NATIONAL CONFERENCE

ON

POLLUTION CONTROL FOR SUSTAINABLE ENVIRONMENT

(P C E S - 2018)

10-11 February 2018

SOUVENIR

Organized By:

Faculty of Science and Humanities
M.M.M. (P.G.) College,
Bhatpar Rani, Deoria, U.P., INDIA -274702
(A post graduate college affiliated to D.D.U. Gorakhpur University, Gorakhpur)

In Collaboration With:

Council of Research and Sustainable Development, India
(An ISO 9001:2015 Certified Organization)
93, Vishal Kunj, Dehtora Road, Bodla,
Agra-282007, U.P., India
Website: www.crsdindia.com

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(Convener)
PCES-2018

Dr. Rakesh Kumar
(Organizing Secretary)
PCES-2018

Dr. Mahesh Chandra
(Managing Trustee)
CRSD, India

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Dr. Arti Mishra	B.V.R.I. Bichpuri, Agra

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Convener:	**Dr. Ram Autar** Department of Botany, M.M.M. (P.G.) College, Bhatpar Rani, Deoria (UP)
Organizing Secretary:	**Dr. Rakesh Kumar** Department of Chemistry, M.M.M. (P.G.) College, Bhatpar Rani, Deoria (U.P.)
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	Mr. A.L. Singh
	Mr. Anshuman Singh
	Mr. Shyam
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	Mr. Shakti Singh
	Mr. Amit Yadav
Technical Session (Oral):	**Dr Ram Autar**
	Dr Hemant Kumar Singh
	Mr Awadh Bihari Lal
Technical Session (Poster):	**Dr. H.R. Yadav**
	Dr. Manoj Kumar
	Mrs. Mohani Singh

PROGRAMME SCHEDULE		
Dated 10-02-2018		
Registration	:	08:30-10:00 am
Inaugural Session	:	09:00-11:00 am
Tea Break	:	11:00-11:15 am
1ST Technical Session	:	11:30-02:00 pm
Lunch	:	02:00-02.30 pm
2ND Technical Session	:	02:30-04:30 pm
Vote of Thanks	:	4.30 pm
Dated 11-02-2018		
3RD Technical Session	:	09:00-11:00 am
Tea Break	:	11:00-11:15 am
4TH Technical Session	:	11:30-02:00 pm
Lunch	:	02:00-02:30 pm
5TH Technical Session	:	02:30-04:00 pm
Valedictory Session	:	4:00 pm

प्रो. वी. के. सिंह
कुलपति

Prof. V. K. Singh
Vice Chancellor

दी.द.उ. गोरखपुर विश्वविद्यालय
गोरखपुर-273 009 (उ.प्र.)

D.D.U. Gorakhpur University
Gorakhpur-273 009 (U.P.)

Dated : 07-02-2018

MESSAGE

It is indeed a matter of great pleasure that **Madan Mohan Malviya P.G. College,** Bhatpar Rani, Deoria is organizing a two day **National Seminar** titled **"Pollution Control for Sustainable Environment"** on **10-11 February, 2018** and bringing out a **Souvenir** on this occasion.

I hope that the seminar will give an opportunity to all concerned, particularly young researchers and teachers to exchange views and fruitful discourse about the recent advances in the above mentioned field.

I am sure that the Souvenir being published on this occasion would provide useful information for the students, faculty members and other knowledge seekers.

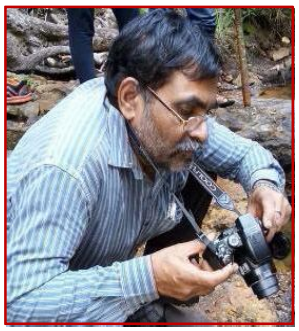
I extend my best wishes to all the members of organising committee, participants, delegates, teachers, students and faculty members for their endeavours.

(Prof. V.K. Singh)
Vice-Chancellor

Prof.(DR.) V.N. PANDEY
Professor and Head
M.Sc., Ph.D., D.Sc.(Sch.) FBS, FIAPT, FIAT, FISPP, Coordinator, Green Herbal Health Centre, Convener PNC, Member GCNW (RSC, London) BSA (USA)

Experimental Botany and Nutraceutical Laboratory
Department of Botany
DDU Gorakhpur University,
Gorakhpur- 273009, (U.P.)
India

Date: 07.02.2018



MESSAGE

It is a matter of great pleasure that Department of Botany M.M.M. PG College, Bhatpar Rani, Deoria, U.P. is organizing the National Conference on **Pollution Control for Sustainable Environment** from Feb. 10-11, 2016 at M.M.M. PG College Bhatpar Rani, Deoria, U.P. India.

The conference will provide good opportunity to the Naturalists, Scientists and Environmentalists to review and discussed the recent progress made in the various emerging areas of **Sustainable Environment** and focus on some of the pertinent issues concerning the **Pollution Control** through maintaining our Biodiversity, Environment, Forestry, Medicinal Plants, Health, Food Security and Sustainable Development in a changing scenario of climatic regime, dwindling natural resources and fast growing human population.

Pollution has and will continue to play an important role in research and development. With the technological advances in the field of **Natural Resources** andin the areas of biodiversity and climate link and so on, can be applied to address the key questions pertaining to improved **Sustainable development** through naturalharmony with the changing environment.

I am confident that the scientific deliberations of the conference will provide the right direction for the future strategies in overcoming the challenges faced by the human beings by the **Pollution**in order to provide safe food, Nutrition and medicine in a sustainable manner. I wish the conference a great success.

(Prof. V.N. Pandey)

Prof. Ishwar Das
Former Head & Emeritus Professor
Department of Chemistry
DDU Gorakhpur University
Gorakhpur- 273009 (U.P.)
Former National President
National Environmental
Association (India)
Email: ishwardas.che@gmail.com
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Tel: 0551-2338731

MESSAGE

I am delighted to learn that Faculty of Science and Humanities MMM (PG) College Bhatpar Rani Deoria is going to organize a **National Conference on Pollution Control for Sustainable Environment** on 10th & 11th February 2018. The theme of the Conference is very relevant and will provide a unique opportunity to the delegates, research scholars and scientists from various parts of the country.

I extend my best wishes for the success of the conference on this occasion. I wish the organizers of the conference a grand success.

(Prof. Ishwar Das)

Dr. Vinay Prabha Sharma
Associate Professor
Department of Chemistry
Meerut College, Meerut

MESSAGE

It is matter of immense pleasure that Madan Mohan Malviya Post Graduate College Bhatpar Rani, Deoria is organizing two days National conference on "**Pollution Control for Sustainable Environment**"on10th and 11th February, 2018. Environmental issue is the major concern now-a-day.

As different factors polluting environment and measures necessary to control them, will be discussed during the conference. Therefore, I trust deliberation of conference will benefit all the participating environmentalist, academicians, scientists students and common people alike.

I convey my good wishes to organizers for success of conference and hope that younger generation will become more vigilant about environmental issues after the conference.

(Dr. Vinay Prabha Sharma)

डॉ. राम नारायण
आचार्य
जैवप्रोद्योगिकी विभाग
Dr. Ram Naraian
Professor
Department of Biotechnology

Faculty of Science
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Message

I am indeed very much glad that Madan Mohan Malviya, Post Graduate College, Bhatpar Rani, Deoria (U.P.) is organizing two days National Seminar on "Pollution Control for Sustainable Environment" during 10-11th February, 2018.

Environmental pollution has become a very serious threat to human kind and other living organism on earth. I hope that this conference would provide a common platform to all delegates including researchers, students, academicians, and scientists. I am sure that technical deliberations during conference will help to inculcate awareness of pollution control for clean and green environment.

I extend my heartiest wishes to the organizers and delegates for their consistent efforts for making conference successful. I wish grand success for this national conference.

(Ram Naraian)

Dt.: 05/02/2018

Umesh C. Chattopadhyaya
Ph.D. (*Cantab.*)
Professor & Former Head
Department of Ancient History, Culture & Archaeology,
UNIVERSITY OF ALLAHABAD,
Allahabad 211002 (India)
Email: ucc1953@gmail.com

दिनांक-07.02.2018

अत्यंत हर्ष का विषय है की विगत वर्ष की भांति इस वर्ष भी मदन मोहन मालवीय स्नातकोत्तर महाविद्यालय, भाटपार रानी, देवरिया द्वारा राष्ट्रीय संगोष्ठी का आयोजन किया जा रहा है। दो-दिवसीय इस राष्ट्रीय संगोष्ठी का विषय **Pollution Control for Sustainable Environment** है। वर्तमान परिदृश्य में यह अत्यंत ही चर्चित एवं विचारणीय विषय है। जिस प्रकार एक स्वस्थ शरीर में ही एक स्वस्थ मस्तिष्क निवास करता है उसी प्रकार एक स्वच्छ एवं स्वस्थ वातावरण में ही एक स्वस्थ समाज विकसित हो सकता है, जो की एक सबल तथा समर्थ राष्ट्र बनने की प्रथम एवं आवश्यक शर्त है। हमारा यह नैतिक दायित्व है की हम भावी पीढ़ियों के लिए ऐसा वातावरण छोड़कर जाएँ जिसमे उनका सर्वांगीण विकास हो सके तथा वे देश तथा मानव समाज के विकास में अपना योगदान दे सकें। इस हेतु पर्यावरण के सतत एवं धारणीय विकास जैसे संवेदनशील विषय पर इस प्रकार की चर्चा एवं संगोष्ठियाँ आवश्यक हैं। मुझे प्रसन्नता है की इस संगोष्ठी के आयोजन द्वारा मदन मोहन मालवीय स्नातकोत्तर महाविद्यालय ने अपने इस उत्तरदायित्व का निर्वहन किया है। महाविद्यालय ऐसी ही शैक्षणिक गतिविधिया भविष्य में भी आयोजित करता रहेगा, ऐसी मुझे आशा एवं पूर्ण विश्वास है।

शुभकामनाओं सहित,

सेवा में,
डा. राकेश कुमार
आयोजक सचिव।

(प्रो. यू.सी. चट्टोपाध्याय)
प्राचीन इतिहास, संस्कृति एवं
पुरातत्व विभाग,
इलाहाबाद विश्वविद्यालय,
इलाहाबाद।

Dptt of Ancient History
Culture & Archaeology
University of Allahabad
प्राचीन इतिहास
संस्कृति एवं पुरातत्व विभाग
इलाहाबाद विश्वविद्यालय

(Reg. No. 719/2015)

Council of Research & Sustainable Development

(An ISO 9001:2015 Certified Organization)

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Contact No. +91 9410292371

MESSAGE

On behalf of **Council of Research and Sustainable Development, India** I welcome you all for the two day **"National Conference on Pollution Control for Sustainable Environment"** organized by Faculty of Science and Humanities, M.M.M (P.G.) College, Deoria, U.P. on 10th and 11th February 2018 and that a souvenir is being published on this occasion.

The theme chosen for the conference is of topical interest. I congratulate the Organizers for providing a best platform for this interaction through the Conference.

I wish the Conference a great success.

Thanks and regards,

Dr. Mahesh Chandra
(Managing Trustee)
Council of Research & Sustainable Development,
Agra, India

शुभकामना संदेश

मुझे हार्दिक प्रसन्नता है कि हमारे कॉलेज में **"Pollution Control for Sustainable Environment"** विषय पर राष्ट्रीय संगोष्ठी का आयोजन दिनांक 10 व 11 फ़रवरी 2018 को किया जा रहा है। प्रकृति एवं प्राकृतिक संसाधन हमारे जीवन की सभी मूल–भूत आवश्यकताओं की पूर्ति करते है। जिनके अभाव या प्रदूषित होने की स्थिति में जीवन की कल्पना भी नही की जा सकती है। इसलिए प्रदूषण पर प्रभावी नियंत्रण जरुरी है। जिससे चिरस्थायी वातावरण का निर्माण हो सके। मुझे आशा ही नहीं विश्वास है कि इस संगोष्ठी में देष के विभिन्न भागो से प्रतिभाग करने वाले विद्वानों के विचार विमर्श से निकले निश्कर्ष चिरस्थायी वातावरण निर्माण में सहायक होगें।

इस संगोष्ठी के सफल आयोजन एवं e-स्मारिका के प्रकाशन के लिए आयोजक मण्डल के सदस्यों, प्रतिभागियों, विद्वान शिक्षकों, वैज्ञानिकों, पर्यावरणविद्ों एवं महाविद्यालय परिवार को शुभकामना एवं धन्यवाद।

प्रबन्धक
म0मो0मा0 पी0जी0 कालेज, भाटपार रानी
जिला– देवरिया

सत्येमव जयते नानृतम

मदन मोहन मालवीय शिक्षा समिति - भाटपार रानी, जिला - देवरिया (उ० प्र०)

मदन मोहन मालवीय स्नातकोत्तर महाविद्यालय

भाटपार रानी, देवरिया (उ० प्र०)

[redacted] / प्राचार्य

पत्रांक....

दिनांक .....

शुभकामना संदेश

मुझे हार्दिक प्रसन्नता है कि महाविद्यालय के विज्ञान संकाय द्वारा "Pollution Control for Sustainable Environment (PCES-2018)" विषय पर दो दिवसीय राष्ट्रीय संगोष्ठी का आयोजन दिनॉक 10 व 11 फरवरी 2018 को किया जा रहा है। इस संगोष्ठी में विभिन्न विश्वविद्यालयों के आचार्य, उपाचार्य, वैज्ञानिक, पर्यावरणविद्, शोधकर्त्ता एवं छात्र/छात्राओं द्वारा "Pollution Control for Sustainable Environment" विषय पर अपने विचार व्यक्त करेगें। यह संवाद हमारे प्रदूषण नियन्त्रण रोकथाम के द्वारा सतत विकास की अवधारणा के लिये कारगर सिद्ध होगा। इस राष्ट्रीय संगोष्ठी को भाटपार रानी जैसे ग्राम नगर में मूर्त रूप देना एक साहसिक कदम है। इसके लिये हम आयोजन समिति के सभी पदाधिकारियों, परामर्ष मण्डल के विद्वान, शिक्षक, अतिथियों एवं प्रतिभागियों को हार्दिक बधाई एवं धन्यवाद देता हूँ तथा सम्मेलन के सफलता की कामना करता हूँ।

(प्राचार्य)

Dr. Ram Autar
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MMM PG College
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MESSAGE

It is matter of great pleasure for us to welcome you in the national conference on "Pollution Control for Sustainable Environment" being organized jointly by Faculty of Science and Humanities, M.M.M. (P.G.) College Bhatpar Rani, Deoria, U.P. -274702 In collaboration with Council of Research and Sustainable Development [CRSD]on February, 10-11, 2018. This conference is all about the issues related to the pollution and environment. I am hopeful that this unique conference will provide a great impact to all the teachers, research scholars and students to novitiate and wider knowledge and upright their fundamental concepts in the preset field. Certainly overall discussion during the conference will provide innovative inputs and light to all the participants.

I would like to presents our thanks to our educational advisors for inspiring us to organizing this conference.

I extend my best wishes to all of the participants, delegates, teachers, students and faculty members for their help and co-operation for the grand success of this national conference.

Dr. Ram Autar
(Convener)

Dr. Rakesh Kumar
Assistant Professor
Department of Chemistry
M.M.M. (PG) College Bhatpar Rani,
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+91-7318323415
Email: drrakesh01071982@gmail.com

MESSAGE

It is a matter of great pleasure and pride for us to welcome you in the National Conference on "**POLLUTION CONTROL FOR SUSTAINABLE ENVIRONMENT**" being organized jointly by **Faculty of Science and Humanities, M.M.M. (P.G.) College Bhatpar Rani, Deoria, U.P. -274702** In collaboration with **Council of Research and Sustainable Development** on **February, 10-11, 2018**. This conference is an attempt to provide a platform to scientists, environmentalists, academicians, research scholars, students and everyone who concern about the healthy environment to exchange their thoughts regarding the pollution control and environmental sustainability. Although we are well aware about the pollution but still a lack of understanding is there. I am well confident that this conference will provide the better way to control pollution.

I would like to thanks our Manager Shri Raghvendra Veer Vikram Singh and our Principal Dr. D.P. Mishra who cordially permitted for organising the seminar and helped us at every moment. I am also thankful and grateful to members of Advisory committee, learned guest speakers and delegates who give a meaning to this Seminar.

I would like to express my grateful thanks to my colleague for their priceless efforts.

I hope for the great success of this Seminar.

Dr. Rakesh Kumar
(Organizing secretary)

National Conference
On
Pollution Control & Sustainable Environment
(10th-11th February 2018)

Contents/ List of Abstracts

20. **Some Pollution Facts**
Devendra Pratap Rao
21. **Impact of Global Warming**
Rajul Saxena
22. **Environmental Pollution- Water [Studies on Diatoms (*Bacillariophycean*) Algae From Bahraich of Uttar Pradesh, India]**
Anand Kumar Srivastava, Dillip Kumar Shukla and Manoj Kumar Mishra
23. **Role of Avenue Trees in Vehicular Pollution Management**
S.K. Verma and R.B. Yadav
24. **Gases cause for Global Warming**
Nishi Prakash
25. **A Review on pesticide pollution in India with special reference to Auraiya District**
B.B. Singh and Mithilesh Kumar
26. **Pollution Control For Sustainable Environment**
Dr. Satyendra Singh
27. **Effect of Tobacco fumes on Kidney of *Rattus rattus***
Rashmi Joshi
28. **Introduction of invasive plant (*Antigonon leptopus*) in Balrampur: A major threat to the biodiversity**
Mohammad Akmal and Shiv Mahendra Singh
29. **Air Pollution due to Road Transport and its Impact on Environment: A Case Study of UPSRTC**
Suman Devi
30. **Sustainable Use of Natural Resources meets sustainable environment**
Mukesh Kumar and Vinod Kumar Singh
31. **Pollution-preventive measures**
Dr. Anoop kumar Singh
32. **Toxicity of Arsenic to Fish**
Sadguru Prakash and Ashok Kumar
33. **Youth Migration in India: Spatial Pattern, Characteristics and its Linkage with Development**
Dr. Anjali Chaudhary
34. **Effect of host's *Helicoverpa armigera* (Hübner) larval age on the area of discovery of the parasitoid *Compoletis Chlorideae* Uchida**
Maheshwar Singh and C.P.M Tripathi
35. **Productive and reproductive performance of cross-bred cows and murrah buffaloes in different heard size group**
Dr. Rajesh Kumar Pal
36. **Effect of climate change on the production of wheat varieties (*Triticumaestivum L.*)**
Sateesh Chandra Gaur, L.B. Gaur and A.K. Gaur
37. **Pupation percent and pupal period of *Callosobruchus maculates* on different gram varieties**
A.K. Pandey, S.P. Srivastava and Shivakant
38. **Spectral and Magnetic Studies of Mn(II) Complexes of 2-Thipophene Hydroxamic Acid**
Sanjay Kumar Singh, Shikha Singh, S.C. Singh and Prof. Rajesh Dhakarey
39. **Synthesis and Spectroscopic Studies of Furohydroxamic acid with Rare Earths**
Shikha Singh, Sanjay Kumar Singh, S.C. Singh, Prof. Rajesh Dhakarey
40. **An assessment of Phytoplankton population in Gomati river at Jaunpur with reference to pollution**
Veer Pratap Singh, Prashant Singh, A.K. Singh, Raghuvanshi and M.P. Singh
41. **Effect of the zinc the biochemical parameters of freshwater catfish, *Clarias batrachus,* Linn.**
Navneet Kumar Srivastava and Sadguru Srivastava
42. **4-D Induced Canges in blood glucose of Channa Punctatus (Bloch.)**
Dr. Ranjana Chauhan

43. **An Extension of Fixed Point Theorem in Banach Space**
Y.C. Paliwal and Satyendra Singh
44. **Sampling Methods for Insect Pests and Organoleptic Index of Guava (*Psidium guajava* L.) in Allahabad Region**
Ankita Singh
45. **Deteriorated Environmental conditions lead to Oxidative Stress in *Clarius batrachus***
Praveen Kumar
46. **Study of Acid Rain on Environment**
Mithilesh Kumar
47. **Cultivation of Karonda for sustainable environment**
Satendra Kumar Singh
48. **Effect of light and pH on Seed germination in Albizzia lebbek and Dalbergia sissoo**
Dr. Bhagyalaxmi Sengar
49. **Yellow Journalism in India: A Study**
Arti Mishra
50. **Sustainable Development for Environmental Pollution Control**
Praveen Kumar and Sanjeev Kumar Mishra
51. **Impact of E-waste on Indian environment**
Dr. Ashwini Kumar Srivastava
52. **Impact of Air Pollution on Agricultural Crops: A Case Study of Siddharthnagar District (U.P.)**
Dr. Shist Pal Singh
53. **Effect of the Rockets on the Atmosphere**
Roshan Nishan
54. **Cubic EB-spline for singular boundary value problems arising in human physiology**
Masud Murad Khan
55. **Role of Bag House Dust in the Clinkerization of Portland Cement in Vsk Plant**
Rajkumari Ojha
56. **Effect of IPM modules against major pest of okra, (*Abelmoschus esculentus* L.) in Saran District (Bihar)**
Surendra Prasad, R. K. Jha, Anupma Kumari and Satendra Kumar
57. **Some natural foods in combating against air pollution**
S.K. Shukla
58. **Climate change, Global warming, Ozone layer depletion and Renewable energy**
Lalit Kumar and Dr. Arvind Prakash
59. **Empects of Global Warming on Dairy Farming- A Review and Assessment**
Dr. Narendra Kumar and Dr. Satish Chandra Varma
60. **Applicability of Environmental Education in Present Educational Panorama**
Sanjay Kumar
61. **Pollution Control**
Bedprakash Singh and Anil kumar
62. **Introductions of Organo Phosphate Esters in Living Being**
Abanish Kumar
63. **Micellar Catalysed Hydrolysis of Mono-P-Methoxy Phenyl Phosphate**
Abanish Kumar
64. **S_N2 Mechanism with Cationic Micelle on the Hydrolysis of Mono 2,5-Dimethoxy Phenyl Phosphoramide**
Gaurav Kumar Singh, Abanish Kumar and Pratap Singh
65. **Transient Micropolar Fluid Flow and Heat Transfer Past a Semi-Infinite Vertical Porous Plate with Variable Sunction/Injection in Porous Medium**
Dr. Vinod Kumar and Dr. Ajay Kumar Sharma

66. **Environmental Pollution: It's Effect on Life and Sustainability**
Priyadarshan
67. **Morphotaxonomical Study on Chaetophorales Flora From Purvanchal Study on Cladophorales Diversity from Bihar Lake Pratapgarh Utter Pradesh**
S.P.M. Tripathi
68. **Study on Cladophorales Diversity from Bihar Lake Pratapgarh Utter Pradesh**
S.P.M. Tripathi
69. **xcess Thermodynamic and acoustic properties for binary mixture of Benzaldehyde and Benzene at 303 K**
Dr. Reetu Gupta
70. **Effect of high temperature on plants: in the era of climate change**
Alok
71. **Plantation: a better option for rehabilitation of Degraded Lands in dry tropics**
Sunil Singh
72. **A Solution to the Drinking Water Problem**
Sunil Singh
73. **Impact of Pesticides Pollution Threats to Sustainable Environment**
Gyan Prakash Morya
74. **Cyanobacteria as better natural resource for paddy yield**
S.N. Tiwari
75. **Evaluation of DNA damage and repair using Comet-FISH: Review**
Anand Kumar Vishwakarma and Dr. Vijay Kumar Singh
76. **Effect of Nonionic Micelles of Polyoxyethylenedodecyl Ether [POEDE] on Reaction of Hydroxide Ion with Mono-2,5-Dimethyl Pphenyl Phophate**
Dev Dutt, Abanish Kumar and Gaurav Kumar Singh
77. **Soil pollution through fertilizer and pesticides-A threat to sustainable farming**
Dr. Mamta Pandey and Dr. Amresh Chandra Pandey
78. **Dependency on Chemical Fertilizers**
Amit Rajoriya and A.K. Sengar
79. **Biodiversity and its Conservation**
Sushil Kumar and A.K.S. Chauhan
80. **Ploarographic studies of mixed complexes of Cd(II) with drugs captopril and tyrosine**
Hradesh kumar Sharma, Sanjeev Kr. Mishra, Arvind Kumar and R.K. Paliwal
81. **Exploration of Medicinal Plants and Conservation of Biodiversity in Distt. Gopalganj**
Manoj Kumar Singh and Md. Sarfaraz Ahmad
82. **Use of Biofertilizers for Sustainable Development of Ecosystem**
AleyaSiddiquee, Huma Bakhtiyarand and Md. Sarfaraz Ahmad
83. **Salicylic acid modulation of growth and bio-chemical attributes in two varieties of *Brassica juncea* (L.) Czern.Coss. under Drought, Salinity and their Combinations**
Dr. Rajani Chauhan
84. **Green Social Work: Role of Youth And Society**
Utkarsh Kumar Verma, Sushil Kumar and Neeraj Gautam
85. **Aflatoxin production by isolates of *Aspergillus flavus* associated with crude herbal drugs of medicinal importance**
Ajay Garg
86. **Response of *Coccinellatransversalis* Fabr (Coleoptera: Coccinellidae) on different aphid mixed diets**
Arshad Ali
87. **An analysis of multivariate selection in a non-territorial damselfly (Odonata: Coenagrionidae)**
Bhawana

88. ***Macrotracheliella nigra* (Minute Pirate Bug): A Anthocorid Predator of Phytophagous Thrips Pests; *Scirtothrips dorsalis* on Chilli Crop**
Manika Gupta, Dr. Ravikant Sharma and Dr. Virendra Kumar
89. **Identification of Weed at Seedling Level**
Mayank Srivastava
90. **Lead nitrate induced changes in SGOT and SGPT level in fish, *Claius batrachus***
Praveen Kumar
91. **Impact of Water Pollution on Fish Faunal Diversity of River Yamuna at Mathura, Uttar Pradesh**
Praveen Ojha
92. **Effect of growth hormones on the infectivity of mosaic virus of round gourd (*Citrullus vulgaris var. fistulosus*)**
Sarika Yadav
93. **Water Qualityindices Showing Fitness of Water for Main Purposes from a Stretch of River Ganga**
Vishwakant
94. **An overview of Genotoxic effects of titanium dioxide nanoparticles**
Monex Gupta and Dr. Vijay Kumar Singh
95. **Mechnical, Cultural and Chmical Control of Greacy Cutworm *(Agrotis ypsilon Rott.)***
Harish Kumar and Sunil Kumar Jain
96. **Functions Changes in Brain Biochemistry following Intoxication of Beta-Cyfluthrin in Albino Rat**
Amit Kumar Singh and Prabhu N. Saxena
97. **Physico-Chemicalassessment of water of River Asan in Murena District**
A.K. Deshpande
98. **Studying the Effect of Different Vegetable Oils on the Growth and Development of *CallosobruchusMaculatus* Infesting 10 Varieties of *Cajanus Cajan***
Deepshikha Viola Raj and Dinesh Lal
99. **Morphometric and Seasonalstudies of Mouth Parts Of*bombyx Mori***
Geeta Saxena and R.K. Verma
100. **Pyrethroid Induced Toxicological Studies in *Drosophila Melanogaster***
Harendra Nath Sharma
101. **Phylogenetic study of Indian Collembolan: an evaluation in Uttar Pradesh**
Harish Chandra
102. **Exhibition of Total Retention, Elimination and Rate of Decline of Arsenic in *Rattus norvegicus***
Krishna Rana and P.N. Saxena
103. **Study of Toxicity Parathion in Three Indian Major Carps under Stress of Parathion**
Lalit Pathak and R.S. Saxena
104. **Assessment of Liver Biochemcal Alterations in Fresh Water Fish *Channa punctatus* (Bloch.) under Stress Ofmonocrotophos**
Lalita, Vishan Kumar and Surendra Singh
105. **Role of *Emblica officinalis* against Gaseous Air Pollutants Induced Hepatotoxicity in Albino Rats**
MadhuriYadav, AshaAgarwal and Preeti Kumari
106. **Role of Environmental Pollutants in the Development of Diabetes Mellitus**
Anil Kumar Kushwaha, Vicse Verma, Udita Tiwari, Darshika Nigam and Renu Yadav
107. **Physico-Chemicalstudies of Water in Karvan River at Sadabad District Hathras**
Pravin Kumar and A.K. Paliwal
108. **Protective Effect of *Withania somnifera* on So_2 Induced Osmotic Fragility Alterations in Albino Rats**
Preeti Kumari, Asha Agarwal and Madhuri Yadav

109. **Haematological Changes in *Clarias Batrachus* in Relation with Ram Ganga River, Bareilly**
Sanjay Singh Chandra and Sunil Kumar
110. **Study of Different Designs in Controlling Insect Pests in the Field of Cucurbitaceae**
Sher Singh and J.C. Gupta
111. **Genotoxic effect of Cypermethrin Intoxication on Fish *Channapunctatus***
Shivani Dubey and K.K. Gaur
112. **Studies on Bionomics of the Indian Water Boatmen, *Micronecta Striata*, Fieb. (Corixidae, Hemiptera: Heteroptera)**
Sunil Kumar and Y.C. Gupta
113. **Comparative effect of sugarmill effluent induced histological changes in *Channa punctatus* (Bloch.)**
Suman Prakash and Ajay Capoor
114. **Comparative Studies on Some Indian Veliidae in Different Zoogeographical Regions in Uttar Pradesh**
Y.K. Gupta
115. **Ozone Depletion-Driven Climate Change in Air Quality and Tropospheric Composition: Effect on Human and Environmental Health**
Anubhav Jain, Priyadarshini Gupta, Darshika Nigam, Udita Tiwari and Renu Yadav
116. **Bioremediation of Heavy Metals in Plants**
Sakshi Agarwal, Udita Tiwari and Darshika Nigam
117. **Heavy Metal Poisoning: The Nephrotoxic Effect of Mercury and Lead**
Abhash, Parul Parashar, Udita Tiwari, Darshika Nigam and Renu Yadav
118. **Sustainable Development & It's Impact on Human Activities**
Raman Prakash
119. **Cancer Causing Environmental Factors**
A.P. Chaurasia
120. **Mercuric Chloride: A Severe Toxicant Causes Stress**
Kanhiya Mahour
121. **Environmental Changes and Human Health: Present Status and Future**
Chandra Bhushan Tiwary and Ashok Kumar Singh
122. **Effects of Fertilizers and Pesticides on Ecosystem**
Chandra Bhushan Tiwary and Manoj Kumar Singh
123. **Effect of Host-Plant Sugarcane upon *Pyrilla* Population**
Nikendra Kumar
124. **Grasshopper Population and Environmental Conditions**
Bineeta Priyadarshini
125. **Aquatic insects biodiversity in selected rice fields of north Bihar**
Rabindra Kumar
126. **Seasonal Fluctuation of Sugarcane Aphid under Field Conditions**
Shashi Kant Singh
127. **Wetland Management for Sustainable Management**
Indrajeet Kumar
128. **Pollution effect upon Fish diversity of seasonal Sona river in Siwan region**
Archana Kumari
129. **Studies on Seasonal Zooplankton Community Structure of Gandak river**
Kumari Sunita
130. **Effect on Environment from Nuclear Weapons**
Dinesh Kumar
131. **Uses of Insecticides to control Insect pests and its adverse impact on Environment**
Santosh Kumar Tripathi and Sudhir Kumar Shukla

132. **Effect of disturbance on diversity pattern and regeneration status of Forested Landscape of North-eastern U. P.**
Sateesh Kumar Rai, R.P. Shukla and Sanjay Kumar Pandey
133. **Eco-Ethics and Education**
Dr. Hans Raj, Rajeev Singh, Ram Baboo and D r. Arvind Kumar Maurya
134. **Climate change, Global warming, Ozone layer depletion and Renewable energy**
Lalit Kumar and Dr. Arvind Prakash
135. **Population Fluctuations of *Scirtothrips Dorsalis* with Changing Environment in Western Uttar Pradesh**
Mahesh Chandra and Rajeev Sharma
136. **Assessment of ground water parameters in and around Harraiya, Basti (U.P.)**
Ram Vishun Prasad and Ashutosh Singh
137. **Assessment of ground water parameters in and around Harraiya, Basti (U.P.)**
Ram Vishun Prasad and Ashutosh Singh
138. **Water Pollution: A Serious Threat For Human Socities**
Umesh Kumar Mishra and Vijiata Singh Rathour
139. **Mollusks used for cleaning Polluted Water**
Vijiyata Singh Rathour
140. **Thiol Metabolism and Antioxidant Defense System Plays Key Role in Arsenic Detoxification and Development of Safer Rice (*Oryza sativa* L.) Cultivars for Arsenic Polluted Soils**
Preeti Tripathi, Sanjay Dwivedi and R.D. Tripathi
141. **Effect of Air Pollution and Sun Light on Physical Activities in Human Beings**
Satya Dev Pachauri
142. **Plastic Pollution and its Harmful effect in Environment**
Mr. Kishor nand
143. **Effect of Seasonal Variation in the Hematology of Air-Breathing Fishes**
Bijay Shankar Pandey
144. **Role of Zooplanktons for Sustainable Management of Tropical Freshwater- Ecosystem in context of India**
Lakhan Tiwari
145. **Pollution Control: A Must Need To Understand Our Duty**
Dr. N.K. Singh and Kshitij Parmar
146. **Distribution of Subspecies and Populations of Indian Rhesus Monkey**
Rakesh Babu and Shailendra Pratap Singh
147. **जलवायु परिवर्तन, ग्लोबल वार्मिंग का भारत पर प्रभाव एवं समाधान**
डॉ0 अनूप कुमार श्रीवास्तव
148. **पूर्वी उत्तर–प्रदेश में जैविक कृषि द्वारा पर्यावरण की शुद्धि**
डॉ. वीरेन्द्र सिंह
149. **जैव विविधता एवं इसका संरक्षण**
सुरेन्द्र यादव
150. **प्राकृतिक ससांधनः वन संरक्षण एवं प्रबंधन**
डॉ कमलापति
151. **मानव स्वास्थ्य पर वायुप्रदूषण का प्रभाव**
सतीश चन्द्र वर्मा, विजय कुमारपाल, ह्रदय कुमार
152. **भारत में रासायनिक प्रदूषण से मन्दबुद्धिता**
डॉ0 चन्द्रभान वर्मा
153. **मनोवैज्ञानिक, सामाजिक तथा राजनैतिक प्रदूषण एवं इसके निवारण में शिक्षा की भूमिका : एक अध्ययन**
डॉ0 विवेक कुमार श्रीवास्तव
154. **प्राकृतिक संसाधनों के संरक्षण में सरकार और लोगों की भूमिका**
शिवपूजन मौर्या
155. **वैदिक दर्शनमें पर्यावरण प्रबंधन एवं महत्व**
प्रदीप कुमार मिश्रा

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Oyster Mushroom Growth Promoting Bacteria (MGPB) Isolated from Agricultural Soil

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ABSTRACT

Excess use of chemical fertilizers during cultivation deteriorates the quality of mushroom that affects the consumer's health. The biofertilzers are potent and harmless alternatives for improved production of fruiting bodies of mushrooms without affecting quality. Mushroom growth promoting bacteria; isolated from different agricultural sites/soil of Jaunpur district of U.P. In present study, total 768 bacterial isolates were screened for mushroom growth activity; out of these, only one has shown positive response on white-rot fungi *Pleurotus florida*. Based on the observations of lineal growth test, resulted maximum growth rate (9.22mm/d), whereas control showed comparatively lower growth rate (7.22mm/d). Further trials with the potent bacterial isolate indicated effective growth promotion of mushroom *Pleurotus florida* which may be exploited for a sustainable mushroom crop management under large scale cultivation condition or production at industrial level.

Key words: Soil bacteria, *Pleurotus florida*, Mycelium, Growth rate, Biofertilizer

Pollution Control for Sustainable Environment

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ABSTRACT

Human aspirations for economic development are clashing with nature's limits. Less developed countries desperately desire the wealth and consumption patterns prevalent in developed nations. Yet, industrial and urban development, as currently organized, cannot be sustained. Our Ecosystem is capable to fulfill needs of every earth creature. Long-lived and healthy wetland and forests are the best examples of sustainable biological systems. But now we are worrying about the *future of our earth*. The rapid industrialization resulted into the contamination of land, air and water resources called environmental pollution, and increase in environmental pollution is dangerous for the sustainability of the ecosystem, threatening humans as well as ecosystem. This research paper is about the role of common people, government, corporate bodies, policy makers, professionals and also politicians to think and take adequate measures addressing how to control the environmental pollution.

Environmental Pollution can be defined as any undesirable change in physical, chemical, or biological characteristics of any component of the environment i.e. air, water, soil which can cause harmful effects on various forms of life. In 1987, the Bruntland Commission defined sustainable development as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development aims to maintain economic advancement with protecting natural resources to create sustainable environment.

Key words: Pollution, Environment, Sustainable development, Ecosystem

Use of Fungi in Sustainable Crop forming

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ABSTRACT

Clean environment is essential for sustaining life of all living begins on the earth. Heavy use of synthetic fertilizers to increase crop production and wide use of insecticides and pesticides for control of insect and pest results in the accumulation of residues I the environment are causing problems to all living being on the earth. Such a harmful chemical are poisoning t all live stokes. Organic farming or natural farming is the only solution to bring sustainability in agriculture. Organic farming means avoids the use of synthetic fertilizers pesticides, growth regulators and live stocks feed additives. In other words organic farming systematizes on crop rotation. Crop residues animal manures, off farm organic waste, Biofertilizers and biopesticides for maintaining the soil productivity and to supply nutrition for the growth and development of plants and aspects of biological control system to control fungi, insects, weeds, nematodes and other pests. Fungi can also be used effectively as a potential tool for the control of plant pathogen or pests and as a phosphate solbilizing agent.

Importance of Environmental Education for Saving Environment

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ABSTRACT

The purpose of this article is to discuss about the importance of environmental education for saving environment. Environmental education deals with the need to protect the environment because global warming, pollution and many other issues are ruining our environment badly. We know the importance of healthy environment and we should take all the possible measures to keep our environment healthy. One of the most effective means to promote healthy environment is giving proper education to both new as well as old generations. Environmental education and protection is crucial for the benefit of both the environment and humans. Education has the power to modify the society and present better knowledge to its populace. Education can stand as proper solution to solve different sorts of problems exist in a society and therefore, education has a big role to play to save environment. In present article discuss some tips like awareness of a variety of environmental issues, knowledge on how to protect the environment, become aware of the solutions to the environmental problems, solve complex issues, promote a holistic approach, and enhance appreciation of environment, qualitative & quantitative analysis in environmental education. These tips will help you to understand the roles that education system plays in saving our environment.

Global Warming: its causes & effects

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ABSTRACT

Global warming is the increase of Earth's average surface temperature due to effect of green house gases, such as carbon di-oxide emissions from burning fossil fuels or from deforestation, which trap heat that would otherwise escape from Earth. The most significant green house gas is actually water vapour, not something produced directly by humankind in significant amounts.

Global warming is primarily a problem of too much carbon di oxide (CO_2) in the atmosphere- which acts as a blanket, trapping heat and warming the planet. As we burn fossil fuels like coal, oil and natural gas for energy or cut down and burn forests to create pastures and plantations, carbon accumulates and overloads our atmosphere.

There are numerous causes of global warming. According to the Environmental Protection Agency (EPA), these causes can be divided into two primary groups: natural causes and man- made causes. While human can do little to eradicate natural causes, it is possible to reduce or eliminate man- made causes.

Natural causes of global warming:-

1. Sunspots
2. Permafrost
3. Water vapour

Man-made (anthropogenic) causes of global warming:-

1. Burning of fossil fuel
2. Deforestation
3. Fertilizer use
4. Mining

Effects of global warming:

There are two major effects of globalwarming: -

1. Increase of temperature on the Earth by about 3^0 to 5^0 c (5.4^0 to 9^0 Fahrenheit)by the year 2100.
2. Rise of sea levels by at least 25 meters (82 feet) by the year 2100.

Role of common people and government policies in conservation of natural resources

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ABSTRACT

Nature is our concomitant and the existence both of us is interdependent, we forgot it. So we use unnecessary excessive natural resources and that is the causes of pollution. For sustainable environment India government make national environment policy that is a response to our national commitment to a clean environment, mandated in the Constitution in Articles 48 A and 51 A (g), strengthened by judicial interpretation of Article 21. It is recognized that maintaining a healthy environment is not the state's responsibility alone, but also that of every citizen. The wildlife (protection) Act, 1972, amended in 1983, 1986 and 1991. Various policies and rules for the protection environment in India-

- The water (privation and control of pollution) Act, 1974, amended in 1988
- The water (privation and control of pollution) Cases, Act, 1977, amended in 1991.
- The Forest (Conservation) Act, amended in 1988.
- The Air (Prevention and Control of Pollution) Act, 1981, amended in 1988.
- The Environment (protection) Act, 1986.
- The Motor Vehicle Act, 1938, amended in 1988.
- The Public Liability Insurance Act, 1991.
- A Notification on coastal Regulation Zone, 1991.
- National environment policies 2006.

People's movements to conserve their own environment, greater public and media concern for environmental issues and spared of environmental awareness among children and youth. Their Environmental friendly behavior can be promoted and every citizen is aware about his rights as well as his duties and exercise

- Making sustainable transport choices
- Making sustainable food choices
- Making sustainable energy choices
- Reducing, reusing and recycling
- Keeping chemicals out of the water supply.

Common people's cooperation is very important in government policies implementation for sustainable environment. Any policy is only as good as its implementation without common people cooperation these policies can't achieve their goals.

Environment Sensitive Polymers in Self-Regulated Drug Delivery Systems

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ABSTRACT

Environment sensitive polymers have vast potential in numerous applications. These polymers are self-regulated. In self-regulated schemes, the controlled or limited variable is noticed, along with the output of the system that is adjusted according to the variables. Through feedback information and without external involvement, the released rate is controlled. To control the rate mechanisms, the self-regulated schemes use many methods as, enzyme substrates reaction, pH-responsive drugs solubility, antibody interactions, competitive bindings, and metals concentration dependent hydrolysis. The roles of environment sensitive polymers in self-regulated drug delivery systems are discussed in this paper.

Key words: Environment sensitive polymer, and self-regulated drug delivery device.

Pollution Awareness for Sustainable Environment

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ABSTRACT

Global revolution in technologies, human involvedness deep in modern discovery, advancement in industrialization for daily need, environment conservation becoming a secondary thing. Responsibility towards the environment protection and its sustainable utility should be discussed extremely. Over the course of the twentieth century, growing recognition of the environmental and public health impacts has prompted the development and application of methods and technologies to reduce the effects of pollution.The growth of population and need for resources are increasing every day but the amount of resources is decreasing.The environmental consequences of rapid industrialization have resulted in countless incidents of land, air and water resources sites being contaminated with toxic materials and other pollutants, threatening humans and ecosystems with serious health risks. More extensive and intensive use of materials and energy has created cumulative pressures on the quality of local, regional and global ecosystems. Human activities as well as the natural powers changed the condition and environmental quality. There should be an ideal method of using natural resources, is called the sustainability. We should look forward and develop our technologies in a way without destroying the natural health.The practice of environmental sustainability helps to ensure that the needs of today's population are met without jeopardizing the ability of future generations to meet their needs. When we look at the natural environment, we see that it has a rather remarkable ability to rejuvenate itself and sustain its viability. For example, when a tree falls, it decomposes, adding nutrients to the soil. These nutrients help sustain suitable conditions so future saplings can grow. When nature is left alone, it has a tremendous ability to care for itself. However, when man enters the picture and uses many of the natural resources provided by the environment, things change. Human actions can deplete natural resources, and without the application of environmental sustainability methods, long-term viability can be compromised. Hence new methods of to reduce pollution, to reduce energy consumption should be planned

Key words: Industrialization, Sustainability, Responsibility, Reduce pollution, planning

Air Pollution Control and Sustainable Environment: A Conceptual View

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ABSTRACT

The environmental impact assessment has been used as a management tool to minimize advise impacts of the developmental projects on the environment & to achieve sustainable environmental development through timely. Adequate corrective & protective mitigation measures. The concern for environmental quality has become the top most issue in the present scenario of rising population, increasing urbanization, industrial pollution, shipping, aviation & vehicular emission as well as pollution of water courses due to discharge of industrial effluents & sewage without conforming to the environmental norms & standards apart from agriculture run-off. Releasing this trend of pollution in various environmental media, link, air, water, soil etc. Pollution is a necessary evil of all development. Door to lack of development of a culture of pollution control in our country is a recent environmental concern. Pollution control in our country is a recent environmental concern. Pollution is a man-made problem. Pollution is undesirable change in the physical, chemical or biological characteristics of air, water & soil, that may harmfully affect the life or create a potential health hazard of any living organism. Pollution is thus drect or indirect change in any component of the biosphere that is harmful to the living components & in particular undesirable for man, affectives adversely the industrial progress, cultural & natural assets or general environment any solid, liquid or gaseous substance present in such concentration as may be injurious to the environment called pollutant. Pollutants are the resudues of things are make, use & throw away. There are various pollutents as deposited matter, Gases, acid droplets, aluorides, metals, agrochemicals, complex organic substances, Photochemical oxidants, solid wastes, redioachive waste, noise. In UNEP document the order of priority of different pollutants has been indicated. Cost of pollution can be evaluated as medical care of health. Disposal of pollutants & for control devices developed, corrosion of metals, damage to crop production.

A "smart probe" for selective detection of Cu^{2+}, Fe^{3+}, CN^- and F^- at ppm levels in water

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ABSTRACT

The field of simultaneous detection of metal ions and anions has received considerable attention due to their significant functions in various biological systems and the environment.Numerous reports have appeared in the literature describing the recognition of either cations or anions.[2] However, single molecular sensors that can sense both the ions are comparatively rare. In view of these objectives, a sequential logic gate-based probe has been constructed for the detection of Cu^{2+}, Fe^{3+}, CN^- and F^- at ppm levels which potentially meets real-world-challenges through a simple synthetic route, with rapid response, water based-activity, naked eye visualization, regenerative action, high selectivity and multiple readout for precise analysis.

Synthesis and spectral characterization of oxo-centered, carboxylate-bridged, trinuclear mixed-valence iron complexes

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ABSTRACT

Literature searches revealed that no work has been done on mixed-ligand complexes of mixed-valence iron with carboxylic acids and aromatic hydroxycarboxylic acids. Keeping in view of these objectives, we have explored a new and easier method of synthesis for mixed-ligand, mixed-valence iron complexes with multidentate ligands like straight chain carboxylic acids and aromatic hydroxycarboxylic acids. These types of complexes are of interest due to their electronic and magnetic properties, and because of their valence-localized type of nature. These ligands were chosen in accordance with the objective that all of them act as potential bridging ligands. The coordination behavior of the ligands towards the metal site in these complexes was studied and the complexes were characterized by physico-chemical measurements. New type of oxo-centered, carboxylate-bridged, trinuclear, mixed-valence iron complexes of the general formula $[Fe_3O(OOCR)_3(OOCR^*)_3L_3]$ (where R = $C_{13}H_{27}$ or $C_{15}H_{31}$ and R* = $C_6H_4(OH)$, (R'); $C_6H_5CH(OH)$, (R'') or $(C_6H_5)_2C(OH)$, (R''') and L = Methanol) were synthesized by the reaction of $[Fe_3O(OOCCH_3)_6(H_2O)_3]$ with straight chain carboxylic acids and aromatic hydroxycarboxylic acids. These were characterized by elemental analyses, spectral (electronic, infrared, Mössbauer, FAB mass and powder XRD) studies, conductance and magnetic susceptibility measurements.

A Green Technology for Control of Pollution and Recovery of Metalin thebiomass of Different Plant Species

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ABSTRACT

Plants can be used to remove, transfer, stabilize and degrade contaminants. The technique was first adapted to constructed wetlands, reef beds and floating plant systems for the treatment of contaminated ground and waste waters. Current efforts now focus on expanding the phytoremediation strategy to address contaminated soils and air pollutants in an attempt to preserve the biodiversity of soil and its biota. Phytoremediation is an emerging and environment friendly 'green' technology that uses plants to clean up the organic and inorganic pollutants. In recent years, phytoremediation, i.e., the use of plants to cleanup-contaminated soils is showing promises as a new method.Plants can be used to remove, transfer, stabilize and degrade contaminants. Current efforts now focus on expanding the phytoremediation strategy to produce the Biomass for te Production of Energy and Metal Recovery.

Assessment of Ground Water of Village Dubahar, Ballia, Uttar Pradesh

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ABSTRACT

Ground water is the most important source of drinking and irrigation water. The purpose of the study is to determine existence and intensity of fluoride and arsenic contamination in water being tapped for direct and indirect consumption in and around village Dubahar district Ballia. Simple and general methods are used for fluoride and arsenic detection along with other parameters. On an average in almost all the sample two or more of the chemical constituent was found execs to the permissible limit of ISI and WHO. The study is emphasized the need for periodic monitoring of drinking water of the area under study.

Biological Characteristics of wetlands: Devhatt Lake, Ambedkar Nagar U.P.

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ABSTRACT

Devhatt jheel is an important lake of district Ambedkar Nagar in the eastern Uttar Pradesh. The biological characteristics of a jheel mainly depend on the numbers of animals and plants communities. The aquatic plants, zooplanktons and weeds from dwelling flora and fauna. The soil plays a significant role in the productivity and fertility of jheel. The productivity of Jheel depends upon the bottom rich fertilizing elements. Water is the basic elements in fish culture in a jheel. Therefore the physico-chemical properties of water are of great significance as culture medium in the productivity of jheel. The abiotic components of physic-chemical data show the comparison of benthic zone with littoral zone of the jheel.The temperature of water of littoral zone is 25.19^{0}C and benthic zone is 22.6 ^{0}C. Low value of DO, free CO_2, low value of B.O.D., C.O.D. and total alkalinity. The mean value of pH of littoral Zone is 7.98 which are most suitable for biotic culture. The obtained results indicated that biological properties of Devhatt jheel and sediments were most suitable for growth and cultivation of both plants and animals especially for fisheries

Key words: Biological properties, jheel, fisheries, Ambedkar Nagar.

Analysis of Lead in Mainpuri Tobacco (Kapoori) by using AAS

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ABSTRACT

Lead was determined in Mainpuri tobacco (Kapoori) samples collected from different stations of Mainpuri district of Uttar Pradesh, using Atomic absorption spectrophotometer (AAS). The resulting levels of metal were compared to the daily consumption of the tobacco product by the consumers and also with provisional tolerable intake limits determined by FHO/WHO. The reliability of data was assured by analyzing standard reference material.

Key words- Lead, AAS, Tobacco etc.

Physico- chemical studies of Cerium Chloride in Aqueous Propionic Acid by Ultrasonic Interferometer

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ABSTRACT

Measurement of physico-chemical properties such as density and ultrasonic velocity of cerium chloride with aqueous propionic acid is being increasable used as tools for investigations of the properties of cerium chloride in aqueous propionic acid and the nature of intermolecular interaction between the components of liquid mixtures. In this investigation we used the ultrasonic technique to study the physico-chemical properties like isentropic compressibility, specific acoustic impedance etc. These provide useful information about change in interaction at different temperatures.

Key words: Ultrasonic velocity, density, cerium chloride, aqueous propionic acid etc.

Seasonal changes in serum calcium and phosphate levels of a freshwater female catfish, *Mystus seenghala* (Sykes) in relation to the reproductive cycle

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ABSTRACT

Adult freshwater female catfish, *Mystus seenghala* (Sykes) (15-17.8 cm) were collected locally from Rapti river during the second week of every month (6 female individuals /month) throughout the year. Blood samples were collected and analyzed for serum calcium and phosphate levels respectively. These female catfish showed marked seasonal changes in serum calcium and phosphate levels which were associated with ovarian maturation (vitellogenesis).

Key words: Female catfish, *Mystus seenghala* **,** calcium, inorganic phosphate, reproduction, vitellogenesis

Cholecalciferol induced regulation of calcium and inorganic phosphate in *Capra aegagrus hircus* eye lens

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ABSTRACT

Capra aegagrus hircus eye lenses were incubated in Ringer's solution in presence of Cholecalciferol (vitamin D_3) (40,000I.U) for different time period i.e. 0, 15, 30, 45 minutes and 1.0, 2.0, 4.0, 8.0 and 12.0 hours. The resultindicate that the fortification of vitamin D_3 in the medium was more effective within first 15 minutes of incubation period consequently decreased the inorganic phosphate and calcium levels in lens.

Key words: *Capra aegagrus hircus*, Cholecalciferol, eye lenses, calcium and inorganic phosphate

Antibacterial property of goat milk lactoperoxidase

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ABSTRACT

The goat milk lactoperoxidase was purified using CM sephadex C-50 sephadex G100. The purity of protein was confirmed by SDS – PAGE. The purified protein was found to have antibacterial action against most of the disease causing bacteria.

Key words: Goat milk, lactoperoxidase *Antibacterial property*

Some Pollution Facts

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ABSTRACT

Whether one likes it or not, pollution is one the most ignored concept in the modern world. Here are some shocking facts on pollution which give a quick glance through of how this destroyer is up to creating havoc on the earth.

1: Pollution is one of the biggest killers, affecting more than 100 million worldwide.

2: More than 1 billion people worldwide don't have access to safe drinking water.

3: 5000 people die every day as a result of drinking unclean water.

4: The garbage dumped in the ocean every year is roughly around 14 billion pounds. Plastic is the major constituent.

5: Pollution kills more than 1 million seabirds and 100 million mammals every year.

6: People who live in high-density air pollution area, have 20% higher risk of dying from lung cancer, than people living in less polluted areas.

7: Approximately 46% of the lakes in America are extremely polluted and hence risky for swimming, fishing and aquatic life.

8: In the great "Smog Disaster", that happened in London in the year 1952, approximately four thousand people died in a few days due to the high concentrations of pollution.

9: Children contribute to only 10% of the world's pollution but are prone to 40% of global disease.

10: More than 3 million kids under the age of 5 years die every year due to environmental factors like pollution.

11: Almost 80% of urban waste in India is dumped in the river Ganges.

12: There are more around 73 various kinds of pesticides in the groundwater, which is used as drinking water.

Impact of Global Warming

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ABSTRACT

The gaseous mantle around our globe allows a considerable portion of solar radiations to enter right upto the surface of earth which absorbs it and radiates back as infra-red and heat waves. This heat is transferred to layers above, as warm layer rises and is in turn passed on to higher and higher layers. Finally much of the solar radiations are radiated back to space as infra-red and heat waves. Thus, under normal conditions, the temperature at the surface of the earth is maintained by the energy balance of sun rays that strike the planet and heat that is radiated back into space. The thick CO_2 layers functions like the glass panels of a greenhouse, allowing the sunlight to filter through but preventing the heat from being re-radiated in outer space.

Thus the atmosphere of the Earth gets heated up due to its insulation. Hence giving rise to global warming. Besides, the five emerging environment issues new Technologies, red tides, diesel pollution, acid fog and threats to Antarctica, that the UNEP has been able to identify, the one that has proved the most vexation, and disquieting is the Green House effect or Global warming [3]. It is caused by the build up in the atmosphere of CO_2 and other toxic gases discharged by industry and agriculture. If unchecked, it could alter temperatures, rainfall and sea levels of the earth. The UNEP has appropriately chosen the slogan "Global Warming: Global Warming" to alert the people on World Environment Day, June 5, 1989.

Environmental Pollution– Water

Studies on Diatoms (Bacillariophycean) Algae From Bahraich of Uttar Pradesh, India

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ABSTRACT

Present commnunation Deals with 7 Taxa Belonging to order Bacillariales of class Bacillariophyceae. The Taxa are Cyclotella (1), Surirella (2), Gyrosigma (2), Fragilleria (2) . Morphotaxonomic Description of these Taxa given. the presence of these taxa in water bodies indicating pollution in water bodies the physiochemical parameters like density , TDS And Dissolve Oxygen correlate with algael Diversity

Role of Avenue Trees in Vehicular Pollution Management

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ABSTRACT

The primary cause of air pollution in the urban areas and along the highways are vehicles. They contribute about 60% to the total air pollution in the area. The principal pollutants emitted by the vehicles are carbonmonoxide, oxides of nitrogen, hydrocarbons, sulphurdioxide etc. Besides vehicles are also responsible for dust (SPM) and noise pollution. Various pollutants released by vehicles affect human beings directly or indirectly causing a number of diseases. Avenue trees are woody plants, perennial in growth habit with a spreading crown. They are gown for their aesthetic value and their ability to control air pollution. There are number are plant species (*Alstonia macrophylla, Anthocephalus cadamba, Alnus indica, Azadirachta indica, Albezia lebbeck, Ailanthus excelsa, Betula pendula, Butea monosperma, Cornus alba, Cassia siamea, Delbergia sissoo, Erythrina variegata, Ficus benghalensis, F. infctori, F. religiosa, Fagus orientalis, Grevillea robusta, Juniperus chinensis, Lagestroemia flosreginae, Mangifera indica, Mimusops elongi, Picea sps, Polyalthia longifolia, Pterospermum acerifolium, Populus ferolinensis, Quercus rubra, Robinia pseudocacia, Shorea robusta, Syzygium cumini, Tectona grandis, Terminalia arjuna, Tamarindus indica etc*) which are grown for the purpose of reducing air pollutants. Above plant species have different morphological, physiological and biochemical mechanisms/characters like branching habit, arrangement of leaves, size, shape, surfaces (smooth/hairy), presence or absence of trichomes, stomatal conductivity, proline content, ascorbic acid content, cationic peroxidase, sulfite oxidase activities etc. to trap/detoxify/reduce the air pollutants. In present paper it has been concluded that the selection of avenue trees for the purpose of pollution control should be done on the basis of their easy availability and suitability to the climate. Type of pollutants and their intensity are also important factor in selection of such trees.

Gases cause for Global Warming

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ABSTRACT

There are a number of gases present in the atmosphere which are capable of absorbing effectively heat waves and infra-red rays while being transparent to radiations of lower wavelengths. Carbon dioxide, methane, oxides of Nitrogen, Sulphur dioxide, ozone, chlorofluorocarbons and water vapours are some of the gaseous constituents of troposphere which came in the category. From the point of Global warming, however, only those gases are important which maintain an effective concentration in the troposphere, i.e. the region of atmosphere immediately covering earth's surface. There are five such gases rising concentration of which has been implicated in causing noticeable rise in the mean global temperature. These are carbon dioxide, methane, chlorofluorocarbons, nitrogen oxide and water vapours. Other gases like sulphur dioxide, ozone are not able to contribute much as they are quickly cleared from the atmosphere.

A Review on pesticide pollution in India with special reference to Auraiya District

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ABSTRACT

The term pesticide covers a wide range of compounds including insecticides, fungicides, herbicides, rodenticides, molluscicides, nematicides, plant growth regulators and others. Among these, organochlorine (OC) insecticides, used successfully in controlling a number of diseases, such as malaria and typhus, were banned or restricted after the 1960s in most of the technological advanced countries. The introduction of other synthetic insecticides – organophosphate (OP) insecticides in the 1960s, carbamates in 1970s and pyrethroids in 1980s and the introduction of herbicides and fungicides in 1970s – 1980s contributed greatly in pest control and agricultural output. Pesticide residues in food are of concern. Their concentration in food samples varies greatly not only from region to region and year to year but also from the specific food item to another within the same food group. Perusal of the residue data on pesticides in samples of fruits, vegetables, cereals, pulses, grains, wheat flour, oils, eggs, meat, fish, poultry, bovine milk, butter and cheese in India indicates their presence in sizeable amounts Hexachlorobenzene (HCB, a fungicide) was identified in water, human milk and human fat samples collected from Faridabad and Delhi (Nair et al., 1989), The highest level of DDT residues found was 2.2 mg/kg. The proportion of the samples with residue above the tolerance limit was maximum in Maharastra (74 %) followed by Gujarat (70%), Andhra Pradesh (57%), Himanchal Pradesh (56%) and Punjab (51%). In the remaining states, this proportion was less than 10%. Data on 186 samples of 20 commercial brands of infants formulae showed the presence of residues of DDT and HCH isomers in about 70 and 94% of the samples with their maximum level of 4.3 and 5.7 mg/kg (fat basis) respectively. The residues of pesticide in air-borne samples collected from Auraiya District were identified in studies by the NIOH. The levels of BHC and DDT ranged between 2.06-18.96 ng/m3 and 7.21-51.19 ng/m3 respectively (Dikshith et al., 1990) Maximum mean levels of BHC (8.12 ng.m3) and DDT (37.07 ng/m3) were recorded in March and June respectively. The maximum levels were seen in summer and the minimum in winter.

Pollution Control for Sustainable Environment

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ABSTRACT

This topic outlines what sustainable environment means when applied to industry, the necessity for sustainable industry, and how sustainable industry can change and is already beginning to change the debate about pollution control. While it is possible for industry to have a positive impact, achieving that positive impact will require a dramatic reduction in three things: pollution, materials consumption, and energy consumption. A growing global economy and population provide the underlying reason. To foster a significantly more sustainable industrial sector, United States laws will need to address at least four types of activities in a new and different way: (1) resource extraction, (2) the use of resources in manufacturing products, (3) the use and disposition of products, and (4) consumption. Goals for reductions in pollution as well as energy and materials consumption should be a major feature of these new laws. The article illustrates, on an activity-by-activity basis, some of the changes that may be required. These four activities extraction, production, products, and consumption and the goals they entail, indicate that current environmental laws, for all their volume and detail, are relatively superficial; they only scratch the surface of what sustainable industry means.

Key words: Sustainable industry, sustainable Environment, environmental laws, pollution prevention, pollution control, consumption.

Effect of Tobacco fumes on Kidney of *Rattus rattus*

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ABSTRACT

The epidemiological studies and experiments on animals and cell lines, have proved beyond doubt that tobacco is a health hazard, some well designed cohort and case control studies of the 1950s, and the US Surgeon General's report in 1964, forced various governments to consider corrective actions for control of tobacco usage. *Rattus rattus* is commonly known as house rat. After treatment of tobacco fumes for 1, 3 and 6 months the histological examination of the vital part of house rat i.e. kidney reveals few changes. Kidney showed parenchymatous degeneration, accumulation of nicotine and cadmium area and glomerulus mesangial cell proliferation. Cigarette smoking constitutes a major source of cadmium exposure via inhalation in man. To determine how smoke exposure affects the organ distribution and accumulation of cadmium. The smoking of tobacco dried and cured tobacco leaves of plant *Nicotiana tobaccum* in the form of cigars, cigarettes, bidis etc. is very toxic to the body. Smoke of tobacco contains about 300 compounds such as nicotine, CO, HCN, Polycyclic aromatic hydrocarbons, certain other stimulation product etc. Two different types of tobacco usage smoking, chewing and snuffing, have been seen all over the world. The main aim of the present study was to determine if accumulation of cadmium occurs in the lung, liver and kidney of male rats given long term inhalation exposure to mainstream cigarette smoke under well defined smoke generation and exposure conditions. In the present study, after 1 year of daily, nose– only, exposure of rats to mainstream cigarette smoke, cadmium 5- and 2.5– fold increased in the cadmium levels in lung and kidney, respectively, were observed.

Key words: Parenchymatous degeneration, proliferation, *Rattus rattus, Nicotiana tobaccum*.

Introduction of invasive plant (*Antigonon leptopus*) in Balrampur : A major threat to the biodiversity

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ABSTRACT

Alien plant species invades and cause major threat to the native plant diversity. Large number of invasive plants interact negatively with the native plants leading to the habitat loss of most valuable plants. Balrampur district is situated in the east-west and south sides respectively and Nepal State is situated in its northern side and very rich in biodiversity. There are introduction of certain invasive plant species specially *Antigonon leptopus*, commonly known as Mexican creeper is a species belongs to the family, Polygonaceae. It grows quickly over other vegetation and spreading beyond its area of introduction. It is once established and difficult to eradicate because it produces many tuberous roots that can propagate vegetatively. Its fruits are buoyant, allowing for successful seed dispersal in water. It is growing along the roadside and destroyed the other plants in Balrampur thereby threatens local diversity, changing community structures and altering ecological functions. The plant can be eradicated by removing manually or chemically to save the biodiversity.

Key words: Biodiversity, Invasive, Native plants species, interaction.

Air Pollution Due to Road Transport and its Impact on Enivornment: A Case Study of UPSRTC

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ABSTRACT

With the passage of time, the development in road transport sector created new milestones. In India, Road infrastructure is used to transport over 60 per cent of total goods and 85 per cent of total passenger traffic. It contributes nearly 3.1 per cent in total GDP of the country. However, rapid urbanization and fast growing rate of motor transport vehicles leads to negative impact on the environment. As per the reports of MoRTH, Uttar Pradesh recorded a total of 1,54,45,274 registered motor vehicles in the year 2012-13, which are increasing at the rate of 2.5 per cent per year. However, the total fleet held by the UPSRTC has increased from 5843 buses in 2004-05 to 7466 buses in 2013-14, with an average annual growth rate of 2.85 per cent. These huge numbers of motor vehicles generally run on the petrol or diesel which causes air pollution. Today air pollution becomes a major problem and therefore it is essential to make environment healthy and sustainable. Thus, the nation and world at large can meets the needs of the present without compromising the ability of future generations to meet their own needs. The current paper focused on the issue of air pollution caused by road transport with special reference to the Uttar Pradesh State Road Transport Corporation (UPSRTC). The study covers the period of 10 years from 2004-05 to 2013-14. To analyze the current situation descriptive statistical tools has been used. The study suggests various useful measures to reduce the amount of air pollution and moving towards the sustainable environment.

Sustainable Use of Natural Resources meets sustainable environment

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ABSTRACT

The concerns about the environment and natural resources have arisen because of the increasing awareness of the finite nature which we used to think as infinite. It might be useful to assess how we can immediately contribute to our own while utilizing natural resources in a sustainable manner. The amount of damages caused to the environment due to exploitation of the natural resources is staggering. The pressure to have more food crops, commercial crops and animal husbandry with the help of modern agricultural practices has led to the stripping of large areas of forests and using great amounts of water and energy. As a result large scale soil erosion and local climate change have occurred. Air pollution due to automobile exhausts and industrial emission levels has caused green house gases to rise and cause global warming. All these have combined to deplete and endanger some of our most valuable natural resources. It must be on priority to manage our natural resources, conserve the environment and have proper waste disposal in a more scientific and sustainable manner. To ensure sustainable use of resources in our environment we must utilize the principle of 'The Three R's.' - Reduce, Reuse, and Recycle. However, another 'R' should be added in it, which is Reforest.

Key words: Natural resources, Sustainable use, Management etc.

Pollution: preventive measures

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ABSTRACT

Pollution is the contamination of air, soil or water by discharge of harmful substances. Pollution prevention is the reduction or elimination of pollution at the source. Pollution prevention occurs when raw materials, water energy and other sources resources are utilized more efficiently, when less harmful substances are substituted for hazardous ones, and when toxic substances are eliminated from the production process. By reducing the use and production of hazardous substances and by operating more efficiently we protect human health, strengthen our economic well being and preserve the environment.

Preventive Measures: There are several measures that can be adopted by people to reduce pollution to save our environment-

A-carpooling	B-promotion of public transport
C-no smoking zone	D-restricted use of fuels
E-saving energy	F-encouraging organic farming

Ambient Air Quality Standards in India-

Ambient air quality refers to the condition or standard quality of air surrounding us in outdoor. National ambient Air Quality Standards are the standards for ambient air quality set by Central Pollution Control (CPCB) that is applicable nationwide. The CPCB has been conferred this power by the Air (Prevention and Control of Pollution) Act, 1981.

The main function of central pollution control board as follows-

1. to plan and cause to be executed a nation–wide program for the prevention, control and abatement of air pollution.
2. to collect, compile and publish technical and statistical data related to air pollution.
3. to lay down an annual standards for the quality of air.
4. The mandate provided to the CPCB under the air (Prevention and Control of Pollution) Act empowers it to set standards for the quality of air
5. The current National Ambient Air Quality Standards were notified on 18, November 2009 by central pollution board
6. National Environmental Engineering Research Institute (NEERI)

Under the national wide ambient air quality net work program (NAAQM), CPCB entrusted to NEERI the work for monitoring ambient air quality to develop long-term data base for big cities

Toxicity of Arsenic to Fish

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ABSTRACT

Arsenic (As) is found in waters such as seawater, warm springs, groundwater, rivers, and lakes. In aquatic environments it occurs as a mixture of arsenate and arsenite, with arsenate usually predominating. The unrestricted application of As pesticides, industrial activities, and mining operations has led to the global occurrence of soluble As above permissible levels of 0.010 mg/L. Continuous exposure of freshwater organisms including fish to low concentrations of As results in bioaccumulation, notably in liver and kidney. As a consequence As induces hyperglycemia, depletion of enzymatic activities, various acute and chronic toxicity, and immune system dysfunction. Here arsenic bioaccumulation and bioconcentration leads to behavioral changes.

Key words: Arsenic arsenate, arsenite, fish, bioaccumulation, bioconcentration, liver and kidney

Youth Migration in India: Spatial Pattern, Characteristics and its Linkage with Development

Dr. Anjali Chaudhary

ABSTRACT

Population of the age group 15-24 is known as the youth constitute an important component of total population of a country. India is a very old country with a very young population with about one third of its total population coming under the age group 15-24. The dynamics of mobility of the youth in the developing countries in general and India in particular is an area less explored and understood. Therefore, the major objectives of the present paper are to understand the inter-state spatial mobility pattern of the youth in India. The study is entirely based on the information provided by the census on migration as well as various other secondary sources. The regional disparity in development leads to the inter-state flow of migration streams. Youths from economically backward states like Uttar Pradesh and Bihar migrate to more prosperous states like Maharashtra and Delhi. For the male, employment and education are found to be the two most important reasons of youth migration in India while marriage is still the most important reason of female migration.

Effect of host's *Helicoverpa armigera* (Hübner) larval age on the area of discovery of the parasitoid *Compoletis Chlorideae* Uchida

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ABSTRACT

The area of discovery and killing power (K-Value) of the parasitoid *Compoletis Chlorideae* Uchida with interaction between different larval ages of the host *Helicoverpa armigera* (Hubner) were studied at different parasitoid and host densities. The area of discovery of the parasitoid decreases linearly while the killing power (K-Value) increases significantly with the increase of parasitoid density. However, when the host density increases both the area of discovery and killing power (K-Value) increases up to 16 hosts and thereafter they decreases. The area of discovery and killing power (K-Value) in maximum in 2nd instar followed by 3rd instar, 1st instar and 4th instar larvae of the host *Helicoverpa armigera*. As the parasitoid density increases mutual interference also increases, which cause a reduction in an individuals searching efficiency.

Productive and reproductive performance of cross-bred cows and murrah buffaloes in different heard size group

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ABSTRACT

A study entitled "productive and reproductive performance of cross-bred cows and murrah buffalo in different hear size groups" viz. small, median and large was carried out and found that the productive performance of cross-bred cows was significantly ($P \leq 0.01$) Much better than that of murrah buffaloes in all heard in size groups. Heard size has significantly effect on milk production of these ruminants. Greater milk production was found in small as well as medium heard size groups in both ruminanits. Lactation length of cross-bred cows was significantly ($p \leq 0.05$) higher than murrah buffaloes but dry period was shoter. Effect of heard size on lactation period was insignificant in cross-bred cows and murrah buffaloes but it was significant on on dry period inter calving period in both animal.

Effect of climate change on the production of wheat varieties (*Triticumaestivum L.*)

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ABSTRACT

Wheat is the most important winter crop grown in India during *Rabi* season. This golden grain winter cereal is major contributor to food security system and provides more than 50% calories to the people who are mostly dependent on this staple food. India is the second largest producer of wheat in the world but the average productivity is quite less, it is 3093Kg/ha against 3985Kg/ha in china. It is second largest crop of India consumed after rice. Globally it is cultivated on an area of 21561 million hectares with the production of 628.10 million tons and contributed about 11.57% of total cereal production. Global warming is common in most cereal growing area in the world. Climate change is basically due to the increase in the concentration of greenhouse gases like CO_2, Methane and nitrous oxide through anthropogenic varieties. These gases trap the sunlight and increase the earth's overall temperature.This higher temperature may negative effect the growth process of wheat and hence, decrease the productivity of wheat. CO_2 is regarded as the driving factor of climate change, however its direct effect on pant growth. This effect is more prominent in C_3 plant like wheat and rice because higher levels of CO_2 increase rate of fixed carbon and also suppress photorespiration. The high temperature stress can reduce the yield of wheat crop by as much as 15-20%. Biological yield, harvest index, plant height, peduncle length, flag leaf area and the starch content in seed are the major parameters which is affected through the global warming. So we conclude that climate change is the major problem on wheat production.

Pupation percent and pupal period of *Callosobruchus maculates* on different gram varieties

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ABSTRACT

The maximum pupation percent PUSA-256 (88.90%) followed by KGD-1168 and PANT, and G,-186being 87.76, 85.80 and 83.53percent respectively. The minimum pupation percent K-850 (65.10) at par with RADHE, JG-315, KPG-59, KABULI CHANA K-3256, and L-550 having 70.10,74.54,79.36,81.00 and 83.13 percent respectively. The maximum pupal period K-850 (7.73 days) followed by JG-315,KPG 59,K-3256,L-550,PUHSA-267 being 7.13,6.73, 6.26,5.66 and 5.53 days respectively. The minimum pupal period pusha-256 (4.08), KGD-1168, PANT-186 and KW-168 having 4.26, 4.83 and 5.23 days respectively.

Spectral and Magnetic Studies of Mn(II) Complexes of 2-Thipophene Hydroxamic Acid

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ABSTRACT

2-Thiophene Hydroxamic Acid has been prepared by reaction with 2-Thiophene carbonyl chloride or hydroxylamine hydrochloride. The metal complexes of Mn(II) have been prepared by reacting metal chloride/acetate in ethanolic medium with 1:2 molar ratio. The complexes are coloured and crystal form. These complexes are soluble in DMF and insoluble in ether, chloroform, benzene, toluene and acetone. The metal complexes characterized by I.R. and magnetic analysis. The elemental analysis and magnetic measurements confirm to the octahedral geometry. The various ligand field parameter and others spectral calculation will be discussed at the time of presentation.

Synthesis and Spectroscopic Studies of Furohydroxamic Acid with Rare Earths

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ABSTRACT

The liquid has been synthesized by condensation reaction of furoyl chloride on hydroxylamine hydrochloride and characterized by elemental analysis, magnetic susceptibility measurement, I.R. and electronic spectral studies. The liquid was reacted with Pr (III), Eu (III) and Gd (III) in the 1:2 molar ration (metal-ligand) and characterized by elemental analysis, magnetic measurements, I.R. and electronic spectral studies. All the complexes are coloured. I.R. spectra suggest bidentate behaviour of furohydroxamic acid. The co-ordination number seven is proposed around the metal ion with capped octahedran geometry of the complexes.

An assessment of Phytoplankton population in Gomati River at Jaunpur with reference to pollution

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ABSTRACT

Studies on Phytoplankton in the water of Gomati river at Jaunpur was made to assess the pollution of water from January 2013 to December 2013. The qualitative and quantitative evaluation of the variation in river water showed high quantity of phytoplankion population throughout the study period. The present study revealed that the water of river Gomati is highly polluted by direct contamination of sewage and other industrial effluents.

Key words: River, Gomati, Phytoplankton, Pollution

Effect of the zinc the biochemical parameters of freshwater catfish, *Clarias batrachus,* Linn.

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ABSTRACT

Zinc (Zn), one of the twenty three heavy metal toxicants / pollutants and it is known to be an essential element of plants and animals and belong to a class of micronutrients which are essential for proper functioning of the body. However, at high concentration, zinc excretes adverse effects on the growth and development and for the larval form of aquatic life. The present study evaluate the toxicity of zinc sulfate and its impacts on biochemical parameters like glucose glycogen and total protein , lipids triglycerides cholesterol, transaminase and alkaline phosphate of fresh water edible cat fish, *Clarias batrachus as* zinc bioaccumulation can affect human through biomagnifications . Plasma biochemical changes showed significant changes in the level of above parameters indicates that sub lethal level of zinc can alter the plasma biochemical contents of Clarias batrachus.

Key words: zinc, biochemical parameters, *Clarias batrachus.*

2, 4-D Induced Canges in blood glucose of Channa Punctatus (Bloch.)

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ABSTRACT

In the present work toxic effect of 2, 4-D observed in fresh water fish *Channa punctatus*. Three sub-lethal concentrations of 400, 600 and 800 ppm were selected to study their effects on blood glucose of *Channa punctatus*. The average blood glucose level increases upto 72 hours and decreases after 96 hours at different concentrations and time exposures. The decrease and increase in the glucose level is statistically non-significant at all concentrations and time exposures of 2, 4-D except after 72 and 96 hours at 800 ppm. where it is significant

Key words: 2, 4-D, Channa punctatus, Blood Glucose level

An Extension of Fixed Point Theorem in Banach Space

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ABSTRACT

The object of the present paper is to extend the fixed point theorem of previous authors. Let C be a closed subset of a Banach Space X. The well known Banach contraction principal states that a contraction mapping of C into itself has a unique fixed point. The same conclusion hold if we assume that only some positive power of mapping are contraction (e.g. Bryant (1)). But it is not true for non-expansive mappings. Goebel and Zlotkiewicz (2) have proved this problem in applying some restriction. The purpose of this paper to generalize the result of Goebel and Zlotkiewicz (2) and others, for mappings satisfying more general conditions. Now we prove the following theorem four mappings.

Sampling Methods for Insect Pests and Organoleptic Index of Guava (*Psidium guajava* L.) in Allahabad Region

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ABSTRACT

About 80 species of insect pests have been recorded on guava, but only few of them had been identified as pest of regular occurrence. These species causes serious damage on the host plant. These are bark eating-caterpillar (*Indarbela* spp.), fruit fly (*Bactrocera* spp.) and scale insect (*Chloropulvinaria psidii*). The bark eating-caterpillar and fruit flies have wide distribution, while Scale insects and Mealy bugs are more common in south India and tea mosquito bug, *Helopeltis antonii* (Signoret) in central India. Guava is an important fruit in India. It is majorly grows in Uttar Pradesh and Allahabad region is famous for their production. Guava (*Psidium guajava* L.) is rich in nutrients. Its useful nutrients are essential for our health and it's daily intake is necessary for our metabolism. Many insects are infesting Guava (*Psidium guajava* L.) causing damage to fruits because it is very soft and prone to pest's attack. In the present study, an effort was made to document the beneficial organoleptic properties of guava and sampling strategies for pest infestation and diseases. For the present study some sampling methods were used- Root Sampling, Leaf Sampling, Stem, Flower and Fruit Sampling.

Key words: Organoleptic Index, Sampling Methods, Guava

Deteriorated Environmental conditions lead to Oxidative Stress in *Clarius batrachus*

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ABSTRACT

Environmental degradation is the deterioration of the environment through destruction of aquatic biota. Climate change affects the natural water supply in several numbers of ways. Living systems encounter a variety of stresses during their continuous interaction with aquatic environment. Aquatic water pollution stresses frequently activate the endogenous production of reactive oxygen species (ROS), most of which are generated as by-product of metabolism. Hence, constant exposure to stressors may enhance ROS-mediated oxidative damage. Increased number of agricultural and industrial wastes especially heavy metals enter aquatic environment and being taken up by fishes induce respiratory membrane change i.e. bronchial and pulmonary alterations. Some of them directly enhance ROS formation whereas others act indirectly. Fish like *Clarius batrachus* are particularly most affected by water pollution. The use of sentinel species in biomonitoring needs to be discussed due to different level of their vulnerability by environmental degradation.

Key words: Clarius batrachus, Oxidative stress, Aquatic ecosystem, ROS, RNS, Environmental degradation

Study of Acid Rain on Environment

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ABSTRACT

There are large number of chemicals which polluted the environment. But out of these, acid rain is the most polluted material. This acid rain is mainly due to oxides of sulphur and nitrogen. These pollutants are due to car and industrial processes. Apart from this, burning of fossil fuels, running of factories and automobiles due to human activities are few other reasons behind this activity. Both natural and manmade sources are known to play a role in the formation of acid rain. But it is mainly caused by combustion of fossil fuel which results the emission of Sulphur dioxide (So_2) and Nitrogen oxide (NOx). Acidity is determined on the basis of pH level of the water. Normal rain water is slightly acidic with a pH range of 5.3-6.0. When pH level of rain water falls below this range, it becomes acid rain. Dimethyl sulphide is a typical example of a major biological contributor to Sulphur containing element into the atmosphere. Acid rain has significant role on the world environment and public health. Acid rain highly impacts on soil chemistry and biology. It means soil microbes and biological activity as well as soil chemical composition such as soil pH are damaged due to effect of acid rain. The effects are commonly seen on statues, old grave stone, historic monuments and damaged building. Acid rain also corrodes metals like steel, bronze, copper and iron.

Cultivation of Karonda for sustainable environment

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ABSTRACT

It is an important minor fruit of Uttar Pradesh.Botanically it is *Carrisacarandas* L ,belong to family Apocynaceae.It is commonly grown in sub-tropical and tropical climate.Karonda is a richest source of iron(39mg/100 g of pulp),so it used for treatment of anaemia(especially in pregnant woman).It is a hardy and drought tolerant plant.The fruit can be grown in any kind of soil.Origin of karonda is India.It is a good source of pectin, so jelly,pickle and chutney are easily made.It is an astringent,antiscorbutic and acts as a remedy for indigestion, stomach pain and constipation.Leaf is used to treatment fever ,diarrhea, and earache.The roots are used for making different medicine(Anthelmintic) and insect repellent.It is commercially propagated by seed .There are limited varieties like PusaSuvarna,PantManohar and Pant Sudarshan.It needs less water for cultivation.The tree is very suitable growing under adverse climatic conditions without much care and is of great significance for sustainable environment.

Key words:Environment,Karonda and Sustainable

Effect of light and pH on Seed germination in *Albizzia lebbek* and *Dalbergia sissoo*

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ABSTRACT

The study of light, and pH on seed germination of Albizzia lebbek and Dalbergia sissoo were studied. Seed germination of a plant species is influenced profoundly by environmental factors. The low wave length of blue light as found suitable for the maximum germination A. *lebbeck* and D. sissoo. In these two species the diurnal alternating temp. as found good germination. The seed germination of all the two species in favoured by slightly acidic pH. Maximum germination percentage is found in *A. lebbek.*

Key words: lebbek**,** D. Sissoo**,** Ph, Light, etc.

Yellow Journalism in India: A Study

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ABSTRACT

"Yellow journalism or the yellow press is a type of journalism that presents little or no legitimate well-researched news and instead uses eye-catching headlines to sell more newspapers. Techniques may include exaggerations of news events, scandal-mongering, or sensationalism." Ref. Wikipedia. Campbell (2001) defines Yellow Press newspapers as having daily multi-column front-page headlines covering a variety of topics, such as sports and scandal, using bold layouts (with large illustrations and perhaps color), heavy reliance on unnamed sources, and unabashed self-promotion. Yellow journalism is actually a way to get the more viewers or readers with the lesser efforts. Patience for a useful news and workout for the spicy news, both are far differ from each other. In the media taste, the news must be something happening from around the world about which public should know. Not only the news but also the all aspects of it which effects us. But now a days lot of newspapers and TV news channels are practicing this way of immoral journalism. "Yellow journalism is not a pure version of journalism rather a pure version of Business. Some news channels and news papers still think that anything can be sold in the wrapper of Breaking News but Not now big fellas! Off course, there are many people who still stop on a News channel while playing with their Remote controls of their Idiot-Box for something interesting. Actually they are not a bit concerned of something important news. It creates a Niche Market if we talk about in Marketing Language and these TV channels are serving only to this market segment with lots of spices and flavors in the News. It impacts on their TRP positively and as per Morals for the Media Business, Negatively.How can media persons call themselves an "Intellect" even they are much aware of the meaning of it. They can make a history of baseless rhetoric but can't achieve a real mean of Journalism. Yellow journalism should be stopped but only when they will come to an end of this senseless competition and profit fever.

Sustainable Development for Environmental Pollution Control

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ABSTRACT

The overall purpose of sustainable development (SD) is not just the protection of natural systems for long-term stability of economic vitality and social justice but also for achieving the 'environmental sustainability' in which economic and social reforms are as important. In practice, sustainable development requires the integration of economic, environmental, and social concerns across sectors, territories and generations in order to move towards development that is truly sustainability. Environment may be defined as the surroundings or regions in which everything exists such as open fields, mountains, forests, deserts, snow, seas, rivers, wells, lakes, atmosphere, etc. The environment is normally polluted by three major sources which are air, water, and sound/noise. Increasing environmental degradation and pollution due to water, air and noise around the world, unfortunately, has resulted in low standard of living in so many cities. Promoting higher education seems an important factor in controlling environmental pollution and can affect the level of success of sustainability. There are numerous strategies world-wide for controlling environmental pollution. This can be done by commencing better environmental planning projects at very early stage and continue according to project-conception, design, construction, operation and proper maintenance. An adequate and continuous R&D work on sustainable development may lead to- restore land, water, air and ecosystems; reuse and recycle products to conserve resources; reduce consumption of resources & production of wastes; renewable resources used whenever practicable; replace unsustainable activities with sustainable and polluting activities with clean & efficient processes. Public environmental awareness can be achieved by organizing proper programmes, seminars, workshops, public debates, etc. on environmental issues. Media's unique role in propagating the environmental awareness and understanding of environmental issues/problems can motivate the society much better. Though, nearly all the developing countries are engaged in substantial programmes to improve the quality of life, both in rural and urban cities at different levels i.e. from individual to local, professional, NGOs, State and Federal levels, yet we, irrespective of position/status, need to wake up without wasting time to save our precious environment from further destruction.

Impact of E-waste on Indian environment

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ABSTRACT

Electronic Waste is a term used for such electronic or electric items that must be disposed of at the end of their life. It can be covered under three main categories – large household appliances, consumer equipment and IT & Telecom. Growing electronic waste is a concern for environment because it is made up of components like arsenic, mercury, lead, selenium, cadmium and hexavalent chromium designated as hazardous waste. As the technology has advanced, so has the global production of e-waste. In India, e-waste management assumes greater significance not only due to the generation of its own e-waste but also because of the dumping of e-waste from developed countries. This is coupled with India's lack of appropriate infrastructure and procedures for its disposal and recycling. With a lot of million tones of electronics going for a throw every year, the concern of how to deal with it is alarming. In this paper, the issues and challenges which impact of E-waste on Indian environment is discussed.

Impact of Air Pollution on Agricultural Crops: A Case Study of Siddharthnagar District (U.P.)

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ABSTRACT

Air pollution can be defined as the presence of toxic chemicals or compounds in the air. These are mainly three types of pollution but the air pollution is leading one and rising day by day. It poses adverse affect on every living things such as human, animals and plants. In this research paper we discuss about the impact of air pollution on agricultural crops in Siddharthnagar districts and further discussing about the measures to control air pollution. Air pollution contributes to adverse weather which in turns destroys crops. In district there are many different causes of emitting air pollutants. Such as increasing in number of motor vehicles and establishing of factories and brick- kiln industries at town side. Increasing of vehicles and some neglecting causes like cooking methods use in rural areas result in increasing of toxic substances. According to recent survey 70-71% of total women population in rural areas of district use woods, coal and other cooking method which emmits lot of smoke. In India 78% of population relied upon biomass fuel and 3% use coal. According data, during cooking the PM_{10} concentration in an Indian kitchen varies between 500-2000 μgm^3 (Down to Earth, July 15, 2007. In many rural & urban areas of district burning of coal and petroleum produce sulphur oxide (SO_2) which effects size and production of crops. In this research paper we discuss and explore the measures to control the air-pollution in Siddharthnagar district.

Effect of the Rockets on the Atmosphere

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ABSTRACT

We discuss the big problem of the pollution by the cars, planes & ships but there is no serious attention for the pollution by the rockets launchings. However, this pollution rate is very slow but in future, this problem may take a very dangerous form. Rocket engines release the reactive gasses which break the ozone molecules into the parts. These reactive gases produce microscopic particles soot (a deep black powder or flaky substance consisting largely of amorphous carbon) & aluminium oxide which may increase the rate at which those gases wreak havoc. According to a recent research, Martin Ross, Chief Study author from the Aerospace Corporation in Los Angeles, is that the particles of aluminium oxide reflects the sunlight back into the space which cools the earth & also these particles can also absorb infrared radiation emanating from the planet's surface. Soot, too can do warm or cool the planet.

Key words: Reactive Gases, Ozone, Molecules, Soot etc.

Cubic EB-spline for singular boundary value problems arising in human physiology

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ABSTRACT

A Computational Approach for Solution of Singular Boundary value Problem with Applications in Human Physiology. A numerical algorithm is developed using Cubic EB-spline for singular boundary value problems arising in human physiology. The approximate solutions obtained by the present algorithms are very encouraging and are better than those produced by Cubic B-spline methods. The flexibility of choice of free parameter resulted in better results using EB-spline. The EB-spline method is advantageous over B-spline method due to flexibility of choice of free parameter λ. Results exhibit the superiority of the present method for suitable choices of free parameter. The algorithm is tested on two problems to demonstrate the practical usefulness of the approach. With the flexibility of extensions, the better approximations of the solution can be done by adjusting the free parameter. This is evident from the comparison of results for tested problems.

Key words: Cubic EB-spline, human physiology, B-spline, EB-spline

Role of Bag House Dust in the Clinkerization of Portland Cement in Vsk Plant

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ABSTRACT

Scientist are attempting to prepare for Ordinary Portland Cement (OPC) and other binding materials at lower cost by using agricultural and industrial waste during clinkerization and by making blended cements. Those measures decrease the cost production, conserve mineral resources and protect the environment by beneficial disposal of wastes.When wastes are added during clinkerization both useful and harmful effects occur depending on the type and quantity of waste materials used.Bag house dust, a waste material from Bhutan carbide and Chemicals Ltd., when added in small amounts (5-10%) during clinkerization in a shaft kiln, improved clinker quality and saved energy. Incorporation of 10% bag house Dust in a black meal lead to 2 % savings on fuel and improved the clinker quality. Soundness was improved by using high magnesium oxide lime stone. Bag house dust reduce Corbon Dioxide emission and pollution. Kiln operations were smooth leading to higher output and clinker obtained was soft to grind.

Effect of IPM modules against major pest of okra, (*Abelmoschus esculentus* L.) in Saran District (Bihar)

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ABSTRACT

Effect of different IPM modules against major pests of okra crop cv 'Super Green' were carried out at ten locations of surrounding area of Krishi Vigyan Kendra, Manjhi, Saran district Bihar during kharif season 2016. The investigation revealed that module (M_4) most effective treatment against okra pest and diseses *i.e.* bhindi shoot and fruit borer, *Earias vittella* F., yellow vein mosaic virus, white fly, *Bemisia tabaci* (Genn) and red spider mites, *Tetranychus cinnabarinus* (Boisd) in which lowest incidence was recorded as compared to other IPM modules, farmer practices and control plot during 2016. Module (M_3) was next effective treatment against the major pest of okra crop. Significantly, maximum fruit yield was observed in module (M_4) 210.1q/ha. This was significantly superior over all other treatments. The impact of various IPM modules showed that mean net return was also higher in module (M_4) which was 76430.00/ha. It is conducted that judicious used neonicotinoids pesticides in modules III and IV.

Key words: Okra, shoot and fruit borer, yellow vein mosaic virus, red spider mites, neonicotinoids

Some natural foods in combating against air pollution

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ABSTRACT

Air pollution is a serious problem in the world today and we can not escape it. The WHO estimates that 7 million people die yearly as a result of air pollution. News coverage of pollution issue has significantly increased resulting in more awareness of the impact of pollution can have on it. With increasing pollution level in Indian cities making exposure to free radicals inevitable, it is important to fortifying our body an antioxidant rich diet. To neutralize free radical damage caused by air pollution two organs that need to be supported and detoxified regularly are lungs and liver. Therefore, the best thing to do is to encounter negative impact that breathing in chemicals has on our body .we can achieve by eating a well balanced diet as some foods have been proven to protect us from pollutants. The aim of this study to scrutinze some indian food and food components regarding their detoxifying properties, antioxidant component and free radical neutilizing capacity to fight detrimental effects of the air pollution. Some food components are found more suitable are vitamin c rich foods as best anntioxidant, magnesium rich foods boosting natural defence and relaxes breathing tube , omega3 fatty acids, selenium rich foods with vitamin E as free radical fighting power house, curcumin in scavenging properties, jaagery as effectively removes toxins and cleanses the respiratory tract. The aim of study authers to provide scientific authentication, and developing trust among the people regarding the problem.

Climate change, Global warming, Ozone layer depletion and Renewable energy

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ABSTRACT

We feel cold in summer and summer in winter season. All this is due to change in weather. Weather is the average climate of any place which is experienced for some time period. Rainfall, sunlight, air moisture and temperature are the major parameters for this wear her-fixing. Change in weather are quite fast, but climate change takes a lot of time and this is why they appear less. At this time the climate of the earth is changing and all living being have reconciled with this change, but in the last 150-200 years this climate change has happened so rapidly that animal and vegetable world are in harmony with this change, it is difficult to get sitting, for this change, in a manner human action is responsible only. The causes of climate change and Global warming are natural and man-made. Natural causes are slip of continents, volcano, earth inclination, sea waves and human reason are Green house effect. Ozone deflection does not cause global warming but Bothe of these environmental problem have a common causes human activities that release pollutants in to the atmosphere alerting it. Global warming is caused primarily by putting too much carbon dioxide into the atmosphere when coal, oil & natural gases are burned to generate electricity are to run our vehicles. Ozone sits in the upper atmosphere and absorbs ultra violet radiation, another type of solar energy that harmful to humans animals and plants, CFCs and halons causes chemical reaction that breakdown ozone molecules reducing ozone U.V. radiation absorbing capacity. Renewable energy include all the energy that is not polluting and whose source not decayed or whose source is re-filling solar energy, wind power, hydro electric energy, energy received from tidal bore, biomass, biofules are some example of renewable energy.

Empects of Global Warming on Dairy Farming- A Review and Assessment

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ABSTRACT

Human population is expected to increase from 7.2 to 9.6 billion by 2050 (UN, 2013). This represents a population increase of 33%, but as the global standard of living increases, demand for agricultural products will increase by about 70% in the same period. Global demand for livestock products is expected to double by 2050, mainly due to improvement in the worldwide standard of living.Livestock products are an important agricultural commodity for global food security because they provide 17% of global kilocalorie consumption and 33% of global protein consumption .Livestock sector contributes to the livelihoods of one billion of the poorest population in the world and employs close to 1.1 billion people. There is a growing demand for livestock products, and its rapid growth in developing countries has been deemed the "livestock revolution". Livestock production is likely to be adversely affected by climate change, competition for land and water, and food security at a time when it is most needed . In Indian subcontinent, heat stress is the most important climatic stress and there are direct such as excessive heat, cold, humidity, wind and radiation influence dairy cows negatively. Some of these effects also apply to heifers and calves. Indirect impacts on dairy farming also exist as fodder crops are affected by reduced precipitation and rising temperatures, which can cause yield losses . Heavy or long-term precipitation events also constrain harvesting or pasturing and even lead to flooding. Dairy business provides livelihood to 60 million rural households in India and the country continues to be the largest producer of milk in the world, but global warming could result in adversely impacting the overall output in the coming years. Indian dairy scientists estimate that climate change will lead to decline in milk production by over 3 million tones (MT) per year by 2020. The projections, shared by the National Dairy Development Board (NDDB) with the agriculture.Meanwhile, Agriculture is one of the major economic sectors where changing in climate have large impacts. Although the impacts of climate change are an important research area in agricultural economics which affects various factors associated with production, reproduction, heath and adaptability of the animals. The majority of studies concentrate on crop farming and only very few focus on livestock farming, especially dairy farming .Therefore, this study reviews the impacts of climate change on livestock production in India and it is necessary to find suitable solutions not only to maintain this industry as an economically viable enterprise but also to enhance profitability and decrease environmental pollutants by reducing the ill-effects of climate change. This paper aims to shed light on the present state of research in the field of dairy farming.

Applicability of Environmental Education in Present Educational Panorama

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ABSTRACT

At present the problem of environmental pollution is pandemic. Environment is degrading at a much faster increase than our imagination. Most of this dirtiness is caused by human activities. The damage is both at global and regional level. Ozone layer depletion, increase in the emission of green house gases and rise in sea level are the main examples of the damage at global level where as the ground water pollution, soil erosion and noise pollution are some of the regional consequences of human activities and their impact on environment. There fore, whatsoever wrong has been done by us must be amended by us only. To protect and manage environment, it is important to have a sound environmental education. It is a way to teach childs, people and communities on how to use the present and future resources optimally. Though environmental education they can gain knowledge to handle the fundamental issues leading to local pollution. Most people recognize the urgent need for EE, but only some have clear ideas about what needs to be done, and very few have either the actual experience of the knowledge about the course the need to be taught. The chief objective of EE is that individual and social groups would acquire awareness and knowledge, develop attitudes, skills and abilities and participate in solving real life environmental problems. So it is important need of student awareness in school and collages. Students must be encouraged to understand theire surroundings and a framework for action plan must be formulated. EE is the need of the present day. It must encourage social participation. Hence integrating EE in to a curriculum is a wise option to connect students with the nature right from childhood.

Pollution Control

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ABSTRACT

Pollution control is a term used in environmental management. It means the control of emissions and effluents into air, Water or Soil. Without pollution control, the waste products from consumption, Heating, Agriculture, Mining, Manufacturing, Transportation and Other human activities, whether they accumulate or disperse, will degrade the environment. In the field of land development, law impact development is a similar technique for the prevention of urban runoff. Pollution prevention describes activities that reduce the amount of pollution generated by a process, whether it is consumer consumption, driving, and industrial production. In control to most pollution control strategies, which seek to manage pollution after it is formed and reduce its impact upon the environment, the pollution prevention approach seeks to increase the efficiency of a process, there by reducing the amount of pollution generated at its source. Although there is wide agreement that source reductionis the preferred strategy, some professionals also the term pollution prevention to include pollution reduction. Few significant classifications of pollution control are Air Pollution Control, Air Quality, Emission Tax, Environmental Management, Environment Policy, Environmental Pollution, Environmental Problem, Environmental Protection, Environmental Regulation, Nonpoint Source Pollution, Pollution Prevention, Water Pollution, Water Quality, and Water Resource etc.

Introductions of Organo Phosphate Esters in Living Being

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ABSTRACT

The application of phosphate esters is frequently in advance sensible ground for its existence in the dominion of scientific discovery and innovations. It tries and attempts to see the uses of derived energy in the form of ATP on the one hand and the proper absorption of energy on the other. The recognition of this item seeks to demonstrate the level of energy being used in an organism, be it plant or an animal. This central idea denies the earlier proscription and advocates for a prescription. Phosphate esters are extremely significant organically since they are the most naturally going on phosphorous compound contain a terminal unsubstituted –PO $(OH)_2$ group. Preamble of this group in to molecule is known as phosphorylation. If the confined group is not used, then polymers containing the P-O-P linkage are obtained in the chemical sense of the term which has not been addressed well by the natural scientists. All the natural reactions concerning formation and hydrolysis of these phosphate esters and polyphosphates are affected by enzyme catalysis. In no small measure because of the importance of such substance and process as those just mentioned, the hydrolysis of phosphate esters has received much fundamental study. The strongly acidic esters are entirely in the anionic form at normal and physiological at pH-8.0. They are thus relatively resistant to nucleophilic attack by either OH^- or H_2O. Most works have involved organic reactions, generally in water, mediated by organic micelles which absorb reactants, providing a reaction region distinct from the bulk solvent. Hydrolysis of ester depends upon the experimental conditions. These are certain rationale around which the paper articulates its meaning and deserves significance.

Key words: Micelle, Ogano phosphate ester, Energy, Nucleophile, DNA, RNA, ADP, ATP

Micellar Catalysed Hydrolysis of Mono-P-Methoxy Phenyl Phosphate.

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ABSTRACT

Micellar effect upon nucleophilic substitution reaction of [OH^-] ion with mono -p-methoxy phenyl phosphate [mono-p-MPP] [$5.0X10^{-4}$mol.dm.$^{-3}$] in presence of [CTABr] 10^{-3} to 10^{-4} pseudo first order solutions. The pseudo first order rate coefficients have been determined spectrophotometrically constants increase with increasing [CTABr] giving a rate maximum $K\Psi = 80.88\times10^{-5}\ s^{-1}$ at 1.6×10^{-3} mol.dm.$^{-3}$ [CTABr] respectively for dianions of mono-p-MPP. It has been found that most of phosphate monoesters are reactive by monoanion at pH 4.0 and completely dissociate into dianion and a proton on further increase in pH, generally give a plateau region at higher pH values. However if these phenyl phosphoramide or phosphate esters contain strongly electron attracting group or atom in the leaving cation, strongly catalyse micellar catalysis of dianions, consequently rate constants for the reaction are higher than monoanion.

Key words: CTABr, Nucleophilic, Pseudo first order, Dianion, Micellar effect, Rate Costant

S_N2 Mechanism with Cationic Micelle on the Hydrolysis of Mono 2,5-Dimethoxy Phenyl Phosphoramide

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ABSTRACT

A lot of of the vital chemicals in living processes are organo phosphate esters. These comprise the hereditary substances DNA and RNA as well as cyclic AMP (adenosine mono phosphate). In addition, the transfer of phosphate groups linking ATP and ADP is of essential value in the energetic in genetic systems. Hydrolysis of mono 2,5-dimethoxyphenyl Phosphoramide (mono-2,5-DMPP) was studied in micelle medium of cityl tri methyl ammonium bromide n-$C_{16}H_{33}N^{+}(CH_3)_3Br$ (CTABr) at pH-9.0. The hydrolysis followed first order kinetics with respect to mono-2,5-DMPP concentration. At the critical micelle concentration (CMC) the rate of hydrolysis increased with increasing CTABr concentration. Micelle with cationic or polar head group form micelle in water with hydrocarbon like interior or polar groups at the surface and bind cationic solute. The binding constant of micelle for mono-2,5-DMPP and the rate constant in micelle pseudo phase were determined from kinetics data using the pseudophase model.

Key words: cationic micelle, pseudophase, mono-2,5-DMPP, mechanism, critical micelle concentration.

Transient Micropolar Fluid Flow and Heat Transfer Past a Semi-Infinite Vertical Porous Plate with Variable Sunction/Injection in Porous Medium

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ABSTRACT

In present paper deals with the effects of velocity slip and jump in temperature field on two- dimensional, electrically conducting micro polar fluid flow through porous medium with variable suction/injection on the plate and the permeability bounded by semi- infinite vertical porous plate in slip flow regime. The suction/injection on the plate and the permeability of the porous medium decreases exponentially with time. The solution for the velocity and temperature field are obtained by regular perturbation technique. Expression for the skin friction and the rate of heat transfer are also derived. The effect of permeability parameter, couple stress, Prandtle number and other parameter entering into the problem are shown graphically and discussed numerically. In the present stage of contemporary technology,the practical interest on convective heat transfer in porous medium is expanding rapidly due to its wide range of application. These application include wide area such as geothermal energy utilization, insulation of high temperature gas-solid reaction vessels, petroleum reservoir, pollutant dispersion in aquifers, fibre and granular insulation including structures for high power density machines ceramic radiant porous burners used by industrial firms as efficient has transfer devises, reduction of hazardous combustion products using catalytic porous beds solar collectors with absorbers and so on.

Key words: Magnetic field, stratified viscous fluid, porous medium, heat transfer, hall current slip

Environmental Pollution: It's Effect on Life and Sustainability

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ABSTRACT

Today ,all over the world there is a great concern and worry as to what will become of earth,considering the inherent effect of the ever increasing environmental pollution that has adversely distorted the ecosystem ,thereby spurring but the international communities ,the government cooperate bodies etc. to take adequate measured aimed at addressing environmental problems. This paper provides the insight view about the effects of environmental pollution and its sustainability .Study find that environmental pollutions are not seriously affecting the human by diseases and problems but also the animals and plants.The purpose of this paper is timely ;with a consideration that due action is ripe for proper implementation of environmental techniques and tools for addressing environmental menace in different parts of world ,by different government,public and private bodies.

Key words: Environmental Pollution, Effects Of Pollution, Sustainability.

Morphotaxonomical Study on Chaetophorales Flora from Purvanchal

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ABSTRACT

Morphotaxonomical study on 6 taxa of order Chaetophorales which includes 20 genera 22 species and 4 varieties. Aphanochaete polychaeta Fritsch Chaetosphaeridium prinsheimii Klebahn Chaetophora attenuata Hazen Stigeoclonium amoneum Islam Stigeoclonium fasciculare Kutzing Pseudulvella incrassata Hazen Leptosiropsis aestivale Collins Epibolium pisciformis Duringer are first time reported from Purvanchal they constitute a new record for the area .

Study on Cladophorales Diversity from Bihar Lake Pratapgarh Utter Pradesh

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ABSTRACT

4 taxa of order Cladophorales which includes 24 genera, 15 species and 2 varieties are studied. Cladophora glomerata Kuetz Cladophora flexuosa Harvey Cladophora intermedia Foslie Cladophora gracilis Collins Pithophora polomorpha Wittrock Pithophora varia Willie Pithophora sumatrana Mont Cladophorella Sundarbanensis kutzing and Arnoldiella glomerata Fritsch are first time reported from Bihar Lake.

Excess Thermodynamic and acoustic properties for binary mixture of Benzaldehyde and Benzene at 303 K

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ABSTRACT

In this work ultrasound velocity, viscosity and density of benzaldehyde in benzene solution have been measured at 303 K. From these values, various thermo acoustic parameters such as excess isentropic compressibility, excess molar volume, excess intermolecular free length, excess available volume are calculated. The reason for deviation in these excess parameters is expained based on the intermolecular interaction present in these liquids.

Key words: Ultrasonic Interferometer, ostwald viscometer, pyknometer. benzaldehyde, benzene

Effect of high temperature on plants: in the era of climate change

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ABSTRACT

Increase in temperature all over the world participate in climate change has resulted in global warming. It may cause severe changes in quality of air, water and soil. Rate of plant growth and development is dependent upon the temperature surrounding the plant and each species has a specific temperature range represented by a minimum, maximum, and optimum. But the high temperature is now considered as a potential agricultural threat for the world. It affects physiological and biochemical changes in plants initiating from seed germination to plant growth and development, subsequently leading to reduction in economic yield of crops. Exposure of plants to temperature extremes at the onset of the reproductive stage has a major impact on fruit or grain production across all crops. There is a need of developing approaches to induce thermo-tolerance mechanisms in plants using physiological and molecular approaches to mitigate the adverse effects of high temperature on photosynthesis, respiration, water relations and crop productivity. This study focuses on our understanding on the plants physiological and biochemical responses under high temperature due to climate change and gives an insight into some scientific approaches to modulate plants responses for high temperature tolerance.

Plantation: a better option for rehabilitation of Degraded Lands in dry tropics

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ABSTRACT

Land use change, in dry tropics, has major implications for global carbon cycle as it results not only in alteration of soil carbon stock but also green house gas emissions from soil. One of the effective mechanisms for mitigation of loss of carbon from the soil is soil carbon sequestration. Restoration/rehabilitation of degraded ecosystems, the results of land use change, is one of major global concern and poses great challenge especially in dry tropics. Potential of plantations as rehabilitation strategy in degraded ecosystems has been advocated, however its impact on carbon dynamics in dry tropics is least studied. The broad objective of the present study was to evaluate the changes in soil organic carbon (SOC) dynamics in response to various land use patterns involving natural forest, degraded forest, agroecosystem and *Jatropha curcas* plantation in dry tropics. Level of SOC was highest in natural forest which was followed in decreasing order by *Jatropha* plantation, degraded forest and lowest in agroecosystem. Conversion of natural forest to degraded forest resulted in 55% loss of SOC. Cultivation of degraded forest resulted in further loss of SOC by 33% whereas plantation of *Jatropha* on degraded land enhanced the level of SOC by 50% i.e. loss of SOC from natural forest to agroecosystem was 70% and that of *Jatropha* plantation was only 9%. On the basis of this study it may be concluded that *Jatropha* plantation has large potential of carbon sequestration in the soil and could be recommended for rehabilitation strategies of degraded lands in dry tropics.

Key words: Land use change, Soil organic carbon, Plantation, Agroecosystems, Rehabilitation

A Solution to the Drinking Water Problem

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ABSTRACT

Over the past few decades, the ever-growing population, urbanization, industrialization and unskilled utilization of water resources have led to degradation of water quality and reduction in per capita demand in various developing countries. Many elements that are reported from different part of Gorakhpur above the acceptable concentration limits. Heavy elements acts as slow poison and its extreme effect causes cancer and digestion problem is more in east of U.P. That's why it attracts society to awareness programme regarding proper knowledge of water for that are use in drinking and other purpose to avoid the problem .Problem is funding as well as skill person availability in affected area of Gorakhpur. The main aim of writing this paper is focus on availability of Pure and clean water to save human health.

Impact of Pesticides Pollution Threats to Sustainable Environment

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ABSTRACT

Among threats to sustainable environment, Pesticide Pollution one of the most important challenge to conserve natural resources. Now, sustainable environment itself a challenge for policy makers and scientists to carry over safely for next generations. An investigation was undertaken to study on impact of pesticides pollution threats to sustainable environment. Pesticides used widely in agriculture are general biocides having ability to cause toxic to all living organisms. Pesticides toxicity to non- target organisms including pollinators, domestic and wild animals, birds, fishes and soil fauna threats to biodiversity balance. The presence of residues of these pesticides in biosphere has proved toxic to inhabitants. The world awaked, when Rachel Carson's book Silent Spring (1962) brought attention towards pesticides pollution along with carcinogenic effect of DDT. Organochlorine pesticides including DDT may increase hepatocellular carcinoma risk (VoPham, 2017). Pesticides are highly potent chemicals that enter our food chain and then begin to increase in their concentrations at successive trophic levels. The accumulation of DDT in water, in mosquito larvae and mosquito fishes found to the level of 0.004, 8.9 and 54.2 ppm respectively higher at last trophic level. There are 1.5- 2 million people suffering from acute pesticides poisoning over world every year (Pearson, 1985). The long term teratogenic, mutagenic, carcinogenic and other effects involving vital body organs even now being felt in the surviving population concerned to Bhopal Gas Tragedy, 1984. During investigation, it was found that bioremediation will be promising biotechnology for pesticides pollution degradation towards sustainable environment.

Key words: Pesticides pollution, Sustainable environment, Biosphere, Biodiversity, Bioremediation.

Cyanobacteria as better natural resource for paddy yield

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ABSTRACT

The large scale use of nitrogen fertilizers is generally transforming our natural ecosystems in to eutrophic habitat. Biological nitrogen fixation is being seriously considered tobe a very good alternative of industrially chemically fixed source of nitrogen for better agriculture. The product of nitrogen fixation, ammonia switches the nitrogen fixation process off whenthe biological production exceeds its biological consumption.Thus there will be no chance of an agricultural and/or natural habitat getting eutrophic. Among biological nitrogen fixators, cyanobacteria play akey role as naturalresource for nitrogenfixation especially in paddy field. With increasing use of weedicides in paddy field a most valuable cyanobacterial population is affected which ultimately affect the nitrogen status in soil and also affect the crop growth andyield. Therefore there is an urgent need of proper management of such valuable natural resource in agriculture.

Evaluation of DNA damage and repair using Comet-FISH: Review

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ABSTRACT

The Comet-FISH technique is a valuable device to detect the region-specific DNA damage and repair in individual cells. There are two methods, First, Comet assay (single cell gel electrophoresis) and second, fluorescence in situ hybridization (FISH). The comet assay permits separating fragmented from non-fragmented DNA whereas FISH assistances to detect specifically labelled DNA sequences of interest, including whole chromosomes. Thus, the combination of both techniques has been useful for recognition of site-specific breaks in DNA regions which are relevant for development of different diseases. We reviewed in the present study, that how Comet-FISH was used for studying the induction of DNA damage by genotoxic compounds related to oxidative stress in colon cancer-relevant genes. After taken together study, accessible data suggests that Comet-FISH helps to get further insights into sensitivity of specific DNA regions and subsequently in mechanisms of carcinogenesis. The nature of the measured Comet-FISH endpoint impedes from stating fundamentally that damage and repair are occurring within the specific gene and it is at least possible to estimate the DNA damage and repair are occurring within the locality of the gene of interest.

Key words: Comet-FISH; Comet assay; DNA damage

Effect of Nonionic Micelles of Polyoxyethylenedodecyl Ether [Poede] on Reaction of Hydroxide Ion with Mono-2,5-Dimethyl Pphenyl Phophate

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ABSTRACT

The micellar catalysed hydroxide of mono-2,5-dimethyl phenyl phosphate (mono-2,5-DMPP) with different concentration of hydroxide ions (3.9, 20.8 and 43.8 $\times 10^{-3}$) in buffer solutions of pH-8.0, 9.0 and 10.0 at 40+0.2^{0}C have been investigated in presence of nonionic detergent [POEDE] $\times 10^{-3}$ mol.dm^{-3}. The controbution of micelles towards the enhancement of reaction rates at different concentrations of hydroxide ions at these pH values was found to be negligible, though reaction rates in micelles of nonionic detergent minimum rate constants $K_\Psi = 7.85 \times 10^{-5}$ s^{-1} and $K'_w = 4.12\ 10^{-5}$ s^{-1} are relatively higher than aqueous solutions. Therefore, it was concluded that the above reaction inhibit the micellar catalysed hydrolysis in [POEDE] detergent. Consequently further study of ion exchange parameters and other effects could not be studied.

Key words: Hydrolysis, Rate constants, pH value, Micelle, POEDE, Buffer solution.

Soil pollution through fertilizer and pesticides: A threat to sustainable farming

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ABSTRACT

Fertilizer pesticides, the most cost effective means of pest and weed control, allow the maintenance of current yield and so contribute to economic viability. Concern about the environmental impact of repeated pesticides use has promoted research into the environmental fate of these agents which can immigrate from treated fields to air other land water bodies. How long the pesticides remains ln soil depends on how strongly it is bonds by soil components and how readly it is degraded it is also depends on environmental conditions at the time of application. Fertilizer supply nutrient to the plant to help them to grow but can contain heavy metal which can be harmful to animals lncluding human that eat the plant say that food and Fertilizer. Soil pollution is the accumulation of man made toxic substance in soil that has a negative impact on soil health and soil fertility. Reducing the use of pesticides and Fertilizer promotional activities for use of bio fertilizers and bio pesticides is the best way to get more crops and enhance human health. Present paper high lights the effects of pesticides and Fertilizer on crop plants and types of soil pollution due to organic waste and other pollutants. Author also suggested some important management option to control such type of pollution and contribute to sustainable farming.

Key words: pollution, fertilizer, pesticides, sustainable farming

Dependency on Chemical Fertilizers

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ABSTRACT

Now, It is necessary that we start to solve some main problem's. It is observed in british period. Hungerness period of Bengal has change the agricultural structure of India in 1943. In this period, policy maker felt that our first responsibility is fill the stomach of everyone. Now It is started to discover new ways to increase the production of Agriculture, After some time green revolution came in effect. Now We start to maintain the dose of fertilizer's for Agriculture. As time passed, we are self depended to produce food grains. In this period we started some those substances to produce more grains which are dangerous for Human Body. When we introduce the production in more quantity, we neglect the decreasing level of quality. Every year we use 121.10 lakh metric tonnes of chemical fertilizer's in only India. Use of chemical fertilizer's in this quantity is so harmful for health of soil.

Cadmium is present is phosphorous fertilizer which is harmful for kidney diseases. Fluoride is also present in Phosphorous fertilizer which is also responsibile for Dental Diseases. We use the 5 percent of burning gas to produce Ammonia gas, Nitrogen fertilizer is most demanded when we use It, a pollutant is produced named Nitrous Oxide. Nitrous Oxide is IInd Air pollutant after carbon di oxide. Some countries as Europe, Britain and Australia started the law to control It. But India has not taken any action against it.

We train our farmer that more use of water and fertilizer are responsible to produce more quantity of crop. Our government has no scale to evaluate the cost of crop on It's manner of production. If our government start subsidy to Biofertilizer Industry. Environment and Food both are protected and employment would be produced automatically.

Biodiversity and Its Conservation

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ABSTRACT

Biodiversity has been defined variously such as "the richness in variety and variability of species of all living organisms in a given region". Diversity can be subdivided at three levels as genetic diversity, Species diversity and Community / Ecosystem diversity. Around the globe, biological communities that millions of years to develop are being devastated by human activity. The main cause of the present extinctions is habitat destruction by man, such as clear-cutting of forests, overgrazing grasslands, draining wetland and polluting the ecosystems. Another major cause of extinction is the overharvesting of plants and animals especially when done by modern technology. Huge amounts of habitat are lost each year as the word's forests are cut down. Rain forests, tropical dry forests, wetlands, mangroves and grasslands are threatened habitats and leading to desertification. The protection of threatened species is an important focus of conservation efforts. The conservation of biodiversity can be done by the In Situ and Ex Situ conservation. In in Situ conservation is performed for the genetic resources found in natural or manmade ecosystem. This type of conservation includes protection of different areas for different purposes for the benefit of the society. In ex situ conservation of any sample population by stabilizing them outside their habitats. For this, genetic resources centres, botanical gardens or zoos are selected where sufficient facilities may be provided to increase their growth. Besides this, the establishment of various gene pools germplasmbanks etc., come under this class of conservation.

Ploarographic studies of mixed complexes of Cd(II) with drugs captopril and tyrosine

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ABSTRACT

Cd is a potential environmental hazard. Human exporsures to environmental cadmium are primarily, the result of fossil fuel combustion, phosphate, fertilizers, natural sources, municipal solid waste incineration and tobacco smoking. Hypertension which reduces life expectancy and increase mortality rate is caused by cluster of foctors including cigarette smoking. Captopril used to maintain high B.P. within normal limits. Tyrosine has also found to be use full in reducing stress. Polarographic measurements have been successfully utilized for the determination of reduction behaviour of metal ion with captopril and aminoacid e.g. tyrosine. While captopril and tyrosine forms two (1:1 & 1:2) binary complexes with Cd (II). They form only one ternary complexes 1:1:1 with the metal. Their overall stability constant value show that ternary complexes are more stable than their binary complex. The log β_{11} value of $[Cd (Capt) (Tyr)]^{1+}$ is found to be 14.4183. The value is calculated by using Mc Master Medhod. From the overall study of binary and ternary complexes of Cd(II) with captopril and tyrosine. The researcher came to the conclusion that capropril is very strong ligand. It is evident from the higher equilibrium constant of metal-ligand interaction in case of sulpher containing donor capropril. Capropril binds the metal through mercapto group. The amide group present near the carboxylic group is having a tendency of electron withdral by mesomeric effect and also there is partial steric hindrance associated with mercapto group.

Exploration of Medicinal Plants and Conservation of Biodiversity in Distt.Gopalganj

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ABSTRACT

Biodiversity is the number and type of species present in nature. Among the species, plants of medicinal values are kept at the place of one of the highest level among the plant diversity. Most of the herbal drugs of commerce in India are collected from the wild sources.In Ayurvedic literature much emphasis is laid down on the present topic and detailed guidelines have been given for the proper collection of drugs. Goplaganj is a district of Bihar adjacent to District Deoria of Uttar Pradesh. This district is rich in biodiversity. For many years, a number of organizations has been worked on biodiversity and engaged in the collection and cultivation of medicinal plants. During collection and cultivation, proper care is not often taken for collection of drugs from natural sources, neither at proper time nor for proper cleaning dying and curing or for preserving and storing the samples are often of inferior quality. In the light of such problem authors were tried to work between 2010 and 2012and specimens of common species were explored, collectedand arestored in the form of herbarium in the Botany Department of Gopeshwar College, Hathwa, district Goplaganj.Increasing population, urbanization, industrialization, agriculture expansion, over harvesting, deforestation, grazingand abiotic effects have caused a great loss to our biodiversity and brought several species towards the endangered, rare or even extinction level. It is the need of hour to think seriously and effectively about biodiversity conservation, if we wish a sustainable development. Therefore conservation of medicinal plant biodiversity assumes considerable significance.

Use of Biofertilizers for Sustainable Development of Ecosystem

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ABSTRACT

Due to increased population, industrialization and use of chemical fertilizers the normal composition of our air, water, land etc. is not in its natural shape. There is a lot of climate change and this change causes greenhouse effect i.e., global warming which continues to be a burning topic at global conventions, world conventions, world summits and conferences. Global climate change is a continuous process that needs serious attention. Climatic conditions determine the behaviour and reproduction of any individuals. Among different individuals, human beings are key stone species having a profound capability of changing the environment. Pollution is a manmade problem. Use of chemical fertilizers is one of the major cause of air, water and other type of pollution which ultimately affect the normal composition of our surroundings followed by a serious health hazard of all different organisms. In this paper authors tried to use biofertilizers to minimize the use of chemical fertilizers and health hazardous effect of living organisms like plants, animals and microbes.

Salicylic acid modulation of growth and bio-chemical attributes in two varieties of *Brassica juncea* (L.) Czern.Coss. under Drought, Salinity and their Combinations

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ABSTRACT

The present study was carried out to examine drought, salinity and their combined stress induced modulation in growth and bio-chemical attributes in two cultivars of *Brassica juncea* Czern and Coss varieties (PUSA-AGRANI and CS-52) under in-vitro conditions. Response of two different set of two Indian mustard varieties were also recorded with and without SA. Results were analyzed by the three way analysis of variation (ANOVA). Results elucidated that among all stresses drought stress imposed extremely negative effects on plant growth and productivity. Seedlings of both varieties were examined for total sugar, reducing sugar and free amino acid. In conclusion SA showed great potential in protecting the *B. juncea*seedlings from oxidative stress caused by all three types of stress. PUSA-AGRANI variety combats the deleterious effects stress in a great degree in comparison to CS-52.

Key words: *Brassica juncea*, Salicylic acid, Drought, Salinity, Total sugar, Reducing sugar, Free amino acid

Green Social Work: Role of Youth and Society

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ABSTRACT

Environmental sustainability is the biggest challenge for today's era, every country is facing is a threat, India is not alone in this regard, as India is second most populated country in the world with nearly fifth of world total population , it is sure required more food and grain to feed large population, which required pace industrialization that is directly affected to loss of environmental sustainability, many environmental reports indicate that India is at bottom to conserve their environment, This paper discusses about the role of green social work and community participation also provide suggestion to save the environment, the research methodology of this paper is a secondary source different news articles, Books and Web were used which were enumerated and recorded.

Key words: populated, industrialization, sustainability, community participation.

Aflatoxin production by isolates of *Aspergillus flavus* associated with crude herbal drugs of medicinal importance

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ABSTRACT

In all 105 isolates of *Aspergillus flavus* were recorded from 60 samples of six types of crude herbal drugs. Out of these, 66 isolates were found to be aflatoxigenic, thereby indicating toxigenic potential of 62.85% isolates. These isolates produced variable quantity of aflatoxin B_1, B_2 and G_1 but none of the isolate produced aflatoxin G_2 in SMKY liquid medium. The maximum quantity of aflatoxin B_1, B_2 and G_1 was produced by isolates of *A. flavus* obtained from sarpgandha samples, while the minimum quantity of aflatoxin B_1 and G_1 was produced by isolates of *Aspergillus flavus* from mullathi samples. The overall range of aflatoxin B_1, B_2 and G_1 produced by toxigenic isolates was 250-2500 ppb, 150-270 ppb and 200-650 ppb respectively. The presence of aflatoxigenic strains of *A. flavus* in herbal drug plant parts of safed musli, satavar, ashwagandha, sarpgandha, mullathi and anantmul is definitely harmful to the consumers as some of these herbal drugs are directly used by human beings for several diseases.

Key words: *Aspergillus flavus*, Aflatoxins, crude herbal drugs.

Response of *Coccinellatransversalis* Fabr(Coleoptera: Coccinellidae) on different aphid mixed diets

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ABSTRACT

Coccinellid species are predator of many herbivorous soft bodied insect pests *i.e.*, aphids, scale insects, mealy bugs and whiteflies, causing economic loss to several agricultural commodities. For mass culture of ladybird beetle in laboratory, information is required on the reproduction of coccinellidson different aphids. In present study, different diets were prepared by adding various components in different aphid species *(Lipaphiserysimi, Aphis craccivora*and *Myzuspersicae*). Moreover, three controls*viz.*, *L. erysimi, A. craccivora*and *M. persicae*were simultaneously run to check fecundity of ladybird beetle. The observations on reproduction of *Coccinellatransversalis* showed that AMD-2 (52.00 ± 0.730 and 36.00 ± 0.577 eggs/female for Gen. F_1 and F_2, respectively) and AMD-3 (51.00 ± 0.577 and 35.00 ± 0.577 eggs/female for Gen. F_1 and F_2, respectively) were recorded most preferred for reproduction after control 1 (*L. erysimi*) (85.00 ± 1.065 and 86.00 ± 1.065 eggs/female for Gen. F_1 and F_2, respectively). On evaluation of other diets with respect to *A. craccivora*, the highest fecundity of *C. transversalis* was recorded with respect to AMD-12 (44.00 ± 0.577 and 29.00 ± 0.816 eggs/female for Gen. F_1 and F_2, respectively) and AMD-13 (42.00 ± 0.577 and 27.00 ± 0.683 eggs/female for Gen. F_1 and F_2, respectively) after control 2 (70.00 ± 0.577 and 72.00 ± 0.577 eggs/female for Gen. F_1 and F_2, respectively). With regard to control 3 (*M. persicae*), the number of eggs laid by *C. transversalis* was recorded maximum on *M. persicae* (78.00 ± 0.683 and 80.00 ± 1.438 eggs/female for Gen. F_1 and F_2, respectively) followed by AMD-22 (48.00 ± 1.291 and 33.00 ± 0.931 eggs/female for Gen. F_1 and F_2, respectively) and AMD-23 (46.00 ± 1.033 and 30.00 ± 0.931 eggs/female for Gen. F_1 and F_2, respectively). The diets AMD-2, AMD-12 and AMD-22 contain Dried Yeast Powder (0.500 gm), Fructose (1.000 gm), Ascorbic Acid (0.250 gm), Chloramphenicol (0.025 gm), Casein (0.500 gm), Agar Agar (1.000 gm), however, diets AMD-3, AMD-13 and AMD-23 contain Dried Yeast Powder (0.500 gm), Fructose (1.000 gm), Ascorbic Acid (0.250 gm), Chloramphenicol (0.050 gm), Riboflavin (0.030 gm), Agar Agar (1.000 gm), each mixed with one gram aphids (*L. erysimi, A. craccivora*and *M. persicae*) in 5ml distilled water.

Key words: *Aphis craccivora,* Ladybird beetle, *Lipaphiserysimi, Myzuspersicae*

An analysis of multivariate selection in a non-territorial damselfly (Odonata: Coenagrionidae)

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ABSTRACT

The relationship between fitness and phenotypic traits (body, thorax and wing length, head width and date of emergence) was studied in a sample of 187 mal and 113 female of the damselfly, *Ischnura senegalensis* (Ramur) by means of a multivariate regression analysis of selection. Male fitness was estimated as lifetime mating success divided into three multiplicative episode: life span, visit/lifespan and mating/visit (mating efficiency). In female, reproductive success was estimated from lifetime number of ovipositions divided in to lifespan, visit/lifespan and ovipositions/visit result indicatives the absence of directional selection but high significant nonlinear selection was observed in both sexes in respect to the date of emergence and body proportions. These results suggest that selection acts simultaneously of the multivariate phenotype and several traits should therefore be included in the selection analysis.

Key words: multivariate selection, phenotypic selection, body size, date of emergence, Iscbnuragraellsii, odonata

Macrotracheliella nigra (Minute Pirate Bug): A Anthocorid Predator of Phytophagous Thrips Pests; *Scirtothrips dorsalis* on Chilli Crop

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ABSTRACT

Thrips are opportunist species for many scientists, agriculturists and entomologists, exploring intermittently and occurring in environment. These are mostly phytophagous and distributed universally in most ornamental crops and native plants. Phytophagous thrips mostly feed on the tender leaves and feeding areas are not restricted to leaves alone but may also extend to almost all parts of their hosts. Therefore, it is very difficult to control the population growth of thrips. The host range of thrips is not limited to certain few. So, the predatory potential of *Macrotracheliella nigra*, Minute pirate bug was studied on thrips; *Scirtothrips dorsalis* population (eggs, nymphs, and adults) under net house conditions of different microplots. We collected certain sample (chilli) plants from different nurseries and transplanted them in the experimental microplots (3 microplots and 1 net house) in order to find out results over damage on chilli plants. The nethouse was in size of 3x2 m with 4.5 ft height of the net. The Net House was naturally ventilated and climatically controlled. It was made free from weeds and grass at regular intervals so that the necessary minerals for the growth of chilli plants might not be wasted. Results revealed that, the gain in the reduction of the population of thrips started reducing instantly at 63.01%, but after some time the infestation of thrips began to increase as the predator selected in number (45) could not consume the increasing number of thrips with as much speed as the population of thrips multiplied. So, a week after the increased number of predators (50) was again released and then the population of thrips began to decrease rapidly and the gain in reduction in the population of thrips was at 77.04%. At the third release of the selected predators (55), the gain in the reduction in the population of thrips accelerated fast at 85.8%, and, thus, viable results were obtained with the help of significant data analysis. Thus, we conclude statistically that the percentage gain in *Scirtothrips dorsalis* reduction is affected by the release of predators; *Macrotracheliella nigra*, during two successive releases.

Key words: *Macrotracheliella Nigra,* Feeding potential, *Capsicum annuum*, *Scirtothrips dorsalis*

Identification of Weed at Seedling Level

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ABSTRACT

Present study reveals that production of crop in cropland is increase by the irradiation of weed at seedling level. The grower of crops must control weeds when they are small, before the flower, to prevent them from seriously competing with crops for nutrients and soil moisture.

Key words: Weed, Seed, Seedling

Lead nitrate induced changes in SGOT and SGPT level in fish, *Claius batrachus*

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ABSTRACT

In the present study effect of lead nitrate a highly toxic compound has been observed on SGOT and SGPT in serum of fish Clarias batrachus under sublethal conditions in laboratory. Lead nitrate effect on SGOT (u/l) were found 35, 38.66, 45.20, 49 after 24, 48, 72, 96 Hours exposure respectively and SGPT (u/l) were found 57.99, 61, 64.58, 70.53 after 24, 48, 72, 96 hours respectively. The results suggest a very toxic effect of heavy metal compound lead nitrate indicating harms to fish and other aquatic fauna in our ecosystem.

Impact of Water Pollution on Fish Faunal Diversity of River Yamuna at Mathura, Uttar Pradesh

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ABSTRACT

The present paper deals with the pollution of Yamuna water and its impact on native fish fauna. Yamuna River supports a rich diversity of fishes of commercial value. Domestic pollutions, Industrial pollutions, Agricultural pollutions and Sand mining are the main responsible source in declining the native fauna and making the favorable ground for invaders. A preliminary record shows that 48-fish species belonging to 13-families were recorded in Mathura waters so far. Species of the family Cyprinidae were most dominant followed by Bagaridae, Schilbeidae, Clupeidae, Ophiocephalidae. In the present study recorded 14 -Species belonging to 12 genera and 8 families, of which reported 4- species as Alien. This means the decline in fish fauna due to one of the many other reason i.e. aquatic pollution.

Key words: Aquatic pollution, Yamuna river, Native fish fauna.

Effect of growth hormones on the infectivity of mosaic virus of round gourd (*Citrullus vulgaris var. fistulosus*)

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ABSTRACT

Mosaic virus of round gourd (*Citrullus vulgaris var. fistulosus*) is quite important as it causes 20 – 30% reduction in fruit size. Growth hormones viz., IAA, IBA, 2:4D and GA_3 are basically growth promoters but can act as virus inhibitor in some cases. In the present study, IAA, IBA and GA_3 inhibited infectivity of virus to the extent of 86.30, 83.31 and 82.65 percent respectively at the conc. of 1000 ppm. Further, IAA caused 83.65% inhibition even at the conc. of 500 ppm, hence adjudged best for inhibition of virus infectivity. Interestingly, 2:4 D has been found to be phytotoxic even at the conc. of 100 ppm, thus not suitable for use in field conditions.

Key words: *Cucumber mosaic virus;* Round gourd, growth hormones

Water Qualityindices Showing Fitness of Water for Main Purposes from a Stretch of River Ganga

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ABSTRACT

The river Ganges or Ganga in our country is most holy and sacred river of the world since civilization may have started. The investigation of river water quality is a compulsory and critical inclusion in the assessment of any water body including rivers. The quality of water was explored that is laid foundation for base line of prevention, avoidance and protection against many ailments and disorders. Water Quality Index (WQI) is worthwhile and proficient method for Assessing the suitability and potability of water quality which is made and amalgam by different physico-chemical parameters present within. WQI infact sums up all the physico-chemical parameters, so no need to assess the effect of individual parameter. The present study focuses on WQI by the analysis of ten physico-chemical parameters took from River Gangato evaluate the suitability and potability of water for drinking, irrigation, domestic purposes and other recreational anthropogenic activities. These water quality indices were used in present paper to gage variation in the water quality based on taken parameters of the River Ganga at experimental stations over the period of two years. Different WQI showed different water qualities from different sites.WQI showed water qualities from average to filthy ones throughout the study period. How these difference came up in such research work have been discussed in such paper.

Key words: Water Quality Index (WQI), portability, anthropogenic, filthy

An overview of Genotoxic effects of titanium dioxide nanoparticles

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ABSTRACT

Several nanoparticles such as Titanium dioxide nanoparticles (TiO_2-NPs, <100 nm) are progressively being used in pharmaceuticals and cosmetics due to their unique structural properties of their small size. However, their large surface-area to mass ratio and high redox potential may negatively influence human health and the environment. TiO_2-NPs can cause inflammation, pulmonary damage, fibrosis, lung tumors and are possibly carcinogenic to humans. Since the possible mechanism of the disease cancer involves mutation, therefore a large number of studies are conducted on the genotoxicity studies of TiO_2-NPs. In the present review, a detailed account of the data focusing on the standard genotoxicity assays ranging from Ames test, in vitro and in vivo Comet assay, in vitro and in vivo micronucleus assay, sister chromatid exchange assay, mammalian cell hypoxanthine-guanine phosphoribosyltransferase gene assay, wing somatic mutation and recombination assay to the mouse phosphatidylinositol glycan, class A gene assay. All these assays reveal varying results showing both positive and negative responses. The in vitro systems assessing the genotoxicity of TiO_2-NPs have generated a greater number of positive results than the in vivo systems; and tests for DNA and chromosome damage have produced more positive results than the assays measuring gene mutation. Almost all tests for measuring the mutagenicity of TiO_2-NPs were negative, while, most of the studies indicate that the genotoxicity of TiO_2-NPs is mainly mediated by the generation of reactive oxygen species (ROS) in cells.

Key words: Genotoxicity, Carcinogenicity, Comet assay, Ames test, Micronucleus, Sister chromatid exchange, Titanium dioxidenanoparticles

Mechnical, Cultural and Chmical Control of Greacy Cutworm *(Agrotis ypsilon Rott.)*

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ABSTRACT

Agrotis ypsilon Rott is a pest of cruciferi crop specially cabbage (*Brassica oleracee*). The mature larva of *Agrotis ypsilon Rott* is called greasy cutworm. *Agrotis ypsilon* R. being a large sized notorious pest attracted the attention of agriculturalists and entomologists and the pest has been studied from time to time for its control in India and abroad as well. In the earlier publications only mechanical control and simpler chemicals have been mentioned. Choudhury, (1953), Nirula (1961), Purohit (1973) and Ratual (1979) recommended various chemicals for its control. For *Agrotis ypsilon* R. more commonly soil treatment and two sprays/dusts have been recommended. The larva being large and easily reared, for the study of various aspects of ecology, population and toxicology etc. *Agrotis ypsilon* R being a serious pest of good many economic crops in India, attempts has been made regularly to reduce the population and the following control measures have been suggested. Mechanical control (a) collecting the month (by light trap). (b) Searching for eggs and destroying them. (c) Picking the larvae and smashing them.(d) searching the pupae and crushing them. Cultural control (a) Removal of leaves bearing eggs. (b)) Removal of leaves with newly hatched larvae.(c) clean cultivation.(d) removal of plant bored by the larva .(e) burn trash. (f) Destroy the leat over. (g) Plough deep and overwater (after harvesting). Various chemical control measures (both spray and dust have been recommended) but present author used carbaryl for the control of *Agrotis ypsilon* R in the forms of dust 10%@10 Kg/acer.the following that is showing chemical control *Agrotis ypsilon* R by different methods Treatment 1- Aldrin 5%@25 Kg/acer. 2 - Carbaryl 10%@10 Kg/acer. 3-Endosulfan0.25% 4- Endrin5% 5-Diazinon0.02%.

Key words: cruciferi, larvae, Endosulfan, Mechanical, chemical control

Functions Changes in Brain Biochemistry following Intoxication of Beta-Cyfluthrin in Albino Rat

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ABSTRACT

Mammalian brain is a site controlling all the body activities is an important tool for revealing neurotoxicity. Therefore, it becomes obvious to observe beta-cyfluthrin toxicity. The aim of the study was to reveal the neurotoxic effect of an orally administered beta-cyfluthrin, a type-II pyrethroid in albino rats on the basis of activity of brain GST, AChE and of total proteins level at different doses 35.48 and 5.06, 2.53, 1.68, 1.27 mg/kg body weight, for acute (1 day) and sub-acute (7, 14, 21 and 28 days) treatments respectively. Results reveal that beta-cyfluthrin administration inhibits AChE activity and GST activity, however, no significant effect in total brain proteins could be observed. Affinity towards the hydrophobicity of xenobiotic substance (experimental compound) may lead to an inhibitory mechanism of both AChE and GST levels. Further, imbalance in the neurotransmitter level and alterations in the detoxification mechanism in brain is suggestive of additional mode of action of beta-cyfluthrin other than AChE inhibition.

Key words: glutathione-s-transferase (GST), acetylcholinesterase (AChE), beta-cyfluthrin, detoxification, albino rats.

Physico-Chemicalassessment of water of River Asan in Murena District

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ABSTRACT

Currently more than 1.1 billion people lack access to clean drinking water with 500 million people from India. Water is the most vital resource for living beings because there is no life without water as cellular activities never occur. Water is essential for the socio-economic development of human beings. There is plenty of water on the earth surface. The fresh water is however limited and a large part of it is in a polluted state at present. Only 2.7% of the total global water content of approximately 1.4 billion cubic kms is fresh, suitable for aquatic ecosystem. Asanriver is one of the most important river of Morena district. It is the bigger water collecting river of this region.Sustained supply of safe and potable water is of paramount importance in promotion of health and well being of the people. Today world is facing a number of challenges affecting the availability, accessibility, use and sustainability of its fresh water resources. Global studies show a challenging future and a chaotic view, when considering total use and water availability in third millennium. According to UN estimates by 2025, the demand for fresh water will rise by nearly 60% more than is currently available.

Studying the Effect of Different Vegetable Oils on the Growth and Development of *CallosobruchusMaculatus* Infesting 10 Varieties of *Cajanus Cajan*

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ABSTRACT

Effect of different vegetable oils as grain protectants was tested to check the growth and damage *C. maculatus*in pigeon pea grains. The oils used in the study are- Sunflower– *Helianthus annus,* Castor- *Ricinuscommunis,* Neem- *Azadiracitaindica,* Eucalyptus– *Eucalyptus citriodora* Different vegetable oils were thoroughly mixed with grains of pigeon pea varieties in separate cylindrical jars by manual shaking in required quantity of 1ml and 3ml. The sample infested with 5 pairs of 24 hr old adult of C. maculatus were kept in 3 replication for taking observations on fecundity, incubation period, larval period, pupal period and adult emergence, F1 progeny and longevityMinimum number of eggs (6.35%) was observed on eucalyptus treated seeds which was at par with neem (7.56%) and sunflower oil (8.38%) but these were significantly superior to the castor bean treatment (10.61%). The emergence of the adult beetle was less in case of seeds treated with eucalyptus oil (1.01%) which was at par with neem oil (1.15%), castor oil (1.37%) %) and sunflower (4.36 %), respectively. The longer developmental period was observed on the seeds treated with eucalyptus (42.50 days). Minimum developmental period of 37.35 days was observed in sunflower oil treated seeds.

Morphometric and Seasonalstudies of Mouth Parts Of*bombyx Mori*

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ABSTRACT

Silk worms belong to the class Insecta, Phylum Arthropoda, which comprise by for the largest number of animals in the world. The insects are characterized by the division of body into three distinct divisions namely head, thorax and abdomen. They are segmented in their body structure, a typical insect having six segments in the head, three in the thorax and eleven in the abdomen. The order Lepidoptera included all the insects known as moths and butterflies, including the silkworm moth.The aim of the present work is to provide detailed account of morphology, Morphometirc and Seasonal morphometric variations of mouth parts of mulberry silkworm under the conditions of Agra district.Silk moth is a useful insect of order lepidoptera to man as it is a source of true silk. There are several other insects and moths, which spin silk cocoon but the silk produced from their cocoons is not of good quality for making the thread. In India, silk is produced by the moths of tur families known as Bombycidae and Sacturnidae. Sacturnidae includes Eri-silk moth (Attacusricini) and Tassar silk moth (Antheroeapaphia). But the excellent silk moth found on mulberry is known as *Bombyxmori*, which belongs to the family Bombycidae. Mouth appendages of *Bombyxmori* silkworm are biting and chewing types adopted for feeding mulberry leaves, which are labrum, mandible, maxillae, labium and hypopharynx. Adult *Bombyxmori* does not take food during this period. More than 20 counties in the world produce raw silk, of which Japan topped accounting for 52.4% followed by China 24.8%, the Soviet Union 7.3%, South Korea 6.2% and India occupies 5th place in mulberry silk production and 4.3% raw silk is produced.

Pyrethroid Induced Toxicological Studies in *Drosophila Melanogaster*

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ABSTRACT

In the present study, a pyrethroid lambda-cyhalothrin is tested on *Drosophila melanogaster*, a dipteran. There is a remarkable change in morphology viz. shrinkage in larvae and blackening in pupae alongwith morphometrical changes viz. decrease in larval length, larval weight and adult weight of *Drosophila melanogaster*. All the data were analyzed statistically which proves significance of study. The abnormalities in morphology and morphometry are due to the effect of lambda-cyhalothrin on biochemistry and physiology of *Drosophila* mutant. The results are encouraging and can be applied to other dipterans like mosquito and allied insect species. A great biodiversity is available on our planet. Many species of vertebrates and invertebrates are there. Among them insects are very important for us. Insects prove their worth for human beings by many ways like help in pollination, production of useful substances etc. However, there are a considerable number of insects which negatively affect humans directly or indirectly. They destroy our crops and other material. Organophosphate, organochlorine and carbamate are common pesticides for outside use to control this destruction. Insects also interfere with our daily life in houses but it is not wise and practical to use these pesticides inside house. Hence it is necessary to test a pyrethroid for indoor use.

Key words: Pyrethroid, Diptera, Morphology, Morphometry

Phylogenetic study of Indian Collembolan: an evaluation in Uttar Pradesh

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ABSTRACT

Springtails (Collembola) form the largest of the three lineages of modern hexapods that are no longerconsidered insects (the other two are the Protura and Diplura). Although, the three orders are sometimes groupedtogether in a class called Entognatha because they have internal mouthparts, they do not appear to be any moreclosely related to one another than they all are to insects, which have external mouthparts. Collembolans areomnivorous, free-living organisms that prefer moist conditions. They do not directly engage in the decomposition oforganic matter, but contribute to it indirectly through the fragmentation of organic matter and the control of soilmicrobial communities. The word "Collembola" is from the ancient Greek "glue" and "peg"; this name was givendue to the existence of the collophore, which was previously thought to stick to surfaces in order to stabilize theinsect. It is necessary to study the phylogeny of collembolans to explore evolutory status.

Exhibition of Total Retention, Elimination and Rate of Decline of Arsenic in *Rattus norvegicus*

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ABSTRACT

Heavy metals are the most toxic pollutants due to their miscellaneous effects are soluble in water and readily absorbed into the living organism. Metal ions of high toxicity cause harmful effects at blood and organ level. Industrial pollution has further aggravated environmental metal pollution, a serious problem and an alarm for future generations. In India arsenic contamination has involved nine districts of West Bengal, fifteen districts of Bihar, nine districts of Utter Pradesh and one district each of Chhattisgarh and Northeastern states. In nine districts of Utter Pradesh (Agra, Aligarh, Balia, Balrampur, Gouda, Gorakhpur, Lakhimpur-kheri, Mathura, and Moradabad), arsenic concentration was found more than WHO's presumed limit (0.05mg/l). Many common arsenic compounds can dissolve in water. Thus, arsenic can get into lakes, rivers, or underground water by dissolving in rain or snow or through the discharge of industrial wastes. Some of the arsenic will stick to particles in the water or sediment on the bottom of lakes or rivers, and some will be carried along by the water. Ultimately, most arsenic ends up in the soil or sediment. Although some fish and shellfish take in arsenic, which may build up in tissues, most of this arsenic is in an organic form called arsenobetaine. Keeping these points in view, the present study is undertaken to study the amount of arsenic in brain, liver and kidney of albino rats after acute and subacute treatments.

Study of Toxicity Parathion in Three Indian Major Carps under Stress of Parathion

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ABSTRACT

Parathion is the important pesticide used in Indian conditions. This pesticide in turn through rain wash goes to water ecosystem and affects aquatic fauna specially fishes. Indian carps are major source of food in most of the population. It is necessary to study the toxicity standards and bioassay in Indian major carps under stress of parathion.Fishes are rich in proteins, lipids, minerals and vitamins and form valuable food for growing population and specially for millions of people suffering from malnutrition and undernourishment in India. Fish haematology has been recommended as a possible means of estimating the health status of fish stacks.It is well known that the minute fluctuations in the environmental conditions have early effect on the circulating fluid of the poikilothermic animals. After detailed survey of the literature on the research work, it has been found that very little work has been carried out by some previous research workers on few specific fresh water fishes. Therefore, in present study an attempt will be made to find out toxicological variations of toxicant in various Indian major carps and it is hoped that the present study will make a considerable enhancement to the existing knowledge on toxicology.

Assessment of Liver Biochemcal Alterations in Fresh Water Fish *Channa punctatus* (Bloch.) under Stress Ofmonocrotophos

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ABSTRACT

Although ecotoxicological manifestations of organophosphorous intoxication have been documented by several workers in various organs of fishes but despite our best efforts, we could not gather any information regarding the adverse effect of organophosphorous on the some system deeply viz. health profile of fishes. As healthy organs of fish are an important determinant of its breeding potential and thus any toxicological factor adversely affecting the histoanatomy of liver will definitely hamper the gross production of fishes. The freshwater is polluted due to entry of excess sewage water, industrial effluents and large number of pesticides in natural and agricultural pest management. The pesticides like organophosphates are regularly used in agricultural pest management for food production but through their excessive and indiscriminate use in agriculture pest management and public health operations. The rapidly increasing use of insecticides in agriculture posses serious hazards to aquatic animals. In the present investigation, liver cholesterol has been observed to study the toxic effects spectrum of monocrotophos in *Channapunctatus*.

Role of *Emblica officinalis* against Gaseous Air Pollutants Induced Hepatotoxicity in Albino Rats

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ABSTRACT

Air pollution is the most serious environmental threat to all over the world. The gaseous air pollutants includes $SO_2$and NO_2 which are considered as the most poisonous and irritant gases as they alters the physiology, biochemistry and behavior of the living individuals. The present study has been conducted to demonstrate the curative effect of *Emblica officinalis* against $SO_2$and NO_2induced hepatotoxicity in albino rats. The twenty five albino rats were grouped in five sets- control set (1) were kept in control conditions, while, experimental set (2) exposed to 80ppm of NO_2 gas 1h/d for 30 and 60 days, while experimental set (3) was exposed to 80ppm of SO_2 gas 1h/d for 30 and 60 days, experimental set (4) were exposed to 80ppm of SO_2 gas 1h/d with oral administration of *Emblica officinalis* fruits extracts (200mg/kg b.wt.) for 30 and 60 days respectively,experimental set (5) were exposed to 80ppm of NO_2 gas 1h/d with oral administration of *Emblica officinalis* fruits extracts (200mg/kg b.wt.) for 30 and 60 days respectively.The results of the present findings indicate that these gases causes significant increase in serum enzymes AST, ALT, GGT and ALP ($p<0.01$) in liver of albino rats. Oral administration of *Emblicaofficinalis* recovers all these alterations at their normal level which is an indication of remedial effect of *E. officinalis* on these gaseous air pollutants induced hepatotoxicity in rat.

Key words: Albino rats, gaseous air pollutants, *E. officinalis*, serum enzymes

Role of Environmental Pollutants in the Development of Diabetes Mellitus

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ABSTRACT

The prevalence of diabetes mellitus is currently at epidemic proportions and it is estimated to increase further over the next decades. Although genetic predisposition and lifestyle are the common accepted reasons for the occurrence of diabetes, it has recently been suggested that environmental pollutants are additional risk factors for diabetes development. These environmental pollutants may act as primary injurious agents which damage pancreatic beta cells or as triggering agents of autoimmunity. A number of pollutants such as organophosphorus compounds, persistent organic pollutants and heavy metals may cause beta cell destruction by generation of oxygen free radicals and alteration of endogenous scavengers of these reactive species, breakage of DNA and a consequent increase in the activity of poly-ADP-ribose synthetase, an enzyme depleting nicotinamide adenine dinucleotide in beta cells or by inhibition of active calcium transport. The current study aims to give an overview of the current evidence for the known effects of several compounds on beta cell function with reference to mechanistic studies that have elucidated how these compounds interfere with the insulin secreting capacity of beta cells.

Key words: Diabetes mellitus, Environmental pollutants, Pancreatic beta cells, Free radicals

Physico-Chemicalstudies of Water in Karvan River at Sadabad District Hathras

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ABSTRACT

Water pollution of river is said to be polluted when the water in it is altered in composition directly or indirectly as a result of man's activities. During recent years it has also been estimated that river Karvan water quality has also degraded by dumping of flowers, ashes, bones of dead bodies after cremation, bathing the cattles and washing the clothes due to which oxygen supply in water is reduced. Pollution of water is responsible for a very large number of mortalities and incapacitation in the world polluted state of the water resources has led to water without which vital activities are not possible on this planet, has also been adversely affected by all kinds of activities of human beings. In the present investigation the water quality of river Karvan at Sadabad, district Hathras has been observed to be of substandard quality because various untreated industrial effluents, domestic sewage etc. merged inside the river.

Protective Effect of *Withania somnifera* on So_2 Induced Osmotic Fragility Alterations in Albino Rats

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ABSTRACT

The present study is designed to evaluate the modulatory effect of *Withaniasomnifera* on osmotic fragility after exposure to SO_2 gas (80ppm, 1h/day) for 30 and 60 days. The findings of the present study showed that there is significant elevation in the osmotic fragility ratio after 30 and 60 days exposure to SO_2 gas. However, SO2 induced alterations were modulated by oral supplementation of aqueous extract of *Withaniasomnifera* (5mg/100gb.wt./day) due to its anti-stress antioxidant defense mechanism against toxic action of SO_2 gas inhalation.

Key words: Albino rat, SO_2 gas, *Withaniasomnifera*, osmotic fragility

Haematological Changes in *Clarias Batrachus* in Relation with Ram Ganga River, Bareilly

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ABSTRACT

Insecticidal use in agriculture gained momentum around the mid twentieth century. Fungicides are also used in agriculture for the prevention of fungal infection in seed grain. Later these compounds discharge in nearby water bodies and consumed by fishes and other aquatic life. These fat soluble contaminants concentrate in the adipose tissue of fishes by bioaccumulation and bio- magnification. The fishes, best indicator of water body pollution, are the most sensitive of all the aquatic animals towards the pollutant. The accumulation of effluents become hazardous to the aquatic organism because they are the most important factors of food chain. The fish selected is commonly used in laboratory because it is hardy and easily available throughout year. Walking catfish is the most common English name for this species. This is valued as a food fish owing to its ability to survive extended period out of water. Walking catfish can be sold and treated live with ease, ensuring fairly fresh food product. For the above said purpose p[resent study is undertaken to assess the haematological changes in fishes.

Study of Different Designs in Controlling Insect Pests in the Field of Cucurbitaceae

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ABSTRACT

Continuous damaging of any annual, biannual as well as perennial species of plants ifcontinuously effected by saliva of insect pest, may also loss its specific genetic components. Regwada init hymns, mentioned several insect pests. Pesticides are also responsible for environmental hazardous problem, some insect pest likeLepidoptera, Coleoptera as well as Diptera attract towards moon light as well as electrical light beingmight, so it is one of the most successful tactics for protection of different important plants beingcropping become by this practice, we can save environment as well as money and health of producers aswell as consumers. By light trapping we can also identify various migratory insect pest, which will lightvarious hidden reserved problems. Present study highlights comparison of insect trapping in light andshade in field conditions.The bible reported at last eleven pests, continuous use ofpesticides are responsible for loss of specific plant's productivity as well as various metabolic activities ofherbivores and carnivores disturb if continuously any pesticide intake in their body and may causeserious problem like tumor, cancer, hepatitis problems.It is obvious therefore that man must faced the problem of insect pest quite early in the historyof his existence. The insect pests are much harmful to the crops like wheat, pulses and vegetables thanrodents. Not only food plant damage by pest but also ornamental plants as well as medicinal plantsdamaged by various insect pest.

Genotoxic effect of Cypermethrin Intoxication on Fish *Channapunctatus*

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ABSTRACT

The genetic constituents DNA and RNA with their ratio show altered results after treatment. DNA and RNA contents have been decreased with increased duration of exposure, however decrease was more in gill tissue and at recovery it comes to normal level. RNA-DNA ratio analysis offers new possibilities for understanding larval growth and mortality, and their relation to environmental variability. The findings of present investigation can be concluded in a sequential manner because all the parameters are interrelated and the compounds are of immense importance to the environmental point of view. The effect of this compound synthetic pyrethroid cypermethrin has been found to be toxic to *Channapunctatus* in the form of genotoxic and biochemical alterations.

Key words- Cypermethrin, Genotoxicity, *Channapunctatus*

Studies on Bionomics of the Indian Water Boatmen, *Micronecta Striata*, Fieb. (Corixidae, Hemiptera: Heteroptera)

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ABSTRACT

The Hemiptera are minute to large, oval or elongate frequently flattened heterogenous, phytophagous and predacious terrestrial and aquatic insects with simple metamorphosis and piercing and sucking mouth parts, head free, usually prognathous or rarely hypognathus, antennae two to ten or rarely 25 segmented, eyes large, ocelli present or absent, labium modified not a short and long curved or straight, simple or segmented rostrum, beak or proboscis, palpi atrophied, wings present to absent, log or short. Hemylaptera or fore pair of wings, usually thickened basally and membranous apically in Heteroptera and usually wholly membranous in Homoptera, legs for walking, running, jumping, swimming and grasping the prey, cylindrical or flattened with 1-3 segmented tarsi, 1 or 2 claws and with or without arolia or empodia, abdomen with few segments, the first segment greatly reduced or apparently wanting, cerei absent, the members of this order are commonly referred as bugs.The order Hemiptera is divided into two sub orders, the Heteroptera and Homoptera. The water boatmen *Micronecta striata* Fieb 1808 belongs to the suborder Heteroptera which is characterized by base of rostrum usually not touching anterior coxae, gular region usually well developed, long pronotum large, fore wings usually thickened basally and membranous apically, hind wings membranous, both pairs folded flat over the back with apices overlapping, tarsi normally three segmented.

Key words: Hemiptera, Indian water boatman, Micronecta striata, External morphology

Comparative effect of sugarmill effluent induced histological changes in *Channa punctatus* (Bloch.)

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ABSTRACT

Sugar mill effluents are not so toxic like pesticides but they contain many organic and inorganic reactive compounds which can affect the life of the organisms. These reactive compounds accumulate and retard physiological activities in human beings also. In other words it can be stated that these compounds act as slow poison. Histological and histopathological studies are useful tool for assessing the injury at the cellular level, when the xenobiotics which are present in the vicinity reach to the target tissue, ultimately drastic changes in form of biochemical as well as histopathological alterations appeared in the organisms. Histopathological alterations are the first indicator of any toxicant assault, if an organism is exposed to them through any route.In the present investigation fish *Channapunctatus* (Bloch.) used as animal model, because fishes are the most sensitive indicator against any physical and chemical change in the aquatic environment. For histological and histopathological investigation of fish gill, liver, intestine, brain, kidney along with heart has been taken in the present study to observe the fluctuations at the cellular level caused by the sugar mill effluents.

Comparative Studies on Some Indian Veliidae in Different Zoogeographical Regions in Uttar Pradesh

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ABSTRACT

The Indian region represents an extremely varied topography with high and precipitous mountain peaks, sharp and steep hill slops having thick and coniferous tropical deciduous forests and annual rainfall of more than 2000mm.; in contrast to the first levelled low plain with lower amount of rainfall and forest of stunted growth. Vellidae is represented as at present known by 35 species belonging to 9 general. A reference to the table 1 would clearly show that about 44.4% genera and 57.14% species are endemic. The knowledge regarding the Veliidae fauna of India through at the moment is far from complete; but we can profitably venture on an analysis of the zoogeographical composition of the fauna on the basis of present study which should be fairly an accurate index of the general faunal conditions of the area. As should be expected a relatively high percentage, about 40% species constitutes the Oriental fauna of Veliidae. In the Northern mountain region of the country which falls under the Palaearctic region, about 8.57% species have so far been recorded. The Ethiopian, Australian, Neotropical and Nearctic realms constitutes about fairly similar percentage, i.e. 5.7% of the total fauna. Besides this, about 17.1% species are widespread in different realms. This is important from a scientific point of view because it opens the door to further studies and new species identification and their relation to zoogeographical climate conditions. The present work summarizes common and important Indian Valiidae, their zoogeographical distribution and concentration towards Indian states.

Ozone Depletion-Driven Climate Change in Air Quality and Tropospheric Composition: Effect on Human and Environmental Health

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ABSTRACT

Recent analyses support that poor outdoor air quality is a major environmental hazard as well as quantifying health effects on regional and global scales. Depletion of ozone in the Southern Hemisphere modifies climate directly via effects on seasonal weather patterns (precipitation and wind). UV radiation is an essential driver for the formation of photochemical smog, which includes ground-level ozone and particulate matter (PM). Greater exposure to these pollutants has been linked to increased risks of cardiovascular and respiratory diseases in humans and is associated globally with several million premature deaths per year. Ozone also has adverse effects on yields of crops. Exposure to UV-B radiation has both adverse and beneficial effects on human health. The skin and eyes are the organs exposed to solar UV radiation. The combination of changes in climate and UV radiation may affect the number of pathogenic microorganisms in surface waters, and could have an impact on food security through effects on plant and aquatic systems. It remains difficult to quantify these effects and their possible importance for human health. These detrimental effects also may alter biological diversity and affect the function of natural ecosystems. Future changes in UV radiation and climate will alter the rates of formation of ground-level ozone and photochemically-generated PM and must be considered in predictions of air quality. The decrease in UV radiation associated with recovery of stratospheric ozone will, according to recent global atmospheric model simulations, lead to increases in ground-level ozone at most locations. UV radiation affects the atmospheric concentration of hydroxyl radicals, ˙OH, which are responsible for the self-cleaning of the atmosphere. Current sun protection strategies are also outlined and assessed. No new negative environmental effects of substitutes for ozone depleting substances or their breakdown-products have been identified. However, some substitutes for the ozone depleting substances will continue to contribute to global climate change.

Key words: Ozone depletion, climate change, particulate matter, UV radiation, hydroxyl radicals.

Bioremediation of Heavy Metals in Plants

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ABSTRACT

Present methods of heavy metal extraction are expensive and also make soil infertile. Soil polluted with heavy metals has become common problem across the world. The term heavy metal refers to any metallic chemical element that has a relatively high density and is toxic or poisonous even at low concentrations. These metals if gets incorporated into human or plant system, causes great damage to it. Heavy metals are found naturally in the earth but due to human caused activities heavy metals get concentrated in a particular area, such as soil. And this situation can alter plant growth, performance and yield. It can also enter food chain and affect other animals at different trophic levels. Plants have developed potential mechanisms at the cellular level that might be involved in the detoxification and thus imparting tolerance to heavy metal stress. Some adaptive mechanisms evolved by tolerant plants include immobilization, plasma membrane exclusion, restriction of uptake and transport of metals, synthesis of specific heavy metal transporters, chelation and sequestration of heavy metals by ligands such as phytochelatins and metallothioneins. Bioremediation is an effective method to treat soil contaminated with heavy metals. Microorganisms and plants employ different mechanisms for the bioremediation of polluted soils. The mechanism of metal tolerance in plants is depicted by the symbiotic association between plants and ectomycorrhiza or rhizobacteria. It significantly contributes to plant growth by improving mineral nutrition and also ameliorating the effects of metal toxicity on the host plant. In this article, mechanism and limitations of the process are discussed and the future requirements for the development of efficient bioremediation techniques are outlined.

Key words: immobilization, plasma membrane exclusion, chelation, phytochelatins, metallothioneins, bioremediation, ectomycorrhiza

Heavy Metal Poisoning: The Nephrotoxic Effect of Mercury and Lead

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ABSTRACT

Heavy metals such as mercury (Hg), lead (Pb), are a major environmental and occupational hazards. Toxic metals are ubiquitous, have no beneficial role in human homeostasis, and contribute to non communicable diseases. Unfortunately, these non-essential elements are toxic at very low doses and non-biodegradable with a very long biological half-life. Human beings are exposed to various potentially toxic agents and conditions in their natural and occupational environments. In recent decades, their contamination has increased dramatically because of continuous discharge in sewage and untreated industrial effluents. The kidney, due to its concentrating ability and excretory function, is highly vulnerable to the effects of environmental toxins. Identifying the precise cause and mechanisms of environmentally induced renal injury investigations in this field are confronted with the apparent infinite types of toxins, their mutual interaction and handling/metabolization by the body, ways of exposure, etc. Although interdisciplinary efforts and persistence are required to identify, mechanistically unravel and tackle environmental toxin–induced pathologies, research eventually pays off in ameliorated working/living conditions and development of preventive/therapeutic strategies. The present article was compiled to particularly emphasize the need for a maintained awareness of environmental threats in general and those targeting the kidney.

Key words: Heavy metals, Nephrotoxicity, Environmental hazards

Sustainable Development & It's Impact on Human Activities

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ABSTRACT

Human greed must be controlled and human wants and needs must be restricted. We musttreat our environment and resources with respect and stop their reckless exploitation ofnatural resources.In United Nations Conference on Environment and Development (the "Earth Summit") held in Rio de Janerio in year 1992, the world leaders signed Framework Convention on Climate Change and Biological Diversity. The "Rio Summit" adopted *Rio Declaration* for achieving *Sustainable Development* in the 21st Century. It is here that the concept originated. Sustainable development emphasizes that rate of consumption and use of natural resourcesmust balance. The rate at which these resources can be either substituted or replaced.Economic and industrial development must go on in such a way that no irreparable damagebe done to the environment. The World Commission on Environment and developmentdefined sustainable development as "Development that meets the needs of the presentwithout compromising the ability of the future generations to meet their ownneeds." This definition emphasizes two important points. One, the natural resources are importantfor our present day survival as for the survival of our future generations. Two, any presentdevelopmental activity or programme must take into account, its future consequences.The main cause of unsustainability is in ever increasing human population and overexploitation of resources. In developing countries, resource exploitation occurs mainly tomeet the needs of human population for food, fodder, fuel, wood and shelter. Humanactivities affect the sustainability of biosphere. The various human activities meant to improvethe quality of life are usually accompanied by environmental degradation. Such activities asoverfishing, agriculture, over use of fresh water supply, deforestation and industrializationcause environmental degradation and social stress because of negative changes in theecosystem.

Key words: Sustainable Development, Environment, Climate Change, Human Activities, Etc.

Cancer Causing Environmental Factors

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ABSTRACT

Pollution is the major problem of developing as well as developed countries. The pollution causing agents are pollutants. The pollutants are released from various sources and cause various diseases. Out of them cancer is very fatal. Cancer is the second leading cause of death in the United States; it accounts for 1 in 4 deaths in the US and claims more than 1,500 lives a day. However, the radiation and chemicals are the major sources of cancer. They activate the oncogenes which lead to cancer. In present study we collect the data of different agencies and analyzed to find out that environmental factors are the main cause of cancer. Environmental factors can include a wide range of exposures, such as lifestyle factors (Nutrition, tobacco use, physical activity etc.), naturally occurring exposures (ultraviolet light, radon gas, and infectious agents), medical treatment (radiation and medicines including chemotherapy, hormone drugs, drugs that suppress the immune system), work place exposure, house hold exposure, pollution. Hence from the above data it is clear that the environmental factors are responsible for cancer disease.

Mercuric Chloride: A Severe Toxicant Causes Stress

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ABSTRACT

We are living in developing country, India. In developing country, the progress in each direction i.e. in the field of agriculture, in the field of industries, in the field of livelihood has been going on. However, this progress having some negative effects also. Now a day's pollution is the current issue which affects the health status of fauna. The loads of environmental pollutants increase day by day. Out of which heavy metal toxicant is on top. Mercuric chloride, a heavy metallic compound released from various sources such as thermometer plant, mines, battery manufacturing unit etc. causes severe toxicity leads to stress. Considering this aspect, present investigation has been performed. Twenty albino rats were taken into two sets one set for acute and one for sub acute study. Each set had two groups of five rats each. The control group received (tween-20 and distilled water), group received mercuric chloride 0.926 mg/kg body wt. for acute and 0.044 mg/kg body wt. for sub acute set on the basis of calculated LD_{50} (9.26 mg/kg body wt.). The result revealed that mercuric chloride caused significant increase in alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphtase (ALP), glutathione-s-transferase (GST), and glutathione peroxidase (GPx) compared to control values. The results suggestdamages inform of raised enzyme levels and histopathological observations induced by mercuric chloride. Hence it can be concluded that the mercuric chloride exhibits a toxic effect. Under the influence of toxicity free radicals are formed which create stress.

Environmental Changes and Human Health: Present Status and Future

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ABSTRACT

This new civilized world through air and water pollution has a serious toxicological impact on human health and the environment. The main source of both is anthropogenic activities related to transport, industrial process, deforestation and agriculture. The air pollution resulted from six major air pollutants include particle pollution, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Long and short term exposure to air suspended toxicants has a different toxicological impact on human including respiratory and cardiovascular diseases, neuropsychiatric complications, the eyes irritation, skin diseases, and long-term chronic diseases such as cancer. Several reports have revealed the direct association between exposure to the poor air quality and increasing rate of morbidity and mortality mostly due to cardiovascular and respiratory diseases. Air pollution is considered as the major environmental risk factor in the incidence and progression of some diseases such as asthma, lung cancer, ventricular hypertrophy, Alzheimer's and Parkinson's diseases, psychological complications, autism, retinopathy, fetal growth, and low birth weight. The water pollution is related to progression of cysts in visceral organs and liver dysfunction. In proposed review paper, we aimed to discuss toxicology of major air pollutants, sources of emission, and their impact on human health. We would also propose practical measures to reduce pollution in India.

Key words: Air pollution, cardiovascular diseases, environment, human health, respiratory tract diseases, toxicology

Effects of Fertilizers and Pesticides on Ecosystem

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ABSTRACT

The ecosystem can be defined as complex interactions among interdependent organisms that cohabitate in the same geographical area and with their environment. The physical environment along with organisms inhabiting a particular space is basic component of ecosystem. In a natural environment, an ecosystem follows a certain sequence of processes and events through the days, seasons and years. The processes include not only the biotic interactions in that particular ecosystem, but also the interactions between species and physical characteristics of the environment. Pesticides released into the environment may have several adverse ecological effects ranging from long-term effects to short-lived changes in the normal functioning of an ecosystem. Pesticides and fertilizers hold a unique position among environmental contaminants due to their high biological toxicity. Pesticides applied to the environment have shown to have long term residual effects while others have shown to have acute fatal effects when not properly handled.

Key words: Cohabitate, Ecosystem, Fertilizers, Pesticides, toxicity, residual effects.

Effect of Host-Plant Sugarcane upon *Pyrilla* Population

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ABSTRACT

The study was conducted on IPM of *P. perpusilla*, on various sugarcane genotypes revealed that hybrid varieties are more resistant than pure line ones. The selected genotypes differed significantly, from one another. Furthermore the population ranged from minimum of 4.84 to 17.24/leaf of the pest under study. The month of August, was found to be the most favorable period for the development of the pest in both the study years and resulted in maximum population. The genotypes CO 0238 and COP 2061 were found to be resistant and resulted in minimum host-plant susceptibility indices, while, COC 671 and BO 138 proved to be susceptible. All the physio-morphic and chemical plant characters showed significant difference in various selected genotypes of sugarcane except total minerals and fat percentage in the leaves. Leaf-width, nitrogen, magnesium and CHO, showed a positive and highly significant correlation with the pest-population, whereas, leaf-spines, phosphorus, zinc, POL and fiber contents had a negative and highly significant correlation with the pest. Leaf-spines density was the most important factors, which contributed the maximum, i.e., 51.9% in the population fluctuations of the pest followed by the leaf-width with 41.5% impact. Nitrogen contents, in the leaves of sugarcane genotypes, had maximum impact of 89.1% on the population fluctuations of the pest, and proved to be the most important factor among the chemical characters.

Grasshopper Population and Environmental Conditions

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ABSTRACT

Insects are natural food for many vertebrates. Being nutritionally rich, acridids can be used to produce high quality feed for livestock industries. For a sustainable supply for the feed manufacturing companies, a huge acridid biomass must be obtained on a regular basis. Therefore, for successful acridid farming, a laboratory rearing system in semi-controlled conditions is proposed to produce a huge acridid biomass. Experiments were conducted to determine a favorable temperature and photoperiod for rearing the chosen multivoltine species, i.e. *Acrida exaltata*. For this purpose nymphal mortality, growth rate, fecundity, fertility, and adult dry weight were determined. The results revealed that, at 35 ± 2 °C with a L:D photoperiod of 12:12, fecundity and fertility were maximum, while nymphal mortality, egg incubation period, nymphal duration, adult life span, and adult dry weight were favorable. It was concluded that 35 ± 2°C with a photoperiod of 12:12 is suitable for mass production of *Acrida exaltata* in acridid farms.

Key words: Acridid farming, photoperiod, temperature

Aquatic insects biodiversity in selected rice fields of north Bihar

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ABSTRACT

Rice is a major food crop of India. The rice cultivation has maintained its priority status in the agricultural sector of the country. The intensive management practices adopted by the practitioners have resulted in genetic erosion, thus affecting the species composition of the rice field ecosystems. There is obvious difference in species composition and community structure in upland and lowland rice fields and lowland fields has minimum pests affecting production of yield per hectare. This paper presents a work carried out on the biological diversity of lowland rice field ecosystems of India, and proposes the need for conservation strategies to ensure the sustainability of these rice growing ecosystems in the long run.

Key words: Aquatic insect, Rice field ecosystem, biodiversity, community analysis

Seasonal Fluctuation of Sugarcane Aphid under Field Conditions

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ABSTRACT

The seasonal fluctuation of Sugar Cane Aphid, *Ceratovacuna lanigera* Zehnt, and its natural enemies was studied in large commercial sugar cane fields in different selected sites of Gopalganj district from 2014–2015 to 2015–2016 crops. Fortnightly samples of the aphid show that C. lanigera population was firstly appeared in January-February on old ratoon crop. Plant crops were infested later in June-July. The aphid populations increased slowly and peak numbers were reached in March-ratoon crops and in May-July on plant cane. The aphid densities on plant cane were about four times higher than those on the ratoon crop. The reason for this is discussed. There was one species of endo-parasite *Encarsia*, one species of pyralid predator, and four species of coccinellids recorded from the samples. Dominant amongst predators was *Dipha aphidivora*. The population of natural enemies was very scarce and sporadic throughout the study period.

Key words: White sugar cane aphid, *Ceratovacuna lanigera*, sp., encarsia sp., seasonal fluctuation.

Wetland Management for Sustainable Management

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ABSTRACT

Wetland ecosystems are natural resources of local, regional and global significance. Their floral and faunal diversity is perhaps the major cause of its worldwide protection. These makes also a transitional zones between land and water, provide a natural protection against floods and storms. They may also store freshwater for use of animal or for irrigation. The wetlands often provide spawning habitats for lakes and river channels should not be underestimated. In addition to these local benefits, wetland provides a net sink of carbon dioxide at global range. Construction, grading, fertilization and other changes to the surrounding land may increase the flow of water and pollutants to wetlands. Therefore, immediate steps are to be undertaken as a part of policy matter for conserving, restoring and sustaining the existing wetlands.

Key words: Biodiversity, Importance, Mitigation options, Wetland ecosystem

Pollution effect upon Fish diversity of seasonal Sona river in Siwan region

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ABSTRACT

The seasonal rivers are more vulnerable to anthropogenic activities which ultimately deteriorate water quality not suitable for growth and survival of fishes. This proposed paper was aimed to assess different water parameters during two year of study period. This paper entails how fish diversity affected through pollution in river and a trend of more carnivorous and air-breathing fishes while a small herbivorous fish richness only in the rainy season.

Key words: Pollution, diversity, carnivorous, herbivorous

Studies on Seasonal Zooplankton Community Structure of Gandak River

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ABSTRACT

The selected sites of Gandak River near Sheetalpur ghat were studied for a period of one year from June 2013 to May 2014 for regular physico-chemical parameters and zooplankton community structure. The study was designed to estimate zooplankton abundance with seasonal repeated collections. The zooplankton community was composed of 08 species of Rotifera, 07 species of Cladocera, 02 species of Copepoda and 01 species of Ostracoda. These Crustaceans were dominant Class throughout the study period. The abundance of zooplankton in the pond follows a sequence as: Rotifera > Cladocera > Copepoda > Ostracoda. There changes in quantitative and qualitative community structure were found directly correlated with abiotic factors during study period.

Key words: Physico-chemical parameter, zooplankton, Correlation, biodiversity and Shannon-Wiener index.

Effect on Environment from Nuclear Weapons

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ABSTRACT

The tasking for the committee on the Effects of Nuclear Earth-Penetrator and Other Weapons stated in Section 1033 of the Bob Stump National Defence Authorization Act for Fiscal year 2003is included in Chapter of this report. The charge requests an examination of the anticipated health and environment effects of a nuclear earth- penetrator weapon that would enhance ground-shock coupling to destroy deep underground or other hard target and conventional weapons used against facilities for the storage or production of weapons of mass destruction. Study of the effects on civilian populations and on U.S military personnel who carry out operations or battle damage assessment in the target area is specified. To provide a complete analysis of the issues, the committee expanded its study to consider the effects of nuclear weapons used against facilities for storage of chemical or biological agents. It also considered the effects of nuclear bursts that can be described as locally fallout-free, because the weapon is detonated well above the ground surface. Many of the more important strategic hard and deeply buried targets are beyond the reach of conventional explosive penetrating weapons and can be held at risk of destruction only with nuclear weapons. Many-but not all-known and/or identified hard and deeply buried targets can be held at risk of destruction by one or a few nuclear weapons. Nuclear earth penetrator weapons with a depth of 3 meters capture most of the advantage associated with the coupling of ground shock. While the additional depth of penetration increases ground-shock coupling. It also increases the uncertainty of EPW survival. To hold the target, he calculated limit for holding hard and deeply buried targets at risk of destruction with high probability using a nuclear EPW is approximately 200 meters for a 300 kiloton weapon and 300 meters for a one megaton weapon. Current experience and empirical predictions indicate that earth-penetrator weapons cannot penetrate to depths required for total containment of the effects of a nuclear explosion for the same yield and weather conditions., the number of casualties from an earth-penetrator weapon detonated at a few meters depth is, for all practical purposes, equal to that from a surface burst of the same weapon yield. For urban targets, civilian casualties from a nuclear earth-penetrator weapon are reduced by a factor of 2 to 10 compared with those from a surface burst having 25 times the yield. In an attack on a chemical or biological weapon facility, the explosive power of conventional weapons is not likely to be effective in destroying the genre, However, the BLU-118B thermo baric bomb, if detonated within the chamber, may be able to destroy the agent, An attack by a nuclear weapon would be effective in destroying the agent only if detonated in the chamber where agents are stored.

Uses of Insecticides to control Insect pests and its adverse impact on Environment

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ABSTRACT

Insects are the largest group of organisms inhabiting on earth. Their role is very significant because these organisms can be beneficial, neutral, or harmful for the environment. Pesticides are used as plants protection products. Among those, insecticides serve as agents to control insects pest. When insecticides are incorrectly applied, however these substances may negatively affect people's health, natural environment and other animals. Administration routes of insecticides depend on many factors and vary from spraying to fertilizers. These different methods influence how insects prey and how pests develop. Additionally, too frequent use of the same chemicals can lead to development of resistance of insects against these insecticides. If we ignore this fact, protection against a given insect species may not be available as a consequence. In order to prevent occurrence of negative effects of insecticides on surroundings and maintenance of sustainable environment, the use of insecticides compounds to control of insect pest and their adverse effect on environment should be studied.

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Effect of disturbance on diversity pattern and regeneration status of Forested Landscape of North-eastern U. P.

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ABSTRACT

A present study was carried out for diversity pattern of the regional forested landscape of North-eastern Uttar Pradesh, which is a mosaic of major and minor plantation forests and interspersed patches of mixed forests. A total of 369 plant species representing 196 genera and 93 families were recorded. Species richness, mean density and basal area of individuals in the observed forest were compared with those of other forests of India. In addition to the usual recruitment by seed, a number of species also showed non-seed regeneration through storage roots, basal-sprouts or ramet proliferation. The species like *Clerodendron infortunatum*, *Croton oblongifolius*, *Mallotus philippensis* and *Flacourtia indica* increased their ramet production with increase in disturbance level, but recurrent disturbance of high intensity affected ramet proliferation quite adversely. *Bridelia retusa*, *Casearia tomentosa* and *Holarrhena antidysenterica* produced comparatively much lesser number of ramets per genet. The Shannon's index (α-diversity) was however, maximum for Sal stands followed by mixed forests and Sal-Teak combination but the index was much lower for *Trewia* and *Terminalia* stands. γ-diversity for the regional forested landscape was 4.035. The species-area curves suggested that the increase in the number of species was more regular in mixed forest and in some sal stands as compared to other stands. The general form of the dominance-diversity curve for the forested landscape was quite normal but that for trees (>30 cm gbh) showed a steep decline. Rare occurrences of many species may be due to the loss of natural associations of several genera in presence of recurrent disturbance. The results indicate the impact of the degree of disturbance and heat stress on diversity pattern and regeneration strategy of valuable non-seed producing species and the information may be helpful in their conservation and diversity maintenance in order to ensure optimum diversity of regional forest ecosystem.

Key words: Plant diversity, disturbance, regeneration, sal-forests, conservation.

Eco-Ethics and Education

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ABSTRACT

Eco-ethics means human conduct or human behaviour concerned with the environment and education is the process which makes a man of good conduct and behaviour and useful to the society. In the present time, due to globalization, liberalization and industrialization it is well known that human interference in the Nature without any concern for eco-ethics has led to generation of various physical, chemical, mechanical, radiation and psychological hazards. These have further led to pollution of different components of environmental-hence causing harmful effects on living organisms. So, it is need of present time to save environment from all types of pollutions, i.e. physical, social or psychological and education can play a pivotal role in this conserving process of environment to change the human behaviour by emphasizing on eco-ethics. Thus, we can say that eco-ethics is a real need of time and this is only possible through education. We should prompt the young generation to save Nature and environment and broadcast the messages of great environmentalists like Sunder Lal Bahuguna, Chipako and Appiko movements and motivate to follow environment friendly and conservation activities.

Climate change, Global warming, Ozone layer depletion and Renewable energy

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ABSTRACT

Our world is always changing, so is our climate. Climate change is an important issue of concern in the twenty first century. Rising fossil fuel burning and land use changes have emitted, and are continuing to emit, increasing quantities of green house gases into earth's atmosphere. These green house gases include carbon dioxide (CO_2), methane (CH_4) and nitrogen dioxide (N_2O) and rise in these gases has caused a rise in the amount of heat from the sun withheld in the earth's atmosphere, heat that would normally be radiated back into space. This increase in heat has let to the green house effect, resulting in climate change. The main characteristics of climate change are increases in average global temperature (global warming), changes in cloud cover. And precipitation particularly over land melting of ice caps and glaciers and reduced snow cover temperatures absorbing heat and carbon dioxide from the atmosphere.

Population Fluctuations of *Scirtothrips Dorsalis* with Changing Environment in Western Uttar Pradesh

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ABSTRACT

A qualitative survey was made to correlate the population fluctuations of *S. dorsalis* on chilli crop with changing environment. For the purpose a regular survey for collection of thrips was completed during second half of January 2013 to first half of January 2016. Collected data was tabulated according to collection sites/ villages. Simple tabular analysis was made to work out of seasonal population fluctuation of selected thrips species in the Research Laboratory of Zoology Department in Agra College, Agra. The chilli fields in District Agra, highest population of *S. dorsalis* was recorded as 465 & 460 on first half of October and 467 on second half of September for year 2013-14, 14-15 and 15-16 respectively; while the minimum number of chilli thrips was observed in second half of August (ending of rainy season) recorded as 4, 5 and 14 for year 2013-14, 14-15 and 15-16 respectively. In Aligarh, highest population of *S. dorsalis* was recorded as 529, 518 and 599 on second half of September for year 2013-14, 14-15 and 15-16 respectively; on the other hand the minimum number of chilli thrips was recorded as 7 & 17 on first half of August (mid of rainy season) and as 15 on second half of August (ending of rainy season for year 2013-14, 14-15 and 15-16 respectively. In Mathura, highest population of *S. dorsalis* was recorded as 579, 551 and 592 on first half of October for year 2013-14, 14-15 and 15-16 respectively; while the minimum number of chilli thrips was observed in second half of August (ending of rainy season) recorded as 5, 7 and 9 for year 2013-14, 14-15 and 15-16 respectively. In Firozabad highest population of *S. dorsalis* was recorded as 501, 422 and 451 on first half of October for year 2013-14, 14-15 and 15-16 respectively; while the minimum number of chilli thrips was observed in second half of August (ending of rainy season) recorded as 11, 8 and 12 for year 2013-14, 14-15 and 15-16 respectively. In Etah highest population of *S. dorsalis* was recorded as 683, 639 and 609 on first half of October for year 2013-14, 14-15 and 15-16 respectively; while the minimum number of chilli thrips was observed in second half of August (ending of rainy season) recorded as 10, 11 and 20 for year 2013-14, 14-15 and 15-16 respectively. Overall the abundance of *S. dorsalis* is recorded high in autumn season and low in rainy season. Recorded fluctuation level was done for all selected districts of Western Uttar Pradesh.

Key words: Population Fluctuation, Changing Environment, *Chilli Thrips*

Assessment of ground water parameters in and around Harraiya, Basti (U.P.)

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ABSTRACT

The environment and water has become a challenging issue for the people, scientists and policy makers. The main causes of the pollution of environment and water are anthropogenic activities of human beings. The primary objective of this paper is to evaluate the ground water parameters in and around Harraiya of District Basti during months of December 2017. The water samples were collected from 10 different locations of Harraiya and analyzed for groundwater quality parameters viz. pH, Turbidity, Chloride, Total Hardness, Nitrate, Free Chlorine, Iron and Fluoride, On comparing the results with water standards given by WHO and BIS. It was found most of the parameters were under permissible limit but some parameters were exceeds the maximum permissible limit of WHO and BIS Standards.

Key words: Environment, anthropogenic, total hardness, BIS, Harraiya.

Environment Pollution: Causes and Solutions

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ABSTRACT

Environment pollution is a wide reaching problem and it is likely to influence the health of human population is great. Urbanization and industrialization along with economic development have led to increase in energy consumption and waste discharges because of it pollution must be taken seriously, as it has a negative effect on natural elements that are an absolute need for life to exist on earth. This paper provides the insight view about the effects of pollution on human by diseases and problems, animals and trees/plants. Developmental activities such as construction, transportation and manufacturing not only deplete the natural resources but also produce large amount of wastes that leads to pollution of air, water, soil, and oceans; global warming and acid rains. Untreated or improperly treated waste is a major cause of pollution of rivers and environmental degradation causing ill health and loss of crop productivity. Thisstudy isabout the major causes of pollution, their effects on our environment and the various measures that can be taken to control such pollutions.

Water Pollution: A Serious Threat for Human Socities

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ABSTRACT

Pollution is a globalized issue from which all living beings are affected directly or indirectly. Pollution defined as the any undesirable changes, which affects all its physical, chemical and biological activities of environment. Among various types of pollution, water pollution encountered almost all world. Pollution of water occurs when substances that will transform the water in negative manner are discharged in it. This discharge of pollutants can be direct as well as indirect. The main causes behind this serious crisis are domestic wastes, sewage runoff, unburied bodies, industrial effluents in the form of toxic chemicals, agricultural runoff in the form of huge utilization of pesticide and fertilizers. The effects of water pollution may appear immediately after exposure and be more or less violent in the case of drinking water with a high amount of pollutants. This causes a large variety of diseases and poses a serious problem for human health. In the coming decades, water scarcity may leads to social and political instability, water wars and diseases, unless new ways to supply clean water are found. Nowadays there is a continuously increasing worldwide concern for the development of wastewater treatment technologies. A number of methods such as coagulation, membrane process, adsorption, dialysis, foam flotation, osmosis, photo catalytic degradation and biological methods have been used for the removal of toxic pollutants from water and wastewater. In recent years, the Adsorption (bio absorption) process has become more popular as which uses biomaterials as the adsorbent, for contaminated water treatment. Activated carbon is one of the most widely investigated adsorbent in water treatment process. Magnetic adsorbents are an attractive solution for metallic and dye pollutants, particularly due to the simple magnetic separation process. There is a vital need to make awareness for burning environmental problems and to increase solutions in cooperation between science, governments, industry, and other relevant stakeholders. The research and development in the area of water treatment has to reach the real applications where needed as early as possible.

Mollusks used for cleaning Polluted Water

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ABSTRACT

Water pollution is defined as the presence of toxic chemicals and biological agents what is naturally found in water, when exceeds in groundwater and may pose a threat to human health and on the environment also. The chemicals like nitrate, phosphate, manganese are good nutrients but can be bad when in excess. These chemicals comes in reservoirs as the result of civilized human activities and cause algal blooms, loss of sea grass and low oxygen levels, which effect entire biosphere of plants and organisms living in these water bodies. Many practices are ongoing know a days but not much success is still gained in this field. One of them Biological testing is good practice which involves the use of plant, animal or microbial indicators to monitor the health of an aquatic ecosystem. Their are many group of species whose population, biochemical, physiological, or behavioral mechanisms helps in controlling these nutrients of any water ecosystem. Copepods, Crustaceans, and Mollusks that are present in many water bodies are used as bio indicators. Molluskan group which lives in various habitats have been widely utilized as a biological indicator in monitoring pollutants of water. The reason for picking mollusks is that they are filter-feeding organism, able to accumulate within its tissues many of the contaminants (pesticides, hydrocarbons, metals, nutrients etc.) and can filter bacteria, microalgae, and detritus containing in aquatic water. Because Mollusks are not for sale on the commercial market so these mussels aren't directly consumed by humans and this strategy can be easily applied in aquatic ecosystem for controlling contamination and in the resolving of the biological effects.

Key words: Toxic chemicals, Pollutants, Biological Indicator, Mollusks

Thiol Metabolism and Antioxidant Defense System Plays Key Role in Arsenic Detoxification and Development of Safer Rice (*Oryza sativa* L.) Cultivars for Arsenic Polluted Soils

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ABSTRACT

Arsenic (As) contamination of paddy rice in South and South-East Asia has raised much concern as rice is the subsidence diet for millions. The mechanism of arsenic (As) tolerance was investigated on contrasting rice (*Oryza sativa* L.) genotypes, selected for As tolerance and accumulation. The rice genotypes responded differentially under AsV and AsIII stress in terms of gene expression, antioxidant defences and thiol metabolic pathway. Arsenic induced oxidative stress was more pronounced in IET-4786 than Triguna especially in terms of reactive oxygen species, lipid peroxidation, EC and pro-oxidant enzymes (NADPH oxidase and ascorbate oxidase) during AsIII stress. Similarly, most of antioxidants such as superoxide dismutase (SOD), ascorbate peroxidase (APX), guaiacol peroxidase (GPX), catalase (CAT), monodehydroascorbate reductase (MDHAR) and dehydroascorbate reductase (DHAR) increased significantly in Triguna and decreased in IET-4786. Phytochelatin synthase, GST and γ-ECS gene showed their high expression pattern in Triguna and coincided with their specific activity, however in IET-4786 they were generally down-regulated in higher AsIII stress. Besides maintaining the ratio of redox couples GSH/GSSG and ASC/DHA, the level of phytochelatins (PCs) and phytochelatin synthase (PCS) activity were more pronounced in Triguna, in contrast to IET-4786. The effect of silicon (Si) supplementation on As accumulation, growth, oxidative stress and antioxidative defence system was also investigated during As(III) stress. 1 mM Si addition, significantly ameliorates As induced oxidative stress in Triguna cultivar by lowering the As accumulation and improving antioxidant enzymes and their isozymes compared to IET-4786. The study suggests that IET-4786 appears sensitive to As due to reduction of both antioxidative defense system and thiol metabolic pathway. However, a coordinated response of thiol ligands and stress responsive AAs was seem to play role for As tolerance in Triguna to achieve the effective complexation of As, which may be useful for the sustainable agriculture in As polluted soil.

Key words: Arsenic; oxidative stress; antioxidant; thiol metabolism, rice; silicic acid

Effect of Air Pollution and Sun Light on Physical Activities in Human Beings

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ABSTRACT

The quantity of some gases like CO and CO_2 will increase and quantity of O_2 will decrease due to the smoke of vehicles, factories and burning of wood and rubbers. Hence, the breathing, respiration, circulation, digestion and muscular system affect badly in case of physical work by human beings and the related organs have to work hardly in the above conditions. In sun light, by the help of photosynthesis, the O_2 release in environment and this gas use by all living animals in Respiration. In photosynthesis CO_2 intake by plants, and it release by all living animals in respiration. So, the physical exercise by players is useful after sun rise only, otherwise due to the hard work by related organs, the harm effect on human body will seen. The best-known benefit of sunlight is its ability to boost the body's vitamin D supply; most cases of vitamin D deficiency are due to lack of outdoor sun exposure

Key words: Pollution, Physical Activities, Human Beings

Plastic Pollution and its Harmful effect in Environment

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ABSTRACT

Polymer can be natural or synthetic. Natural polymer generally found in plants and animals .Living tissue, proteins in animals and carbohydrate in plants. Water bottles and other plastic containers are made of polycarbonate plastic,a polymer made of the chemical bisphenol A (BPA).it is hormonal disruptingchemical. The burning of polystyrene polymers such as foam cup, meat trays ,egg container and deli containers release styrene, dioxins and bisphenol A. Plastic bags (Polythene) are thrown on soil, birds and animals may mistakenly think these are foods and eat these .the entire marine life is also harmed. Plastic product is non-biodegradable. These means do not decay. That's how long for plastic bags to vanish from our planet and earth.

Effect of Seasonal Variation in the Hematology of Air-Breathing Fishes

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ABSTRACT

The reproductive cycle of fishes are governed by both climatic and physiological factors. The activity of pituitary gonadotropins, gonadal steroids and thyroid hormones are associated with physiological changes, whereas environmental conditions such as photoperiod and temperature play important role in the regulation of reproduction in bony fishes. The present study assessed for biochemical changes especially in blood parameters revealed variation in hormonal activity with subsequent alteration in fish physiology. The fish reproduction and environmental conditions are linked together by endocrine system as the changing climatic conditions operating through the sensory system and specific centers in the brain trigger neurosecretion, which in turn regulates pituitary gland which have direct influence on the gametogenesis, gonadal tissue as well as thyroid secretions.

Role of Zooplanktons for Sustainable Management of Tropical Freshwater Ecosystem in context of India

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ABSTRACT

The freshwater biodiversity includes variety of life with visible changes through several anthropogenic activities like over-exploitation, pollution, habitat alteration and destruction, introduction of alien species etc. are overwhelmingly causing impacts and threats to biodiversity. The diverse fauna and its setting in a rapidly changing landscape also present substantial challenges for aquatic resource managers. The problems in conservation of freshwater biodiversity are due to imperiled species (species with risk of extinction), habitat alteration/loss and introduced species in aquatic ecosystems. This ecosystem may be sustainably manage with fish catch limit below the maximum sustainable yield, charge payment for fish harvest from public wetland and ponds, establishment of protected area and publicity about overfished and threatened species. Zooplankton are small animals that float freely in the water column of lakes and oceans and whose distribution is primarily determined by water currents and mixing. They play a pivotal role in aquatic food webs because they are important food for fish and invertebrate predators and they graze heavily on algae, bacteria, protozoa, and other invertebrates. Their communities are typically diverse and occur in almost all lakes and ponds. The zooplanktons may ensure fish productivity and participating in sustainable management of freshwater ecosystem as they contain enriched nutrients must be useful for growth and survival of existing fish species in local water body with streams and rivers. These tiny creatures may support to food and economies of persons depend on harvesting of water resources. Our country belongs under list of underdeveloped country with about 80 percent family lives in poverty and great need to food materials enriched with carbohydrate, protein, fat, vitamin and minerals to fight against several disease and pathogenic infection. There is a fair practice in developed countries of the world to receive attention on importance of these creatures for timid growth, reproduction and survival of freshwater fishes and culture for their mass production to replace traditional food items given to existing fishes. Then why not we follow these zooplankton as live and pellet form for commercial production to meet local demand of fish products for health and hygiene of low income group communities in India?

Key words: Zooplankton, biodiversity, sustainable management, fish feed, freshwater ecosystem.

Pollution Control: A Must Need To Understand Our Duty

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ABSTRACT

The earth is our home and we have the duty to take care of it for ourselves and for our later generations Mahatma Gandhi said "Earth provides enough to satisfy every man's needs, but not every man's greed". Environmental problems are becoming more and more serious all over the world. For example, cars have made the air unhealthy for people to breathe as well as poisonous gas is given off by factories. Trees on the hills have been cut down and waste water is being poured continuously into rivers. Furthermore, wherever we go today, we can find rubbish carelessly disposed. Pollution is, in fact, threatening our existence. Pollution prevention is a major global concern because of the harmful effects of pollution on a person's health and on the environment. Environmental pollution comes in various forms, such as: air pollution, water pollution, soil pollution, etc. Everyone is a stakeholder as we are all inhabitants of this one and only mother earth. Each person can contribute something to advance environmental pollution mitigation measures. Environmental protection means caring for our resources and subsequently for ourselves and ensuring a sustainable future for generations to come will have a better environment. According to United Nations Environment Programme "One person alone cannot save the planet's biodiversity, but each individual's effort to encourage nature's wealth must not be underestimated". There is a popular proverb that "every good thing, if you start it, start it from your home". It is the duty of every citizen to bring awareness to own and our society. Many activities can be carried out by common citizen to improve the world's environmental pollution. First, we should not exceed the limits defined by the law regarding noise, air, soil and water pollution. The widespread use of polythene bags should be stopped as they are one of the main causes of pollution. Garbage should be recycled instead of throwing it away. Dry garbage can be used in construction of roads and wet garbage can be used as manure in our lawns. Vehicles should be kept in good condition so that they do not become a cause of air pollution. Use toilets instead of open defecation and prevent a number of diseases and germs. So, by following these easy steps, we can prove the fact that everybody can and do play a vital role in pollution control.

Distribution of Subspecies and Populations of Indian Rhesus Monkey

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ABSTRACT

Rhesus monkey is native to India, Pakistan, Nepal and China. They have the widest geographic ranges of any nonhuman primate, occupying a great diversity of altitudes throughout Central, South, and Southeast Asia. Inhabiting arid, open areas, rhesus macaques may be found in grasslands, woodlands, and in mountainous regions up to 2,500 m (8,200 ft) in elevation. They are regular swimmers. Babies as young as a few days old can swim, and adults are known to swim over a half mile between islands, but are often found drowned in small groups where their drinking waters lie. Rhesus macaques are noted for their tendency to move from rural to urban areas, coming to rely on handouts or refuse from humans. They adapt well to human presence, and form larger troops in human-dominated landscapes than in forests. The southern and the northern distributional limits for rhesus and bonnet macaques, respectively, currently run parallel to each other in the western part of India, are separated by a large gap in the center, and converge on the eastern coast of the peninsula to form a distribution overlap zone. This overlap region is characterized by the presence of mixed-species troops, with pure troops of both species sometimes occurring even in close proximity to one another. The range extension of rhesus macaque- a natural process in some areas, and a direct consequence of introduction by humans in other regions- poses grave implications for the endemic and declining populations of bonnet macaques in southern India.

जलवायु परिवर्तन, ग्लोबल वार्मिंग का भारत पर प्रभाव एवं समाधान

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सारांश

शुद्ध पर्यावरण मानव जीवन के लिए अति आवष्यक है और इसमें किंचित मात्र भी संदेह नही है कि मानव का विकास ही नहीं, वरन उसका समूचा अस्तित्व ही पर्यावरण पर केन्द्रित है। पर्यावरण, मानव संसाधन और विकास की संयुक्त रूप से निर्भरता जगजाहिर है और इसका संतुलन एक ओर जहां विकास के मार्ग को प्रषस्त करता है, वही दूसरी ओर इनका असंतुलन समाज को काल के गाल में समाने को विवष कर देता है। इतिहास गवाह है कि अनेकानेक मानव सभ्यताओ के पतन के पीछे पर्यावरण और मानवीय संसाधनों का असंतुलन प्रमुख कारण है। इस तथ्य को नकारा नही जा सकता है कि हमारे चारों ओर प्रकृति ने जो भी जीवित तथा निर्जीव वस्तुएं है, वह चाहे मिट्टी, जल हो, वायु, प्रकाष हो, वृक्ष तथा जीवजन्तु हो, सभी पर्यावरण के अभिन्न अंग है, जो आपस में एक दूसरे से गहरे तक जुड़े हुऐ है। इसमें परिस्थितिजन्य संतुलन बिगड़ते ही पर्यावरण संतुलन बिगड़ जाता है। परिणामस्वरूप कई प्रकार की भीषण समस्याएं हमारे सामने आ खड़ी होती है इसलिए परिस्थितिजन्य संतुलन बनाएं रखने हेतु पर्यावरण संरक्षण अवष्यंभावी है। आज के युग में मानव जितना पर्यावरण की समस्या से चिंतित है, शायद ही पहले कभी इतना चिंता व्यक्त की होगी, जितना की मौजूदा समय में देखने को मिलती है। आज प्रत्येक मनुष्य के मस्तिष्क में पर्यावरण प्रदूषण एक जटील समस्या बन गयी है। एक तरफ तो मानव चाँद पर पहुँच गया है तथा दूसरी तरफ उसे अपने चारो तरफ के प्राकृतिक स्त्रोत समाप्त होते दिखाई पड़ रहे है। शायद मानव ने यह अनुभव कर लिया है कि उसके द्वारा बनाए गये यन्त्र, संयन्त्र, परमाणु बम तथा अन्य आधुनिक उपकरण से उसने अपने अस्तित्व को मिटाने का कार्य किया है। इसके अतिरिक्त बढ़ती हुई जनसंख्या, शहरीकरण, आधुनिकीकरण और प्राकृतिक स्त्रोतों का विनाष होने से हम और हमारी आने वाली पीढ़ियों का भविष्य अंधकार में चला जाएगा। मानव के सामने जो गरीबी, भूख, अज्ञान एवं अनपढ़ता की समस्यायें है, उनसे अभी उबरा भी नही था कि उसके चारो ओर के प्रदूषण की काली आंधी ने आ घेरा है। मनुष्य आज प्रकृति के साथ अपने भौतिक सुखों के लिए खिलवाड़ कर रहा है किन्तु वह यह भूल गया है कि इसके दूष्परिणाम उसी को भुगतने होंगे, बढ़ते हुए औद्योगिकीकरण ने जिस नई समस्या को जन्म दिया है, उसका नाम है–वैष्विक उष्णता अर्थात ग्लोबल वार्मिंग। यह एक मीठे जहर की तरह धीरे–धीरे पृथ्वी के वातारण में घुलकर एक दिन समस्त पृथ्वी को नष्ट कर देने की क्षमता रखती है। यह एक कड़वा सच है, परन्तु एक मात्र सच यही है। समय रहते यदि इस समस्या का समाधान न ढूंढ़ा गया तथा सम्भावित समाधानों पर कार्य न किये गए तो परिणाम अच्छे नही होंगे। समय की आवष्यकता है कि हम ग्लोबल वार्मिंग की समस्या की गंभीरता को समझें। इसके लिए आवष्यक है कि हम स्वयं को तथा आने वाली पीढ़ियों को इस समस्या के कारणों तथा उससे बचने के उपायों से अवगत कराएं।

पूर्वी उत्तर–प्रदेश में जैविक कृषि द्वारा पर्यावरण की शुद्धि

वीरेन्द्र सिंह
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सारांश

पूर्वी उत्तर प्रदेश हमारे प्रदेश का एक महत्वपूर्ण कृषि आर्थिक प्रदेश है, जो $23^0$50′17′′ उत्तर से $28^0$12′25′′ उत्तरी अक्षांश एवं $80^0$30′48′′ पूरब से $84^0$42′30′′ पूर्वी देशान्तर के बीच स्थित है। इसका सम्पूर्ण क्षेत्रफल 85,752 वर्ग कि.मी. है। इस क्षेत्र की कुल जनसंख्या का 68 प्रतिशत भाग कृषि पर ही जीवन निर्वाह करता है। साठ के दशक में भारतीय कृषि में जब 'हरित क्रान्ति' का आग़ाज हुआ था उस समय बढ़ती जनसंख्या की खाद्य आवश्यकताओं को पूरा करने हेतु पूर्वी उत्तर प्रदेश के कृषकों ने भी हरित क्रान्ति के विविध आयामों को अपनाते हुए कृषि में रासायनिक उर्वरकों और कीटनाशकों का छिड़काव प्रारम्भ किया। अगले 50–60 सालों में इनका इस्तेमाल बड़े पैमाने पर लगातार बढ़ता गया। उत्पादन बढ़ाने हेतु कृषि फसलों, सब्जियों एवम् फलदार वृक्षों पर जिन कीटनाशक या फंगसनाशी रसायनों का छिड़काव किया जाता है, उनका केवल 1 प्रतिशत ही कीटों पर पड़ता है, शेष 99 प्रतिशत फसलों या पत्तों या भूमि पर गिरता है। ये विषैली रसायनें हवा और पानी के जरिए आसपास के भूमि या वातावरण में समा जाता है। इस तरह कीटनाशकों का यह जहर मृदा और वायु मण्डल से होते हुए न केवल खाद्यान्नों, फलों, सब्जियों तथा दुध तक पहुँचकर मानव स्वास्थ्य व जीवधारियों पर घातक प्रभाव डाल रहा है, अपितु समूची मृदा की प्राकृतिक उर्वरा–शक्ति को दुष्प्रभावित करते हुए जल स्रोतों को भी प्रदूषित करता जा रहा है, जो कि एक गंभीर पर्यावरणीय समस्या है। इस शोध–पत्र का मुख्य तथ्य यह है कि पूर्वी उ0प्र0 में जैविक कृषि–पद्धति को अपनाकर, कीटनाशकों के दुष्प्रभावों से कैसे बचा जा सकता है? इस संदर्भ में 2011–12 में आन्ध्र प्रदेश में कीटनाशकों के बिना खेती करने का एक प्रयोग कुछ गांवों में 225 एकड़ भूमि में शुरू हुआ था और यह प्रयोग इतना सफल रहा कि देश के विभिन्न राज्यों के कृषकों ने लगभग 1 करोड़ एकड़ कृषि भूमि में जैविक–कृषि को अपना लिया है। सिक्किम देश का पहला ऐसा राज्य है जिसने जैविक खाद वाली कृषि को पूर्णतया अपना लिया है। इसी राह पर पूर्वी उ.प्र. को भी तेजी से आगे बढ़ने की आवश्यकता है। जैविक खेती को अपनाकर ही यहां के पर्यावरण को शुद्ध किया जा सकता है। व्यक्तिगत रूप से मुझे लगता है कि यदि उ0प्र0 में मानव स्वास्थ्य की रक्षा के साथ–साथ यहां के पर्यावरण को परिपुष्ट एवं शुद्ध करना है, तो जैविक खेती की ओर बढ़ने के अलावा हमारे पास अन्य कोई विकल्प नहीं है।

जैव विविधता एवं इसका संरक्षण

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सारांश

''जैव विविधता जीवन का आधार है एवं यही पर्यावरण में समय के साथ धीरे व तेजी से होने वाले परिवर्तनों के विरूद्ध लड़ने के लिए जैविक पदार्थ उपलब्ध कराने में सक्षम होती है। भारत में बहुत अधिक जैव विविधिता पायी जाती है। यहाँ पर लगभग 75,000 पशुओं की तथा 45,000 पादपों की प्रजातियाँ मिलती हैं। पृथ्वी पर लगभग 335 लाख जीव प्रजातियाँ है जिनमें में लगभग 14 लाख प्रजातियों का ही ज्ञान उपलब्ध है। प्राप्त जैव प्रजातियों में से कोई भी ऐसा जीव नहीं है जो प्राकृतिक रूप से बेकार हो। विभिन्न प्रकार के जीवों की अपनी अलग–अलग भूमिका होती है जो प्रकृति को संतुलित रखने तथा पृथ्वी को जीवन्त बनाये रखने में अपना योगदान देते रहते है। सूक्ष्म जीवों जैसे विषाणु, जीवाणु, कवक तथा अन्य सूक्ष्म प्रजातियों का उतना ही महत्व है जितना बड़ी–बड़ी प्रजातियों एवं वनस्पतियों का। विभिन्न प्रकार के जीवों के कारण ही पृथ्वी पर जीवन है किन्तु जीवों का अवैध षिकार और उनसे प्राप्त मूल्यवान उत्पादों की तस्करी जैव विविधता पर मँडराता खतरा है। जंगली जीवों से प्राप्त उत्पादों पर लगी अन्तरराष्ट्रीय रोक के बावजूद इनका अवैध व्यापार हो रहा है। प्राकृतिक क्षेत्रों का विनाष, पारिस्थितिकी तंत्र का अवैधानिक दोहन एवं खनन के कारण प्रजातियाँ समाप्तप्राय हो रही हैं। वैज्ञानिकों के अनुसार जलवायु बदलाव, उल्कापात एवं जैव विकास की प्रतिस्पर्धा में जितने जीव और वनस्पतियाँ नष्ट हो रहे है उससे 50 से 100 गुना जैव विविधता नष्ट होने के लिए मानव गतिविधियाँ जिम्मेदार है। इस हेतु संविधान के भाग 4 में अनुच्छेद 48A, नागरिकों के मौलिक कर्तव्यों के अनु0 51 A तथा संविधान का अनु0 21 जैव विविधता संरक्षण व पर्यावरण संरक्षण की दिषा में प्रभावषाली हथियार साबित होगा। उपरोक्त से स्पष्ट है कि इस सृष्टि को संतुलित बनाये रखने हेतु विविध प्रकार के जीवों और वनस्पतियों का अस्तित्व में रहना अति आवष्यक है या यूँ कहें जैव विविधता हमारी अनिवार्य आवष्यकता है।''

प्राकृतिक ससांधनः वन संरक्षण एवं प्रबंधन

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सारांश

वन मानव जीवन के लिए बहुत ही महत्त्वपूर्ण संसाधन है परन्तु जनसंख्या वृद्धि के कारण अपनी आवष्यकताओं की पूर्ति के लिए मनुष्यों ने वनों को बहुत बड़ी मात्रा में काट डाला है। कभी वनों को काट कर खेती किया और कभी मकान, पुल, नाव, ईधन, चारा आदि के लिए वनों को काटा है। पृथ्वी पर उष्णकटिबंधीय क्षेत्रों का वनाच्छादित क्षेत्रफल विकासषील देषों में काफी तेजी से घट रहा है। एक तरफ जहाँ शीतोष्ण वनों के वन क्षेत्रों में लगभग 1 प्रतिषत क्षेत्र की कमी आयी है, वही उष्णकटिबंधीय वनों में लगभग 40 प्रतिषत से भी अधिक वन क्षेत्र वनोन्मूलन के कारण समाप्त हो गये हैं। खेती का विस्तार, नगरों की स्थापना व विस्तार, उद्योगों की स्थापना व फैलाव, इमारती लकड़ी का अधिक मात्रा में व्यापारिक उपयोग, काश्ठीय ईंधन, अन्य वन्य उत्पाद जैसे– वनौषधियाँ, पत्तियाँ, शाखाएँ एवं जानवरों द्वारा गहन रूप से चारण के कारण तेजी से वनोन्मूलन हुआ है। पर्वतीय वन मुख्यतया वर्षा जल में रूकावट डालते हैं और उन्हें शोषित कर बाढ़ से हमारी रक्षा करते है। इसी जल को वे धीमी गति से छोड़ते रहते हैं। वन के समाप्त होने पर नदियों एवं धराओं में जल में प्रवाह की मात्रा कई गुना तक बढ़ जाती है। वनोन्मूलन मृदाक्षरण की वृद्धि एवं मृदा उर्वरकता में गिरावट लाते है। वनोन्मूलन से शुष्क क्षेत्र रेगिस्ताान में बदल जाते है।

मानव स्वास्थ्य पर वायु प्रदूषण का प्रभाव

सतीशचन्द्रवर्मा [1], विजय कुमारपाल [1], हृदय कुमार [1] एवं अवधेश कुमार [2]
[1] कृषिअर्थषास्त्र विभाग, बी0आर0डी0 पी0जी0 कालेज देवरिया, उ0प्र0
[2] भूमि संरक्षण विभाग, बी0आर0डी0 पी0जी0 कालेज देवरिया, उ0प्र0

सारांश

वायु के सामान्य संगठन में मात्रात्मक या गुणात्मक परिवर्तन जो जीवन या जीवनोपयोगी अजैविक संगठकों पर दुष्प्रभाव डालता है, वायुप्रदूषण कहलाता है। वायु प्रदूषण की अपनी प्रकृति एवं मात्रा के अनुसार मनुष्य को प्रत्यक्ष या अप्रत्यक्ष रूप से प्रभावित करते है। इसका प्रभाव स्थानीय, क्षेत्रीय तथा विष्वव्यापी होता है। मानव सृष्टि की अनुपम कृति है मनुष्य जीवन के संचालन हेतु श्वसन क्रिया के माध्यम से अनवरत ऑक्सीजन वायुमण्डल से प्राप्त करता रहता है। इसके बिना मानव जीवन का अस्तित्व ही नहीं है। परन्तु वायु प्रदूषकों का श्वसन क्रिया के दौरान मानव शरीर में प्रवेष, मानव के लिए हॉनिकारक है। यह प्रदूषक मानव शरीर में प्रवेष करके अनेक रोगों को जन्म देते हैं। मानव में इनका सर्वाधिक प्रभाव श्वसनतंत्र पर पड़ता है। वायु मे उपस्थित विभिन्न हॉनिकारक कणिकाएं सांस के साथ फेफड़ों में प्रवेष कर जाती हैं तथा रक्त के साथ मिलकर अनेक रोगों का कारक बनती हैं। इससे श्वसननली एवं फेफड़ों में जलन एवं सूजन, छाती में जकड़न, गले में खरास, सांस लेने में परेषानी इत्यादि होती है। प्रदूषित वायु से श्वास रोग जैसे ब्रोकाइटिस, अस्थमा, निमोनिया, टी0बी, नजला, फेफड़ों का कैंसर इत्यादि हो जाते है। वाहनों से निकलने वाले सीसा युक्त धुएँ के मानव शरीर में पहुँचनें पर यकृत तंत्रिकातंत्र व आहार नाल की कोशिकाओं की क्षति हड्डियों के रोग, स्त्रियों में गर्भपात तथा बच्चों में मस्तिष्क विकार इत्यादि रोग उत्पन्न होते है। भारी धातुओं के कण मानव शरीर में प्रवेश करने से हृदय एवं मस्तिष्क रोगों का जन्म होता है। आंखों एवं नाक मे जलन, धुंधली दृष्टि, सिरदर्द, मिचली, उल्टी, चक्कर आना इत्यादि रोग वायु प्रदूषण की देन है। फ्लोराइड से पेट दर्द अपाच्य, डायरिया इत्यदि रोग उत्पन्न होते हैं। भारत में दिन प्रतिदिन हवा में जहर और घुलता जा रहा है। इसका असर इतना खतरनाक हो गया है कि वायुप्रदूषण से हर मिनट में दो भारतीय की मौत हो जाती है एक अध्ययन के अनुसार विश्व के सबसे प्रदूषित शहरों में से कई भारत में हैं। पीएम 2.5 के स्तर के लिहाज से पटना और नई दिल्ली दुनिया के सबसे अधिक प्रदूषित शहर है। यही नहीं इसमें कहा गया है कि जलवायु परिवर्तन मानव के स्वास्थ्य के लिए गम्भीर खतरा हैं। चिकित्सा पत्रिका लांसेट का अध्ययन हाल ही में 48 प्रमुख वैज्ञानिकों ने जारी किया। अध्ययन के अनुसार भारत में स्मॉग से भारी क्षति हो रही है। वायु प्रदूषण के चलते हर वर्ष करीब 10 लाख भारतीयों की मौत हो जाती है। पीएम 2.5 के चलत`विष्व में 27 से 34 लाख बच्चे समय से पूर्व जन्म लेते है। समय पूर्व (प्री–टर्म) जन्म लेने वाले बच्चों की संख्या भारत में 3.5 है, चीन में 1.7 लाख, नाइजीरिया में 7.73 लाख, पाकिस्तान में 7.48 लाख, इन्डोनेशिया में 6.75 लाख, अमेरिका में 5.17 लाख, बांग्लादेश में 4.24 लाख है। समय से पूर्व (प्री–टर्म) जन्म लेने वाले कुल बच्चों की संख्या का 60 प्रतिशत अफ्रीका और आस्ट्रेलिया देश में है। भारत में 34 बच्चें समय पूर्व प्रतिमिनट जन्म लेते है। समय से पूर्व जन्म लेने वाले बच्चों में सबसे अधिक प्रभावित दक्षिण एशिया है। जिसमें 16 लाख बच्चें समय से पूर्व जन्म लेते है। वायु प्रदूषण एवं जलवायु परिवर्तन के कारण आपस मे जुड़े होते है। वायु प्रदूषण सबसे घातक प्रदूषण के तौर पर उभरा है। यह विश्व में समय से पूर्व मौत का चौथा प्रमुख कारण है। इससे हर दिन 10,000 लोगों के मारे जाने का अनुमान है। विश्व बैंक कि एक रिपोर्ट के अनुसार दुनिया भर में वर्ष 2013 में बाहरी एवं घर के अन्दर वायुप्रदूषणजनित बीमारियों के कारण 55 लाख लोगों की मौत हुई। विश्व में यह सबसे बड़ा पर्यावरणीय स्वास्थ्य खतरा बन गया है।

भारत में रासायनिक प्रदूषण से मन्दबुद्धिता

चन्द्रभान वर्मा एवं नरेन्द्र कुमार शर्मा

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[2] भूगोल विभाग, रामजी सहाय पी0जी0 कालेज, रूद्रपुर, देवरिया

सारांश

आज के युग को रासायनिक युग कहा जा सकता है, क्योंकि प्रतिवर्ष लगभग 2000–3000 नये रसायन पंजीकृत हो रहे हैं। द्वितीय विष्व युद्ध के पश्चात लगभग 80000 नये रसायन बाजार में आ चुके हैं। विष्व में रसायनों की खपत 1930 में मात्र 10 लाख टन थी, जो अब बढ़कर 22 करोड़ टन से अधिक हो चुकी है। आज हम रसायनों के समुद्र में तैर रहे हैं, जो हवा हम सांस के द्वारा लेते हैं, जो जल हम पीते है, जो भोजन हम खाते हैं, सभी विविध प्रकार के रसायनों से युक्त है। कुछ हद तक रसायन हमारे जीवन को सुखद बना रहे हैं, परन्तु निष्कर्षतः ये अनेक प्रकार की विकलांगताओं विषेषतः मन्दबुद्धिता को जन्म ही नही अपितु बढ़ा भी रहे हैं। प्रश्न यह है कि आखिर ये रसायन आते कहाँ से है। हमारे अनेक उत्पादों में इन रसायनों का उपयोग होता है। ये रसायन उत्पाद के कुछ गुण को बढ़ा देते हैं, जिसके कारण उस उत्पाद की मांग बढ़ जाती है। दूसरी ओर प्रतिद्वन्दी कम्पनियाँ उससे अधिक गुणवत्ता वाले उत्पाद बनाने लगते हैं, जिससे रसायनों की उपयोग की प्रतिद्वन्दता बढ़ जाती है। इससे उत्पाद सस्ते, टिकाऊ के साथ हानिकारक भी हो जाते है। विभिन्न विनिर्माण प्रक्रियाओं में प्रदूषण के रूप में रसायन उत्सर्जित होता है, जो हवा, पानी, भूमि व भोजन में मिलकर हमारे शरीर में पहुँच जाते हैं। इसका मनुष्य पर जो दुष्प्रभाव पड़ता है, उसकी निर्भरता निम्नवत है।

1. कितनी मात्रा में रसायन प्रवेश किया।
2. कितनी अवधि में प्रवेश किया।
3. प्रवेश करने का समय (बचपन, यौवन, गर्भावस्था आदि)।

ये रसायन शरीर में प्रवेश कर तंत्रिता तंत्र को प्रभावित कर विकलांगता, मन्दबुद्धिता को जन्म देते है। इसमें गर्भावस्था सर्वाधिक नाजुक समय होता है। हमारे घरों में ऐसे उत्पादों का उपयोग बढ़ रहा है, जिनमें खतरनाक रसायन व पदार्थ प्रचुर मात्रा में पाये जाते हैं। यथा– सफाई करने वाले उत्पाद, विभिन्न प्रकार के रंग रोगन, वार्निश, कीट नाशक दवाएं, घोलक, प्लास्टिक के सामान, ऐसे फर्निचर जिनके सफाई में रसायनों का उपयोग होता है, इलेक्ट्रानिक उत्पाद आदि है। अब तक माता का दूध बच्चे के लिए अतिसुरक्षित माना जाता रहा है, क्योंकि इसमें प्रदूषक तत्वों की उपस्थिति नही थी, परन्तु वातावरण में प्रदूषक तत्वों की वृद्धि होने से महिलाओं के शरीर में भी लेड, पारा, पी0सी0बी0 बढ़ रहे हैं। ये विषैले रसायन रक्त से दूध तक पहुँचने लगे है। रासायनिक प्रदूषण से बचने में अज्ञानता सबसे बड़ी बाँधा है। आधुनिक एवं उपभोक्तावादी जीवन दर्शन के कारण मानव समाज स्वयं अपना दुश्मन है। सरकारें रसायनिक प्रदूषण अथवा घटना से बचने के अनेक कानून पारित कर चुकी है, परन्तु जब तक मानव स्वयं इसके प्रति जागरूक नहीं होगा तब तक इसका प्रभाव बढ़ता ही जायेगा और प्रकृति के गुणों के साथ–साथ मानव में नकारात्मक प्रभाव को बढ़ाता जायेगा।

मनोवैज्ञानिक, सामाजिक तथा राजनैतिक प्रदूषण एवं इसके निवारण में शिक्षा की भूमिका :एक अध्ययन

विवेक कुमार श्रीवास्तव
कर्यवाहक प्रधानाध्यापक,
बे0 शि0 प0, उ0प्र0।

सारांश

प्रायः जब पर्यावरण प्रदूषण की बात की जाती है तब हमारा ध्यान प्राकृतिक वातावरण को प्रदूषित करने वाले कारकों पर केंद्रित हो जाता है और हम उन्हीं के विषय में चिन्तन करते हैं। यहाँ विचारणीय है कि प्राकृतिक पर्यावरण से इतर एक मानवीय पर्यावरण का भी अस्तित्व है जिसका प्रभाव सम्पूर्ण मानव जाति पर पड़ता है। यही कारण है कि जब मानवीय पर्यावरण प्रदूषित होता है तो यह अधिक घातक सिद्ध होता है। प्रस्तुत लेख में मानवीय पर्यावरण तथा उसमें व्याप्त प्रदूषण का अध्ययन मनोवैज्ञानिक, सामाजिक तथा राजनैतिक प्रदूषणों के विशेष संदर्भ में किया गया है। सम्प्रति अधिकांश व्यक्ति किसी न किसी प्रकार के मनोवैज्ञानिक प्रदूषण से ग्रसित हैं। इसके अनेक कारक हैं। इनमें से कुछ अग्रांकित हैं– चिंता, तनाव, थकान, अवसाद आदि। चिंता और तनाव मनुष्य की स्वाभाविक प्रकृति है। यह जब तक मनुष्य के नियन्त्रण में रहते हैं तब तक रचनात्मक होते हैं किन्तु जब यह नियन्त्रण के बाहर हो जाते हैं तब यह विध्वंशकारी हो जाते हैं। वर्तमान समय में अतिमहत्वाकांक्षी तथा निरन्तर प्रतिस्पर्धी जीवन शैली, माता–पिता की अपने बच्चों को सर्वोत्तम बनाने की इच्छा आदि बच्चों को मानसिक एवं शारीरिक रूप से थका देती है और अपेक्षानुरूप परिणाम प्राप्त न होने पर यही बच्चे अवसाद जैसे मनोवैज्ञानिक प्रदूषण के दुष्प्रभाव में आकर आत्महत्या तक कर रहे हैं। मनुष्य एक सामाजिक प्राणी है। जिस समाज के नागरिक स्वस्थ मानसिकता के होते हैं वह समाज भी स्वस्थ होता है किन्तु जिस समाज के सदस्य दूषित मानसिकता के होते हैं वह समाज भी दूषित हो जाता है। वर्तमान समाज में अनेक प्रकार के सामाजिक प्रदूषण व्याप्त हैं। सामाजिक प्रदूषण के कुछ महत्वपूर्ण कारक अग्रांकित हैं– नैतिक मूल्यों का पतन, आधुनिकीकरण, फिल्मी संस्कृति, मादक द्रव्यों का सेवन, अपराधवृत्ति, धार्मिक संकीर्णता आदि। राजनीति एक ऐसी व्यवस्था है जिसका मूल उद्देश्य लोकहित होता है और इसकी सफलता जनता की खुशहाली पर निर्भर करती है। भारत में लोकतंत्रात्मक, समाजवादी तथा पंथनिरपेक्ष राजनैतिक व्यवस्था है जिसका उद्देश्य जनता को सामाजिक, आर्थिक एवं राजनैतिक न्याय दिलाना है। किन्तु वर्तमान में भारतीय राजनीति अनेक प्रकार के प्रदूषणों से प्रदूषित हो चुकी है। इसके प्रमुख कारक अग्रांकित हैं–अपराधीकरण, भ्रष्टाचार, साम्प्रदायिकता, जातिवादिता, तुष्टीकरण, वंशवाद, शैक्षिक आर्हता का अभाव, क्षेत्रवादिता आदि। उपर्युक्त प्रदूषणों को दूर करने में शिक्षा की महत्वपूर्ण भूमिका है। शिक्षा ही वह माध्यम है जिसके द्वारा बाल्यावस्था से ही बच्चों में नैतिक मूल्यों का विकास किया जा सकता है, चरित्र को उत्तम बनाया जा सकता है, उचित–अनुचित, सत्य–असत्य आदि में भेद समझने में सक्षम बनाया जा सकता है। शिक्षा व्यक्ति को मानसिक रूप से दृढ़ एवं स्वस्थ बनाती है और स्वस्थ मानसिकता का व्यक्ति न केवल मनोवैज्ञानिक प्रदूषण अपितु सामाजिक एवं राजनैतिक प्रदूषण से भी स्वयं को एवं समाज को सुरक्षित रख सकता है। अतः उपर्युक्त को दृष्टिगत रखते हुए वर्तमान शिक्षा व्यवस्था की समीक्षा की परम् आवश्यकता है।

प्राकृतिक संसाधनों के संरक्षण में सरकार और लोगों की भूमिका

शिवपूजन मौर्या
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सारांश

जलवायु परिवर्तन का अर्थ है पृथ्वी पर जलवायु की परिस्थितियों में बदलाव होना। साधारणतः मौसम में अक्सर बदलाव होते रहते हैं, परन्तु जलवायु परिवर्तन केवल तभी घटित होता है जब ये बदलाव पिछले कुछ वर्षों या दशकों तक कायम रहें। वर्तमान में जलवायु परिवर्तन के नकरात्मक परिणाम हमारे समक्ष प्रदर्शित हो रहे हैं। जिसके कारण विभिन्न प्रकार की समस्याएं उत्पन्न हो रही हैं। इसके जिम्मेदार मानवीय गतिविधियाँ रही हैं। पिछले 150–200 वर्षों में ये जलवायु परिवर्तन इतनी तेजी से हुआ है कि प्राणी व वनस्पति जगत को इस बदलाव के साथ सामंजस्य बैठा पाने में मुश्किल हो रहा है। वर्ल्ड वाइल्ड फंड की रिपोर्ट के अनुसार विश्व को अगले पचास वर्षों में गंभीर पर्यावरणीय खतरों का सामना करना पड़ सकता है। वैज्ञानिकों ने चेतावनी दी है कि जिस तेजी से प्राकृतिक संसाधनों का दोहन हो रहा है, उसके हिसाब से पचास वर्ष के भीतर दुनिया की आबादी की आवश्यक वस्तुओं को मुहैया कराने के लिए पृथ्वी के संसाधन कम पड़ जाएंगे। यह समस्या अंतरराष्ट्रीय समस्या का रूप ले चुकी है और इससे विकसित या विकासशील देश ही नहीं, अपितु विश्व के अधिकांश देश इसकी चपेट में है। कुछ सुखद यह है कि, सरकारों ने इस विषय में गंभीरता से विचार और नीतियाँ बनाना शुरू कर दिया है। वैश्विक स्तर पर आईपीसीसी जैसी संस्थाएं बनी हैं तो राष्ट्रीय स्तर पर भी सराहनीय प्रयास किये जा रहे हैं। परन्तु यह प्रयास काफी नहीं हैं। केवल सरकार या संस्था ही इस समस्या को हल नहीं कर सकती है। इसके लिए आवश्यक हैं कि, व्यक्तिगत स्तर पर पर्यावरण के प्रति जागरूकता हो और पर्यावरण संरक्षण में जन भागीदारी सुनिश्चित हो। पत्येक व्यक्ति इसे अपनी जिम्मेदारी समझे और ईमानदारी पूर्वक इसका पालन करे। सरकारों को पर्यावरण संरक्षण के लिए सख्त नीतियाँ बनानी चाहिए और इसके क्रियान्वयन में जन भागीदारी को सुनिश्चित करना चाहिए। इस संसार में ऐसी कोई भी समस्या नहीं जिसका हल न हो, बस आवश्यकता इस बात की हैं कि, हम उस हल की ओर कितने समर्पित हैं।

मुख्य शब्दः जलवायु परिवर्तन, प्राकृतिक संसाधन, पर्यावरण सुरक्षा

वैदिक दर्शन में पर्यावरण प्रबंधन एवं महत्व

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सारांश

'पारितः आव्रियते येन तत् पर्यावरणम्' अर्थात वह समस्त जैविक व अजैविक संघटक जो जीव को चारों ओर से घेरे हुए हैं और उसके अस्तित्व को प्रभावित करते हैं, पर्यावरण कहलाता है। इसके प्रबंधन से तात्पर्य पर्यावरण में जैविक तथा अजैविक घटकों के प्राकृतिक संतुलन को बनाए रखना है। प्राचीन भारतीय दर्शन ने पर्यावरणोन्मुख जीवन का समर्थन किया है। वह पर्यावरण के साथ मनुष्य की सहभागिता को महत्व देता है। पर्यावरण के तत्वों द्वारा ही उनकी समष्टि होती है और वे अंततः पर्यावरण में विलीन हो जाते हैं। पर्यावरण का स्वच्छ होना, मानव सभ्यता के अस्तित्व के लिए आवश्यक है। पाश्चात्य सभ्यता को यह तथ्य बीसवीं शती में समझ में आया, जबकि भारतीय मनीषियों ने इसे वैदिक काल में ही अनुभूत कर लिया था। हमारे ऋषि मुनि जानते थे कि पृथ्वी, जल, अग्नि, अंतरिक्ष तथा वायु इन पाँच तत्वों से ही मानव शरीर निर्मित है। *"पंचवस्तु पुरुष आविनेशतान्यन्त पुरुषे अर्पितानि"* (यजुर्वेद)। उन्हें इस तथ्य का भान था कि इन पंचतत्वों में से एक भी दूषित है तो उसका दुष्प्रभाव मानव जीवन पर पड़ना अवश्यंभावी है। इसलिएउन्होंने इसके संतुलन को बनाए रखने के लिए प्रत्येक धार्मिक कृत्य करते समय लोगों से प्रकृति के समस्त अंगो को साम्यावस्था मे बनाए रखने की शपथ दिलाने का प्रावधान किया था, जो आज भी प्रचलित है। यजुर्वेद का ऋषि सर्वत्र शांति की प्रार्थना करते हुए मानव जीवन तथा प्राकृतिक जीवन मे सामंजस्य का दर्शन बहुत पहलेही कर चुका था। ऋग्वेद का नदी सूक्त एवं पृथ्वी सूक्त तथा अथर्ववेद का अरण्यानी सूक्त क्रमशः नदियों, पृथ्वी एवं वनस्पतियों के संरक्षण एवं संवर्धन का संदेश देते हैं। भारतीय दृष्टि चिरकाल से ही संपूर्ण प्राणियों एवं वनस्पतियों के कल्याण की आकांक्षा रखती आई है। *'यद् पिण्डे तद् ब्रह्माण्डे'* सूक्ति भी पुरुष तथा प्रकृति के मध्य अन्यान्योश्रय संबंध की विज्ञानपरक अवधारणा को स्पष्ट करती है। वर्तमान वैश्विक मानवीय जीवन अपने स्वयं के कार्यकलापों द्वारा पर्यावरणीय समस्याओं से जूझ रहाहै। इसके समाधान के लिए कई वैश्विक संगठन और संस्थाएं क्रियाशील हैं परंतु सार्थक परिणाम शून्य है। हमारे वैदिकग्रंथों में इसका समाधान अत्यंत मानवीय और सरल रूप में उल्लिखित है। वैदिक ग्रंथो में समस्त प्रकृति को दैवीय स्वरूप प्रदान कर दिया गया है, जिससे मनुष्य इसके संरक्षण और प्रबंधन के लिए प्रतिबद्ध होता है परंतु वर्तमान में इसकी अनदेखी की जा रही है। यदि इसका व्यापक प्रचार-प्रसार किया जाय तो पर्यावरण की समस्या का समाधान किया जा सकता है।

जल प्रदुषणः चुनौतियाँ और समाधान

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इलाहाबाद विश्वविद्यालय, इलाहाबाद

सारांश

जल जीवन का आधार है, इसके बिना जीवन की कल्पना नहीं की जा सकती। आज हम सब जल प्रदुषण का सामना कर रहे हैं। जब प्राकृतिक या अन्य स्रोतों से अवांछित वाह्य पदार्थ जल में मिल जाते हैं तथा जिनका दुष्प्रभाव जीवों के स्वास्थ्य पर पड़ता है, जल में विषाक्तता होती है, जल के सामान्य स्तर में गिरावट आती है, जल–जनित बीमारियाँ हैं, तो उसे जल प्रदूषण कहते हैं। धरती का तीन चौथाई भाग जल से घिरा है। यह न केवल हमारी फसल हेतु अपितु उद्योगों के लिए भी बहुत आवश्यक है। पृथ्वी को जलीय–ग्रह की संज्ञा भी दी गई है। धरती के तापमान को सामान्य बनाए रखने में जल का बहुत बड़ा योगदान है। प्रदूषित जल का मानव–जीवन पर बहुत बुरा प्रभाव पड़ता है। प्रदूषित जल रोग जनित होता है। प्रदूषित जल जंतुओं पर बुरा प्रभाव डालता है। ऑक्सीजन की कमी से अक्सर मछलियां मर जाती हैं। अन्य जंतुओं पर ऑक्सीजन की कमी का बुरा असर पड़ता है। जिस कारण समुद्री जीवों में चालीस प्रतिशत की कमी पिछले बीस वर्षों में हुई है। समुद्र में तैलीय जल–प्रदूषण से जलचरों व पेड़–पौधों पर भी प्रतिकूल प्रभाव पड़ा है। केंद्रीय जल स्वास्थ्य इंजीनियरिंग संस्थान के अनुसार भारत में प्रति एक लाख व्यक्तियों में से तीन सौ साठ व्यक्तियों की मृत्यु आंत्रशोध थायराइड, पेचिश आदि से होती है। जिसका मूल कारण जल–प्रदूषण है। जल प्रदुषण के लिए मानवीय गतिविधियाँ प्रमुख रूप से जिम्मेदार हैं। जैसे औद्दोगिक कचरा, कृषि में अनियंत्रित उर्वरकों और रसायनों का प्रयोग, सामाजिक और धार्मिक रीति–रिवाज, जैसे पानी में शव को बहाने, नहाने, कचरा फेंकने से, जहाजों से होने वाला तेल का रिसाव, औद्योगिक कचरे के निपटान की अपर्याप्त व्यवस्था और पौलीथीन का अनुचित प्रयोग आदि। इन सभी कारणों से हम सब जल को प्रदूषित कर रहे हैं। जल प्रदूषण का सबसे अच्छा समाधान है, इसे न होने देना। उपरोक्त कारणों का निदान करके हम जल को प्रदूषित होने से रोक सकते हैं। अधिकाधिक वृक्ष लगाना, जल स्रोतों की स्वच्छता, प्लास्टिक जैसे पदार्थो का प्रयोग न करना। राष्ट्रीय और वैश्विक स्तर पर जल प्रदुषण रोकने हेतु विभिन्न संस्थाओं का गठन किया गया है और वे अपने स्तर पर इस दिशा में कार्यरत हैं। यह आवश्यक है कि, समाज का हर व्यक्ति अपना योगदान जल प्रदुषण को कम करने में दे, तभी इस लक्ष्य को प्राप्त किया जा सकेगा।

वाहन जनित प्रदूषक एवं वायु–ध्वनि प्रदूषण

विमलेश कुमार पाण्डेय
प्राचिन इतिहास, संस्कृति एवं पुरातत्व विभाग
सल्तनत बहादुर स्नातकोत्तर महाविद्यालय
बदलापुर जौनपुर (उ0प्र0)

सारांश

देश के सामाजिक–आर्थिक विकास हेतु कृषि–औद्योगिक उत्पादन, यातायात के साधन एवं विद्युत उत्पादन सम्बन्धी योजनाओं के क्रियान्वयन से वातावरण के प्रदूषण की समस्या विकराल होती जा रही है। यद्यपि बढ़ी हुई वाह्य संरचना, कृषि एवं औद्योगिक उत्पादन तथा प्रति व्यक्ति आय में वृद्धि और सबसे बढ़कर रहन–सहन के स्तर में सकारात्मक बदलाव से आर्थिक तथा सामाजिक विकास दृष्टिगोचर होता है तथापि भौतिक सुख तथा प्रगति अपने पीछे भावी विनाष के बीज भी छोड़ जाता है। सामान्यतः पर्यावरण पर निषेधत्मक प्रभावों के दो प्रमुख कारण होते हैं– (1) प्राकृतिक (2) मानवकृत। प्राकृतिक कारणों में दैवी आपदाएं, वनों में आग, अतिवृष्टि–अनावृष्टि एवं महामारियाँ तथा प्रकोप पर्यावरण असन्तुलन पैदा करते हैं। तो मानवकृत कारणों में मुख्यतः सामाजिक गतिविधियाँ हैं जिनसे पर्यावरण के विविध कारक निषेधात्मक रूप से प्रभावित होते हैं। देश की निरन्तर वर्द्धमान आबादी से नागरिक सेवाएं बुरी तरह प्रभावित हुई हैं। खचाखच भरी खचाड़ा बसों तथा सार्वजनिक वाहन एवं सड़कों पर उनकी अराजकता तथा उनसे होने वाली दुर्धटनाएं एवं प्रदूषण उत्सर्जकों से उत्पन्न होने वाले निषेधात्मक प्रभावों ने नीति निर्माताओं एवं वैज्ञानिकों के समक्ष गम्भीर चिन्ता के विषय उत्पन्न किये हैं।

गंगा प्रदूषण और जन-भागीदारी का समाज कार्य अध्ययन

अभिषेक कुमार राय
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सारांश

भारत में औद्योगीकरण एवं विकास की प्रचलित अवधारणा ने पर्यावरण को जो नुकसान पहुंचाया है वह मानव के लिए ही नहीं वरन प्रकृति के लिए भी घातक सिद्ध हो रहा है। असल में मानव की स्वार्थी प्रवृत्ति और विलगाव इस कदर बढ़ रहा है कि वह गंगा समेत अन्य जीवनदायी नदियों के मूल स्वरूप से भी खिलवाड़ करने से नहीं चूक रहा है और नदियां प्रदूषित होती जा रही हैं। यदि यही हाल रहा तो नदियों के प्रदूषण का परिणाम मानव के साथ अन्य जीव प्रजातियों को भी भोगना होगा जिससे परिस्थितिकीय तंत्र में असंतुलन उत्पन्न होगा। ऐसी स्थिति से बचने के लिए समाज को चाहिए कि नदियों कि महत्ता को समझे और उनके मूल स्वरूप को बनाए रखने का प्रयत्न करे ताकि धरती पर जीवन अपने विविध रूपों में खिल-खिलाता रहे। आज हम सभी को संकल्प लेने की अवश्यकता है कि हम नदियों के जीवनदायी स्वरूप को स्वच्छ व प्रवाहमान बनाए रखें। पर्यावरणविद अनुपम मिश्र कहते थे कि "हिंदुस्तान का जिस तरह का मौसम चक्र है उसमें हर नदी चाहे वो कितनी भी प्रदूषित क्यों न हो, साल में एक बार बाढ़ के वक्त खुद को फिर से साफ़ कर देती है, पर इसके बाद हम फिर से इसे गंदा कर देते है, तो हमें नदी साफ़ करने की बजाय इसे गंदा करना बंद करना होगा'।(BBC हिन्दी)जन-भागीदारी या जन सहभागिता का अर्थ लोकतंत्र या प्रजातंत्र में आमजनता की सक्रिय एवं विवेकपूर्ण भागीदारी है। यह भी कहा जा सकता है कि जन सहभागिता एवंलोकतंत्र एक दूसरे के पूरक है। वास्तव में जन सहभागिता एक ऐसी प्रक्रिया है जिसमे वे सभी साझेदार जो विकास की पहल, लिए गए निर्णयों व इकट्ठे किये गए संसाधनों से प्रभावित होते है, शामिल होते है। ये साझेदार ही सम्पूर्ण प्रक्रिया को नियंत्रण में रखकर शासन और प्रशासन के लिए भी जिम्मेदार होते है। सहभागिता प्रत्येक व्यक्ति प्रकृति की असीम देन है। प्रत्येक व्यक्ति की अपनी समझ व विचार होते है। जानना और सीखना मनुष्य का प्राकृतिक गुण है। मनुष्य दूसरो के संपर्क में आकर अपनी समझ का विश्लेषण करता है और अपने आप को बदलने की कोशिश करता है। दूसरो के संपर्क में आकर उनसे विचारो का आकलन कर निष्कर्ष निकालता है कि वह सही सोच रहा था या नहीं। अतः व्यक्तियों की मानसिकता व व्यवहार दूसरों के संपर्क में आकर बदलताहै।मानव समाज का विकास सहयोग का ही परिणाम है। अपने से इतर व्यक्ति समाज के प्रति सम्मान एवं सहयोग से उन्नति का मार्ग प्रशस्त करता है क्योकि ऊपर से थोपने से या दबाव से विकास नहीं किया जा सकता है।उपरोक्त मान्यताओं के आधार पर विकास की प्रक्रिया आगे बढती है।वास्तव में, सहभागिता से विकास में लोग एक-दूसरे की कमजोरी को पहचान कर सभी को साथ लेकर चलते है और प्राप्त अच्छे अनुभव के आधार पर विकास का बीज बोते है। महिपाल,2013)यहाँ जन भागीदारी का संबंध गंगा स्वच्छता के लिए सहभागिता का विकास करना व गंगा प्रदूषण के अनिवार्य भागीदारो की पहचान करना और उनका गंगा प्रदूषण की जगह स्वच्छ गंगा निर्माण में सहयोग प्राप्त करना है क्योंकि जो गंगा से जुड़ा है वो गंगा को भली-भाति समझता है और गंगा प्रदूषण को दूर करने में अपना योगदान भी कर सकता है। इसलिए जनभागीदारी की बृहद संभावना नजर आ रही है जिसका उपयोग गंगा स्वच्छता में लिया जा सकता है।जिसमें सभी व्यक्तियों, समूहों, समुदायों के विचार व मूल्यों को शामिल करते हुए एक सहयोगपूर्ण वातावरण का निर्माण करते हुए आमजन की पहुंच निर्णय निर्माण की प्रक्रिया के राजनीतिक व प्रशासनिक व्यवस्था में शामिल करता है। इससे समाज कार्य प्रभावित व्यक्ति, समूह, समुदाय की क्षमता वर्धन करते हुए समाज को निर्णय लेने की दक्षता प्रदान करता है तथा उस व्यक्ति, समूह, समुदाय से निर्णय निर्माण की प्रक्रिया में सहभागिता के अवसर की तलाश करने, उसमें भाग लेने व एक लोकतांत्रिक निर्णय पर पहुंचने की कल्पना करता है जिससे की समाज में परिवर्तन, पारदर्शिता, सहभागिता, स्थानीय मूल्यों व ज्ञान,अनुभव का विकास होता रहे और उनका उपयोग एक प्रजातांत्रिक व्यवस्था के निर्माण में मिलता रहे।

विश्व में पर्यावरणीय सुरक्षा का अवलोकन

अंषुमान सिंह
रक्षा अध्ययन विभाग, मदन मोहन मालवीय पी0जी0 कॉलेज, भाटपार रानी, देवरिया, उ0प्र0।

सारांश

विश्व में पर्यावरण दिवस, पर्यावरण सुरक्षा और संरक्षण हेतु विश्व के समस्त विकसित, विकासशील एवं अल्पविकसित राष्ट्रों द्वारा पूरे विश्व में मनाया जाता है। इस दिवस को मनाने की घोषणा संयुक्त राष्ट्र संघ ने पर्यावरण के प्रति वैश्विक स्तर पर राजनैतिक और सामाजिक जागत लाने हेतु की थी। 5 जून से 16 जून तक संयुक्त राष्ट्र महासभा द्वारा आयोजित विश्व पर्यावरण सम्मेलन में चर्चा के बाद 5 जून सन् 1974 को पहला पर्यावरण दिवस मनाया गया। इस सम्मेलन में पर्यावरण से जुड़े मुद्दों पर विचार करने एवं पर्यावरण से जुड़ी समस्याओं का हल निकालने तथा साथ ही पृथ्वी पर प्राकृतिक पर्यावरण की हर संभव रक्षा करें, जिससे स्वस्थ जीवन की संभावना पृथ्वी पर बनी रही। यह कार्यक्रम संयुक्त राष्ट्र संघ द्वारा घोषित अलग–2 मेजबान राष्ट्रों द्वारा किया जाता है। इस सम्मेलन में विश्व के राष्ट्र प्राकृतिक प्रकोप, सुनामी, तरंगों, भू–स्खलन, ज्वालामुखी, बाढ़, सूखा, ओजोन परत की क्षीणता, बढ़ते प्राकृतिक असंतुलन, अम्लीय वर्षा, मानव जनित प्रकोप, ग्लोबल वार्मिंग जैसे पर्यावरणीय खतरों से निपटने के लिये एवं कार्बन तटस्थता, वन प्रबन्धन, ग्रीन हाउस गैसों का नियन्त्रण, जैव ईंधनों को उत्पादन को प्रोत्साहित करने का, विश्व के सभी राष्ट्रों को प्रयास हेतु करने की आवश्यकता है। इसको ध्यान में रखते हुये राष्ट्र हर साल व दो साल में सम्मेलन करते रहते है, उदाहरण क्वाटो सम्मेलन एवं पृथ्वी सम्मेलन। विश्व पर्यावरण दिवस प्रत्येक राष्ट्र के लिये अहम् भूमिका होनी चाहिये और प्रत्येक राष्ट्र को अपने लाभ से उपर हट कर पर्यावरण के प्रति जागरूक होना पड़ेगा? नही ंतो पूरे विश्व को पर्यावरण हादसे के लिये तैयार रहने एवं काल के गाल में समाहित होने के लिये पूरे तरीके से तैयार है। प्रस्तुत शोध पत्र में पर्यावरण संरक्षण के अन्तराष्ट्रीय स्तर पर किये जा रहे प्रयासों की विवेचना की गयी है।

प्राचीन भारतीय वैदिक वांग्मय में पर्यावरणीय चिन्तन

दिनेश कुमार शर्मा
प्राचीन इतिहास विभाग, मदन मोहन मालवीय पी0जी0 कॉलेज, भाटपार रानी, देवरिया, उ0प्र0।

सारांश

मनुष्य एक सामाजिक प्राणी हैं। उसे निवास हेतु एक स्वस्थ सामाजिक परिवेश की नितान्त आवश्यकता होती है। यह स्वस्थ सामाजिक परिवेश विकसित होने के लिये स्वस्थ एवं स्वच्छ पर्यावरण एक अनिवार्य शर्त है। वस्तुतः प्रागैतिहासिक युग से प्रकृति मानव समुदाय की जीवन से सम्बन्धित सभी आवश्यकतायें पूर्ण करती रही है। प्रकृति के इस उपकार से कृतज्ञ प्राचीन मनीषियों ने उस पर देवत्व का आरोपण कर उसे अपनी आध्यात्मिक मान्यताओं द्वारा ईश्वरीय स्थान प्रदान किया। प्राचीन भारतीय वैदिक वांग्मय में सदैव ही पर्यावरण के संरक्षण सम्बन्धी विवरण प्राप्त होते है। प्राचीन भारतीय मात्र प्राकृतिक पर्यावरण का दोहन करना ही नहीं जानते थे, अपितु पर्यावरण संरक्षण को अपना नैतिक उत्तरदायित्व समझते हुये भावी पीढ़ियों को स्वस्थ व स्वच्छ प्राकृतिक पर्यावरण उपलब्ध करवाना, अपना धर्म समझते थे। किन्तु वर्तमान में मानव इस भावना को भूलकर स्वार्थवश मात्र प्रकृति के दोहन में लगा है। परिणामतः पर्यावरण शनैः–2 क्षरित होता जा रहा है, जिसका दुष्परिणाम हमारी भावी पीढ़ियों को भुगतना होगा। इस ओर ध्यान आकृष्ट कराते हुए राष्ट्रपिता महात्मा गॉधी जी ने कहा भी है कि '' प्रकृति में इतनी क्षमता है कि वह अपने सभी जीवधारियों की आवश्यकताओं को पूरा कर सके, किन्तु इतनी क्षमता भी नहीं हैं कि किसी एक के भी लालच को पूरा कर सके।'' प्रस्तुत शोधपत्र में इसी कथन के आलोक में पर्यावरणीय प्रदूषण की समस्या पर विचार करते हुये उसके सतत एवं धारणीय संरक्षण का विवेचन किया गया है।

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सारांश

हमारा शरीर पांच तत्वों आकाश, वायु, जल, अग्नि पृथ्वी से मिलकर बना है। इन सब तत्वों में वायु और जल सबसे अनमोल है। लेकिन वर्तमान समय में हमारे पास का पर्यावरण इतना दूषित और प्राण लेवा होता जा रहा है कि हमें शुद्ध हवा, पानी तक नहीं मिल पा रही है। प्रदूषण एक नई और नितान्त आधुनिक समस्या और अभिशाप है जो हमारे विज्ञान की देन है और जिसका अर्थ है उस वायुमण्डल का दूषित या जहरीला हो जाना जिसमें हम रहते है और सास लेते है। पर्यावरण प्रदूषण के अन्तर्गत मुख्यतः जल, वायु, ध्वनि, मृदा प्रदूषण आते हैं। जनसंख्या का बढ़ता दबाव आधुनिक औद्योगीकरण की प्रगति तथा इसके कारण वनस्पतियों और जीव, जन्तुओं की संख्या व प्रजातियों में दिन प्रतिदिन होने वाली कमी ने पारिस्थितिकीय तंत्र के असंतुलन को जन्म दिया है जो कि प्रदूषण होने का मुख्य कारण है। प्रदूषित जल का सेवन करने से त्वचा रोग, पीलिया, टाइफाइड बुखार पेचिश, हैजा आदि रोग उत्पन्न होते है। वायुमण्डल में लगातार CO_2, CO नाइट्रोजन आक्साइड, हाइड्रोकार्बन आदि घुले रहने से श्वसन सम्बन्धी बीमारियाँ उत्पन्न होती है। मृदा के भौतिक, रासायनिक या जैविक गुणों में अंवाछनीय परिवर्तन का प्रभाव मानव एवं अन्य जीवों पर पड़ता है। जलाशयों के आसपास गन्दगी व कूड़ा, करकट डालने पर कड़ाई से प्रतिबन्ध लगाना, मृत जीव जले हुए जीवों जैसे चिता की राख को नदियों में प्रभावित करने पर प्रतिबन्ध होना चाहिए। प्रदूषण की रोकथाम के लिए वृक्षारोपण सबसे अहम योगदान है। घरेलू कार्यो में जीवाश्म ईधन के स्थान पर जैव ईधन का इस्तेमाल करना चाहिए। प्लास्टिक से बने थैलियों का कम इस्तेमाल होना चाहिए। वैश्विक स्तर पर पर्यावरण के रूप के बढ़ते प्रभाव के कारण 1970 के दषक से अन्तर्राष्ट्रीय समुदाय ने इसकी पारिस्थितिकी एवं मनुष्य समाज एवं विकास पर उत्तरोत्तर चिन्ता व्यक्त की। यदि पर्यावरणीय कानून की बात की जाए तो भारतीय संविधान के अनुच्छेद 51 अ (G) के तहत पर्यावरण का संरक्षण हर नागरिक का मूल कर्तव्य माना गया है। 2016 में WHO द्वारा किए अध्ययन में कहा गया है कि भारत के स्तर–2 और स्तर–3 के शहर अन्य वैश्विक शहरों (कणों के उच्चतम स्तर (PM)) के साथ में शामिल हो गए है। 100 सबसे प्रदूषित शहरों की सूची में लगभ 34 भारतीय शहर शामिल है। जिनमें से प्रमुख शहर दिल्ली, पटना, ग्वालियर, रायपुर, अहमदाबाद, फिरोजाबाद, अमृतसर, कानपुर, आगरा, लुधियाना शामिल है। भारत में पर्यावरण की स्थिति काफी गम्भीर बनी हुई है। नाले, नदियां, झीलें औद्योगिक कचरे से भरी हुई है। दिल्ली में यमुना नदी नाला रह गई है। पर्यावरण की रक्षा हमारे सांस्कृतिक मूल्यों व परम्पराओं का ही अंग है। पर्यावरण संरक्षण के प्रति लोगों की सहभागिता बढ़ाने, पर्यावरण जागरूकता, पर्यावरण सम्बन्धी शिक्षा का विकास करने व लोगों को पर्यावरण के प्रति संवेदनशील बनाने के लिए, पर्यावरण की रक्षा से जुड़े संवैधानिक प्रावधानों का ज्ञान लोगों को होना बेहद जरूरी है और यह आज की जरूरत भी है।

प्रदूषण के परिणाम एवं प्रभाव

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सारांश

प्रकृति द्वारा प्रदत्त इस पवित्र धरा पर ही जीवन है। आदिकाल से ही इस धरा में, हमें एक स्वच्छ परिवेश प्राप्त हुआ है जिसमें जीवन के सभी कारक अपने आदर्श स्वरूप में विद्यमान थे। आज भी मानव, जीव–जन्तु, वनस्पतियॉ तथा पौधे एवं पेड़ सभी अपने–2 जीवन के विकास के विभिन्न चरणों से गुजरते हुये निरन्तर सहयोगी जीवन व्यतीत कर रहे है। परन्तु इस पवित्र धरा में व्याप्त संसाधनों के दुरूपयोग एवं असन्तुलन से आज, यह धरती संकट में है। आज पर्यावरणीय असन्तुलन के कारण, मानव, जीव–जन्तु व अन्य भयंकर समस्याओं से घिरे हुये है। आज जल प्रदूषण, वायु प्रदूषण, मृदा प्रदूषण व अन्य प्रदूषण के फलस्वरूप जलवायु परिवर्तन, ग्लोबल वार्मिंग, ओजोन परत क्षय होना तथा अन्य सार्वभौमिक समस्यायें प्रदर्षित हो रही है। आज पृथ्वी पर ऊर्जा के भण्डारों का दुरूपयोग हो रहा है। ऊर्जा के नवीनीकरण के स्त्रोतों के सही समाधान प्रस्तुत नहीं किये जा रहे है, और न ही इस दिषा में कोई सार्थक प्रयास हो रहे है, जिससे स्थिति और भयावह होती जा रही है। पर्यावरण असन्तुलन से इस धरा की जैव–विविधता में व्यापक घटोत्तरी हो रही है। वर्तमान में सम्पूर्ण पृथ्वी के जीव–जन्तु इससे प्रभावित हो रहे है। आज प्लास्टिक एवं पालिथीन व विश्वव्यापी समस्या बनते जा रहे है, जो प्रदूषण के लिये अत्याधिक जिम्मेदार है। इनके नवीनीकरण की कोई व्यवस्था नहीं की जा रही है। पर्यावरण के असन्तुलन में आम आदमी जागरूक नहीं है, और वह इस दिशा में कोई ध्यान नहीं दे रहा है। वह केवल अपनी दैनिक आवश्यकताओं की पूर्ति में लगा हुआ है। सरकार की नीतियॉ केवल कागजों पर सीमित है, और यदि प्रयास भी हो रहे है तो फिर वे कुछ समय बाद उन योजनाओं पर घोर लापरवाही बरत रहे है। पर्यावरण असन्तुलन से राजनैतिक, सामाजिक, मनोवैज्ञानिक तथा अन्य सभी क्षेत्र भी प्रभावित हो रहे है। पृथ्वी पर वृक्षों की घटती संख्या, ग्रीन हाउस गैसों के अत्याधिक उत्सर्जन से, मानव की संसाधन दोहन की नीति, तथा अन्य कारक पर्यावरण असन्तुलन के लिये उत्तरदायी है। आज जीव–जन्तु एवं पौधे में जैव–विविधता घटती जा रही है। कीटनाशक, उर्वरक, खरपतवारनाशक, पेस्टिसाइड इत्यादि जहरीले तत्वों से मृदा एवं जल प्रदूषण में तीव्र वृद्धि हो रही है। और जल में इन तत्वों के प्रयोग से अम्लीयता या क्षारीयता में वृद्धि होने से जलीय व भूमिय वनस्पतियॉ प्रभावित हो रही है। जिसके फलस्वरूप सम्पूर्ण पर्यावरण प्रभावित हो रहा है। हमें अगर अपनी पृथ्वी को बचाना है तो अत्याधिक मात्रा में फलदार वृक्षों तथा अन्य वृक्षों को लगाना होगा। साथ ही साथ हमें कूड़े–करकट व कचरे का सही निस्तारण करना होगा। और साथ ही कृषि में जैविक विधियों से निर्मित उवर्रक, कीटनाषक तथा वस्तुओं का प्रयोग करना होगा। साथ ही साथ पशुपालन पर भी बल देकर मिश्रित खेती को अपनाना होगा। रेफ्रिजरेटर व शीतलकों का समुचित प्रयोग करना होगा।

सतत् विकास की अवधारणाः एक भौगोलिक अध्ययन

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सारांश

विकास एक गतिक संकल्पना है। सतत् विकास की अवधारणा का विकास क्रमिक रूप से पर्यावरणीय जागरूकता के साथ प्रारम्भ हुआ। सतत् विकास एक बहुआयामी विचार है। सतत् विकास की अवधारणा ने सभी व्यक्तियों के लिए सभी स्थानों तथा सभी समयों में परिस्थितिकी, आर्थिक तथा सामाजिक दषाओं में सुधार के विचार पर बल दिया। सतत् विकास प्राकृतिक व्यवस्था के महत्त्व को जो कि पृथ्वी पर जीवन के अस्तित्त्व को बनाये रखता है, के महत्त्व को स्वीकार करती है। इस विचार को सर्वप्रथम 1964 में अन्तर्राष्ट्रीय जैविक कार्यक्रम द्वारा पर्यावरण व विकास के मध्य एक सम्बन्ध स्थापित करने का प्रयास किया गया। इसी के साथ ही 1969 में पर्यावरण समस्या पर वैज्ञानिक समिति तथा 1971 में यूनेस्को द्वारा मनुष्य तथा जैव मण्डल में विकास योजनाओं व विकास प्रक्रिया में पर्यावरण संरक्षण एवं प्रबन्धन पर बल दिया। सतत् विकास की अवधारणा का मूल विचार प्रकृति तथा प्राकृतिक संसाधनों के संरक्षण का अन्तर्राष्ट्रीय संघ द्वारा प्रायोजित विष्व संरक्षण रणनीति, संयुक्त राष्ट्र पर्यावरण कार्यक्रम तथा प्रकृति हेतु 'विश्व व्यापी कोष' आदि संगठनों द्वारा दिया गया विचार है। इन संगठनों का मूल विचार था कि कोई भी समाज तबतक आत्म–निर्भर व सतत् विकास को नहीं बनाये रख सकता जबतक कि उसकी जीवन–दायिनी व्यवस्था तथा जैव विविधता का संरक्षण न किया जाय। यह भी धारणा रही कि उन संसाधनों का कम से कम उपयोग किया जाय जिनका पुनर्नवीनीकरण नहीं हो सकता। पारिस्थितिकी तंत्र में इन संसाधनों की वहन क्षमता को ध्यान में रख कर ही उपयोग किया जाय। बढ़ती हुई जनसंख्या तथा पर्यावरण पर तकनीकि हावी होने के कारण न केवल क्षेत्रीय स्तर पर अपितु सम्पूर्ण विश्व में पर्यावरण विखण्डन, जैव विविधता की समाप्ति, प्रदूषण, संसाधनों की समाप्ति आदि अनेक समस्याओं के उत्पन्न होने के कारण सतत् विकास की अवधारणा को और अधिक बल मिला।

Bioefficacy of certain biological ashes on egg laying capacity of *Callobruchus chinensis* L. infesting chickpea seeds

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ABSTRACT

Three biological ashes (Cow dung ash, Fly ash and Kikar ash) were investigated for their antiovipositional effect on adult *C. chinensis* infesting stored chickpea. Flyash proved to be most effective among the tested biological ashes. Fly ash showed minimum 0.76, 0.97, 1.23 eggs/grain at application concentration 2.0, 1.0 and 0.5 gm/100 gram chickpea respectively. Cow dung ash showed 2.46, 2.83 and 3.60 eggs/ grain at same application concentrations. Kikar ash was not significantly different from cow dung ash at the applied concentration of 0.5 and 2.0 gm/100 gm chickpea. It showed 3.6 and 2.43 mean no. of eggs laid/grain at same applied concentrations.

Effect of Copper Sulphate and Potassium Dichromate on Alkaline Phosphatase Activity in Liver and Serum of Albino Rat

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ABSTRACT

Pollution has become an inevitable part of the industry. Pollution takes its toll when the contaminant reaches to various levels of food chain and the delicate balance of nature gets disturbed. In nature, the aquatic organisms are first to receive the pollutants, as the water resources that are in near vicinity of the industrial cities act as a dumping ground for the wastes generated by the industries and various anthropogenic activities. Any material becomes waste when it is discharged in the environment beyond certain level of degradation. The wastes that are discharged in the environment include substances like smoke, chemicals of factories and are generally waste products or byproducts. The wastes that need considerable attention in the present era are chemicals, pesticides and mineral elements. The metals are unique among mineral elements that cause adverse effects in that they occur naturally and in most instances are ubiquitous in the environment. Regardless of how heavy metals are used in consumer products or in industrial processes, some level of human exposure is, in most instances, inevitable. Furthermore, many are biologically essential but become toxic with increasing dosage. Increasing technologic use of metals is one measure of man's progress since the emergence from Stone Age. This has posed thousands of hazards to the health from the time metals fashioned into spears of present–day exposure to space– age metals, alloys or salts. High natural concentrations of metals in food or water could have led to the first exposures. Metals leached from eating utensils or metallic cookware increased the risk of exposure. Intentional use of compounds containing toxic metals as pesticides or as therapeutic agents increased the opportunity for hazardous exposures. The action of metals could be further divided as the biological action required for sustenance of optimum health, pharmacological actions where their supplements are used and toxicological action where a dose exceeds the biochemical need. In the light of present scenario where pollution specially heavy metals overwhelming everywhere and every aspect of human being, it is necessary to assess enzymatic activity in liver and serum of albino rat to highlight the extent and magnitude of problem. In the present study enhancement in alkaline phosphatase activity has been observed after copper sulphate and potassium dichromate intoxication which is more prominent in serum.

Studies on Alterations in Blood Enzyme levels in Snake Headed Fish, *Channa punctatus* (Bloch.) under stress of Antracol

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ABSTRACT

In this modern era, there is a competition among the nations for development in every field. For a nation to progress socially, economically as well as politically, development processes in different field are very necessary. Development leads into industrialization. The growth of industry is an important feature of civilization. Agriculture is also an important sector of the economy of any nation. For improving productivity, several types of xenobiotics (chemical compounds) are used by the peasants. The extensive use of the chemical compounds in crop production has not only contributed to the increase in yield per unit area and quality of product but sometimes their use may be harmful. Chemicals are used extensively in form of different categories of pesticides in agriculture to improve crop yield. Such chemicals even fungicides effect on individual species, change in species abundance and production are predictable in communities exposed to chemical stress. Fishes are found to be extremely sensitive to any environmental alterations. Fungicides have been found as underground and aquatic pollutants and their bioaccumulation may cause damage to aquatic animals. Antracol, Zn containing dithiocarbamate has tendency of bioaccumulation due to the presence of heavy metal as zinc. The effect of organometallic compounds on aquatic organisms is currently attracting wide spread attention, particularly in studies related to biochemical observations and envisage the toxic effects. Level of blood enzyme lactate dehydrogenase of fishes in present study, is increased with respect to increase exposure time (15days, 30days, 60days and 90days) to antracol. Level of succinate dehydrogenase is decreased with respect to increase exposure time (15day-90day) to propineb. It reveals extent of toxicity of antracol on Channa punctatus.

The Reason of Poor Population Growth Rate of Sarus Crane in Uttar Pradesh

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ABSTRACT

Uttar Pradesh is known to be the home of Sarus cranes (*Grus antigone antigone*) having the largest population in India. It has also been declared the State bird of Uttar Pradesh. It has been categorized as vulnerable on International Union for Conservation of Nature (IUCN) red list. This Sarus crane is the tallest crane species standing at six feet tall, with a wingspan of eight feet. It is the only crane species that breeds to the South of Himalayas and the only residential crane of India. Farmers in Uttar Pradesh regard Sarus as a watchdog for crops and use crane alarm calls in night to ward off intruders. The most favorable habitat preferred by *Grus antigone* consist of an amalgamation of small marshy sites, reservoir banks with agricultural fields, wetlands, ponds, uncultivated and cultivated fields. The district of Uttar Pradesh where sizable population of Sarus crane has been found are Lakhimpur Kheri, Aurayia, Kausambhi, Itawa, Etah, Mainpuri, Jalaun, Jhansi, Lalitpur, Gautam Buddh Nagar and Barailly. In the present investigation, we seen that over a period of 6 years from 2010 t0 2015 the population of Sarus has just increased from 11,905 to 13,670 showing an increase of just 1765 which shows a rate of growth to be just 14.82% which is insignificant. If a rate of growth of population per year is to be worked out, it comes out to be just 2.47% which is very very poor. Hence we have to look for the reasons for poor rate of growth of Sarus population. Some of the possible reasons for it are- 1. Loss of wetland and degradation are critical problems throughout the range of Sarus Cranes, 2. Destruction of wetlands due to agricultural expansion, however, is increasing dramatically and poses a significant threat as well, 3. Increasing human population pressures and urban expansion, 4. High rate of sewage inflow into water bodies, 5. Extensive coverage of area with farming, 6. High levels of pesticide residues, 7. Intensification of agricultural systems, 8. Collision with electrical wires, 9. Change in the traditional open canal system of irrigation.

भट्टनारायण के नाट्य शिल्प में वीर रस

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सारांश

महाकवि भट्टनारायण एक ऊर्जस्वी कवि हैं। उन्होंने संस्कृत साहित्य को वेणीसंहार नामक नाटक प्रदान कर जहाँ नाट्य साहित्य सम्वृद्ध किया वहीं वीर रस को द्रुततर गति प्रदान की है। इनका वेणीसंहार छः अंकों में उपनिबद्ध है। इस नाटक में वीर रस की प्रधानता है। प्रथम अंक वीर की धारा प्रवाहित करता है। यहाँ पर वीर रस के स्थलों की झाँकियाँ अंकित की जा रही है। यहाँ पर भीमसेन सहदेव को उद्देश्य कर कह रहा है कि क्या कहा ? पाँच गाँव लेकर सन्धि ? क्या मैं संग्राम में क्रोध में आकर दुर्योधनादि सौ कौरवों का विनाश नहीं कर डालूँगा। क्या दुःशासन के वक्ष स्थल से मैं रक्तपान नहीं कर सकूँगा ? क्या अपनी गदा के प्रहार से सुयोधन की दोनों जांघें चकनाचूर नहीं कर डालूंगा। आपके नृपति (युधिष्ठिर) पाँच गाँव के मूल्य से कौरवों के साथ सन्धि करेंगे–

मथ्नामि कौरवशतं समरे न कोपाद्।
दुःशासनस्य रूधिरं न पिबाम्युरस्तः।।
संचूर्णयामि गदया न सुयोधनोरू।
सन्धिं करोतु भवतां नृपतिः पणेन।।

इसी प्रकार प्रथम अंक के ही श्लोक संख्या बाइस, चौबीस, पचीस और सत्ताइसवा इत्यादि श्लोक देखे जा सकते हैं। यह नाट्य रचना वीर रस का प्रबृद्ध कोष है इसमें एक दो चार नहीं अनेक ऐसऐ दृष्टान्त हैं जिनमें वीर रस छलकता है। विवेचन से स्पष्ट होता है कि वेणीसंहार नाटक में प्रस्तावना से ही 'निर्वाणवैरदहनाः' 'चच्चद्भुज भ्रमितचण्डगदाभिघात' तथा 'मथ्नामि कौरवशतम्' इत्यादि से लेकर अन्त तक वीर रस का वर्णन है।

Studies of Genitalia of Subfamily Libellulinae of Odonata with Special Reference to *Orthetrum pruinosum neglectum (Rambur)*

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ABSTRACT

Very little is known about the detail of the genitalia of Indian Odonata. Our Knowledge of the Indian Odonata is largely derived from the work of Freser. The main aim of the Indian Odonata, In order to evaluate the genitalia as a systematic character. Moreover, the comparative study of these insects will help us to trace the inter-relations of the groups more clearly than the other external characters of which the current classification is based. The best months for the collection of the specimens of these insects in India are May, June, September, November, These are amphibiotic in nature i.e. the larval stage of these insects is passed in water and the second phase is aerial. The genitalia specially of male are unique insects. They have to sets of copulatory of mating apparatuses, The first set which is primary in nature, and found as in other insects on the ninth sternum, While the second set regarded as Secondary complex is located ventrally on the second and the apical part of third abdominal segments On the second sternum is a genital fossa in which the complex are lodged and its walls are supported by a complex scleratized framework. The depression communication posteriorly with a small sac, the penis vesicle the penis and serve to guide and retain ovipositor in position during mating, Great variation of families. Present work deals with description of the comparative study of genitalia of Indian Odonata in relation to taxonomy of the dragonflies and damselflies, and are cosmopolitan is distribution all over the world. These insects are very commonly seen during the post monsoon months near the water borne areas. In India all plains and hills are rich in Odonata. Of all insects the Odonata are probably the most familiar to us. They from a conspicuous feature of the average Indian Landscape and are common to all parts even the most arid areas.

Key words: Libellulinae, Odonata, *Orthetrum pruinosum neglectum (Rambur),* Genitalia

Academic Achievement of Senior Secondary Students through their Studying Habits Self-Conceptilization and Socio-Economic Status in Bihar

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ABSTRACT

Academic achievement is the core of the entire educational growth. It is regarded as an important goal of education. Academic achievement is the outcome of the instruction provided to the children in school which is determined by the grades or marks secured by the student in the examination. It generally indicates the learning outcomes of pupil which requires a series of planned and organized experiences. Academic achievement is the prime & perennial responsibility of a school or any other education institution established by the society to promote whole scholastic growth and development of child. Study habits play a very important role in the life of students. Success or failure of each student depends upon his own study habits. Of course, study is an art that as such requires practice. Some students study more but they achieve less. Others study less but achieve more. Success of each student definitely depends upon ability, intelligence and efforts put in by him/her. No doubt, regular study habits bring their own rewards in the sense of achievement of success. Self- conceptualization plays a significant role in the educational process when a child is accepted, approved, respected and liked for what one is and will have an opportunity to acquired and attitude of self- acceptance and respect for oneself. One will have the freedom to venture forth in to the school situation and use one's intelligence to its utmost capacity. We are all aware of ourselves as individuals. The self- conceptualization is the information that we have about ourselves-what we think we are like. Socio- economic background means the position the individual or family occupies by means of his/her education, occupation and income in the group activities of the communities. So, socio-economic background of the family not only helps a student in getting higher education but is also helps in academic achievement.

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