाइन होगा आयोजन

वैष्णवी ज्ञान प्रसार

भोपाल/मध्यप्रदेश: सहस्त्राब्दी वर्ष से संचालित एवं नीति आयोग से संबद्ध एनवायरमेंट एंड सोशल वेलफेयर सोसाइटी खजुराहो द्वारा प्रति वर्ष की भांति इस वर्ष भी राष्ट्रीय शोध संगोष्ठी का आयोजन किया जा रहा है। कोविड-19 की वजह से यह संगोष्ठी ऑनलाइन किया जा रहा है दो दिवसीय यह संगोष्ठी एंथ्रोपोजेनिक इंपैक्ट ऑन द एनवायरनमेंट सोसाइटी एंड ह्यूमन हेल्थ पर 30 एवं 31 जनवरी को आयोजित की जाएगी इस राष्ट्रीय शोध संगोष्ठी में पर्यावरण विज्ञान पृथ्वी एवं जलवायु विज्ञान तथा कोविड-19 में हो रही शोध पर चर्चा की जाएगी एवं शोधार्थियों के द्वारा आए शोध पत्रों के सारांश का प्रकाशन किया जायेगा। कॉन्फ्रेंस में राष्ट्रीय विज्ञान अकादमी भोपाल चीफ्टर, जूलॉजिकल सर्वे ऑफ इंडिया मिनिस्ट्री ऑफ एनवायरमेंट फॉरेस्ट एंड क्लाइमेट चेंज डिप्टी सेक्रेट्री उत्तर प्रदेश भारत सरकार कोलकाता, हायर एजुकेशन सर्विसेस कमिशन प्रयागराज डॉ नीरज कुमार एकजीक्यूटिव सेक्रेटरी राष्ट्रीय विज्ञान अकादमी इलाहाबाद प्रोफेसर आर के डे कुलपति केंद्रीय विश्वविद्यालय झारखंड प्रो एस एन पांडेय उप कुलाधिपति द ग्लोबल ओपन विश्वविद्यालय नागालैंड प्रोफेसर के के शर्मा पूर्व कुलपति महर्षि दयानंद विश्वविद्यालय अजमेर प्रोफेसर प्रभोद कुमार वर्मा पूर्व कुलपति बरकतउल्ला विश्वविद्यालय भोपाल प्रोफेसर अविजेश पांडे कुलपति विक्रम विश्वविद्यालय उज्जैन प्रोफेसर अरविंद चंद्र पांडे केंद्रीय विश्वविद्यालय झारखंड संतोष गुप्ता मुख्य कार्यपालन अधिकारी इंडियन सोसाइट रिस्पांसिबिलिटी नेटवर्क नई दिल्ली प्रोफेसर प्रकाश सिंह विजेन पूर्व कुलपति केंद्रीय विश्वविद्यालय ग्वालियर सहित शोधार्थी सहायक प्राध्यापक प्राध्यापक प्राचार्य पर्यावरणविद वैज्ञानिक कुलपति निदेशक शामिल होंगे।

उद्घाटन के उपरांत तीन तकनीकी सत्र में शोध पत्रों का वाचन किया जाएगा। शोध संगोष्ठी के आयोजन सचिव डॉ अश्वनी कुमार दुबे ने बताया है कि ई एस डब्ल्यू द्वारा आयोजित प्रतिवर्ष इस कांफ्रेंस से हजारों शोधार्थियों को शोध के नये विषय एवं समाज में किस प्रकार के शोध कार्य किये जाने चाहिए के बारे में विस्तृत वैज्ञानिकों का मार्गदर्शन प्राप्त होता है। समाजसेवी संतोष गंगेले कर्मयोगी ने इस आयोजन में भाग लेने वाले सभी सम्मानीय महानुभवों को एवं आयोजन समिति को बहुत-बहुत शुभकामनाएं देते हुए कहा कि छतरपुर जिले के लिए गौरव की बात है।

पर्यावरण, समाज और मानव स्वास्थ्य पर मानवजनित प्रभाव पर भारतीय वैज्ञानिकों ने किया मंथन

छतरपुर

ई.एस.डब्लू. सोसायटी की आठवीं शोध संगोष्ठी का हुआ आयोजन

सीयूजे के वीसी को मिला अवार्ड

रांची. केंद्रीय विवि, झारखंड (सीयूजे) के प्रभारी कुलपति डॉ आरके डे को उनके उत्कृष्ट शैक्षणिक उपलब्धियों के लिए लाइफटाइम अचीवमेंट अवार्ड 2021 दिया गया है. यह अवार्ड उन्हें पर्यावरण सामाजिक कल्याण संस्था खजुराहो (मध्य प्रदेश) द्वारा दिया गया है. सीयूजे व पर्यावरण सामाजिक कल्याण संस्था खजुराहो तथा जूलॉजिकल सर्वे ऑफ इंडिया के संयुक्त तत्वावधान में आयोजित एंथ्रोपोजेनिक इंपैक्ट ऑन इनवायरमेंट सोसाइटी एंड हेल्थ विषय पर आयोजित राष्ट्रीय सेमिनार में उन्हें ऑनलाइन अवार्ड दिया गया.

प्रभात खबर Wed, 03 February 202 https://epaper.prabh

Another scientist conferred with impact award

HIMALAYAN MAIL NEWS
LEH, FEB 04

Krishi Vigyan Kendra-Leh, under the administrative control of Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K) got another distinction when Dr. Parveen Kumar, Subject Matter Specialist (Agricultural Extension) at KVK-Leh was bestowed with Godavari Academy Impact Award in the recently held online conference 'Anthropogenic impact on the environment, society and human health' of Environmental and Social Welfare Society, Khajuraho, Madhya Pradesh.

The conference was organized with support from Ministry of Environment, Forest and Climate Change, Government of India, National Academy of Science, Bhopal Chapter, Zoological Survey of India, Madhya Pradesh Council for Science and Technology and other organizations. This award is presented to recognize individuals or groups for programmes that had a positive impact on the society.

Dr. Parveen Kumar got this award for promoting vermi compost in the cold arid region of Ladakh as a mean of sustainable agriculture, to augment farmers' income, to recycle farm and home waste, to maintain soil health and to prevent biodiversity loss. Based on his work in the region, he also presented a research paper on the topic, 'promoting self-reliance through vermicomposting: a study from Ladakh'. In his presentation he elaborated how the recycling of kitchen and farm waste into high quality organic manure reduces the cost of cultivation by 15-20 percent and a potent intervention for achieving the mission of 'Doubling Farmers Income' by 2022. His presentation also included case studies of successful farmers, farm women and youth from Leh district of Ladakh who have taken this as an enterprise and are getting handsome returns by selling vermiworms and vermicompost. His work was widely appreciated by the participants from different countries presented in the online conference.

The Environment and Social Welfare Society headed by Dr. Ashwani Kumar Dubey, an eminent professor of Zoology, is a registered society dedicated to environment, education and sciences and technology. It is an ISO 9001:2015 certified organization known worldwide for its impact related directly or indirectly to environment and society. The society is registered under the Society Act 1973, M.P and also affiliated by the Nehru Yuva Kendra Sangathan, Ministry of Youth Affairs and Sports, Government of India.

The society is also working for promotion of science and technology and awareness among university and college students. Every year ESW society conducts a conference where scientists, researchers, academicians, students, scholars and policy makers from across the world take part. This was the eighth conference of ESW held in an online mode. The conference was attended by participants from Argentina, Germany, Nigeria and Nepal and many from across different parts of the country. Due to the pandemic, this year the conference

गढ़वाल विश्वविद्यालय के ईएसडब्ल्यू फैलो चुने गए डॉ. गौतम

Shah Times

श्रीनगर। हेमवती नंदन बहुगुणा गढ़वाल विवि के भौतिकी विभाग के सहायक प्रोफेसर डा. आलोक सागर गौतम को सहस्त्राब्दि वर्ष से संचालित एंव नीति आयोग से सम्बद्ध एनवायरमेंट एंड सोशल वेलफेयर सोसायटी (ईएसडब्ल्यू) खजुराहो द्वारा फैलो चुना गया है। डा. गौतम को यह फैलोशिपक का सम्मान पर्यावरण संरक्षण, जंगल की कमी, मानव द्वारा किए जा नकारात्मक कार्यों शोध के साथ लगातार कार्य करने के लिए दिया गया है। डा. गौतम पूर्व में भी युवा वैज्ञानिक सम्मान यूकास्ट देहरादून, गेसा दिल्ली आदि द्वारा सम्मानित किया जा चुका है।

INTERNATIONAL WEBINAR

International Webinar on "*Role of Science and Technology in Global Health and Food Security*" the conference was organized by Zoology & Biotechnology Department, Govt. Girls' P. G. College, Ujjain, India in association with ESW Society during March 01 to 03, 2021.

AWARENESS PROGRAMME ON WORLD SPARROW DAY

Awareness Programme organized on The Occasion of World Sparrow Day March 20, 2021. Theme was *Challenges, Threats and Conservation Status of Our State Bird, House Sparrow.* Organized by Dept. of Zoology, Laxmi Narayan Dubey, College, Bihar in association with Internal Quality Assurance Cell and ESW Society, Khajuraho.

EARTH DAY CELEBRATION

The theme of Earth Day 22 April, 2021 is "Restore Our Earth". The climate change and coronavirus pandemic have reminded us of the harm we've caused. Thus, we must Restore Our Earth not just because we care about the natural world, but because we live on it. Keeping this view in our mind ESW Society, Khajuraho, Agarwal Kanya Mahavidyalaya,

Gangapur and Rajputana Society of Natural History, Rajasthan jointly organized online Webinar.

Earth Day 2021: Our home, Earth, is the third planet from the Sun at a distance of about 93 million miles (150 million km). It is the fifth-largest planet in the solar system. The planet is at least 1,000 years old. All the planets in the solar system were named after Greek and Roman gods and goddesses, except Earth. Its name comes from the old English and Germanic words meaning 'the ground'.

Earth is the only planet in our solar system known to support life. This is because Earth's atmosphere has 78 percent nitrogen, 21 percent oxygen and 1 percent other ingredients -- the perfect balance to breathe and live. However, nowadays, due to a lot of technological development, the environment in which we are living is becoming increasingly contaminated.

SCIENCEPOPULARIZATION/ SYMPOSIA/ SEMINAR/ WORKSHOP/ SCIENTIFIC LECTURE

Researchers/students/teachers/scientists attended the symposia/seminars/Workshop & Scientific Lectures organized by the ESW Society in different Zone. Several other workshops/sessions were also organized such as Environment and Social awareness programme on World Environment Day, Plant conservation, Health camp, Pollution Awareness programme, Biodiversity conservation, Social awareness programme and Cultural event.

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Guidelines of Fellow of Environment and Social Welfare (FESW) award

The Executive Board of the ESW Society, Khajuraho India has approved a Fellow of Environment and Social Welfare (FESW) award to recognize members of the FESW for distinguished contributions to the field of Environment and Social Science, and for promoting and sustaining the professional stature of the field.

A **fellow** is a member of a group of people who work together in a **fellowship** pursuing mutual knowledge or practice. A **fellowship** is a monetary award connected to a specific field. Usually given to scientist, professor, assistant professor and researcher.
Such accomplishments will have advanced the Education, Environment, Art and science & technology, as evidenced by:

- Sustained service and performance in the advancement of science and technology
- Publication of papers, articles, books, and standards which enhance the knowledge of Science
- Innovative development of new technology
- National and international service contributions
- Professional recognition

Requirements and Conditions will

- Candidates will have a minimum of one year's active participation in ESW.
- Candidates will be nominated by their national delegation of FES Fellow. Each delegation may nominate at maximum of two (2) candidates per year.
- Nominations shall be submitted on the official form available from the ESW Secretariat.
- Nominations must be submitted to the ESW Secretariat no later than December 31 of the year prior to that in which the individual is recognized as Fellow.
- Nominations will remain valid for three years.
- All information on nominees will be held in strict confidence.
- Fellows will be selected by the Executive board based on the Performance of Applicant.

Number of Fellows

- Maximum of 06 Fellows will be selected each year, as determined by the Executive committee.

The Award

- The ESW Chair will present the Fellow of FESW Award at the ESW Conference of the ESW Society or Annual assembly.

Letter for ESW Membership

ENVIRONMENT & SOCIAL WELFARE SOCIETY, KHAJURAHO

Dedicated to Environment, Education, and Science & Technology entire India since Bi-millennium,
Under Government of M.P., Firms & Society Act 1973
Accredited by JAP Govt. of MP & NITI Aayog, Govt. of India

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Dear,
Applications are invited from the Eminent Scientist, Professor, Academic Institutes, University, Their affiliated Colleges, Deemed Universities, Autonomous Research Institution, and Industrial R & D Units for **Member** of Environment & Social Welfare Society, Khajuraho India. Membership form may be downloaded from Website http://www.godavariacademy.com.

An application filled dully sign by you in all respects should be submitted to President of ESWSociety**.** Payments are accepted only through Bank or NEFT online transfer in the account.
Name of Beneficiary: Environment and Social Welfare Society
Account Number: 77352200000561
IFS code: CNRB0017735
Name of Bank: Canara Bank, Branch 2, Chhatarpur, Madhya Pradesh, India
MICR Code: 471015002;
SWIFT code: CNRBINBBBM

Please mail us complete membership form dully signed by you along with fee. Please inform us when you transfer payment to ESWSociety account so that we can track your payment (mail scan copy as proof to eswsociety320@gmail.com).
Membership Fee
A. Patron member Rs 10,000/- or more; **B. Life member** (10 years) Rs.5000/- or more**;**
C. Annual member Rs. 600/- per year; **D. Honorary member**

Board of Directors may offer honorary membership time to time the eminent scientist and distinguished persons. You will receive attractive certificate from ESWSociety, you can display on your office wall.

Only selected Life Members are privileged to write the abbreviation **F.E.S.W.** (Fellow of the Environment & Social Welfare Society) with their names.

With Regards,

All correspondence to:
Executive Director
Environment and Social Welfare Society (ESWSociety)
Head Office: Vidhyadahr Colony, Khajuraho Madhya Pradesh, India
Regional Office: Godavaripuram, Bajrangnagar, Ward No.31, Chhatarpur-471001, India
Email: eswsociety320@gmail.com, Mobile: +91-9425143654
Website; http://www.godavariacademy.com

MEMBERSHIP FORM ***Regd. No.SC2707-2K***

ENVIRONMENT & SOCIAL WELFARE SOCIETY, KHAJURAHO

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Accredited by JAP Govt. of MP & NITI Aayog, Govt. of India
Website: http://www.godavariacademy.com **Mobile:** 9425143654 **Email**: eswsociety320@gmail.com
……..……

To Photo
The President/Secretary
Environment and Social Welfare Society
Regional Office, Chhatarpur 471001

Dear,
I wish to be a Petron member/ Life member /General member of **ENVIRONMENT & SOCIAL WELFARE (ESW) SOCIETY,** Khajuraho, India and agree to abide by your rules and regulations. (For details see **Letter call for Membership**)

1. Name Dr……..……..
2. Designation……..……..
3. Date of birth……..……
4. Address
Office……..……
…….
Mailing……..……
……..……
5. Mobile /
Telephone:……..
6.
Email:……
7. Academic
Qualification:……..……...
Graduation (Year/
Subject)……...
Post Graduation (Year/ Subject) …….
Ph. D. (Year/ Subject)……..
Others……...
8. Field of specialization:
(1)……
(2)……
(3)……..……..

Signature of applicant