2nd Annual Meet of GESA

2nd International (Web) Conference on

Environment and Society (ICES 2020)

Theme: Socio-economic and Environmental Issues: Challenges and Future Prospects in Current Pandemic Situation

December 26th, 27th & 28th, 2020

ABSTRACTS BOOKLET

Jointly organized by

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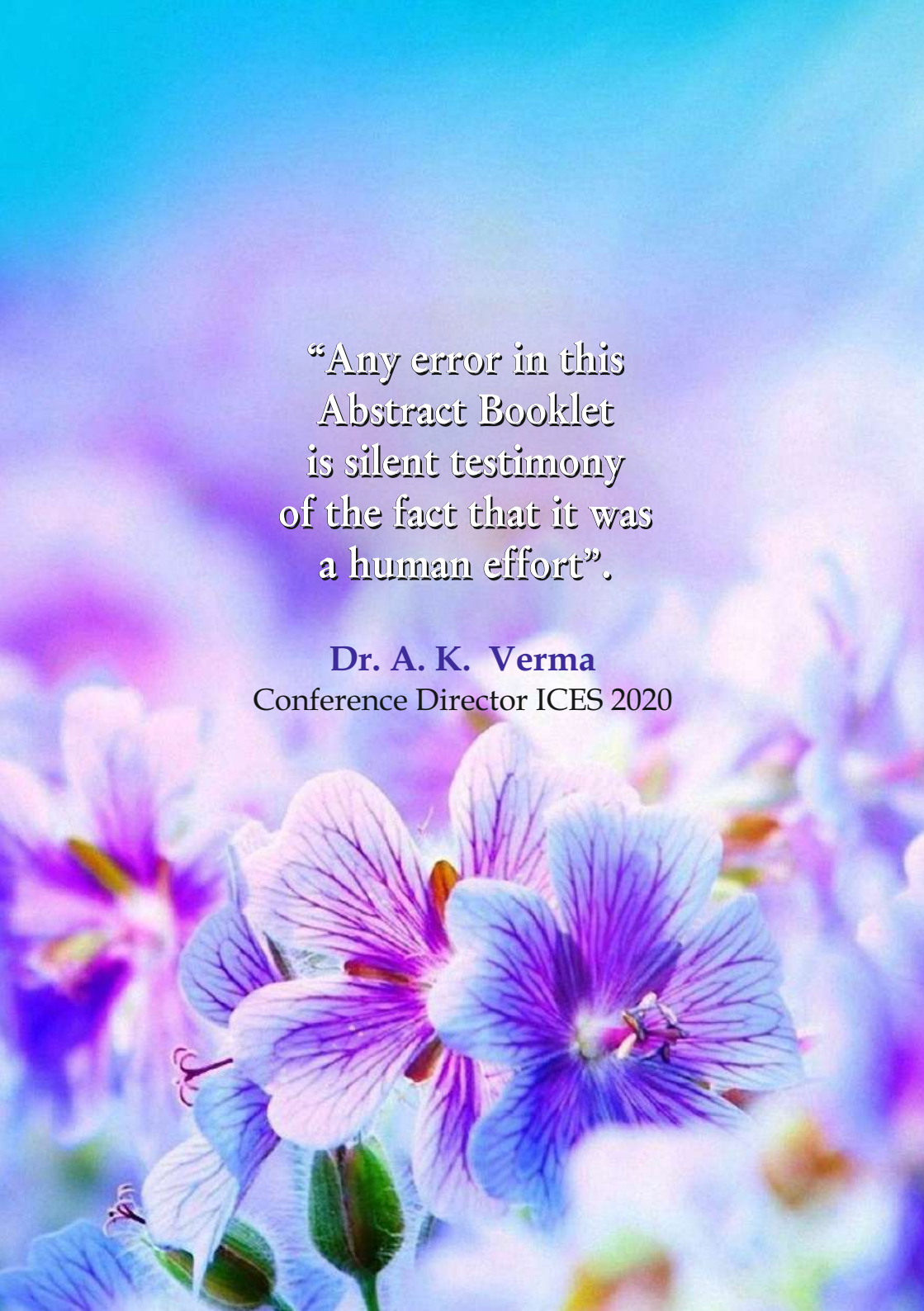

"Any error in this
Abstract Booklet
is silent testimony
of the fact that it was
a human effort".

Dr. A. K. Verma
Conference Director ICES 2020

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ABOUT THE ORGANIZERS

Glocal Environment & Social Association (GESA), New Delhi

In order to serve a bit the Nature and Society for better future, the Glocal Environment & Social Association (GESA) is constituted. Its headquarter is located in New Delhi. Its main aim is to develop and promote 'global thought and local action' ideology to save the nature. It organizes the seminars; workshops etc. to aware and educate the people on blazing environmental and social issues. The GESA felicitates the persons and organizations for their outstanding services rendered in various fields of agriculture, arts, biodiversity conservation, commerce, culture, education, environment, healthcare, humanities, literature, mass communication, music, patriotism, peace and harmony, science, sports, technological innovations and other social services. The GESA confers following categories of awards and honours to its members during conference/ annual session through search and nominations:

1. Life Time Achievement Award (Above 55 years of age)
2. Hon. Fellowship/ Fellowship (FGESA)
3. Dr. APJ Abdul Kalam Green Environment Promotion Award
4. Dr. Sarvepalli Radhakrishnan Education Promotion Award
5. Chaudhary Charan Singh Award for Agricultural Innovations
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7. Lal Bahadur Shastri Glocal Award for Biodiversity
8. Senior Scientist Award (Above 40 years of age)
9. Best Faculty Award for Teaching/Research/Innovations
10. Distinguished Service Award / Distinguished Teacher Award (Crop, Plant Protection, Horticulture, Fisheries, Home Science, Social Science, Animal Science, Life Science etc.)
11. Innovative Educationist Award/ Agriculture Extensionist Award
12. Teacher of the Year / Extension Professional of the Year / Doctor of the Year Award
13. Technological Innovations Award
14. Paryavaran Ratna Puraskar
15. Vigyan Bhushan Puraskar
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17. Young Scientist/Young Researcher Award (Below 35 years of age)

Note: Life Membership of GESA is mandatory for above awards. Each awardee will receive a potted plant, an angvastram, multicoloured award certificate and a high quality memento. GESA Award selection is mainly based on biodata. For detailed guidelines, please log on to website: **http://www.gesa.org.in**
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Maharishi Markandeshwar (Deemed to be University) Mullana Ambala (Haryana)

Located on the 'tapobhoomi' of Maharishi Markandeshwar beside the river bed of the sacred Markanda with magnificent building and world class infrastructural facilities, the Maharishi Markandeshwar (Deemed to be University) is the first self financing University established under aegis of Maharishi Markandeshwar University Trust to integrate education and research. All the institutions of the University in the area of Medical Sciences, Dental Sciences, Physiotherapy, Nursing, Pharmacy, Engineering & Technology, Management, Hotel Management, Computer Technology and Law offering graduate, post graduate and research degree programmes are already known for excellence in imparting value based, highly career oriented professional education. The Department of Biotechnology, MM (DU) was established in 2008 and has been significantly contributing in terms of enhancing the knowledge and practical exposure of students, providing them with ample employment opportunities, and development of more advanced technologies. Department has progressed exceedingly well in the focused research areas including Drug Resistance, Cancer Biology, Medical Microbiology, Natural Products, Plant Biotechnology, Environmental Biotechnology, Industrial Microbiology, Medical Microbiology, Nano-Biotechnology and Computational Biology.

Govt. KRG Post Graduate (Autonomous) College Gwalior (M.P.)

Govt. Kamla Raja Girls Post Graduate (Autonomous) College is conveniently situated in a prominent location of south-west Gwalior and having a sprawling campus. Established in 1937 A.D., the college occupies a prominent place and has wide reputation among the institutes of higher education not only in the state of Madhya Pradesh but also in other states of Northern India, because of the academic achievements, the infrastructural properties and the financial richness of the college. In recognition of its significant achievements, the UGC and the state government granted autonomy to the college in 1995. The National Assessment and Accreditation Commission awarded the college B grade in 2002, it is also reaccredited with the grade B in 2010 and the college got A grade in 2016 in 3rd cycle.

It offers courses in disciplines of Arts, Commerce, Management, Computer Science, Science, Home Science and Law. Presently the student strength is nearly 12,000. It has been a long journey through the seventy-eight years and yet the journey has perhaps just begun. However, the college continues to spread its wings to march onwards in scaling the new heights for pursuing the progress of women higher education.

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K. J. Somaiya College of Arts, Commerce & Science Kopargaon, Ahmednagar (Maharashtra)

K.J. Somaiya College of Arts Commerce and Science was established in 1964 in Kopargaon, District Ahmednagar, Maharashtra. The College is located 14 km. away from Holy Place of Shri Sai Baba, Shirdi, an internationally acknowledged Pilgrimage. College is located on Nagar-Manmad highway and it could be easily reached from Nashik, Ahmednagar and Aurangabad within 1.5 hours.

K. J. Somaiya College is permanently affiliated to Savitribai Phule Pune University, Pune. The College is also recognized by UGC under the sections of 2(f) and 12(B). In 2016, College reached a milestone in achieving 'A' grade in re-accreditation by NAAC Banglore and in the same year also received ISO 9001:2015 certificate.

The College today is imparting quality education with undergraduate and post-graduate degrees in Arts, Commerce, Science, Computer Application, Computer Science and 7 Career Oriented Certificate Courses to the rural masses. The sports facilities are so enriched in college that the Base Ball Team of college has bagged prizes at National Level. The College has state of art Ph.D. Research Centres in Hindi, Political Science, Geography, Chemistry and Zoology.

National Environmental Science Academy (NESA), New Delhi

National Environmental Science Academy was founded by Late Prof TRC Sinha and it was registered in 1988 at Patna under Societies Registration Act XXI of 1860. The main objective of the Academy is to bring awareness about environmental issues among the masses by arranging lectures, workshops, training programmes, seminars, symposia, conferences, publishing journals, etc. Various eminent personalities had graced the Academy as its President. The first President of the Academy was Dr. K.C. Bose, Vice-Chancellor of Ranchi University; then Dr. B.S. Attri, Advisor, Ministry of Environment and Forest. Most recently Padmabhushan Dr. S.Z. Qasim was the President of the Academy till June 2015. A renowned marine scientist known for his Antarctica mission in 1981-82, he also served as Secretary of the Deptt. of Ocean Development (now Ministry of Earth Sciences); Member, Planning Commission and Vice-Chancellor, Jamia Millia Islamia, New Delhi. Currently Prof. Javed Ahmad, (Former Dean, Faculty of Science), Jamia Hamdard, New Delhi, is the President of the Academy. The academy promotes awareness, research and publications related to environmental issues. Its Aims and Objectives are: To enhance and promote the study of the environmental sciences by encouraging students, scientists, researchers, academicians and members of the Academy for pursuing research on environment and allied areas t To set up Regional/State Chapters for dissemination of information on environment t To motivate and prepare young minds on environmental management t To hold Annual Conference of the Academy t To organise national/international level conferences, symposia, seminars, meetings and workshops on themes of environmental concerns t To publish policy papers, synthesis volumes, proceedings, journals, newsletter, transactions and other publications for the promotion of Environmental Sciences.

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Asian Biological Research Foundation (ABRF), Prayagraj, India

The ABRF Prayagraj, India is a self-supporting, academic and research associated body. It is basically non-profit and Non-Government Organization: (1) to provide a common platform for scientists associated with biological sciences to interact with one another for mutual benefit and to enhance the innovative knowledge on the subjects (2) to encourage, facilitate and perform the activities related to conservation of water, nature and biodiversity (3) to promote the new scientific knowledge that has emerged from recent advances and to felicitate the persons and organizations internationally for their outstanding services rendered in basic, applied and modern biological sciences including all branches of Botany, Zoology, Agriculture, Veterinary Science, Environmental Science, Molecular Biology, Biotechnology, Biochemistry, Bioinformatics, Microbiology, and so on. The ABRF confers following categories of awards and honours through search and nominations:

1. ABRF Lifetime Achievement Award (above 57 years of age)
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8. Senior Botanist/ Zoologist/ Biochemist/ Scientist/ Environmentalist Award (above 45 years of age)
9. Innovative Botanist/Zoologist/Scientist/Environmentalist/Agriculture Scientist/Biotechnologist/ Extension Professional Award
10. Innovative Biologist Award for Wild Life/ Biodiversity Conservation
11. Vigyan Ratna Puraskar (No age bar)
12. Paryavaran Shri Samman (No age bar)
13. Young Botanist/Zoologist/Scientist Award (below 30 years of age; mainly for research scholar)

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ABSTRACTS

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December 26th, 27th & 28th, 2020

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

CONTENTS

Abstract No. 1

IMPACT OF COVID-19 ON ENVIRONMENT AND SOCIETY

Ashok Kumar Verma

Department of Zoology
Govt. P.G. College Saidabad, Prayagraj (U.P.), India

ABSTRACT

Environmental change is one of the biggest challenges of the 21st century. In spite of all their efforts to restore the nature during the last few decades, humans could only move a few steps forward, not up to the commendable extent. But during the last few months, consequences of the COVID-19 pandemic have successfully recovered the environment to a large extent that should definitely set positive impact on global climate change. It of course changes the daily behavior of humans and the surrounding ecological system. The present review article deals with the multiple positive effects of lockdown on environment and society including biodiversity. It has given a severe impact on global and national economies irrespective of the level of virus impact on the people of individual nations. The novel corona virus has no border, no religion and spread beyond cast and creed. It is highly contagious in nature and easily unpredictable. World was never prepared for this kind of pandemic, where we are in a race of developing a vaccine against its spread. The new COVID-19 seemed very contagious and has quickly spread globally. The corona has proved that although humans are a superpower and have weapons that are capable to destroy the whole world but still if humans are creating mess with nature then even now nature is itself powerful to destroy humans with this small virus which is having very common symptoms like cold and cough. It has negative impact on economy, education and employment but positive impact on climate change, global warming, biodiversity and environment. It has mixed impact on society. The COVID-19 has proved that Nature has provided us with all the resources for leading a beautiful life and she nourishes us like a mother, humans should respect and nurture her. Indiscriminate development and overexploitation of natural resources should be minimized at the level of sustainability.

Abstract No. 2

EFFECTS OF DIETARY GINGER (ZINGIBER OFFICINALE) EXTRACT ON GROWTH PERFORMANCE AND MUCOSAL IMMUNE PARAMETERS IN COMMON CARP (CYPRINUS CARPIO) AGAINST AEROMONAS HYDROPHILA

Shyam Narayan Labh and Babita Labh Kayastha

Department of Zoology
Tribhuvan University, Amrit Campus, Kathmandu, Nepal

ABSTRACT

The present study was designed to investigate the dietary effects of ginger extract (*Zingiber officinale)* on common carp (*Cyprinus carpio*). Three hundred and sixty fish weighing 3.17 ± 0.23 g were randomly divided into four experimental treatments in triplicates as T1, T2, T3, and T4, respectively and challenged with *Aeromonas hydrophila*. After that four experimental diets of ginger extract as 0%, 0.5%, 1.5%, and 3.0% were fed at the rate of 3% of body weight daily for 60 days. According to the results, 1.5% dietary ginger extract inclusion showed the highest final weight, weight gain (%) and specific growth rate, and lowest feed conversion ratio (FCR). Mucosal complement, lysozyme activities and total immunoglobulin levels, were significantly increased in treated compared to the control group. In conclusion, the present study demonstrated that, ginger extract is a suitable feed supplements for common carp, as it stimulates the fish growth, antioxidant, and immune systems and according to the results, 1.5% ginger extract kg-1is recommended for carp feed formulation.

Abstract No. 3

FISHES AND FISHERIES IN NEPAL

Dilip Kumar Jha

Faculty of Animal Science, Veterinary Science and Fisheries
Agriculture and Forestry University, Rampur, Chitwan, Nepal

ABSTRACT

Nepal is a land linked country located in South Asia between China in the north and India in the south, east and west. It possesses a series of the rocky and inaccessible hilly terrains having more than 6000 rivers. The watersheds with different altitudinal variations from 60m-8848m represents a total of 252 fish species. Among them 236 species are indigenous while 16 species are exotic. These species belong to 15 orders, 40 families and 120 genera. Eighteen endemic species of fishes reported are included under the families Cyprinidae, Psilorhynchidae, Balitoridae, Nemacheilidae, Bagridae, Sisoridae and Anguillidae. A greater part of these species are vulnerable and insufficiently known. Carps of the order Cypriniformes are the major fishes cultivated in Nepal. These includes Indian Major Carps; Rohu (*Labeo rohita*), Mrigal (*Cirrhina mrigala*), and Chinese Major carps; Grass carp (*Ctenopharyngodon idella*), Silver carp (*Hypophthalmichthys molitrix*) and Bighead carp (*Hypophthalmichthys nobilis*). Two varieties of Common carp; Scale carp (*Cyprinus carpio var. communis*) and Mirror carp (*Cyprinus carpio var. specularis*) are cultivated also. The exotic Nile Tilapia (*Oreochromis niloticus*) and Rainbow trout (*Oncorhynchus mykiss*) are cultivating to some extent. Aquaculture has emerged as one of the fastest growing food production sub-sectors under agriculture. Inland capture fisheries and aquaculture are suppor ted by the diverse agro -ecological zones providing suitable habitat for different fish species which represented 4.18% and 1.13% of the agriculture GDP and National GDP respectively. Annual fish production of Nepal is 91832 Metric tons with the contribution of 70832 metric tons from aquaculture and 21000 metric tons from the inland capture fisheries, indicating per capita fish production 3.11 kg only. Fisheries sector is severely affected by pandemic Covid-19.

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Abstract No. 4

STATUS OF INLAND FISHERIES SECTOR IN BANGLADESH: CHALLENGES AND FUTURE PROSPECTS IN CURRENT PANDEMIC SITUATION

Binay Kumar Chakraborty

Department of Fisheries, Bangladesh

ABSTRACT

Fisheries sector of Bangladesh contributes 3.50% to the national GDP, 25.71% to the agricultural GDP and more than 2.0% to the total export earnings. The total production was 4.384 m. mt fish in 2018-2019 whereas inland open water (capture) contributes 28.19% and inland closed water (culture) contributes 56.76% to total production. Fisheries sector is contributing significantly in food security through proving safe and about 60% (62.58 g/day/capita) quality animal protein in daily dietary requirement comes from fish. Bangladesh is blessed with huge open water resources with a wide range of enriched aquatic diversity, comprising almost 260 freshwater fish species and other aquatic lives. In recent years, the fisheries sector is faced with challenges posed by numerous natural and anthropogenic causes such as climate change, natural disaster, environmental pollution, industrialization, constr uction of flood control embankments, drainage structures and sluice gates, conversion of inundated land to cropland, over fishing, using destructive fishing gears, indiscriminate use of pesticide and agrochemicals has been reduced ecosystem health and extinction of aquatic biota of the open water system. As a result, commercial important 03 fishes were extinct, 07 critically endangered and 30 endangered positions from the point of biodiversity. COVID 19 directly has decreased the fisheries production near about 30% of inland closed waterbody and affect on livelihood about 11% of total population. Data and information sources are collected from the direct interview with individual, publication of the Department of Fisheries and related non-published grey literature. For the development of biodiversity, healthy ecosystem and safety food, hilsa fisher y management technology, improved biological management technology of fish sanctuary, beel nursery, fingerlings stocking, fish habitat rehabilitation, breeding ground conservation, continuing necessary precautions of food and medicine for fisher's on pandemic situation has been applied to restrict the declination of resources and enhance production and number of population.

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Abstract No. 5

COLD WATER AQUACULTURE FOR ECONOMIC DEVELOPMENT: A CASE-BASED STUDY ON RAINBOW TROUT FARMERS IN NUWAKOT DISTRICT, NEPAL

Soniya Maharjan and Archana Prasad

Central Department of Zoology
Tribhuvan University, Kritipur, Nepal

ABSTRACT

Rainbow trout farming has high potential and emerging scope in context of Nepal due to the presence of abundant cold-water resources and suitable environment. The main objective of this study is to investigate socio-economic status, profit analysis and impact of Covid-19 on rainbow trout culture. An online questionnaire sur vey using viber platform was done to collect the data and data analysis was done using MS-excel 2019. Rainbow trout farming generates the income for sustainable livelihood. Profitability analysis shows that it is profitable sector of aquaculture as gross margin (Rs. 4273000), net margin (Rs. 4207620), retur n of income (60.31 %), net income (Rs. 3806000) and benefit cost ratio (1.51) is high, there is high chance of profit on rainbow trout farming practices.

Abstract No. 6

COVID-19 IMPACT ON SOCIO-ECONOMY OF JALARI COMMUNITY OF BEGNAS LAKE, POKHARA, NEPAL

Sunita Thapa, Archana Prasad, Sapana Chand and Sweety Nakarmi

Central Department of Zoology
Tribhuvan University, Kathmandu, Nepal

ABSTRACT

The present study is aimed to address the impact of novel corona virus on the livelihood of community that totally depends on capture fishery for their subsistence. My current study area is Fisherman Community Begnas, where Jalari forms the major community around Begnas Lake, Pokhara. The local fisherman, commonly called Jalari were interviewed.T he Jalari are licenced fisherman who can catch fishes and sell them for livelihood. Out of 41 families, 31 are actively involved in fishing while rest involved in business for their living. And out of 31 families, 21 are full timers and rest 10 are part timers. There seems to be good involvement of women, 10 are found to be involved. Full timers are mostly affected with this pandemic. Some non -governmental help as Rahat at local level was provided to the fisher community as a relief of current pandemic. Few of the family took Raahat for subsistence. Collection centre, where they sell their catch was closed during lockdown, thus contributing no sell and no income to the fisherman. The loan interest was found to have increased by the Banks during the Covid-19 period, adding up more difficulty in Jalari's living. *Puntius* sps locally called Bhittamaachha are found to be restricted to catch more than 2 kg in a day so as to reduce fishing pressure on local indigenous fish and this has emerged as positive outcome of Pandemic and the negative consequences includes complete shut-downs of markets, disruption in supply chains, increased illegal, unreported and unregulated fishing. Thus, Covid-19 has affected every aspects of life with huge impact on fisheries. The government, development organizations, NGOs, donors, the private sector should come forward to help those affected group to respond to Pandemic. So the whole aquaculture and fisheries system needs to adapt to the new pandemic situation with new adapting mechanisms and strategies to overcome the future possible losses and to assist those marginalized community to earn their living in the current critical situation.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 7

EFFECTIVE USE OF MICROBES IN BIOREMEDIATION OF HEAVY METALS AND PESTICIDES DEGRADATION

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ABSTRACT

Heavy metals and pesticides contamination have posed a global challenge for the environment and to our mother nature. Higher anthropogenic activities along with increased human population have led to the abnormal release of such contaminants to the environment adversely affecting human health. Heavy metals such as Lead (Pb), Cadmium (Cd), Chromium (Cr) and Copper (Cu) are well known contaminants detrimental to the environment. Similarly, unregulated use of pesticides is another threat to the life of living beings and to the environment. Use of microbes to remove the heavy metals and pesticides from the environment has shown significant potential in the last few years. Bioadsorption of the heavy metal contaminants is one of the adopted protocols for the removal of toxic heavy metals such as Pb, Cd, As Cr, Mn and Zn. Moreover, this methodology is quite ecofriendly and cost effective as well. Microbial consortium comprising of *Aspergillus fumigatus, Aspergillus terreus* FPb03 and *Gamma-proteobacterium* BCd19 were employed for the bio adsorption of the metal ions (in the presence of wheat husk) displaying high adsorption percent frequency of Pb upto 82% at 100 mg/L concentrations of Pb in comparison to the adsorptions in the presence of rice husk (74%). The involvement of functional groups e.g., NH, Ester C=O and OH were observed in the absorption of Pb by the microbial consortium as determined by Fourier–Transformed Infrared Spectroscopy (FTIR). Our results greatly emphasize to use agricultural residues including wheat straw and rice husks along with the microbial consortium potentially holding lots of promise for the removal of heavy metals and other pollutants in the wastewater. Similarly, a bacterial consortium comprising of *Brevibacillus borstelensis* and *Streptomyces albogriseolus* showed an immense bioremedial potential to degrade harmful pesticides. Multifaceted use of microbes in the bioremediation process and relevance there of would be further discussed.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 8

ICHTHYO-FAUNAL DIVERSITY OF BAGMATI RIVER AND ITS IMPACT ON SOCIO- ECONOMIC STATUS OF FISHERMEN OF KATHMANDU, NEPAL

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ABSTRACT

The ichthyofaunal diversity in relation to its impact on socio-economic status of fisherman was studied in Bagmati river in three different seasons i.e. Winter, Spring and Summer during 2019.In total 39 fish were collected from different sites in which 25 fish were collected from Site I (Sundarijal), nine fish were collected from Site II (Koteshwor) and five fish were recorded from Site III (Chovar). The Cyprinidae family showed maximum number of fish (41.02%) caught in Bagmati River but Sisoridae family consisted of lowest number of fish (10.25%).The highest Shannon Weiner diversity index was found in site I (0.97) and value found in site II (0.52) and no diversity was found at Site III. The maximum richness value was observed at Site I (6.83) while minimum value (1) was observed at Site III. Evenness index was found to be highest at site I (0.89), site II (0.76) and no evenness was found at Site III. In spring season, diversity was found higher (1.06) whereas lowest diversity was recorded in winter season (0.69). It has been observed that the fish population is very low in Bagmati River when it enters to urban areas due to high pollution, construction activities, etc. near the bank of river. This affects the fishermen's socio-economic status inhabiting near the bank of the river. So, the conservation and management should be strictly followed to conserve ichthyofauna of Bagmati River.

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Abstract No. 9

ORGANIC WASTE RECLAMATION, RECYCLING AND RE-USING INTEGRATED FISH FARMING IN THE NEPAL

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ABSTRACT

Nepal is landlocked country thus, there is no linked with Sea for fishing although Nepal has much natural resources of water either caught wild or farmed fish and its products is increasing dramatically because it is a healthy food and have nutritional value. Integrated fish farming refers to fish production on farm combined with Livestock (poultry pig, duck), Horticulture (vegetable) and Agronomy (oilseed, leguminous crops) to enhance total income and to form a complete ecosystem by utilizing organic waste by reclamation, recycling and re-use in integrated fish farming. The purpose of this paper is to create awareness on the significance of integrated fish farming in organic waste reclamation, recycling and re-use the organic waste is reclaimed, recycle and re-use in this systems preferred plant matter, chicken, pig excrements, snail, oyster and periwinkle shells, fishwaste, palm kernel cake, groundnut cake aquatic fern and pond silt other reclaimable, recyclable and reusable are also discussed in this paper. Integrated organic waste and recycling, reclamation and reuse in integrated fish farming which treatment incineration, land-fill and composting will help to reduce waste drastically in both rural and urban areas.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 10

COVID-19 AND ITS IMPLICATIONS ON GLOBAL ECONOMY AND ENVIRONMENT

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ABSTRACT

The COVID-19 is a coronavirus disease 2019 caused due to severe acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). It is worldwide pandemic which create crisis that affects everyone. The COVID-19 outbreak is a global financial and public health crisis. Economic growth is predicted to drop considerably in the near to long-term, as gains in the tourism, aviation and extractive sectors, among others, are completely wiped out. Reality, though, may not cooperate with such hopes. The evolution of the disease and its economic impact is highly uncertain, which makes it difficult for policymakers to formulate an appropriate macroeconomic policy response. The "social economy" has played an important role in addressing and mitigating the short- and long-term impacts of the COVID-19 crisis on economy and society. Because of corona pestilence, urban economy and industries are suffering. Apart from this, agriculture is also one of the sectors suffering from Covid-19. Thus the coronavirus pandemic unfolds across the globe, threatening lives and upending the world economy, it's also had a profound impact on the environment.

The popular notion that the COVID-19 pandemic has been 'good for the environment' that nature is recovering while humanity stays at home appeals to many people grasping for some upside to the global tragedy. The environmental impact have been positive for the biodiversity. During lock down industrial effluents and transport emissions have reduced and measurable data supports the clearing of pollutants in the atmosphere. There is a room for further investigations of potential impacts of COVID 19 on environment and its influence on human in different aspects. There is no completely effective vaccine against the disease till now but efforts are still on. Physical distancing, hand sanitizers and face masks are mandatory. There is an impediment to business operations, portability and assembling areas due to the spread of COVID-19 pandemics that fundamentally affects waste administration.

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Abstract No. 11

A NEW PROBLEM FOR HUMANITY TO RECOVER FROM COVID-19

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ABSTRACT

Latest 73rd report of COVID-19 from national authorities to WHO by April 2, 2020, there are 896450 confirmed cases with 45526 deaths globally. 0 to 14 days is the average range of incubation period. Recent study from China Center for disease control (CDC) showed that most of the patients were asymptomatic in its early days of infection that leads to widespread of virus. Nosocomial transmission is another serious problem the world is facing with this public health crisis. Coronaviruses are known to cause respiratory and enteric disease in human and animals. These are round or oval and pleomorphic in shape. Limited information is present till now about COVID-19. It suggests that its infection ranges from previous coronavirus encounters. Here in this review we summarize all information present till date and also a brief comparison to SARS and MERS. This is to identify the gaps in knowledge to share resources to recover from COVID-19. It also includes pharmaceutical drugs that showed a negative impact on SARS-CoV-2 in in-vitro studies that can be used for its treatment till a suitable vaccine candidate is available. The most important task at this hour is to find a vaccine for the infection. Moreover, the research needs to be conducted for finding measures to face this kind of challenges in future.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 12

IMPORTANCE OF BIODIVERSITY TOWARDS HUMAN HEALTH AND SOCIETY

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ABSTRACT

Biodiversity can be considered as the foundation for human health as it underpins the functioning of the ecosystems on which we depend for our food and fresh water; aids in regulating climate, floods and disease; provides recreational benefits and offers aesthetic and spiritual enrichment. Biodiversity also contributes to local livelihoods and to economic development. Biodiversity is important to humans for many reasons. Hence, Biodiversity is called as "Balance of Nature". Ecological life support, biodiversity provides functioning ecosystems that supply oxygen, clean air and water, pollination of plants, pest control, wastewater treatment and many ecosystem services. All human health ultimately depends on ecosystem services that are made possible by biodiversity and the products derived from them. The current rate of biodiversity loss may have grave consequences and hamper efforts to meet a range of Sustainable Development Goals and Targets, including those related to poverty, hunger and health, by increasing the vulnerability of the poor and reducing their options for sustainable development. Vulnerable populations including the poor, marginalized, women and children, will likely suffer first and most severely as they often rely more directly on biodiversity and associated ecosystem services for their very survival. Our fundamental reliance on biodiversity and the ecosystems and services, it sustains offers significant opportunities to more consistently recognize and manage biodiversity's services for human health and to contribute to biodiversity conservation and sustainable use at all scales. Therefore, it is urgent need of the hour to create awareness among the human race to conserve biodiversity of our planet because if forests are not saved, the whole wildlife will be under threat; they form an important part of food cycle which will be disturbed, biological loss is directly correlated with the loss of cultural diversity. The paper communicates the importance of biodiversity towards human health along with the role of biodiversity in improvement of species, contribution to natural water purification and preservation of ecosystem etc.

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Abstract No. 13

IMPACT OF CURRENT PANDEMIC ON BIODIVERSITY OF KERALA

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ABSTRACT

The voluminous spread of the COVID19 pandemic and the subsequent lock down restrictions imposed in the state has brought about radical changes in the health sector and whole economy; when, the focus localizes on these sectors, biologists also focus on its indirect consequences on the biodiversity profile. There had been a few positive impacts on climate (mitigation of carbon dioxide emissions, and thereby air pollution) and environment (reduction of anthropogenic effects). One of the discernible effects in Kerala was the emergence of animals from their wild habitats to human settlements and public roads. The lockdown has allowed birds and other wildlife to flourish and enjoy all the freedom of nature. Some of these include the appearance of a small Indian civet cat (*Viverricula indica*) roaming the deserted streets of Kozhikode (March 2020),wild elephants (*Elephas maximus indicus*) parading through Wayanad town (June 2020), chitals (*Axis axis*) crossing the Mysore-Mananthavadi highway in Nagarahole Tiger Reserve(July 2020) and lazing on the Ooty-Coimbatore road (March 2020), peacocks (*Pavocristatus*) swaggering around in many districts (Palakkad, Thrissur, Kozhikode and Wayanad) etc. A team of nature enthusiasts in the wake of the Covid-19 lockdown launched a backyard biodiversity challenge (uploading the flora and fauna photo-captured from their backyards to the www.inaturalist.org portal, was introduced in the 'Lockdown Backyard Bioblitz Kerala' page by *iNaturalist*, a joint initiative by the California Academy of Sciences and the National Geographic Society) leading to the spotting of as many as 1,330 species of organisms including insects, arachnids, amphibians, reptiles, birds, mammals, and molluscs. But despite the above, COVID-19 has also intensified pressure on India's aquatic wildlife. Lack of monitoring during lock down has led to the use of illegal, indiscriminate and destructive methods (e.g. dynamite, poisons) to capture aquatic fauna. This also includes harvesting species of high extinction risk. Moreover, the huge amount of biomedical waste generation and its disposal is going to have far reaching consequences on biodiversity, the reports yet to come.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 14

CHALLENGES AND OPPORTUNITIES IN EDUCATION SECTOR DURING PANDEMIC COVID – 19

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ABSTRACT

Now a day world is passing through a very difficult and unpredictable problem. Covid – 19 has changed substantially the life style. There are so many newly emerged problems challenging us. We have changed our old style of functioning in all directions. Field of education also has a drastic change due to digitalizing of education in India. DIGITAL INDIA projects have been supporting education in a big way. Every challenge opens a new opportunity! Higher education has many possibilities and challenges during pandemic covid – 19 due to keep two-meter social distancing. In this period online classes on different platforms offer big opportunities to reach out to students in remote areas virtual classrooms have already become a popular reality, but online education has its own limitations too. Availability of highspeed net connection in rural and remote areas has a big hindrance. Financial problems of students also a considerable problem. A major part of society can not afford to by a smart phone or laptop which is an essential tool for online education system. Due to pandemic Covid -19, so many people lost their job so unable to upgrade themselves to digital platform.

Online teaching will be successful only if it will reach to every student. This task can be executed by Government only since the spectrum and infrastructure are regulated by them. College and universities too can support students in a big way. There are so many digital platforms like Google meet, Google Classroom, Zoom, Webex, Microsoft Team are the popular apps used for conducting interactive classes. Online radio, terrestrial radio channels, television channels like PATHSALA, MERA DOORDARSHAN, MERA VIDYLAY, UNNAYAM, IGNOU, DIKSHA, SWAM, UGC, SWAYAMPRABHA, YOUTUBE are a big source of information and mostly are available free of cost to the learners. Many other initiatives under digital India programmes are in pipeline. To make digital education effective, the teachers must be equipped with good delivery models. The problems in this are that students are way ahead in understanding digital environment that sizable number of teachers. Teacher community as whole is acquiring skills fast but there is only a minority who has still hesitated to venture into the digital platforms. Many possibilities and opportunities would be visible once online learning becomes the order of the day. Educational institutions can establish a knowledge bank in the form of graphical, PPT and Video resources. For updating skills of the teacher, specific short-term courses can be arranged. Consultancy for establishment of Audio/Video Studio will be much in demand. Newer methods for evaluating the students must be developed. New challenges and new solution only will make our educational system effective and more competitive.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 15

PRELIMINARY SURVEY OF BIODIVERSITY OF BHAGDA TAAL, A WETLAND OF BALRAMPUR, U.P.

Varsha Singh and Sadguru Prakash

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ABSTRACT

Wetlands have been described as the kidneys of the landscape, because of the functions they perform in the hydrological and chemical cycles, and as biological supermarkets, because of the extensive food webs and rich biodiversity they support. The present study is undertaken to assess the biodiversity of naturally occurring Bhagda Taal, a wetland of Balrampur district of Uttar Pradesh. The said taal is one of the largest natural wetland of this district. It covers an area of about 10 ha and is rich in faunal and floristic diversity. To assess the biodiversity of this wetland, a preliminary survey of the taal was carried out during the year 2019 which indicate the rich biodiversity of this pond. The notable animal diversity includes annelids (6 species), arthropods (16 species), molluscans(6 species), fishes (21 species), amphibians (3 species), reptiles (2 species) and birds (3 species) and zooplanktons were available there. The result also shows the occurrence of 31 hydrophytes. Out of 31 species, 7 belonging to floating weeds, 3 to emergents weeds, 8 to submerged weeds, 8 to marginal weeds and 5 species of green algae and phytoplankton. Looking on the biodiversity of the wetland, it is urgently needed to preser ve this waterbody so as to offer a natural abode to the animals, a beautiful habitat to the plants and ecological gifts to the environment.

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Abstract No. 16

EDUCATION DURING AND BEYOND COVID-19

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ABSTRACT

The COVID-19 pandemic has seriously influenced and made the biggest disturbance of educational frameworks ever, influenced about 1.6 billion students in excess of 190 nations. End of schools, universities and organizations and other learning spaces have affected 94 percent of the world 's understudy populace, up to 99 percent exceptionally in lower-center pay nations. The emergency is deteriorating prior instruction inconsistencies by decreasing the open doors for a large number of the most influenced youngsters, youth, and grown-ups – those living in poor or provincial zones. Some 23.8 million extra youngsters and youth (from pre-essential to tertiary) may nonconformist or not approach school one year from now because of the pandemic's monetary effect alone. Then again, this emergency includes invigorated advancement inside the schooling area. We have seen imaginative methodologies on the side of instruction and preparing congruity: from radio and TV to bring home bundles. Distance learning arrangements were created on account of fast reactions by governments and accomplices everywhere on the world supporting training progression, including the Global Education Coalition convened by UNESCO. It is valid for the showing calling and their requirement for better preparing in new techniques for instruction conveyance, just as help. To wrap things up, this is valid for the instruction network everywhere, including nearby networks, upon whom training coherence depends during emergency and who are vital to working back better.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 17

IMPACT ON SOCIAL LIFE DURING COVID-19 PANDEMIC PERIOD

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ABSTRACT

Coronavirus may have long term social and psychological behaviour effects in all the societies. Until the virus is subdued either by a vaccine or by a global campaigan of strategically coordinate lockdown estimated to take two years to daily life is likely to be defined by the coronavirus with higher death rates everyday. Prognoses by the CPB Netherlands bureau for economic policy analysis about an approaching recession, pressure and stress within healthcare , irritation about not being productive at same. Felling about the crises and expectations about the future can change everyday and depend on all sorts of factors. The streets are quiet and shops are limiting the number of customers allowed at any one time. People are working from home and their children have online study and school work. We find our selves in a situation that is incomparable to any another. The social problem are increasing link joblessness, poverty, begging, rape divorces ect. and the psychological problems like lonelyness, sadness, depression, boringness, irritability in childern are increasing. In past crises. Researchers found, the deepest traumas surfaced only after they had ended. People may struggle to regulate their emotions finding anger and panic come more easily. There could be upticks in insomnia and substance abuse. Studies from the SARS, Ebola and swine flu outbreaks all recorded new universal spikes in anxiety, depression and anger. but they also found behaviors focused on regaining a sense of autonomy and control increased as well people reported working on their diet or hygiene or reading more news.Planning tends to become tentative and short term. People cultivate moments of joy when danger recedes knowing it might not last. The greatest psychological shift amid widespread, crises may be towards simple social tasks, like checking in on neighbors, caring for the needy, cooking for friends. Large gatherings are going to be care. Many weddings, sporting events or concerts would be ruled out. And a full return to commuting by public transit will also be delayed malls, gyms, restaurant, bars and places of worship the list is endless. Research hints at what the coming months may look like. Our ability to focus, feel comfortable around others, Even to think more then a few days into the future, may diminish. As the pandemic becomes a bigger and bigger part of daily life, researchers are warning of changes in how we think, behave and relate to one another – some temporary but others potentially permanent- could be the new normal.This crises may be unprecedented, but there are always patterns in how humans behave when thrust into long periods of isolation and danger. It may seem like everything has changed – the forces of nature have not. social change is evolving as it always has only now, in a cries, more elements are in greater flux together. All elements whether social, political, or economic will continue to affect each other. Some will augment others, providing more thrust, and others might work at cross purposes. Providing resistance, and we will still be drawn to a centre of gravity. Especially in the long term and especially so long as we believe that a return to our previous normal might be possible.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 18

IMPACT OF DISTILLERY EFFLUENT ON AQUATIC ENVIRONMENT AND FISHES

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ABSTRACT

Distillery wastewater causes serious concern to living organisms resulting in a greater environmental stress. Due to increased pollution that arises from distillery effluent, there is the loss of soil fertility, loss of interaction within livestock and agriculture and biodiversity loss. High biological oxygen demand, chemical oxygen demand, total solids, sulfate, phosphate, phenolics, lignin, toxic metals, oil and greases of spent wash (dark colored wastewater) are likely to deteriorate the water quality of receiving waterbodies, ground water quality, soil and environment health. In aquatic resources, it causes serious environmental problems by reducing the penetration power of sunlight, photosynthetic activities and dissolved oxygen content. Some of the contaminants, such as certain level of minerals or compounds are not only harmful to health, but also create a long term effects such as cytotoxic and genotoxic effect. The distillery effluent altered the morphology, behavior and oxygen consumption rate of fishes. Various significant changes in haematological and biochemical parameters were observed in distillery exposed fishes. Thus, this review article concluded that distillery effluent is capable to affect the life of aquatic animals especially fishes that are sensitive to industrial effluent toxicity.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 19

WASTE AND RESOURCE MANAGEMENT: AN IMPORTANT TOOL DURING COVID-19 PANDEMIC

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ABSTRACT

Pandemics pose a threat to many facets of human society, including energy and waste management. Because of the COVID-19 pandemic, many supply chains are being disrupted. There is an impediment to business operations, portability and assembling areas due to the spread of COVID-19 pandemics that fundamentally affects waste administration. Waste management is a serious concern for human growth and health outcomes during the COVID-19 pandemics. In the lockdown period, the quantity of waste has increased across countries in the panic of purchasing goods for everyday use but the lockdown period decreases energy usage in the transport sector. Usage of personal protective equipment such as masks, gloves, sanitizers, etc. by common people as well as medical industry employees, banks, daily need stores, waste disposal industries, etc., contributes to another route in the generation of waste. So in this pandemic era, there is a grave need for waste management so that we can reduce the spread of COVID-19 infection. Reducing the human interaction will minimise the transmission chain of viruses across the world. This article focuses on discussion of the impact of COVID-19 on waste generation, recycling and disposal.

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Abstract No. 20

ONLINE EDUCATION DURING PANDEMIC PERIOD: PROBLEMS AND CHALLENGES

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ABSTRACT

In a matter of months, the world has been transformed. Thousands of people have already died, and hundreds of thousands more have fallen ill, from a coronavir us that was previously unknown before appearing in the city of Wuhan in December 2019. For millions of others who have not caught the disease, their entire way of life has changed by it. The global outbreak of coronavirus disease 2019 (COVID-19) is affecting every part of human lives, including the physical world.The measures taken to control the spread of the virus and the slowdown of economic activities have significant effects on the environment. The global disruption caused by the COVID-19 has brought about several effects on the environment and climate. Due to movement restriction and a significant slowdown of social and economic activities, air quality has improved in many cities with a reduction in water pollution in different parts of the world. Besides, increased use of PPE (e.g., face mask, hand gloves etc.), their haphazard disposal, and generation of a huge amount of hospital waste has negative impacts on the environment. With this background, the present paper purports to analyze the impact of Covid–19 in terms of improvement of the environment particularly in improvement in air quality and water quality. This paper will also highlight the negative impacts of this pandemic on environment in terms of not availability of proper disposal mechanism for the same.

Abstract No. 21

HERBAL IMMUNITY BOOSTERS: AN ECO-FRIENDLY SOLUTION AGAINST SARS- COV-2 INFECTION

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ABSTRACT

Covid-19 is a worldwide pandemic; it is caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2). There have been so many studies to reduce the efficacy of Covid-19 but still there is no proper treatment against this disease. Due to lack of vaccines, herbal immunity booster is a prioritized way to boost the immunity against SARS-CoV-2 infection. Many infectious diseases have been known to be treated with herbal remedies throughout the history of mankind. Natural products (plant synthesized secondary metabolites), either as pure compounds or as standardized plant extracts, provide unlimited opportunities, for new drug leads because of the unmatched availability of chemical diversity.

Medicinal plants constitute a source of raw materials for both traditional systems of medicine (e.g. Ayurvedic, Chinese, Unani, Homeopathy, and Siddha) and modern medicine, either processed as traditional preparation or used to extract pure active principles. Because of the large chemical diversity among natural products, many studies have been screened plant extracts in their search for new promising therapeutic candidates for infectious diseases. About 219 plants from 83 families have been found to have antiviral activity. Among them, 149 plants from 71 families have been screened for the identification of the major plant secondary metabolites (PSMs) that might be effective against this pandemic. Bioavailability is the primary concern about PSM. Natural occurrence, bio-transformation, bioavailability of PSM and their interaction with the target site of selected proteins of virus made them efficient to prevent the SARS-CoV-2 infection and interfering the process of viral host cell recognition, entry and replication.

Abstract No. 22

POSSIBLE SOLUTIONS FOR THE MEDICAL WASTES CREATED BY COVID MASKS AND PPE KITS

Abhishek Chauhan, Abhishek Kumar Gautam, Prachi Singh, Chanchal Tyagi, Jyoti Tyagi, Abhimanyu Kumar Jha

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ABSTRACT

COVID -19 (Coronavirus disease – 19) is a viral sickness that is brought about by SARS-CoV-2(severe acute respiratory syndrome coronavirus 2). It is symptomatic disease like fever, cough, shortness of breath, headache. There is no completely effective vaccine against the disease till now but efforts are still on. Physical distancing, hand sanitizers and face masks are mandatory. The darker side is that plastic is playing a hazardous role in harming ecosystem and human health in the form of SUP (single use plastic) such as N-95mask, Gloves, PPE (personal protective equipment) kits and surgical mask. Urban areas are facing more COVID-19 incidence rates and are struggling to manage the dramatic increase in medical waste production by health care organization. 350% and 370% increment of medical waste are reported from the parts of world such as Spain, China and Catalonia. SUP, that soaked in liquid soap and water on temperature greater than 40℃, is used nowadays which causes a high potential risk. SUP is non-recyclable. If we try to recycle the used SUP, it converts into the form of Macro-plastics.

Abstract No. 23

THE IMPACT OF CORONAVIRUS ON AIR POLLUTION OF MAHARASHTRA

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ABSTRACT

As the coronavirus pandemic unfolds across the globe, threatening lives and upending the world economy, it's also had a profound impact on the environment. Industrial and transport emissions and effluents have reduced and measurable data supports the clearing of pollutants in the atmosphere. This paper is an attempt to review the impact of lockdown due to coronavirus on air pollution of Maharashtra.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 24

A COMPARATIVE STUDY OF PHYSICO-CHEMICAL CHARACTERISTICS AND MACROPHYTE DIVERSITY IN MANASBAL LAKE, GANDERBAL, KASHMIR, INDIA

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ABSTRACT

The diversity of planktons and physico-chemical parameters are important criterion for evaluating the suitability of aquatic health. The area of the study, selected for the comparative study of macrophyte diversity in relation to physico-chemical parameters is the Manasbal lake of Kashmir Himalaya. The Manasbal Lake is located in district Ganderbal in the UT of Jammu and Kashmir, India, (1551m a.s.l.) with a lake catchment area of about 22 km 2 . The Manasbal Lake is currently suffering from cultural eutrophication. Excess nutrients, specifically phosphorus and nitrogen are the primary pollutants that contribute to the cultural eutrophication of lakes. Manasbal Lake being the monomictic lake is getting modified as a result of cultural eutrophication due to anthropogenic pressure, illegal encroachment, siltation and the untreated waste water released from the nearby kilns and residential areas. From the present study, it can be concluded that the higher values of Phosphates (PO4), Alkalinity, Hardness, Electric Conductivity, Free carbon dioxide and lower values of dissolved oxygen and transparency clearly depicted higher trophic status of Manasbal Lake. Besides, seven aquatic macrophytes were identified namely potamegeton natans, T rapa natans, Nelumbo nucifera, Nymphoides peltatum, Nymphaea alba, Hydrocharis dubia and Euryale ferox It can also be concluded that climatic factors, untreated sewage and solid garbage from surrounding population, fertilizers containing Nitrates and Phosphates and slit load were the main causes for degradation of water quality of the studied lake. For lake water management, powerful control and management mechanisms such as community perceptions and priorities are also required. In addition to frequent monitoring of Manasbal Lake, the quality of water for human and animal use and for aquatic life needs to be evaluated. In order to save it from further contamination and deterioration, urgent remedial steps should also be taken to preserve and sustainably manage this monomictic lake.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 25

ESTIMATION OF NUTRIENTS BIO MOLECULE AND PLANT GROWTH HORMONE IN BACTERIAL COMPOST GENERATED FROM THE SUGARCANE LEAF LITTER

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ABSTRACT

Traditional farming which was purely organic was followed in the ancient civilization. Now in recent advancement Accumulation of solid waste caused the soil to get polluted. Garbage became a big threat as it led to indiscriminate addition of waste to the environment. In order to utilize the unused parts of the plant parts after harvesting the crop the study was carried out. The present investigation seeks to develop a novel method of generating an efficient composting system using bacterial strains isolated from hard shell processing areas and validation of plant growth promoting capacity of the generated compost. The estimation of Nutrient Biomolecules and Plant growth regulator was observed from the Bacterial compost generated from the Sugarcane leaf litter. Where the extraction and estimation of growth hormones like Indole acetic acid (IAA), Gibberlic acid (GA 3) and kinetin and Abscisic acid in sugarcane leaf compost extract were performed. The nutrient Biomolecules and Plant Growth Regulators were compared with the other compost such as the Vermicompost and Natural compost. Much effective results was observed in the Bacterial compost in contrast with the vermicompost and natural compost.

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Abstract No. 26

CELLULAR AGRICULTURE: PROSPECTS AND CHALLENGES

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ABSTRACT

Cellular agriculture is the production of animal based products from cell cultures rather than directly from animals. Cellular culture comprises two different aspects; cellular and acellular. The cellular method refers to growing meat directly from cells whereas; the acellular method refers to the use of microorganisms such as yeast to produce products like milk, egg white, and hormones. To produce cultured meat, stem cells are taken from animals through a painless biopsy. These cells are then fed with nutrients in large cultivators, where they multiply and differentiate. As they grow they become muscle tissue ready for further processing and use. By cultivating them to produce meat, the raising and slaughtering of animals can be avoided. Compared to their conventional counterparts, it offers significant benefits for human health, the environment, animal welfare and presents enormous economic opportunities. The most important challenges cellular agriculture industry is facing include research, regulatory aspects, ethical issues and consumer acceptance.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 27

ADULT CATTLE EGRET RARE SIGHTINGS IN COLLEGE CAMPUS OF SIKAR DURING CORONA PANDEMIC

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ABSTRACT

The Cattle Egret commonly called Bubulcus ibis belonging to order Pelecaniformes Family Ardeidae commonly found in tropical countries. This bird species is mostly found around water abundant areas. It has undergone a rapid expansion in distribution by successfully colonizing new areas. An adult bird adorned with buff plumes having 96 cm wingspan, 56 cm length, and weighing around 512gm was rarely sighted in August 2020 among the grasses of the college campus .It was found unusually solitary moving around the grasses in August 2020. It was found feeding on wide range of prey insects mostly grasshoppers, crickets, flies, moths, spiders, frogs, lizards and earthworms etc. which are abundant during this type of season.

This bird was described by 1758 by Carl Linnaeus in his Systeme Naturae. During corona pandemic it has moved to serene environment of college campus which is correlated with its behavior of undergoing rapid expansion in distribution by successfully colonizing areas. The adult bird was spotted for a week in college premises which indicate a positive impact on the ecology of this bird species. The environmental impact have been positive for the bird diversity. The students are ongoing online teaching and the quiet environment is conducive for their sudden appearance in terrestrial environment.There is a room for further investigations of potential impacts of COVID 19 on environment and its influence on human in different aspects. This paper seeks to provide bird diversity sustainability during the pandemic era.

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Abstract No. 28

PHYTOCHEMICAL ANALYSIS OF TERMINALIA CATAPPA, LINN.

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ABSTRACT

Terminalia catappa, Linn. belonging to the family Combretaceae, is also knownas country-almond. Indian-almond, Malabar-almond, sea-almond and tropical-almond and false kamani.The leaves and the bark of the tree seem to possess several flavanoids, tannins, saponins and phytosterols and is highly recommended for its nutritional value and medicinal benefits. In India and the Philippines, its leaves were used to treat hepatitis and and bark for treating dysentery.T.catappa leaf extract has been recognized for its phytoconstituents such as kaempferol or quercetin, punicalin or tercatin for its anticlastogenic, antiparasitic and antihepatic properties. With all these proven facts, ethanolic leaf extract of T.catappa is yet to prove its antioxidant property with 2,2-Diphenyl-1-Picryl-Hydrazyl which increases leaf maturity.

Abstract No. 29

ROLE OF HERBALS IN INCREASING IMMUNITY AGAINST COVID-19

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ABSTRACT

In present scenario the whole world is suffering from corona virus disease (COVID-19). It affects all the fragments of the people but mostly infects the old aged people, kids and persons suffering from the diseases like lungs disease, heart disease, diabetes and cancer etc. People with low immunity are also prone for this world wide pandemic. Its common symptoms are fatigue, muscle pain, sneezing, sore throat, dry cough, high fever, respiratory problems etc. This disease spreads between person to person through direct contact by respiratory secretion or respiratory droplets by sneezing, coughing, speaking, singing or through contaminated objects or surface touched by infected person. Strong immunity helps to reduce the risk of infections like Corona Virus or other diseases .Certain plants and plant products help to impower the immunity because they play vital role in increasing strength as well as beneficial bacteria in the body. Some of the important immunity booster herbs are tulsi, ginger, turmeric, black cumin, garlic, triphala, ashwagandha, morina etc. They locate virus and bacteria which enters in the body & destroy them. These not only enhance the immunity but also makes the gut strong. These are powerful germicide and contain Phyto-chemicals and antioxidants, also contains a numbers of vitamins like A, C, E & D which helps to strength the immunity as well as flash out toxins from the body.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 30

DECODING THE RELATIONSHIP BETWEEN COVID-19 AND WINTER

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ABSTRACT

The COVID-19 pandemic is a crisis that affects everyone. The popular notion that the COVID-19 pandemic has been 'good for the environment' that nature is recovering while humanity stays at home appeals to many people grasping for some upside to the global tragedy. Reality, though, may not cooperate with such hopes. The benefits many found heartening early on from cleaner air to birdsong newly audible as cars and planes went quiet were always likely to be temporary. And with lockdowns easing, they have already begun to dissipate. Now, some experts fear that the world risks a future with more traffic, more pollution, and climate change that worsens faster than ever. It's too soon to know whether that gloomy scenario will play out, but concer ning signs seem to be growing all around the world. Coronavirus is transmitted through the air and primarily infects the upper respiratory and gastrointestinal tract of mammals and birds. Though most of the members of the coronavirus family only cause mild flu-like symptoms during infection, SARS-CoV and MERS-CoV can infect both upper and lower airways and cause severe respiratory illness and other complications in humans. The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is causing widespread morbidity and mortality globally. Much of the world has implemented non- pharmaceutical interventions, including preventing large gatherings, voluntary or enforced social distancing, and contact tracing and quarantining, in order to prevent infections from overwhelming health care systems and exacerbating mortality rates. However, these interventions risk substantial economic damage, and thus decision makers are currently developing or implementing plans for lifting these restrictions. Consequently, improved forecasts of COVID-19 risks are needed to inform decisions that weigh the risks to both human health and economy.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 31

AN UPDATED REVIEW ON PHOTOCHEMISTRY AND PHARMACOLOGY OF SOLANUM NIGRUM (SOLANACEAE) : BLACK NIGHT SHADE

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ABSTRACT

Nature always stands as a golden mark to exemplify the outstanding phenomena of symbiosis. Traditional plants have been used from ancient time for the treatment of many diseases. Even today, the World Health Organization (WHO) estimates that up to 80% of people still rely primarily on traditional remedies such as herbs for their treatment. Nowadays, the medicinal plant is very popular than synthetic drugs due to their easy availability and fewer side effects. This article aims to showcase various phytochemical and pharmacological activities of Solanum nigrum based on an extensive literature survey (c.g. google scholar, Pub med, etc.). Solanum nigrum belongs to family Solanaceae and commonly known as Makoi or black nightshade, usually found in tropical and subtropical agro climatic regions . Chemical constituents commonly found in Solanum nigrum are glycoalkaloids. Glycoproteins, polysaccharides, polyphenolic compounds such as gallic acid, catechin. Protocatechuic acid, caffeic acid, epicatechin and rutin. This plant shows various Pharmacological activities like antibacterial, antifungal, anti-inflammatory, anticancer, anti-oxidant, antipyretic and cytotoxic activity. This plant is used in traditional medicine in India and other parts of world to cure liver disorders, chronic skin ailments (psoriasis and ringworm), inflammatory conditions, painful periods, fevers, diarrhoea, eye diseases, hydrophobia, etc. So, we could conclude that Solanum nigrum may be a good natural source of pharmacologically active constituents. Further research and clinical trials have to be carried out to commercialize the potential pharmaceutical uses of the plant.

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Abstract No. 32

CORIANDRUM SATIVUM (APIACEAE) : A SYSTEMIC REVIEW OF IT'S PHYTO-PHARMACOLOGICAL ACTIVITY

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ABSTRACT

Herbal plants are the precious gift by nature to human beings to help them pursue a disease-free healthy life. Medicinal and aromatic plants have been very popular in all the time for the culinary, medicinal, and many other purposes. The herbs and their secondary metabolites (phytochemicals) take part in increasingly in foods, in health, and in nutritive products. The essential oils are the most popular secondary metabolites of the plants, used for thousands of years regarding the variety of objectives, principally for their health benefits. Plants are a valuable source of a wide range of secondary metabolites, which are used as phar maceuticals, agrochemicals, flavours, biopesticides and food additives. India with its knowledge of rich ancient traditional systems of medicine provides a strong base for the utilization of a large number of plants in general healthcare Coriandrum sativum is one of them. It was used as a food, spice and medicine worldwide. The plant C sativum belonging to the family Apiaceae. The different health advantages of C. sativum seeds credited to the high levels of polyunsaturated and monounsaturated fats, phytosterols, tochopherols, protein, copper, folates, iron, zinc and vitamin B. Phytochemical analysis showed that C. sativum contained carbohydrates, phenolics, flavanoids, tannins, alkaloids, saponins, phytosterols, steroids, coriandrin, linalool etc. It includes many pharmacological effects included analgesic, antimicrobial, anti-plasmodial, antidiabetic, anti-ulcer, antidiarrheal, antihistaminic, reproductive, anticancer, antioxidant, anti-obesity, central nervous system effects and hepato- protective effects. This review was designed to highlight the chemical constituents and pharmacological effects of *Coriandrum sativum.*

Abstract No. 33

GENETIC EVALUTION OF BREEDING EFFICIENCY IN JAMUNAPARI GOATS

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ABSTRACT

The present study was undertaken on performance records of 107 jamunapari goats spread over a period of 8 years which were the progeny of 17 sires, maintained at Jamunapari farm, Central Institute for Research on Goats, Makhdoom, Farah-Mathura (U.P) India. Details of Study: Only those goats which had completed minimum three lactations were considered for study on breeding efficiency. The influence of year, season of kidding and other genetic and non-genetic factors on the economic traits were studied by least squares analysis. After necessary correction for significant effects, genetic and phenotypic parameters were obtained using paternal half-sib correlation method. Breeding efficiency were generated from reproduction traits. The breeding efficiency was determined by using the methods of Wilcox et al. (1957) and Tomar (1965).The records on reproductive traits viz., age at first kidding and kidding inter val were collected and also generated wherever was required. Least squares means for reproduction traits were for age at first kidding 954.28+_44.69 days and for kidding interval 377.61+_30.84 days respectively. The result of analysis of variances of herd life reproduction traits showed that the sire, year of kidding and regression of weight of dam at twelve month (Linear) affected age at first kidding significantly. Whereas, kidding interval was significantly influenced by year and season of kidding. The least squares means for breeding efficiency as per the methods of Wilcox et al(1957) and Tomar (1965)were 95.39+_04.25 percent and 88.29+_04.94 percent, respectively. The year of kidding and regression of dam's weight at twelve months significantly affected breeding efficiency estimated as per the methods of Wilcox et al. (1957) and Tomar(1965). The heritability estimates were computed by paternal half sib method after correcting the data for significant effects. Heritability estimates for kidding interval was 0.207+_0.322. The phenotypic correlation was of lower magnitude than the genetic correlation in general. The genetic and phenotypic correlation among the reproduction traits were in positive. The breeding efficiency values obtained using method of Wilcox et al.,(1957)were higher than that of method of tomar (1965).The estimates in the present study by both the methods were high enough to indicate that the reproductive performance of goats was optimum. However, the difference in average estimates by two methods indicated that there is greater variability in the age at first kidding.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 34

ROLE OF RELIGION TO CONTROL ENVIRONMENTAL DEGRADATION

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ABSTRACT

All religious groups have a responsibility to preserve the environment so that humans in general can survive and prosper. Since, primitive period the main motto of social life was to live in harmony with nature. The Hindu religion enshrined respect for nature, environmental harmony and conservation. At present there is a major environmental degradation of a global proportion affecting the physical, natural and human environment due to pollution of all kinds. Environmental degradation is generally caused not only by the pollution of the atmosphere, the maritime, and the coastal inland waters through the disruption of rural lands but also by the destruction of ecological balance of natural areas and the adverse effect of the use of biocides upon animal and plant life. Environmental pollution is also caused by the explosive growth of human population leading to the increase in the number of people living below the poverty line and excessive demands of the industrial technological advancement. Christianity says that harmony triadic relationship exists between the divine and humanity, among human beings and nature and failure to maintain the harmony may alienate humanity from its creator and also from nature. The Holy Quran declares that everything is created from water. Allah is unity and his unity is reflected in the unity of mankind and nature. Sikhism teaches that the natural environment and the survival of all life forms are closely linked in the rhythm of nature. Buddhism is the religion full of love, understanding and compassion committed to the ideals of non violence, it teaches that man should not over exploit the natural resources. Hindu religion demands veneration, respect and obedience to maintain and protect the harmonious unity of God and nature. Gita considers the Nature as the essence of human culture and man devoid of Nature is considered, an entity without soul. Religion cannot do anything direct about environmental problems, it can offer the just- discussed ethical principles of sustainability and living in harmony with the constraints of the extra human world. Therefore, it is very clear that, Religion plays a major and important role to protect our environment and also to control environmental degradation.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 35

GLOBAL PANDEMIC ITS PREPAREDNESS AND RESPONSE

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ABSTRACT

The global pandemic is crossing international boundaries and mostly affected a large number of people like smallpox, tuberculosis, and including the 1918 influenza pandemic (Spanish Flu), HIV/AIDS and current pandemics includes COVID-19 (SARS-CoV-2). This coronavirus disease 2019 caused due to severe acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). According to Lu, Zhao, Li (2020) et.al the first coronavirus disease caused by SARS-CoV-2,were first reported from Wuhan city, China in December 2019 and the WHO (World Health Organization) declared the outbreak a Public Health Emergency of International Concern in January 2020 and a Pandemic in March 2020 because according to the India Council of Medical Research (ICMR) has assured that the country is moving to the stage of community transmission, to prevent which the Government has imposed the 21 day nationwide lockdown, first time in history. It is spread due to person to person through small droplets from the sneezes or coughs. The time between infection and incubation period ranges from 1 to 14 days. It has a low risk in Children and Young adults and high risk of severe disease increases with age, which underlying medical conditions such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease cancer and obesity. It is the urgent need for sustainable health emergency preparedness for deal with the next one emergency because it will not be the world's last health emergency. It is important for health emergency preparedness infrastructure has been able to act quickly to control the spread of the SARS-CoV-2 Virus. Currently, Pfizer Inc. and BioNTech announced that their mRNA based vaccine BNT162Bb2, against SARS-CoV-2 has demonstrated evidence of efficacy against COVID-19. Their first external independent Data Monitoring Committee (DMC) conducted their analysis efficacy on Nov 8, 2020 for the phase 3 clinical study. It is improving the immune system to fight coronavirus and uses a tiny fragment of the virus's genetic code which contain like aluminum ingredients to make them stable of more effective. This vaccine is given in 2 doses at 3 weeks apart & offers up to 95% protection against Covid-19.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 36

POPULATION FLUCTUATION OF GENUS MESODORYLAIMUS IN RELATION TO SOIL ABIOTIC FACTORS IN MULBERRY FIELD AT GANGAPUR, AURANGABAD DISTRICT

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ABSTRACT

In the present study, the monthly population fluctuation of Mesodorylaimus sp. Andrassy, 1959 was observed in relation to soil temperature, moisture and pH in a mulberry (*Morus alba L.*) field with immense economic importance in the sericulture. The objective of study is to understand the influence and effect of these soil abiotic factors on the population of these plant parasitic nematodes and Correlation coefficients (r) between mean population *Mesodorylaimus* sp. With different soil abiotic factors in Gangapur, Aurangabad District Mulberry garden.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 37

A COMPARATIVE STUDY OF AIR POLLUTION TOLERANCE INDEX (APTI) OF SOME PLANT SPECIES GROWING NEAR THE PANKI THERMAL POWER PLANT (UNDER CONSTRUCTION), KANPUR

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ABSTRACT

Air Pollution Tolerance Index (APTI) is an important tool to screen out plants, based on their tolerance or sensitivity level to different air pollutants. The present study focuses on the determination of air pollution tolerance indices (APTI) from four common road side plant species in area Panki Thermal Power plant (under construction), Kanpur. In order to determine the susceptibility level of the selected plant species, it has used four major physiological and biochemical parameters like leaf relative water content, ascorbic acid content, chlorophyll content, and leaf pH to determine the APTI values. The results of the study reveal that among the four studied plant species, Bougainvillea Spectabilis (APTI =13.58) and Mangifera Indica (APTI = 15.27) are the most tolerant species, whereas Ficus bengalensis (APTI = 8.52) and Hibiscus rosa-sinensis (APTI=9.67) are the most sensitive ones. The present study suggests that the most tolerant species, i.e., Bougainvillea Spectabilis and Mangifera Indica, can be planted in polluted sites for both air pollution abatement and aesthetic improvement.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 38

CHALLENGES AND OPPORTUNITIES IN EDUCATION SECTOR DURING PANDEMIC PERIOD

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ABSTRACT

As the whole world becomes progressively interconnected, so do the menaces we are facing. The hazardous effects of COVID-19 pandemic have not stopped at national borders. This pandemic has influenced everyone irrespective of nationality, level of education, gender or income. The petrifying and intense effect of COVID-19 has traumatized the world to its core. It made a serious impact on many aspects of everyday. On 30th January, 2020 World Health Organization (WHO) declared COVID-19 as a worldwide public health emergency of inter national concern and confirmed it as a pandemic on 11th March 2020. COVID-19 has drastically affected all sectors including education and the world is searching for new strategies to cope with this pandemic to ensure that students do not miss out on their studies World Health Organization instructed to maintain social distancing as the first prevention step after spotting the corona virus pandemic situation. So, each country began the action of lockdown in order to isolate the infected people. The education institutions including schools, colleges and universities became closed. Classes postponed and all examinations of schools, colleges and universities including entrance tests were suspended indeterminately. Thus, the lockdown devastated the schedules of every student. However, it is a remarkable situation in the history of education. This COVID-19 pandemic has generated many chances to come out of the traditional classroom teaching model to a new era of digital World. This paper highlights the challenges and opportunities that the education sector faced in India during this pandemic and also discussed the initiatives that the Government of India has taken in order to deal with this pandemic.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 39

EFFECT OF PRESERVATIVES, PACKAGING MATERIAL AND STORAGE TEMPERATURES ON THE STORAGE OF GARLIC PASTE

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ABSTRACT

The effect of the preservatives, packaging materials and storage temperatures on the quality parameters of the garlic paste was studied for a period of 120 days. The quality parameters such as moisture content, water activity, pH, total soluble solids, titrable acidity, change in colour etc. as affected by the preservatives (three different combinations of citric acid and sodium chloride), three types of packaging materials (LDPE, HDPE and Glass bottle) and storage temperatures (Room temperature, refrigerated storage at 4 °C, storage at -10 °C). The results showed that there was a significant effect of the preservatives, storage temperature and packaging materials on the quality parameters of the garlic paste. Moisture content, total soluble solids, pH, titrable acidity and change in colour of garlic paste were found to be increased whereas flavour strength was decreased with the increase of the storage period respectively. Garlic paste with preservative 1% citric acid and 1% NaCl stored at -10 °C temperature with glass bottle packaging retains its quality and colour than other samples.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 40

ROLE OF RAG PICKERS IN SOLID WASTE MANAGEMENT AND CONSERVING THE ENVIRONMENT

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ABSTRACT

India faces huge environmental difficulties related with waste generation and insufficient waste collection, transport, treatment and disposal. Current frameworks in India can't face to the volumes of waste produced by an increasing population, and this effect on the environment and common people health. Increasing population levels, fast economic growth and rise in community living standard speed up the generation of solid waste in Indian urban communities. Inappropriate administration of Solid Waste causes dangers to the occupant. In India, Rag pickers work as a second line solid waste management system, an informal system as our formal waste management system is not very good. The occupation of rag picker has taken on new importance as a livelihood, especially since the last global economic downturn. Increasingly, rag pickers are being recognized for their valuable contributions in waste management. In present study we discuss the role of rag pickers in waste management and conserving the environment.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 41

RELIGIOUS PRACTICES AND ENVIRONMENTAL DEGRADATION

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ABSTRACT

There has always been a discordance between human civilization and environment as human beings tend to create pollution, one of the main hazards of the environment, and as religion is created by human beings it is one of the main causes of pollution creating a threat for environment. Deification of nature is a huge part of religion since ages. Every year millions of people visit sacred religious places but we tend to ignore the environmental hazards we cause towards this very nature through our harmful religious practices. It is time we create a change in our practices and promote religion in a way which will benefit the environment. Religious pollution is a sin against God but unfortunately it is not the reality. Pollution of Hinduism is highly detrimental to the environment. The pollution created in the Ganga river by millions of devotees every year is causing phenomenal climatic changes. Sound pollution is created every morning by the Muslim Azaan. Tribal religions like Santhal of Odisha or Adivasi have festivals of their own which can cause environmental degradation. The social and spiritual tenets of Hinduism have been completely replaced by a convenience-driven attitude whereby Deepawali, the festival of lights, becomes an ugly nightmare of noise and noxious smoke. Holi, festival of the colours of spring, has degenerated into an orgy of dangerous chemicals. Government should install cleaning machines like trash boom and industrial water filters in the rivers. Fine should be charged by the government for polluting the waters for waste disposal. These are the few of the many steps to reduce pollution through religion.

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Abstract No. 42

ROLE OF IMMUNO-NUTRIENTS IN CURBING SARS-COV-2 INFECTION

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ABSTRACT

The emergence of new infectious disease with new pathogenic properties constitutes a serious health issue worldwide. Severe acute respiratory syndrome (SARS) represents one of the most recent emerging infectious disease caused by a novel coronavirus member called SARS- CoV-2 identified in Wuhan, China in December 2019 and recognized as pandemic by the World Health Organization. The SARS-CoV-2 pandemic has put pressure on the science community to provide solutions that help to prevent its harmful effects. As a discipline, Nutritional Immunology is walking actively contributing to the prevention of viral infections. During recent decades, incredible advancements have been made in understanding how nutrients influence the microbiota and the immune system and affect resistance to viral infections. In order to preserve organism's defense mechanisms, adequate nutritional status should be maintained with appropriate intake of calories, vitamins, minerals, water, all provided by a healthy diet. In case of infection, nutritional status of the patient should be assessed prior undertaking treatments. Nutritional support should be the basis of management of any infected individual. However, prevention measures remain the first priority and strategy to develop throughout proper hygiene, healthy diet and staying home.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 43

EFFECT OF THE PANDEMIC ON THE WORK-LIFE BALANCE OF EMPLOYEES AND CULTURAL ADAPTATION OF WORK FROM HOME

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ABSTRACT

World is stocked with this global pandemic called corona vir us disease (COVID-19). This virus attack has had a huge impact on human life in the world and has changed many important aspects of life such as health, economy, politics, and also security. COVID-19 attacks have changed the method and culture of work in many organisations. It has introduced us to a new phenomenon which is work from home culture, although it was there before covid-19 too but since the pandemic has star ted this has become the new normal; and in coming future people really want to continue it as it is opening different opportunities for them. There have been several studies on the productivity one get when they work from home; it has its own advantages and disadvantages depending upon the situation. For some employees it is very beneficial and they want to continue the practice; As work from home is saving the time, cost and energy which used to get wasted in travelling, living in a different city, rents they pay and unnecessary shopping, eating out or partying. They are now able to spend more time with family and friends and they are also able to take care of themselves. But it also has some disadvantages as human is a social being and we really want to spend time with other people, and in office there was the environment which they really liked and, in that environment, they were able to spend time interacting face to face and have some breaks in between to spend time with other people and maintain a social life. It also helped them to maintain their routine; as they need to get to office on time and leave at one time. Older employees are people who have never work from home, they are really finding it hard as they have the mind-set that “Home is a place where they rest” and that is making it more difficult to maintain. Furthermore, we also find the fact that working from home cannot be generally accepted since many areas of work cannot be carried out from home, although for many employees, working from home has provided a work-life balance. Yet, this is something interrupted by multiple jobs (multitasking) that must be done at home. In addition to examining employees who work in the office, we also get data from employees who work in factories and transportation fields, stating that as long as the restrictions on working hours and social distancing are implemented, they have experienced a reduction in income, they cannot do WFH because it is not possible to do so, such as employees who work in factories, they are forced to stop temporarily from work because there are no job support facilities prepared by the employer to work at home, so as employees in their transportation are forced to accept this situation because their income is highly dependent on passenger delivery services. Thus, WFH might be effectively applied to organizations that already have good work facilities but WFH cannot be applied to all areas of work that are highly dependent on direct service to consumers such as health workers, manufacturing and also transportation.

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Abstract No. 44

EFFECT OF GLOBAL WARMING ON ENVIRONMENT

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ABSTRACT

Global climate change is the most severe environmental threat in the 21st century. Today climate change is a global challenge for humankind. Climate change is having significant effects and is a major threat not only for mankind, but also for life on earth as a whole. Climate change represents one of the most important threats to our planet's biodiversity. There is a two between biodiversity and climate. Biodiversity is threatened by human-induced climate change and climate change is already forcing biodiversity to adopt either through shifting habitat or changing life cycles. Plants and animals are endangered due to global warming resulting from increasing concentration of carbon dioxide released into atmosphere through different human activities. Climate has played a critical role in fluctuations of biodiversity levels. There is some evidence that plants and animals are already responding to warmer temperatures. The basic objective of this paper is to analysis the present and future impact of climate change on biodiversity.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 45

EFFECTS OF COVID-19 PANDEMIC ON ECOSYSTEM AND POTENTIAL STRATEGIES OF SUSTAINABILITY

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ABSTRACT

The corona virus disease 2019 (COVID-19) is affecting all over the world ("living things and environment too"). An ecosystem is a community of plants, animals and other living organisms that share the benefits of a particular space or environment such as air, food, water and soil. It's no different from our human community where every citizen of a city relies on its own resources and interacts with its environment. In an ecosystem, each organism has its role and purpose. Disturbing the balance of an ecosystem can be disastrous for all the living things relying on it. An example of an ecosystem is Coral Reefs but there are much smaller ecosystems. Our Earth is also considered as an ecosystem on a much larger scale. When we introduce external factors such as too much carbon dioxide or methane, it destroys the balance of the ecosystem which in turn affects those who live in it. The result is global warming, water shortage, extinction of species, etc. The measures taken to control the spread of the virus and the slowdown of economic activities have significant effects on the ecosystem. This study indicates that, the pandemic situation significantly improves air quality in different cities across the world, reduces GHGs emission, lessens water pollution and noise, and reduces the pressure on the tourist destinations, which may assist with the restoration of the ecological system. But, there are also some negative consequences of COVID-19, such as increase of medical waste, haphazard use and disposal of disinfectants, mask, and gloves; and burden of untreated wastes continuously endangering the environment. It seems that, economic activities will return soon after the pandemic, and the situation might change. Hence, this study also outlines possible ways to achieve long-term environmental benefits. It is expected that the proper implementation of the proposed strategies might be helpful for the global environmental sustainability.

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Abstract No. 46

CHALLENGES IN EDUCATION SECTOR DURING PANDEMIC PERIOD

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ABSTRACT

We have come across one of the most daunting problems of the modern times, which is, educational crisis. Due to COVID-19 pandemic, more than 2 billion children and youth are out of educational institutes in the world. One of the many challenges faced by the students due to COVID-19 is loss of learning. Distance learning has been a failure throughout this period, due to the fact that the the educators are unsupported and they lack the practical experience of teaching online through technology. On the other hand, not all students have the technology infrastructure at home to support their ongoing learning. Many of them are economically backward and find it difficult to suppor t their education without internet or a learning tablet. We try to solve the aforementioned challenges in this paper.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 47

IMPACT OF COVID 19 LOCKDOWN AND CYCLONE AMPHAN ON THE ISLAND VILLAGERS RESIDING IN THE SUNDARBANS DELTA OF WEST BENGAL

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ABSTRACT

The Sundarbans is famous for being one of the last remaining natural habitats of the majestic R oyal Bengal Tiger, spreads over an area of 10,200km square shared between India and Bangladesh. It is a unique ecosystem which supports a huge assortment of plant and animal species. The island villagers of the Sundarbans are solely dependent on the forest for their livelihood. But these forests are considered to be the home of the man – eater tigers. They were strictly prohibited from venturing in to the forest during the lockdown, but as there are no jobs opportunities or any other sources of income for these economically backward island villagers. As a result they are forced to enter in to this dangerous forest, at the risk of their lives. The lockdown put an end to alternative livelihood schemes for these island villagers residing in the Sundarbans delta of West Bengal. As a result during this pandemic situation the human – tiger conflicts are rising at a large scale. Apart from the forest – workers, the local inhabitants are also entering in to the forest for their livelihood as the alternative livelihood schemes run by the NGOs and other organizations are no longer available. Apar t from the lockdown, the Sundarbans area also faces the brutality of inclement weather. The extremely severe cyclonic storm Amphan has severely impacted the island villagers of the Sundarbans in West Bengal. Amphan is considered even more destructive than cyclone Aila, which had hit this region in May, 2009. On the one hand, natural disasters like cyclone Aila, Amphan, Bulbul had forced inhabitants of the Sundarbans to migrate out to different places outside West Bengal but this pandemic covid 19 lockdown was making them return to Sundarbans again. Thus, we can say that just as the migrants from the Sundarbans began to lose their jobs and return home, their counterparts in the Sundarbans Delta were facing the double threat, like losing their lands, ponds to cyclone Amphan and also their jobs, lives to lockdown and Covid 19.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 48

LENGTH WEIGHT RELATIONSHIPS AND CONDITION FACTOR OF THE PUNTIUS SOPHORE (HAMILTON,1822) (CYPRINIFORMES) AND TRICHOGASTER FASTIUS (BLOCH AND SCHNEIDER, 1801) (ABANTIFORMES) FROM GHODAGHODI LAKE, KAILALI DISTRICT, WESTERN NEPAL

DC Melina, Archana Prasad and Chhatra Mani Sharma

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ABSTRACT

This study describes the Length weight Relationships and Condition factor of the *Puntius sophore* and *Trichogaster fastius* from Ghodaghodi Lake, Kailali District, Western Nepal. Samples were collected covering two seasons by using locally available fishing implements with the help of local fisherwomen. The length and weight of the fishes were measured with the help of scale in cm and digital balance in gram respectively. A total of 146 specimens of *Puntius sophore* ranging from 8.1 to 1 cm TL and 8.9 to 1 gm and 144 specimens of *Trichogaster fastius* ranging from 11.3 to 2.1 cm TL and 8.7 to 1 gm body weight were procured. The coefficient b of the length weight relationship (L WRs) showed negatively allometric growth pattern in premonsoon and winter (b = 0.97,b =0.59) for *Puntius sophore* and *Trichogaster fastius* (b=0.52, b= 0.61). The correlation coefficient (r =0.82 premonsoon, r=0.38 winter) for *Puntius sophore* and *Trichogaster fastius* (r=0.46 premonsoon, r=0.45 winter). This reveals positive association between length and weight of fishes during both seasons. The value of Fulton's condition factor (k) was found (K=110-1.14 premonsoon, K=31.23-0.46 winter) for *Puntius sophore* and *Trichogaster fastius* (K=11.88-0.21premonsoon, K=16.78-0.66 winter) to be less than 1 in few populations of the both fish species in both seasons showed that their growth is unsatisfactory in the Lake. The results on the LWRs and K values of the *Puntius sophore* and *Trichogaster fastius* would be applicable in further ecological studies on population assessment of most of these species.

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Abstract No. 49

ENVIRONMENTAL DEGRADATION AND CONSERVATION

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ABSTRACT

Environmental degradation is a result of the dynamic interplay of socio-economic, industrial and technological activities. Environmental changes may be driven by many factors including economic growth, population growth, urbanization, intensification of agriculture, rising energy use and transportation, Poverty still remains a problem at the root of several environmental problems. Environmental problems in India arise as negative effects of developmental process and from conditions of poverty or under development. Thus there is an urgent need for conserving our environment via conserving our biodiversity. For this purpose new and aggressive projects have to come-up at the end of Government and NGO's end. Even the awareness of the severity of the problem at school level will also bring fruitful effects in due course of time.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 50

A CRITICAL ANALYSIS OF THE IMPACTS OF COVID-19 ON THE GLOBAL ECONOMY AND ECOSYSTEMS AND OPPORTUNITIES FOR CIRCULAR ECONOMY STRATEGIES

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ABSTRACT

The World Health Organization declared COVID-19 a global pandemic on the 11th of March 2020, but the world is still reeling from its aftermath. Originating from China, cases quickly spread across the globe, prompting the implementation of stringent measures by world governments in efforts to isolate cases and limit the transmission rate of the virus. These measures have however shattered the core sustaining pillars of the modern world economies as global trade and cooperation succumbed to nationalist focus and competition for scarce supplies. Against this backdrop, this presents a critical review of the catalogue of negative and positive impacts of the pandemic and proffers perspectives on how it can be leveraged to steer towards a better, more resilient low carbon economy. The paper diagnosed the danger of relying on pandemic-driven benefits to achieving sustainable development goals and emphasizes a need for a decisive, fundamental structural change to the dynamics of how we live. It argues for a rethink of the present global economic growth model, shaped by a linear economy system and sustained by profiteering and energy-gulping manufacturing processes, in favour of a more sustainable model recalibrated on circular economy (CE) framework. Building on evidence in support of CE as a vehicle for balancing the complex equation of accomplishing profit with minimal environmental harms, the paper outlines concrete sector- specific recommendations on CE-related solutions as a catalyst for the global economic growth and development in a resilient post-COVID-19 world.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 51

PARASITISM IMPACT ON AQUACULTURE WITH SPECIAL REFERENCE TO FISH PARASITES

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ABSTRACT

The “Blue revolution” is a part of the government efforts to promote fishing as an allied activity for farmers in order to double their income. Hence the government has constituted and independent ministry for fisheries. The fisheries are the primary source of livelihood for several communities. Aquaculture industry has been growing at an average rate of 9% annually, being one of the fastest growers. To deal with problems facing the fisheries and aquaculture new policy provides guidance for promoting blue growth initiative which focuses on ushering the blue revolution. India is the world's second largest fish producer and fisheries are countries single largest agriculture export, with a growth rate of 6 to 10% in the past 5 years, recognised as the sunshine sector in Indian agriculture. It is the source of livelihood for a large section of economically backward population, especially, fisherman, of the country. It also helps to increasing food supply, generating adequate employment opportunities and raising nutritional level and big source of foreign exchange earnings for the country. The consumptions of fish are the key to good health, promote optimal brain development, regulate the immune system and build healthy bones, especially crucial for women during pregnancy and lactation. The Blue Revolution is set to address a number of challenges in the fisheries sector and in aquaculture to an extent that recovery may not be Biologically possible to meet the ever increasing demand for animal protein and to solve malnutrition in 38% children (According to global nutrition report) an anaemia among women's. All fishes carry infections of adult trematodes or metacercariae. They infect all the body parts and causes diseases thus reducing their food value and heavy infections caused mortality also, which in turn is a great loss to fish industry/Aquaculture. My research findings will helpful to study the geographical distribution of parasites which serves as base line information on current status of trematodes parasitizing fish from different water bodies in north India. If mortality increases day by day due to infection it will distracts the goal of Blue Revolution.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 52

ANNUAL BODY WEIGHT CYCLE OF MALE SILVER PHEASANT KEPT IN CONSTANT PHOTOPERIOD AND NORMAL DAY LIGHT

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ABSTRACT

The period of time each day during which an organism receives illumination day length. Photoperiodism is the ability of animals and plants to measure environmental day length (photoperiod) a process that underlies the so-called biological calendar. This study was conducted to determine the effects of exposing male silver pheasants to constant photoperiods on their body weight. Male pheasants were kept in captivity in Zoological garden of Kanpur, for the period of one year. The birds were exposed to constant photoperiods 24L and normal day (12L) light. During course of study birds were provided with food and water ad-libitum. It was concluded that body weight of experimental and controlled male bird shows great variation. It was found that the weight of the experimental birds was throughout greater than the controlled birds

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Abstract No. 53

EVALUATION OF NOISE POLLUTION IN BENGALURU CITY, INDIA DURING COVID-19 PANDEMIC

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ABSTRACT

Noise pollution is an excessive sound that has deleterious effects on humans and other living organisms. Most of the Indian cities and towns have been facing serious traffic noise pollution due to urbanization, substantial growth of new vehicles, inadequate road network, etc. In urban areas, the contribution of traffic noise is 55% of total environmental noise. The present diurnal study (6.00 AM-10.00 PM) investigates the level of noise in Bengaluru city during pre lockdown (1.03. 2020 to 23.3.2020), lockdown (24.3.2020 to 15.5. 2020), and post lockdown period (18.5.2020 to 18.6.2020). It was observed that there was an overall decrease in the percentage of the noise level during the lockdown period at all ten locations in Bengaluru city whereas the level of noise was increased at the majority of locations during the post lockdown period. A decrease in noise level during the lockdown period might be due to the closedown of industrial activities, transportation, and companies and the strict lockdown imposed during the COVID-19 pandemic.

Abstract No. 54

CHALLENGES AND OPPORTUNITIES IN EDUCATION SECTOR VIA SHIFT TO ONLINE MODE DURING COVID-19: INDIAN SCENARIO

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ABSTRACT

With the outbreak of COVID -19 the entire world came under the shadow of fear and almost all economic activities came to stand still. Education sector was no exception to it and around 32 crore learners stopped to move schools/colleges and all educational activities halted in India. In this grim situation the only ray of hope has been to adapt new ways which are gover ned more by information technology and systems. The education sector within no time responded well and shifted from physical mode to online mode of imparting education at all levels starting from primary to university level education. The teacher and students both rose to the occasion. Many online education portals like Udemy, Khan Academy, Coursera, SWYAM, Swam Prabha and meeting sites such as Microsoft Teams, Hangout, Google Meet, Webex to mention a few provided the much-needed platform to transform to online mode of education system. The paper tries to analyse the pros and cons of dissemination and sharing of knowledge through online mode and what are the real challenges that have been faced by students and teachers. The paper is based on primary survey done in the city of Lucknow and derives information from secondary sourced extracted from newspapers, journals and online authentic information available on internet. The paper concludes with providing suggestions that can make online education more effective as in the given circumstances the future lies on online mode of education.

Abstract No. 55

ANALYSIS OF WATER QUALITY OF UPPER LAKE BHOPAL (MP)

Insha Showkat

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ABSTRACT

After statistical analysis it was cleared that the positive co-relationship occurred between the attributes and attributes are independent to each other and these varied according to locations. The present study was carried out to determine the water quality status of Upper Lake Bhopal. Water quality is an index of health and well being of a society. Industrialization, urbanization and modern agriculture practices have direct impact on the water resources. These factors influence the water resources quantitatively and qualitatively. The study area selected were the Upper lake of Bhopal, the state capital of Madhya Pradesh, India. The Upper lake are the important source potable water supply for the Bhopal city. The physico–chemical parameters like temperature, pH, turbidity, total hardness, alkalinity, BOD, COD, Chloride, nitrate and phosphate were studied to ascertain the drinking water quality.

Abstract No. 56

ECO-FRIENDLY MANAGEMENT OF ANTRACNOSE OF GUAR (*CYMOPSIS TETRAGONOLOBA*)

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ABSTRACT

In the present work, anthracnose (*Colletotrichum capsici f.sp. cyamopsicola)* of guar was studied in the Plant Pathology Laboratory, Department of Pathology, College of Agriculture, Gwalior. Due to ill effect of chemicals fungicides, search for safer alternative to control the pathogen is better choice. Out of six botanicals and three concentration of cow urine (15, 30, and 45) tested. Among the tested botanicals and cow urine concentration, *Calotropis procera*, cow urine concentration and *Azadirachta indica* was found to be best as it inhibited the fungal growth and was significantly superior over all the treatment.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 57

MANAGEMENT OF YELLOW MOSAIC VIRUS DISEASE IN MUNGBEAN (*VIGNA RADIATA* L.) IN GURUGRAM DISTRICT, HARYANA

Bharat Singh, Anamika Sharma, Ram Sewak, Raghvendra Pratap Singh and Pargat Singh

ICAR- Krishi Vigyan Kendra (IARI)
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ABSTRACT

Mung bean (*Vigna radiata* L.) is an important pulse crop which widely grown in different parts of the Haryana as well as in other of the country. The mung bean crop is vulnerable to different biotic and abiotic stresses but Mung bean Yellow Mosaic Virus (MYMV) disease is a serious cause of low yield of this crop, MYMV transmitted by white fly is most damaging factor in all of its growing areas. Mungbean MYMV disease severely affects the plants up to 100% yield losses. Disease management strategies are being applied at various level ranging from seed treatment to different crop protection techniques, ie. selection of high resistant varieties and spraying of pesticides. ICAR, KVK, Gurugram laid out front line demonstrations of Mung bean cv., SML-668, clean cultivation and integrated disease management practices followed, seed treated with Imidachloprid 17.8% SL @ 0.02% , sticky traps installed (25/ ha.) and foliar application of Imidachloprid 17.8% SL @ 0.02% in the crop at interval of 10 days at 20; 30 DAS, resulted Mung bean Yellow Mosaic Virus infected plants recorded 10.42%; 7.92% while in check plot 44.50%; 51.13% during the year kharif 2018 and 2019 respectively.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 58

PSYCHOLOGICAL IMPACT OF THE COVID-19

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ABSTRACT

Coronaviruses (CoV) - a large family of infectious viruses that cause mild common cold to more severe respiratory diseases. On 7 January 2020 novel coronavirus (nCoV) was identified and named the "COVID-19 virus" . COVID-19 is an unprecedented event with no protocol to follow. WHO declared Covid-19 outbreak a pandemic on March 11,2020. Mental health of the general population and corona warriors is affected by this novel viruse. Due to lockdowns and economic crisis the fear of unemployment, business slowed downs, restricted movements and uncertainties in all areas have increased the cases of mental disorders. In this paper we are going to review the psychological influence and mental health status after COVID-19. The main factors associated with increased number of mental stress and disorders are COVID related news, increased social media use, long working hours with no breaks as in case of corona warriors, no work or unemployment, food insecurity, fear of infection and student's irregular schedules. The sleep related disturbances anxiety, low mood, irritability, stress, loneliness, depression and post traumatic stress symptoms were reported because of series of lockdowns on almost everyone. Also we will focus on the lifestyle recommendation and mental preparedness during COVID -19. More emphasis should be on eating habits, multivitamin intake, exercises and yoga for a healthy lifestyle. To mentally prepare focus should be on the relaxation techniques, increasing the knowledge about the disease, following the preventive measures, regular healthy routine, involvement in reading, writing and acknowledging the social needs. By reviewing all surveys of different geographical location we can understand the impact of COVID -19 on the psychology of different sections of societies.

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Abstract No. 59

NEW CHALLENGES AND OPPORTUNITIES IN HIGHER EDUCATION DURING PANDEMIC

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ABSTRACT

Every challenge opens a new opportunities. Higher education has many possibilities and challenges during social/physical distance keeping period. Online classes using various platforms offer big opportunities to reach out to students in the remote places and locations. Now a days virtual classrooms have become a popular reality, but online education has its own limitation. The biggest challenge is the none availability of high-speed internet in rural and remote areas as well as a large section of society still cannot afford to buy good quality smartphone or laptop which is very necessary for online education system. There is also a section of the society which hesitates to upgrade themselves digitally. We all know that online education will be successful only if it reaches each and every student. Online conferencing apps like google meet, zoom, google classroom, WebEx are popular apps using for conduction of online classes. Online radio/television is also a powerful and useful tool for communication and e-learning. WhatsApp and other social networks are using for e-learning communication.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 60

IMPACT OF COVID- 19 ON MANGO FARMERS AND HOW THEY TACKLED IT: A CASE STUDY OF MUTHALAMADA VILLAGE IN PALAKKAD DISTRICT

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ABSTRACT

India is the largest producer of Mangoes in the world and produces around 21.8 million metric tonnes of Mango which is more than 40% of the global production. Muthalamada - The mango city of Kerala, located on the foothills of Thenmala has mango cultivation of about 4000hectares generating a revenue of about Rs. 500 crores. Because of climate and geographical advantages mangoes from Muthalamadaare harvested in January, the first in the world. The harvested mangoes are transported and sold at Mumbai, Delhi, Ahmedabad, Chennai, Hyderabad, Bangalore, etc, first quality ones are exported to UAE, Qatar, Oman and Bahari .Covid- 19 had a huge impact on mango harvesting and marketing, since the mango season coincided with the pandemic period. Lockdown followed by the disruption of logistics and markets affected the marketing and distribution of mangoes. With the nationwide lockdown labour shortage during March & April has affected harvesting, sorting, grading, packing functions .Further the sealing of state borders made matters worse especially for perishable products like Mango. But due to the timely intervention by the government support price for the individual varieties were fixed and procurement conditions were laid down .At the same time through whatsapp groups and social media platforms local marketing possibilities within the state were realized , Door delivery to flats and residence associations were done .Many of the NGO,s and various other associations joined hands by procuring the products at Government fixed support price helping the farmers in the pandemic situation. Thus Covid-19 opened new channels of marketing for farmers which was not exploited so far.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 61

THE PSYCHOLOGICAL IMPACTS OF COVID – 19 ON MENTAL HEALTH OF GENERAL POPULATION

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ABSTRACT

COVID -19 outbreak has shaken the entire world and created a global panic. During last few months, we all are experiencing a different way of life, never experienced before. All efforts to control the pandemic are focused on clinical features, transmission pattern, physical effects, precautions and management of disease. However, this pandemic pose both physical and mental effects on health of general population. Today, human civilization is passing through the most critical juncture of this millennium .Its existence is being challenged by the emergence of COVID – 19. The transmission patter n of this disease is rapid human to human that is why it is necessary to keep social distancing to stem the further spread. Working from home, isolation, quarantine, job losses, economic slowdown, etc; are imposing a significant psychological impact on different strata of society. COVID – 19 is not just a medical condition but it is a medico-psychological condition imposing significant mental conditions like depression, frustration, stress and anxiety among people. Studies reported a higher prevalence of subjects with fear, anger, insecurity, confusion, and insomnia. . Being a Corona positive is a stigma among the sufferers. At the time of sickness, when one needs the suppor t and care of relatives and loved ones, they are isolated or quarantined. This leads to depression, insomnia and fear. Post treatment psychological effects may include significant socio-economic distress and other psychological symptoms due to financial losses. Children are also suffering from psychological conditions like annoying behaviour, depression, sadness, worry, difficulties with concentration and attention. Elderly people are suffering with loneliness, boredom, fear, anxiety, insecurity and feeling of helplessness. Along with high infectivity and fatality rates, the COVID- 19 has caused a universal psychological impact by causing fear (CORONAPHOBIA). Good health is absolutely fundamental to overall mental health. To overcome psychological stress, one should keep regular routine, focus on positive thoughts, and maintain social bonds.

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Abstract No. 62

PREVALENCE AND RELATED RISK FACTORS FOR DIABETES IN THE URBAN POPULATION OF JABALPUR

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ABSTRACT

The prevalence of diabetes is rapidly increasing globally. This increase cannot be attributed to a single cause, but rather, to a combination of demographic, lifestyle and clinical factors. The main objective of this study was to examine the prevalence of diabetes and to know the risk factors associated with diabetes. A cross sectional study was conducted in the urban population of Jabalpur. Total 400 respondents were screened for diabetes. Data collected was entered into Microsoft Excel and analyzed using SPSS. Diabetes is no longer only disease of the elderly but is one of the major causes of morbidity and mortality affecting youth and middle aged people. Medical health experts say that regular check-ups and timely detection plays a vital role in controlling and managing the problem which is important to lead a normal life.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 63

SEASONAL VARIATION IN PHYSICO-CHEMICAL PARAMETERS OF THE WATER OF RIVER KARAMNASA AT BUXAR, BIHAR

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ABSTRACT

The quality of river body is determined by its physico-chemical parameters. The physico-chemical parameters refer as Temperature, Transparency, pH, DO, Free CO2, Total Alkalinity, Nitrate, Phosphate, BOD and COD. These parameters provide all necessary informations regarding the suitability of water for its use as well as for improving its quality. The present investigation is done to find out the impact of season on physico-chemical parameters of the water of River Karamnasa at Buxar, Bihar. For this purpose, the various physicochemical parameters were studied during the whole period of investigation from March 2018– February 2019 and noticed the changes on the parameters due to season. The result of present finding showed that the physico-chemical parameters of the water of River Karamnasa Varied seasonally. Temperature and Free CO2 were maximum in summer while these were minimum in winter. pH, Transparency and total alkalinity were recorded maximum in summer while minimum in monsoon season. The DO was maximum in winter while it was minimum in monsoon. Nitrate, Phosphate, BOD and COD were found maximum in monsoon while these were minimum in winter.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 64

DIAPAUSES BEHAVIOUR OF ZYGOGRAMMA BICOLORATA (MEXICAN BEETLE) IN CHITRAKOOT (UP)

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ABSTRACT

Zygogramma bicolorata (Mexican beetle) is a eco-friendly biocontrol agent of Parthenium hysterophorus. This investigation was carried out to examine the diapause behaviour of Mexican beetle. There are many abiotic (temperature, sunshine and humidity) and biotic factor (age and reproductive status) on the termination of diapause in Z. bicolorata. Diapause adults resumed their behaviours in approximately one week when exposed to temperatures of 400C to 450C. Soil moisture played an important role in the initiation and termination of Mexican beetle. Adult beetles entered into diapause over an extended period of time between July and November in Chitrakoot District. Diapausing adults burrowed in to the soil and emerged in June with the commencement of mansoon rains. Diapause condition developed in the unfavourable conditions between the months of December to February (low temperature) and April to June (high temperature) in the Mexican beetle. Development of Mexican beetle was evaluated at 20^{0}C to 35^{0}C with 60 to 65 % RH on P. hysterophorus. The diapause behaviour is a natural process to avoid unfavourable conditions. This Mexican beetle is an effective and safe biocontrol agent of Parthenium weed. The delay was found in its effectiveness on the Parthenium that reached up to growth and seed production by the time period, the beetle is able to build up its population after emergence from diapause.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 65

PARANOIA AND MASS HYSTERIA IN THE TIMES OF COVID-19

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ABSTRACT

This study signifies the importance of mental health in the time of the crisis. In regular period of time mental disorder is seen with a stigma attached to them and people hardly talk about them. But in the duration of unlock people have become more empathetic to these issues and the government have also taken initiative to deal with mental disorders. This study comprises secondary data as well as insights from group discussion and unstructured interviews.

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Abstract No. 66

THE CONSEQUENCE OF THE LIGNIN IN SOIL

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ABSTRACT

Among the most studied macromolecules in natural settings are lignins. In recent decades, lignins have been considered important components of the soil carbon cycle and in particular, ofthe carbon storage process. Thus, in many soil plant models such as CENTURY and RothC, they are an important variable and have proven to be a determinant for poolsize soil organic matter (SOM) estimation and stabilization. This point of view has been contested by recent research. As environmental biomarkers, ligni derived products obtained after CuO oxidation can be used and also differ with the degree of degradation of the molecule. The deterioration of lignin is related to the nature of vegetation and land use, but also to the characteristics of the climate and soil. With the decreasing size of the granulometric fractions, the lignin content of SOM decreases, while its degradation level increases simultaneously. The accumulation and future stabilization are indicated by several studies and our findings.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 67

POSITIVE PSYCHOLOGICAL IMPACT OF PANDEMIC ALONG WITH CHALLENGES TOWARDS HIGHER EDUCATION

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ABSTRACT

The purpose of this study was to understand the psychology of people during this pandemic as well as to test the feasibility of implementing the online way of learning in higher education. The study is divided into two parts: (1) Through an online survey, the impact of the COVID-19 pandemic on the psychology of people including various aspects of life, relationship, neurological health, and faith towards GOD was systematically evaluated. The negative psychological impacts of the COVID-19 pandemic such as fear of getting ill, frustrations, job loss, etc are well predicted, but this pandemic has some positive effects also. It was found that the family bonding and faith towards GOD have increased during this pandemic. (2) The COVID-19 pandemic has opened a new avenue for out of box thinking. Online education can address the burning challenge of continuing the study and learning processes. Before applying the online education, it is necessary to understand the psychology of students, particularly their readiness for it. In another survey, the psychology of the students during this pandemic particularly the acceptance of online education among different classes of students was evaluated. It was found that the majority of the students do not prefer the online way of learning. It is not possible to replace the traditional way of learning, and hence this study tried to provide a guideline for implementing the online way of learning for higher education.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 68

PANDEMIC AND EDUCATION

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ABSTRACT

Where there is challenge there is opportunity to do better. Covid-19 called as pandemic has affected the whole system in worldwide specially the educational system , leading to the near total closure of schools , colleges , and universities. school closure in country impact not only students , teachers and families but have far-reaching economic and societal consequences . school closure in response to the pandemic have shed light on various social and economic issues , including student dept , digital learning , food insecurity and homelessness , as well as access to child care , health care , housing , internet . The impact is more severe for disadvantaged children and their families , causing interrupted learning , compromised nutrition , childcare problems and consequent economic cost of families who could not work . In response to school closure , UNESCO recommended the use of distance learning programmes and open educational applications and platfor ms that schools and teachers can use to reach learners remotely and limit the disruption of education. In this pandemic period the lack of student to teacher interaction has also led students to feel less passionate about the integrity of their work . This leads students to turn in half completed assignments , get the answers from their friends or turn in nothing at all simply because education has become less impor tant due to covid-19 . we are experiencing a global learning crisis due to covid-19. Some of the fact that have an immediate impact on children and youth during this stage of crisis were 1)losses inlearning 2) increased dropout 3) children missing their most important meal of the day . Especially the negative impact will be felt dis propor tionately by the poor children. But to overcome this challenge of covid-19 the digital mode help too much. Radio and T.V are also very powerful tools , through the social network especially whatsapp , email and all the digital media help the students and teachers both in this covid-19 situation to do their educational function without loss of time.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 69

ROLE OF AIR BORNE INOCULUM AS MODE OF SECONDARY SPREAD IN LEAF SPOT OF COTTON CAUSED BY ALTERNARIA ALTERNATA

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ABSTRACT

Cotton (*Gossypium* L.) is one of the most important commercial crop playing a key role in economic and social affairs of the world. In view of the seriousness of the disease and being destructive in reducing productivity and importance of the crop, it was necessary to take up mode of infection through air-bone inoculums. So an experiment was conducted in which two sets of plants were raised. It was done by raising the healthy plants in the glass house by sowing 10 surface sterilized seeds per pot filled with sterilized soil. One set of these pots was covered with muslin cloth in order to avoid aerial contamination, while other similar set was kept as exposed to free contact of spores of the Alternaria alternata present in the air. The diseased plants raised in pots were transferred in the vicinity of healthy plants to study the role of air in the secondary spread of disease. The healthy plants were examined regularly for recording disease development. It was observed after a period of time that the pots containing the plants covered with muslin cloth did not produce the disease symptoms and escape infection, while another set which was kept uncovered and exposed to air, caused aerial infection and produced typical symptoms of leaf spot of cotton. Thus, it was ascertained that the disease inoculum reached the uncovered healthy plants through the agency of air causing the infection leading to development of disease establishing the role of air borne inoculum in secondary spread of disease.

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Abstract No. 70

IMPACT OF COVID-19 ON EDUCATION SYSTEM IN INDIA

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ABSTRACT

When schools are closed, many children and youth miss out on social contact that is essential to learning and development. Schooling provides essential learning and when schools close, children and youth are deprived of opportunities for growth and development. Due to sudden shift to online learning without any planning especially in countries like India, students seem to be losing interest due to low levels of attention span. New ways of delivery and assessments of learning outcomes will have to be adopted which opens immense opportunities for a major transformation in the area of curriculum development and pedagogy.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 71

CORONA INFECTION AND HEALTH ISSUES OTHER THAN CORONA INFECTION

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ABSTRACT

In late 2019 when the final report of an unknown respiratory infection emerged nobody knew it will be greatest challenge to humans of the centur y. During this period people suffered a lot not only due to corona infections rather other health issues. Lots of restrictions are imposed on elderly persons became very painful and many of them lost their lives out of anxiety and fear. Patients could not visit Doctors for their routine check up either due to fear of corona infection or non availability of doctors. When we talk about other major diseases worst affected cancer and asthma patients. Cancer patients in active treatment are at a higher risk for COVID-19 infection because they are immunocompromised. According to a study among 3,234,256 cancer patients 38% died from cancer and 11% died from CVDs. Clinical data indicate that both susceptibility and outcomes of COVID-19 are strongly associated with cardiovascular diseases especially to people over the age of 60. Similar is the case with diabetes patients they are more likely to have worse complications if they get effected by virus. Above all a healthy person can get the infection by simply visiting any hospital. Fear, worry and stress are real threats when we are faced with uncertainty. So people are experiencing fear in the COVID-pandemic.

Abstract No. 72

OUTBREAK OF COVID–19 AND ITS IMPACT ON FOOD SECURITY

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ABSTRACT

India reported the first confirmed case of the corona virus infection on 30 January 2020 in the state of Kerala. The affected had a travel history from Wuhan, China The outbreak of coronavirus named COVID-19 has disrupted the Chinese economy and is spreading globally. The evolution of the disease and its economic impact is highly uncertain, which makes it difficult for policymakers to formulate an appropriate macroeconomic policy response. The "social economy" has played an important role in addressing and mitigating the short- and long-term impacts of the COVID-19 crisis on economy and society. In the short term, social economy actors have assisted the recovery from the crisis by providing innovative solutions that are aimed at strengthening public services to complement government action. In the long term, social economy organisations can help reshape the post-crisis economy by promoting inclusive and sustainable economic models. Relying on decades of experience, its specific features and underlying principles, the social economy can inspire models of social innovation and a sense of purpose to firms operating in the market economy. The corona has proved that although humans are a superpower and have weapons that are capable to destroy the whole world but still if humans are creating mess with nature then even now nature is itself powerful to destroy humans with this small virus which is having very common symptoms like cold and cough. The best way to prevent and hamper transmission is to protect yourself and others from infection by frequent washing of hands or using an alcohol based- rub frequently, not touching the face and follow social distancing norms. Use of mask is beneficial if anyone has to go out of home due to an urgent work. During the lockdown, staying at home and working from home should be followed.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 73

DEVELOPMENT OF MECHANISM FOR DE-PULPING OF CUSTARD APPLE

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ABSTRACT

A mechanism was developed and preliminary trial was taken for its performance to separate the seeds and pulp. It was based on compression and shearing force. The average value for the capacity of the developed custard apple de-pulper machine in terms of Custard apple processed per hour and pulp processed per hour was found to be 724.61 and 209.61 kg/h respectively. The average value for the segments recovery of the developed custard apple depulper machine was calculated to be 59.55 percent. It was inferred from the performance trials that machine capacity decrease with a decrease in the gap between two adjacent brush tips. While there is also a significant effect on the segment recovery with increase in gap segment percentage in the pulp collected at outlet was increased. It is found that the developed mechanism maybe very useful to increase the income of rural custard apple growers and farmers.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 74

EFFECT OF FARM MECHANIZATION FOR PRODUCTION OF VEGETABLE CROP DURING COVID-19

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ABSTRACT

Food availability is major problem in most part of India during the lockdown. Due to covid-19, vegetable production, fruit production, floriculture, dairy farming and poultry farming has been affected. The disruption in agricultural inputs has caused shortage of seeds, fertilizer, machinery, supply chain and export of vegetables. Due to labour unavailability, harvesting of current season crops like cauliflower, cabbage, tomato and onion was adversely affected. In approach of farming has been a key highlight during lockdown as the farmers who are producing the huge amount of vegetable. Farm mechanization means the improved way of doing farm practice that needs least effort and resource and Mechanization of small farms would enhance smallholder's resilience. In agricultural mechanization, to increase the efficiency of operation such as land preparation, planting, transplanting, plant protection and harvesting, with adaption of some machinery. Different availability of mechanical power and equipments. Machinery used for land preparation and planting are ploughs, harrow, rotavator, transplanter, potato planter, and multi-crop planter. Some machinery for harvesting are digger, harvesters etc. These tractors are extremely versatile and suitable for a broad set of implements, transportations and as an energy source for water pumping system.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 75

REARING AND CONSERVATION OF ASIAN CATFISH, *CLARIAS BATRACHUS* IN MARATHWADA REGION, MAHARASHTRA, INDIA THROUGH CAPTIVE BREEDING

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ABSTRACT

Asian catfish, *Clarias batrachus* is very important and popular for its nutritive food value in India and neighboring countries. The population of these species is declining day by day due to drying up of wetlands, use of pesticides in the paddy field, loss of habitat and overfishing. Presently Clarias batrachus becomes rare species in Marathwada region due to loss of natural breeding grounds and depletion of natural stocks. Marathwada is the region comprising the eight districts of (divisional headquarters) Jalna, Aurangabad, Parbhani, Hingoli, Nanded, Latur, Osmanabad and Beed. In Marathwada region various Dams like Nathsagar, Majalgaon Yelderi Dam, Vishnupuri etc are present. This region also present large rivers like Godavari, Sindhphana, Purna etc. In Marathwada region (M.S.) 70% population depend for their survival on agriculture. In the present research work attempts were made to induce captive breeding in Clarias batrachus with various inducing agents. Females were administered with different doses of ovatide, ovaprim, pituitary gland extract (PGE) and human chorionic gonadotropin (HCG), optimum response were observed at dose 1.0 ml/kg, 2.0 ml/kg, 120 mg/kg and 4000IU/kg body weight of female respectively. Latency period ranged between 12 to 16 hours. The higher rate of fertilization (%) for ovatide, ovaprim, PG and HCG were observed 95+ 2.5, 87+3.1, 84+2.1, 86+2.5 and rate of hatching (%) was 91.80+4.1, 76+3.0, 72+2.0 and 78+2.0 respectively. Results of the present study clearly indicated that Clarias batrachus spawned in laboratory conditions with various inducing agents.

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Abstract No. 76

ENVIRONMENTAL CHANGES AND NATURAL DISASTER

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ABSTRACT

Human emissions of greenhouse gases are already changing our climate. Climate change may not be responsible for the recent skyrocketing cost of natural disasters, but it is very likely that it will impact future catastrophes. Increase in global temperatures include increased risk of drought and increased intensity of storms, including tropical cyclones with higher wind speeds, a wetter Asian monsoon, and, possibly, more intense mid-latitude storm. In many instances, however, the potential increases in extreme events due to climate change come on top of alarming rises in vulnerability. Climate change does not just cause changes in known hazard risks, but also raises the level of uncertainty, and will generate surprises. Hence, the additional risks due to climate change should not be analysed or treated in isolation, but instead integrated into broader efforts to reduce the risk of natural disasters.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 77

STUDY ON GOSSYPOL REDUCTION AND INCREASING CRUDE PROTEIN CONTENT IN COTTONSEED FLOUR

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ABSTRACT

India is the leading producer of cotton in the world with an annual production of 5.77 million metric tons. Cottonseed is the main by-product of cotton and constitutes two third portion of the cotton. It is very good source of oil and protein. The use of cottonseed for human consumption and most of the animals feed are hampered due to the presence of toxic polyphenolic content called gossypol. Economic value of cottonseed can be improved by extracting gossypol from it. Gossypol itself has a great value in medicinal and industrial field. Therefore a proper method is required to remove gossypol from cottonseed to enhance the profit from cottonseed as well as from gossypol. This toxic content present in two forms free and bound. Before utilization of cottonseed for monogastric animal or food purpose, gossypol has to be reduced to safe level. In the present study three different methods viz. sprouting method, microbial method and chemical method were used to study the effect on free and total gossypol reduction, oil yield and crude protein content in cottonseed. In sprouting method, cottonseed sprouts were produced and tested while in microbial treatment cultures of Candida tropical, Saccharomyces cerevisiae and their combinations were used. Under chemical treatment, four solvents viz. acetone, isopropanol, ethanol and methanol with four different levels (70-100%) were used. Results indicate that there was no effect of sprouting treatment on free and total gossypol. In microbial method, 92% and 93% free gossypol reduction was found using culture Candida tropical and Saccharomyces cerevisiae respectively while total gossypol was observed as 72.7% and 61%, also crude protein content 39% and 35% and oil content 31% and 30% oil content were recorded. Under chemical method, 70% acetone has given better results among all solvents with 97% free gossypol reduction, 52% total gossypol reduction, 31% oil content and 65.6% crude protein content.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 78

WOMEN FRIENDLY FOLDING-TYPE PEDAL OPERATED LOW-COST MINOR MILLET THRESHER

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ABSTRACT

Minor millet a group of small-grained cereals. Millets play a very specific role in human nutrition because of their multiple qualities. The threshing method is difficult and drudgeries work and mostly done by women. Women are the backbone of the agricultural workforce but worldwide her hard work has mostly been unpaid. Women are playing a significant role in agricultural development and allied fields. The threshing methods also adversely affect the health of rural people especially farm women in agricultural works. This paper presents the identification of traditional method problems, economical problem and health problem of women during threshing with existing method of threshing. The mechanization level of millets is very low. Minor millet mainly grown in tribal areas and when we going hilly or tribal area threshing is so much difficult process as well as dr udgeries process. The existing threshing machines are tractor operated or Engine operated because of heavy machines their movement is difficult and they are expensive or too big to be operated in small scale far ms. In India, 63% of land holdings are less than 1 ha and having an average land holding of 1.1 ha. It makes the famers economically weak, could not afford as well as operates the bigger machines at their small lands. The solution for above mentioned problems will be a development of low-cost folding type pedal operated millet thresher. Developed of machine on the basis of considering anthropometric parameters of Indian agricultural women labours and ergonomic design considerations. Women can take thresher with her in field thus, feasible to transport. Reduce the drudgery and injury of the workers most suitable for long time threshing. As per the ergonomic evaluation 12% less human energy is required with respect to heart rate and oxygen consumption rate for the foot operated equipments as compared to the hand operated equipments.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
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Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 79

THE COVID-19 PANDEMIC AND INDIAN AGRICULTURE

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ABSTRACT

With COVID-19 now spreading in India, massive consequences to health and livelihoods are feared. Because of corona pestilence, urban economy and industries are suffering. Apart from this, agriculture is also one of the sectors suffering. Firstly, due to lockdown, harvesting of Rabi crops has become a tedious task. Delay in harvest in turn causes delay in sowing for next crop season. Delay may also occur due to unavailability of quality seeds and credit. Absence of robust supply chain infrastructure cause many trouble to post harvest. Government is treating agro food production and marketing as essential commodities, thereby granting exemption to farm workers and allowing movement of farm machinery and farm produce. The national government recently introduced new laws, which seek to encourage private sector involvement in agricultural markets by permitting farmers to sell their goods outside of the state-regulated mandis, these reforms illustrate policymakers' shift in focus away from short-term, COVID-19-related regulations, and towards the design of India's agricultural sector in the long term. With the recent policy reforms and legitimate concerns about their potential for achieving the intended impact, Indian agriculture faces complex challenges driven by multiple factors that influence production, sale and income.The road ahead is definitely not easy but we have to be still optimistic and hopeful that India will be able to come out of this crisis.

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Abstract No. 80

ENVIRONMENTAL FACTORS AS RISK TO CARCINOGENESIS

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ABSTRACT

Cancer defines as an uncontrolled division of the body's cells and spread into surrounding tissues. This event occurs due to the enhancement of genetic and epigenetic changes inside the cells. These changes alter the normal chromosomal winding and unwinding process and lead to genetic instability. Various environmental factors are well known which interact with molecular cell machinery and contribute to the development of cancer and its aggressiveness. Environmental factors may be exogenous, endogenous, or individual factors (genetic predisposition). A number of epidemiological research have been conducted and suggested that environmental carcinogens/factors promote cancer mediated mortality rate. Studies reported that ≈ 90% of tumors are the result of environmental carcinogens. The development of malignant tumors in humans also arises from an unhealthy diet, smoking, alcohol consumption, etc. World Health Organization reported that 35% of deaths caused by cancer worldwide due to parasites, various infections, environmental tobacco smoking, UV light exposure, uses of devices that emit UV radiation, hormone replacement therapy, dietary factors, and ionizing radiation exposure.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 81

COVID-19 PANDEMIC: HOME REMEDIES AS AN IMMUNITY BOOSTER

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ABSTRACT

COVID- 19 has created a lot of hazardous health issues worldwide. Research fraternity throughout the world is trying to find out vaccine or medicines to fight aganist the vir us. In this pandemic situation, there is a need for remedies to boost the immunity to fight against the virus. Ayurveda disquisition have described several herbal drugs which are used as home remedies and are said to be effective against all microorganisms and effective in boosting immunity. Home remedies can be played a vital role as immunomodulant. Hence in this paper, an attempt is made to review such home remedies and identify its efficacy on various conditions. Fumigation, Rasayan drugs, a decoction of herbal medicines found more useful. Tinospra cordifolia, Glycyrrhiza glabra, Ocimum sanctum, Withania somnifera, Curcuma longa and Echinacea, Cinchona, Curcuma longa and Curcuma xanthorrhiza are most decorated single herbal drugs/agents extracted from various plants used as home remedies for boosting the immunity. Considering the global disease burden caused by COVID-19, there is an urgent need to explore and widened the use of home remedies to fight against COVID-19 menace effectively.

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Abstract No. 82

IMPACT OF LOCKDOWN DUE TO COVID-19 ON THE CLIMATE

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ABSTRACT

In Dec.2019 an infectious diseasse of Coronavirus family was identified in Wuhan city of China with human to human transmission and with in no time turned into global pandemic. The entire world underwent lockdown to sliw down this infection. This lockdown has a drastic effect on social and economic fronts, whereas it is having a positive impact on the environment .The latest data released by NASA (National Aeronautic and Space Adminstration) and ESA (European Space Agency) indicates that pollution level in China Spain, USA and India etc. has reduced upto 30/. Therefore this article is compiled with the objective that how this pandemic impact the air quality throughout the world .

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 83

DEVELOPMENT AND PERFORMANCE EVALUATION OF POWER DISC TILL DRILL

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ABSTRACT

The minimum tillage system is a means of reducing row crop production costs and improved soil conditions. It reduces mechanical energy and labor requirement, conserves moisture, and reduces erosion. It includes operation only to optimize soil conditions thereby minimize the number of trips. While Stubble mulch tillage involves cutting the roots of weeds, stubbles, and other plants and leaving the crop residue on the sur face or mixed into the top few centimeters of soil. So that Stubble mulch tillage may tend to address the problem of stubble burning as farmers tend to burn these residues for the sake of their convenience and timeliness. The multi-powered implement is of particular interest because the present day for reducing the total mass requirement and the resulting adverse effects of soil compaction is to transmit at least a portion of power directly to soil engaging elements through non-tractive means such as the PTO. Though it is found that the existing minimum tillage or zero tillage systems such as zero-till drill have drawbacks of straw and stubble in front of the tynes, formation of clods, poor coverage of seed and fertilizer which tend to cause of to bird-damage. On the other hand, the Roto-till drill creates compact flat surfaces during their cutting action and excessive pulverization reduces soil productivity. To overcome these problems with existing machinery the research to be conducted under the heads of minimum tillage, a multi-powered tool to reduce soil compaction, crop residue management, the power disc till drill will be designed and developed. The various component of the power disc till drill to be fabricated are Frame, power transmission system, power discs shaft, power transmission shafts, seed hopper, seed metering unit, seed placement tube, furrow opener, seed covering device, etc. After the fabrication of the seed drill, its performance evaluation will be done based on lab condition and field condition with operational and agronomical parameters.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 84

CHALLENGES AND PROSPECTS OF ONLINE EDUCATION

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ABSTRACT

Today is the period of Covid-19(Corona virus) pandemics. Several sectors like social, economical, service sector as well as education sector have been heavily affected, in present Covid era. Now a days, most of the teachers and students are engaged in their online teaching and learning methods during "study from Home"(SFH).During this lockdown period, schools and colleges are closed so their classroom teaching has been stopped. There are so many prospects of "Online education". It would be better platform to connect with some other bigger and enriched learning resources in lesser time, But there are many challenges before students and teachers. Online education is not the correct alternative of classroom education. There must be upgradation of our I.T infrastructure especially in rural sectors. Students of rural background have no smartphone, no any learning gadget and no better internet connectivity also. Students must be upgraded with small tablets/gadgets with preferably inHindi language. We should initiate the commodity based learning,in which it is full of curiosity. We have to change our art of teaching i.e traditional classroom teaching methods and also science of learning. Firstly we have to survey in our rural areas, that how many of students have good internet connectivity and learning devices/gadgets. If, they have no any type of learning devices, so Govt. or colleges must be provide the same to needy students at their own level. Govt. should make a "Policy document"and time wise implementation about online education. 'Proper online training of teachers' are another important challenge in online education of students. We think that there must be "academic associates" for the students in online education. Today, we should have to tackle this tough time as "Opportunity" rather than 'curse'. we should have to increase the 'Pedagogical diversity' in different fields of our studies. So, we have many challenges together with better prospects in online education system, before us in 21st centur y. Tomorrow will be certainly our's, if we would be highly upgraded with system and time. Still, we are hopeful to cope up this challenging corona period with our improved

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 85

IMPACT OF INDUSTRIAL POLLUTION ON TROPICAL TASAR SILKWORM (ANTHERAEA MYLITTA DRURY) REARING, LARVAL GROWTH AND COCOON PRODUCTION IN CHHATTISGARH

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ABSTRACT

Industrial pollutants has played key role in rising the temperature/dusting in the form of global warming. Therefore, impact of industrial pollution on living organisms has been core of scientific investigation in recent past. In insect, all species has its own choice of pollutions for its usual growth, temperature/dusting slows down the growth, may leads to developmental malfunction, such as larval ecdysis and larval mortality. It is well understood that, pollutions affects the insect life-cycle plasticity , physiological thermal traits, immune responses and gene expression. The Indian tropical Tasar silkworm, Antheraea mylitta Drury is a sericigenous insect has own dictation on its life cycle stages which get affected very frequently by change in temperature/dust pollution. Since, it is reared on outdoor condition on its food plants. Leave of food affected by dust pollution of industries/ stone crashers during 3rd rearing crop (October to January). In the present study, impact of industrial pollutions i.e. dust of Electric power plants, stone crashers on rearing of Tasar silkworm larvae on growth, disease incidence and impact on feeding of food plant leave during 3rd crop has been investigated.. The observations were recorded in different sites of rearing of Tasar silkworm near to Electricity power plants, crashers and iron factories. Data reveals that the larval growth and survival highly affected near to stone crashers followed Electricity power plants and least affected near to the iron industries. Larvae mostly suffer from viral disease after feeding of polluted leave and adversely reduced the cocoon production 67-79% in comparison to control lots. This study may be very use full to avoid establishment of food plantation near such industries and also avoid Tasar silkworm rearing during 3rd crop.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 86

MAKHLOGI WOMEN COOPERATIVE: WOMEN EMPOWERMENT THROUGH PROCESSING OF THERAPEUTIC FOOD FOR MALNOURISHED CHILDREN DURING COVID-19

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ABSTRACT

In Uttarakhand, agriculture is women-oriented. To enhance the socio-economic status of rural women, Uttarakhand Gramya Vikas Samiti (UGVS) registered Makhlogi Women Cooperative in village Jagdhar, of block Chamba in Tehri Garhwal . The cooperative was formed on 16th March 2015 to provide small loans to the farm women to purchase the agriculture inputs and livestock for sustaining their livelihood. This co-operative have total 555 no. of women from 18 villages. After the formation of cooperative, the women were trained by KVK, Tehri Garhwal in the thematic area of food processing and value addition. During the battle of Uttarakhand against Malnutrition, the locally prepared Ready-to-Use-Therapeutic-Food (RUTF) was introduced in 2016 which is being prepared by using local nutritious crops of Uttarakhand. The Local Ready-to-Use Therapeutic-Food (L-RUTF) was formulated by the experts of Krishi Vigyan Kendra, Tehri Garhwal . The L-RUTF is a powdered form nutritious mix which contains Malted Ragi Flour (8%), Malted Wheat Flour (16 %), Fully Processed Soybean (16 %), Roasted Chana (16 %), Roasted Groundnut (16%) and Sugar ((4%) and Ghee (4%). It has protein content of 17.24g/100g, Fat 14.69/100g, Iron 4.81/100 mg and Calcium 138.08mg/100 g. The L-RUTF named as URJA powder which is the hindi translation of word “Energy”. Total 15 women from cooperative involved in preparation of L-RUTF since 2016. They have prepared 104 Quintal of URJA P owder with gross sale of 11.65 lacs from 2017- 2020 with B: C ratio of 1.55. The URJA powder is distributed among malnourished kids through anganwadi centres and financed by “Mukhya Mantri Bal Poshan Yojna” of Department of Women Empowerment and Child Development. Later on the technology have been implemented in all district of Uttarakhand and reached to approx 30,000 malnourished children since 2017 to till date. The URJA powder worked as immunity booster

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 87

PLANKTON DIVERSITY, PHYSICOCHEMICAL PARAMETERS AND SEASONAL VARIATION IN KHANWARI POND OF DISTRICT KAUSHAMBI (U.P.), INDIA

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ABSTRACT

Planktons i.e. zooplanktons and phytoplanktons act as integral component of aquatic food chain. The zooplanktons are microscopic organisms and contribute significantly to the productivity of fresh water ecosystem. Phytoplanktons and zooplanktons perform first and second trophic levels in energy flow respectively and switch over to detritus matter contributing to aquatic animal food matter. In the present investigation we have tried to assess the zooplankton and phytoplankton species richness to predict their species diversity in the khanwari pond of Kaushambi district. In addition, physicochemical parameters of the minor lake were also analyzed and samples from different transects were collected and studied. The physicochemical parameters taken in the present study were water temperature, turbidity ,pH, dissolved oxygen, salinity, TDS, chlorides, hardness, BOD, and plant nutrients like phosphates, nitrates, and some other organic and inorganic contents. Total 43 species of zooplanktons and 34 species of phytoplanktons were identified, of which zooplanktons belonged to rotifers, copepods, cladocera, and ostracoda and phytoplanktons belonged to Chlorophyceae, Cynophyceae, Bacillariophyceae and Euglenophyceae. Plankton population is showing positive significance with the results of physicochemical parameters mentioned earlier, whereas these are showing negative significance with rainfall and salinity. Seasonal variations in the plankton diversity were observed. The physicochemical parameters of Khanwari pond were suitable for the growth of aquatic animals, plants and pisciculture practices during CoVID-19 pandemic for malnourished children.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 88

COVID-19: THE NEED TO IMPROVE HEALTH SERVICES AND HEALTH EQUITY IN INDIA

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ABSTRACT

As per the newest WHO Weekly epidemiological update, the number of new COVID-19, or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), we stand at 70 million cumulative cases and 1.6 million deaths globally since the onset of the pandemic less than a year ago. The Covid-19 pandemic has exposed the magnitude of Indian health inequities-which the WHO defines as "avoidable, unfair, or remediable differences" in health. It has also highlighted structural bias -institutions, practices, mores, and policies that differentially allocate resources and opportunities resulting in an increase in inequity among socio-economic groups. A recent report report by the World Bank stated that hospitalisation among the poor as seen through the PM-Jan ArogyaYojanaprogramme showed a decline of 64% during the early lockdown and 51% during the full 10 weeks. There was a 25% fall in deliveries at hospitals and a 64% decline in cancer care. Tuberculosis notification in April 2020 was 84% lower than in April 2019. One recent study estimated 95,000 additional TB deaths over the next five years due to the collateral effects of Covid-19. The non-existence of large scale testing facilities, which could have gauged the spread of the disease, exacerbatedthe ill-effects of patchy contact-tracing framework. Although India's current COVID-19 testing rate is impressive (six times the WHO recommendation), it comes as the government has virtually abandoned all restrictions in a desperate attempt to restart the economy. In contrast, during the most stringent phase of the lockdown, (March 25-April 23), India conducted only 0.02 daily tests per thousand people. Hospitals running out of beds, isolation wards with unhygienic living conditions, shortage of crucial drugs, "disposal" of patients, incidences of "covering up" cases so as to maintain normal functionality and an unimpressive daily average of infections became an everyday reality for many, as private hospitals either turned away COVID-19 patients or profit off of them by charging exorbitantly high rates. The pandemic and the curbs placed upon the population, have exacerbated social inequity and placed fresh barriers in the pathway to access to healthcare. Further, social inequity is in itself a risk to mental health, and named as a contributory factor in 61-79% of mental health research. Lower and middle income countries (LMICs) like India (where 10% of the population hold 77.4% of national wealth) are seeing a heightening of social inequity. The Indian government's flashy marketing of a USD $273 billion economic stimulus package failed to conceal the fact that it amounted to only 1 percent of the GDP. The pandemic has demonstrated that our public health response cannot be divorced from public policy-federal and state legislation, federal and state program administration, and local ordinances. Moreover, inadequate federal support for basic needs and insensitivity to variation in what people need to weather this crisis lead to anger misdirected at state-level public health measures. People cannot adhere to health measures such as social distancing when it means leaving their basic needs unmet. It has also brought to the foreground the importance of developing and updating a national pandemic/epidemic preparedness plan for thefuture.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 89

PSYCHOLOGICAL IMPACT DUE TO PHYSICAL DISTANCING

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ABSTRACT

Physical distancing is antithetical to a basic self-process – the comfort we feel with proximity to members of our in-group, those we define as 'us' or 'we', and hence our tendency to try to get closer to them. Experimental evidence for this is provided by the 'two chairs' study, in which people chose to sit more closely to strangers in a hypothetical in-group than to those in an equivalent out-group. Regarding the current corona virus situation, it is recommended to practice social distancing techniques if we are in a community where person-to-person corona virus transmission has been confirmed. Social distancing is an especially important practice especially for older adults and people with chronic health conditions, who are more likely to become very sick if they catch COVID-19. There are varying degrees of social distancing. School closures and work-from-home policies, for example, can be considered social-distancing measures since they enable people to avoid situations where they'd normally be in close contact with others. We are a high-tech society, but we are also high-'touch' so limiting our physical interactions can lead to feelings of loneliness. Social-distancing measures can make people more likely to isolate themselves (think: working from home), which can create problems. When humans are isolated from one another, they may be more prone to feelings of anxiety about COVID-19. It's also important to note that while working from home, staying home from school, or being confined to a room while in quarantine; there will be a reduction in physical activity which could lead to added feelings of sadness, frustration, or anger. Moreover people who are already among those at a higher risk of suffering serious complications from the corona virus might be hit the hardest by the negative impacts of social distancing. The elderly might be greatly impacted by social distancing because they often look forward to visits from family members and friends. Those who have not struggled with mental health symptoms in the past are reporting panic attacks, which can be an incredibly frightening experience, and many times end up in an emergency room visit. It's not all bad, though, practicing social distancing can also be an opportunity to tune into your well-being by focusing more on a healthy diet, sleep, or taking walks more than you normally would (in less-crowded areas, that is. Also, modern technology, fortunately, allows us to Face Time our friends and family to stay in touch, thereby helping to reduce feelings of loneliness and social isolation during this time.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 90

AN EMPIRICAL STUDY ON ENVIRONMENTAL AWARENESS AND ATTITUDE AMONG COLLEGE STUDENTS

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ABSTRACT

The present study was to explore the relationship between environmental awareness and environmental attitude among college students. Study was conducted with a sample size (N=80) including both boys and girls. Sample was drawn from Dayalbagh Educational Institute, Agra, India. Sample was collected by using convenient sampling technique. Environmental Awareness Scale and Environmental Attitude Scale were used. Pearson Product moment of coefficient of correlation was used in order to find out relationship between environmental awareness and environmental attitude among college students. Independent t-test was use to access gender difference in Environmental Awareness and Environmental Attitude. Results of the study proved that there exist a positive relationship between Environmental Awareness and Environmental Attitude among college students and it was also found that there does not exist any statistical significant gender difference in Environmental Awareness and Environmental Attitude.

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Abstract No. 91

MEDICINAL PLANTS AS IMMUNE BOOSTERS

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ABSTRACT

Medicinal plants are the most important source of life saving drugs since ancient times. Nowadays medicinal plants are in great demand because they are effective, inexpensive and convenient in managing our health without any side effect. There are some immunity booster plants in nature which are capable of boosting our immunity and help us in fighting against infections and diseases. The immunity booster herbs work in managing our health by augmenting our immune system. Most of the herbs are generally working as immune system stimulators; they increase body resistance by mobilizing the "effector cells" which act against all foreign particles. Commonly used immunity booster herbs are *Aloe vera, Panax ginseng, Glycyrrhiza glabra, Allium sativum, Zingiber officinale, Citrus sinensis, Capsicum annuum, Ginkgo biloba, Curcuma longa, Phyllanthus emblica, Ocimum sanctum, Withania somnifera, Tinospora cordifolia* etc.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 92

HAZARDOUS METALS AND MINERALS POLLUTION SOURCES, TOXICITY AND REMEDIAL MEASURES

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ABSTRACT

Water is fundamental for life and health. Every human being has the right to water because it is indispensable for a healthy and dignified life. It is a pre-requisite for the realization of all other human rights. To provide safe drinking water, lake water has been sought as the source of water for many developing and underdeveloped countries. The Powai lake is located in the heart of the suburban area of Mumbai surrounded by Vihar lake and Powai Garden. The study along the Powai and Vihar Lakes has been performed to investigate the concentration levels of heavy metal pollution in water. The sampling has been done along selected seven sites of both the lakes. Water samples have been regularly drawn for 2 years for three seasons i.e. summer, monsoon (Pre-monsoon and Post-monsoon) and winter. Water samples have been analyzed for their physico-chemical parameters and toxic heavy metal content. The water samples collected have been analysed for determination of selected heavy metals (As, Al, Cd, Cr, Co, Cu, Fe, Hg, Mn, Ni, Pb, and Zn) in both the lakes during 2014-2016. AAS- ICP-AES (Atomic Absorption Spectrometer, inductive coupled plasma, emission spectrometer) has been used for the detection of selected heavy metals. The analysis of heavy metal in lake water samples using AAS-ICP-AES in this study gave very good results for both lakes. Though analysis indicated such heavy metals, their levels were not alarming to call it chemical pollution. This may be due to cumulative discharge of domestic sewage (including animal waste from cow sheds) in the river right from origin at Powai to its meeting Mahim creek. Domestic sewage volume from this area is much more than industrial effluent discharged and hence may offer dilution. Above comparison clearly indicates that due to high volume of domestic sewage, industrial pollution is not noticeable. The study identified that Powai lake is badly affected by the effluent and untreated sewage from nearby areas.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 93

METHODS TO REDUCE THE EMISSION OF METHANE GAS WHICH CONTRIBUTES TO GLOBAL WARMING

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ABSTRACT

Nowadays global warming effect, in general, is a great concern for the scientific communities of the world. It constitutes the emission of greenhouse gases such as Carbon dioxide, carbon monoxide, nitrous oxide, Methane, and so on. Methane is one of the most important greenhouse gases which contribute to global warming. This abstract focuses on the different sources of methane emission and its mitigation. The five different emission sources are Land Fills, Rice Paddy Fields, Ruminants, Waste Water, and Coal Mines. Several emission studies and their control treatments had been a discussion of interest. Ultimately to our goodwill, several solutions are coming up that have solved real-life problems regarding the mitigation of methane from the environment. Several of these solutions are specific to their emission specificities. While these provide a narrow genre of solutions, it also cuts down on the decision making of analysis between different solutions. Several of these solutions need a thorough discussion and review to make the least of concern the decision of choosing a bit easier on the readers. Clearance of the pros and cons of every method are discussed give a clear view of the methods of methane mitigation.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 94

INVESTIGATIONS OF MULTI-TARGETED ANTIVIRAL POTENTIAL OF SMALL MOLECULE PHYTOCHEMICALS OF NELUMBO NUCIFERA SEED EXTRACTS AGAINST SARS-COV-2 FOR THERAPEUTICS OF COVID-19

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ABSTRACT

The current study was aimed to investigate antiviral potential of small molecule phytochemicals of various extracts of Nelumbo nucifera seed against SARS-Co-2 by integrative omics approach. The screening and identification of the small molecule phytochemicals were made by using the GCMS analysis. The integrative omics approaches of *in-silico* analysis were performed for molecular docking (protein – ligands) and ADMET predictions by autodock 4.5 and ADMET by online software. The antiviral multi-targets against SARS-CoV-2 were chosen for RNA dependent RNA Polymerases (RDRP), spike protein and M protein by autodock 4.5 analysis. The GCMS examinations were screened 12 dominating small molecule phytocompounds from various seed extracts of N. nucifera. The integrative omics of in-silico analyses of molecular interactions (Protein-ligand) of RDRP, M-protein and spike protein showed significant binding energies -5.84 kcal/mol 1-(8'-Methylquinolin-2'-yl)-2,3,4-tri(methoxycarbonyl)-6-(1",2"-di(methoxycarbonyl) vinyloxy) benzene , -6.60 kcal/mol 2(1H)-Pyrimidinone, 5-chloro-4,6-diphenyl and -6.88 kcal/mol Nickel,[2,8,12,18-tetraethyl-3,7,13,17-tetramethyl-21H,23H-porphinato(2-)-N21,N22,N23,N24]-, (SP-4-1) respectively. Accordingly, the ADMET predictions show significant pharmacokinetic profiles of druggability of top three compounds of different targets. The Brain or Intestinal Approximate (BOILED -Egg) permeation system is proposed as a reliable predictive model that operates by measuring the lipophilicity and polarity of small molecules. Therefore a possible initiative has been taken to evaluate three potent small molecule antiviral phytocompounds made from typically edible N. nucifera seed that will support the nutraceutical approach to COVID-19 therapeutics.

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Abstract No. 95

PHYTOCHEMICAL EVALUATION OF ACTIVE METABOLITES AND ANTIOXIDANT ACTIVITY OF LEAVES OF EICHHORNIA CRASSIPES

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ABSTRACT

The study was aimed to screen phytochemicals and to study the antioxidant activity of the leaves of E. crassipes. The analysis of the antioxidant activity was performed and the chemical constituents were determined. The presence of bioactive compounds was evaluated by the phytochemical analysis. To determine the antioxidant activity, TPC, TFC, superoxide radical scavenging activity, metal chelating antioxidant power assay were conducted. The ethyl acetate extract because of the higher total phenolic content show high antioxidant activity. The lesser IC50 value recorded in the ethyl acetate fraction.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 96

ROLE OF VARIOUS ALGAE AND HERBS IN THE PROPHYLACTIC AND THERAPEUTIC TREATMENT OF COVID-19 INFECTION

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ABSTRACT

Corona virus is known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). Recently discovered, Corona virus causing severe infection of naso respiratory system i.e. COVID-19. Novel COVID-19 has affected almost each and every area of the world as global pandemic and causes millions of deaths and affected the finance growth and development of all most every country. Now a days development of a potential drug and vaccine is a major challenge globally. This is RNA virus and its genetic material gets mutated frequently. Ayurveda, is the oldest medicinal system originated in India more than 5,000 years ago based on treatment methods by natural resources primarily using various herbs, spices, components of the plants from root to androecium and seeds with minimum side effects and maximum benefits. Lots of antiviral Ayurvedic herbs, plants and algae having potential and that can be used prophylactically as well as therapeutically for speedy recovery from Corona Virus infection. Algae are the most primitive autotrophic microscopic organism in the world and produced vide range of potentially effective compounds to boost the immune system, used as antioxidants, food supplements and also having strong antiviral, antimicrobial, anticancer, anti-tumour activity, etc. Different plants and herb extracts are potentially effective in treating naso respiratory diseases i.e. infection, inflammation and infection of respiratory system. It is our social responsibility to use the traditional and safe system of treatment and to explore new and effective probabilities of previously known herbs and other plants derivatives for more effective application of these substances for treatment of this severely pathogenic novel COVID-19 disease. This fact is of the national pride that all over the world the people are preferring use of these herbal derivatives like *Azadirachta indica A. Juss., Tinospora cordifolia, Ocimum sanctum Linn., Withania somnifera (L.) Dunal, Boerhaavia diffusa, Phyllanthus emblica L., Mentha piperita L. Piper nigrum L, Cinnamomum verum, Glycyrrhiza glabra L. Syzygium aromaticum (L.) Merr.* & *L.M.Perry, Crocus sativus L., Spirulina platensis* (Gomont) *Geitler*, etc. and are getting more better preventive/prophylactic effect to protect themselves from deadly infection. This paper deals with uses and effect of different herbs and herbal products including various algae in the prophylactic and therapeutic treatment of COVID-19.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 97

UPGRADATION OF ENVIRONMENT AND ECOSYSTEM DURING THE COVID-19 LOCKDOWN

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ABSTRACT

Worldwide spread of COVID-19 in a quite short time has brought a dramatic decrease in industrial activities, road traffic and tourism. Restricted human interaction with nature during this crisis time has appeared as a blessing for nature and environment. Reports from all over the world are indicating that after the outbreak of COVID-19, environmental conditions including air quality and water quality in rivers are improving and wildlife is blooming. India has always been a hub of pollution with huge population, heavy traffics and polluting industries leading to high air quality index (AQI) values in all major cities. But after declaration of lockdown due to COVID-19, quality of air has started to improve and all other environmental parameters such as water quality in rivers have star ted giving a positive sign towards restoring. Findings provide evidence-based insight into improvement of air quality and environment during pre and post lockdown of this pandemic situation. An attempt has been made to visualize the improvement in the air quality using tools like satellite images of Indian atmosphere, results of onsite real-time monitoring at specific locations (Ghaziabad-highest polluting city of India) and Air quality index (AQI) calculated by central pollution control board of India.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 98

A STUDY OF WATER POLLUTION OF RIVER GANGA DURING LOCKDOWN

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Department of Biochemistry, College of Medicine
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ABSTRACT

The pollution level in Ganga has been a topic of discussion since half a century and now it ranks at sixth most polluted river in the world after a span of fifty years (Flynn, 2016). The physicochemical properties of the Ganges have experienced a major change over the years as a result of multiple factors such as dump of domestic waste, discharge of industrial sewage, and emittance of fertilizers and insecticides due to intensive agricultural practices. The eight-week nationwide lockdown gave a chance to the Ganges to restore itself. The present study was aimed to check the water quality of the Ganges during the lockdown period and to analyse the impact of the situation on the quality of the water of the Ganges with special reference to a few areas in Bihar, where domestic sewage, industrial wastes, agricultural waste and air pollution affecting the river water are considered to be the major source adding to the river pollution. The data has been collected from the sampling stations of Digha, Arrah and Aami sites of the Ganges in Bihar. Water was collected from the stations for physicochemical analyses thrice every month in March and April. The pH, D.O., B.O.D. T.C. and F.C. of the sample were analysed. The percentage decrease in pH level at following three stations were observed as follows Digha (8.82 %), Aami (10%) and Arrah (3.65%), percentage decrease of D.O. at Digha was 2.29% while the percentage increase of the same was 8.75% and 12.79% for Aami and Arrah, respectively. The percentage increase of B.O.D at all the three sites were calculated as 14.28%, 28.57% and 25% in the same order. The percentage change of T.C. was 92.77% decrease at Digha, 191.66% increase at Aami and 178.48% increase at Arrah. Percentage change of F.C was 80% decrease at Digha but 286.36% increase at Aami and 25.92% at Arrah. It is very evident that the decrease in water pollution of River Ganga has been found in the industrial areas as compared to the non-industrial ones. In non-industrial areas, not much improvement has been seen because the domestic waste dumping did not stop and even increased in maintenance of hygiene.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 99

CLIMATE CHANGE AND BIODIVERSITY MANAGEMENT

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ABSTRACT

Biodiversity plays an important role in climate regulation. Anthropogenic activities have changed the global climate since last few decades. This climate change adversely affected the biological resources of the country. This review basically discuss the importance of biodiversity, the consequences faced by the plants, animals, humans and ecosystem owing to the climate change and also control measures or strategies should be taken for the conservation of biodiversity which can protect the earth from the consequence of climate change. Maintaining and restoring healthy ecosystem plays a key role in adapting to and mitigating climate change through biodiversity conservation, sustainable use and sustainable land management and yield multiple environmental, economic and social benefits.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 100

NATURE AND CHANGING OUTLOOK

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ABSTRACT

Nature Nurture but destroys too it proves law of conservation of mass, energy and supreme power. Many type of pandemic and epidemic like circa epidemic, plague in different country, different type of flu, polio and now COVID. Nature balance is maintained itself by different manner challenging the human brain with time. Present paper deals with pandemic and epidemic through history, their causes, different aspects and affected human civilization. Though, nature signals many times yet we are unable to take lesson may leads to the end of human civilization. It is also the field of study how human society behave after crisis abiding obsession with fiscal discipline and aversion to inflation. At the same time each and every calamity left a question if technologies are capable of to overcome nature, reshape environment and healing human society.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 101

SURVEY OF INDIGENOUS PLANTS OF EASTERN GHATS - UDAYGIRI HILLS

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ABSTRACT

This study is the first of its kind to survey and document the flora of udayagiri hills, Eastern Ghats. The present study has resulted in the documentation of 476 plant species belonging to 102 families with 319 genera, which comprise Angiosperms, Gymnosperms, Pteridophytes, Bryophytes, Fungi and Lichens. Out of 476 plant species, Angiosperm flora accounts for 460 species belonging 303 genera with 89 families. Among Angiosperms, 410 plant species belong to Dicotyledons and 50 belong to Monocotyledons. Apart from Angiosperms, one Gymnosperm, Six Pteridophytes, Two Bryophytes, Six Fungi and one Lichen are also recorded from the study area. The 16 plant species of Gymnosperms and Cryptogams were placed under 13 families with 16 genera .With regard to taxonomic group, of the entire flora of the present site, about 96.64% belong to Angiosperms (86.14% Dicots and 10.50% Monocots) and the remaining 3.36% are from Gymnosperms, Pteridophytes, Bryophytes, Fungi and Lichens. The entire plant species collected are provided with the scientific name, vernacular name (Telugu), family, habit and locality. APG III (2009) system of classification is followed in the Enumeration of flora of the study site. The Genera-rich dominant and Species-rich dominant families are depicted. The photographs of 114 common medicinal plants available in the study site are presented. The Indigenous practice by the people as Ethnobotanical remedies for various ailments were also recorded.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 102

HEALING OF EARTH DURING THE COVID-19 LOCKDOWN

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ABSTRACT

The lockdown imposed due to the Covid-19 pandemic healed the earth in a way never seen before. The shutdown has decreased air pollution worldwide and reduced respiratory diseases too. We have seen vital environmental changes in India after the Covid-19 lockdown. Studies show that air quality is improved in the lockdown period. Motor vehicles were taken off the roads and the factories and construction were stopped. Wildlife has been spotted in the cities. The skies can be seen blue, and suddenly, the snow-clad Dhauladhar Mountain of the Himalayas can be seen from Jalandhar. As a result of the lockdown, the birdsong seems louder, tens of thousands of flamingos have gathered in the city of Navi Mumbai. A massive increase in the number of these migrator y birds has been repor ted. Critically endangered, South Asian River Dolphins also known as Ganges Dolphins have been spotted at various Ganga Ghats of Kolkata. The Uttarakhand Pollution Control Board revealed that the water from Har-ki-Pauri in Haridwar is fit for drinking after chlorination, for the first time in decades. We all know that traffic pollution and congestion can be greatly reduced through work from home strategies. Work from home can reduce the requirement of expensive commercial space, airline, and train journeys. It can help in lowering the pollutants, especially from vehicles idling in traffic jams. Additionally, a huge saving of fuel and reduction of road dust can lead to socio-economic and environmental benefits.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 103

CHALLENGES AND OPPORTUNITIES IN EDUCATION SECTOR DURING PANDEMIC PERIOD

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ABSTRACT

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values morals, beliefs, and habits. Education gives students a knowledge of the world around them and changes them into something better. Education develops perspective of looking at life among students. Also helps them to build opinions and have points of view on things in life. Henry ford beliefs that "The education is a continuous process. Anyone who stop learning is old, whether at twenty or eighty. Anyone who keeps learning stays young". During pandemic period more than 1.6 billion children and youth to be out of school in 161 countries and education process was stops. This is close of 80% of world's enrolled students (World Bank). The severe impacts on education during this pandemic are: 1) Losses in learning (2) Increased dropout rates (3) Virtual learning (4) Internet Connectivity problem. Besides, this challenge during pandemic outbreak created situation, thousands of teachers adopted online teaching/learning method. In response to significant demand, many online learning platforms were offering free access apps. But during this situation there was certain opportunities for the teacher and students to accept this challenge and use online platform. During this pandemic period there are certain opportunities also these are: 1) International students' mobility (2) Teachers preparedness to support digital learning (3) New trends in teaching and learning emerged (4) Global collaboration between students, academia and industry (5) Safe education. So COVID-19 pandemic creates challenges, as well as opportunities also in education sector.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 104

THE THERAPEUTIC PROPERTIES OF CYMBOPOGON CITRATUS (DC.) STAPF (LEMON GRASS)

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ABSTRACT

In the changing global scenario, interest toward plants with therapeutic value is increasing significantly in the primary healthcare system both in the developing and in the developed countries. Medicinal plants have been discovered and used in traditional medicine practices since prehistoric times. A medicinal plant is a plant that is used with the aim of maintaining health, to be administered for a specific condition, or both, whether in traditional medicine or in modern medicine. According to folk medicine, several plants possess ethno medicinal properties and Cymbopogon citratus (lemon grass) remained one of them. Lemon grass (Cymbopogon citratus) has several compounds, capable of controlling pathogens and increasing resistance to pathogenic diseases. It is widely used in the herbal tea and in other non-alcoholic beverages. Lemon grass oil contains a high content of citral, which is used as a source for the production of vitamin A and beta carotene etc. Its essential oil is commonly used in the cosmetics and perfumes. In different pharmaceutical industries lemon grass is used for its analgesic, anti-septic, antipyretic, anti-depressant, bactericidal, carminative and astringent properties.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 105

DIVERSITY, DISTRIBUTION PATTERN AND TRADITIONAL KNOWLEDGE OF GARCINIA SPECIES IN ASSAM, EASTERN HIMALAYA

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ABSTRACT

Assam is one of the parts of Eastern Himalays, recognized as hotspots of biodiversity, contribute an enormous plant wealth. The genus *Garcinia* is an important component of the flora of Assam and well known for being used traditionally in many different ways. To preserve this knowledge, this study recorded the ethnobotanical importance of the genus *Garcinia* in this area. The genus *Garcinia* L. belongs to the family Clusiaceae and comprises of about 250 species in world. *Garcinia* members are distributed in Malaysian region to South Asia ranging from southern parts of Thailand and Indonesia but mainly confined in South East Asian region. In peninsular Malaysia there are 49 Garcinia species out of 250 species estimated worldwide (Whitemore 1973; Stevens 2001). The name Garcinia honors a French botanist, Laurent Garcin (1683-1751) who lived and worked in India. In India the genus hosts by 43 species and 5 varieties, of which 37 species and 4 varieties occur in wild, whereas 6 species and 1 variety introduced into cultivation. The present study revealed that there are 12 species and one variety of the genus indigenous to the Assam. In present communication we provide ethnobotanical and botanical descriptions and illustrations of 11 Garcinia species that are popularly used among ethnic communities of Assam as fruits and medicines. These species consist of *G. anomala, G. assamica, G. cowa, G. kydia, G. lanceifolia, G. morella, G. paniculata, G. dulcis, G. pedunculata, G. nervosa* and *G. xanthocymus*.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 106

MICRONUTRIENTS: SUPPLEMENT TO IMPROVE IMMUNE SYSTEM

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ABSTRACT

In the battle against COVID-19, a working immune system is key. The body requires adequate vitamins and other nutrients to support it. But that's just what many individuals lack. Wearing masks, maintaining your distance, washing your hands-these laws apply across the globe at present. Everything else is more critical now than ever and should not be less stressed than proper hand hygiene. In either the public discourse or the catalogue of government guidelines, something that has not achieved a popular place: a working immune system. Researchers are working on the importance of nutrients to the immune system, decided to improve this condition. It is also important that we pay attention to our nutrient status so that our immune system can function at all," In difficult times like these, when we prefer to console ourselves with fast food, this is particularly important but after all, it is not really a priority of our attention at the moment to get enough nutrients. Vitamins C and D and other micronutrients such as zinc, iron and selenium are much more than just "nice to have." In the worst case, when the body is unable to protect itself against the invaders, a nutrient deficiency will open the door to the viruses. The risk of a serious course of illness is especially high for individuals who belong to a risk category. The micronutrients do not supply the body with energy, unlike macronutrients such as fat, carbohydrates and protein, but they are nevertheless important for an organism's basic functions, not only for cell metabolism, but also for the defence system.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 107

SOCIAL SUSTAINABILITY AND RURAL EMPLOYMENT: OPPORTUNITIES AND CHALLENGES

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ABSTRACT

Social sustainability and sustainable development is the need of time. We cannot deny the importance of economical development but this development needs to be sustainable in its nature. Sustainable development is important for the securing future of the world. The concept of "social sustainability" in this approach encompasses such topic as : social equity, livability, health equity, community development, social capital, social support, human rights, empowerments, Labour rights, place making, social responsibility, social justice, cultural competence, community resilience and human adaptation. India is one of the largest country of the world needs to implement the policies for the sustainable development. 70% Indian population lives in the rural area. Rural area still has maintain the ecological balance but the race of the economical development can ruin the flora and fauna of the rural area. Sustainable development comprises social-economical-environmental development; lagging behind in any of the tree sectors is failure to attain sustainable development. MNREGA is the government scheme which can be the pathway for achieving the sustainable development. Under MNREGA various workers related to water conservation, agricultural development, land development has been completed and positive outcomes are coming.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 108

STUDY OF ZOOPLANKTON AT RANI TALAB OF DISTRICT BALRAMPUR (U.P.), INDIA

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ABSTRACT

Zooplankton is grazers on the phytoplankton and a food base for the carnivorous as well as omnivorous fishes have been reported in percentage composition of different groups. The diversity of various types of zooplankton was studies at Rani talab. The planktonic forms were collected from the surface of water with plankton net . The plankton samples were preserved for laboratory analysis. The collected samples were identified using standard references. The result revealed that the zooplankton were represented by various phyla like Protozoa, Rotifera and Arthropoda etc. Arthropods have been reported maximum in number of varieties and percentage amount in the total zooplankton followed by protozoan in general .The range of zooplankton between 165 to 695 n/l and average was 355.38 n/l , the minimum zooplankton was January 2020 and maximum in the month of May 2020. The annual percentage composition of various representative groups of zooplankton revealed 7.75 % protozoan , 4.5 % rotifers and 8.95 % arthropods and miscellaneous 6.45 %. The detailed aspect of monthly variation , percentage composition and diversity of zooplankton is discussed here in.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 109

STUDY OF ERGONOMIC EFFICIENCY AND DRUDGERY REDUCTION OF FARM WOMEN INVOLVED IN CHIPPING OF SUGARCANE BUD

Deepali Bajpai[1], Yatiraj Khare[2], Sanjeev Verma[3] and Aashutosh Sharma[4]

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ABSTRACT

The present study was undertaken in adopting village s powarkheda, block of Hoshangabad Krishi vigyan Kendra, Hoshangabad in the year 2015-16 and Barureva and Narayankheda block Narsinghpur of KrishiVigyan Kendra, Narsinghpur for performing bud chipping efficiency of farm women by use of manually operated sugarcane bud chipper during the year Rabi 2017 -2018. Hence, the present study was undertaken to introduce sugarcane bud chipper and assessing its acceptability among the farm women. Reduction of women's drudgery with the use of sugarcane bud chipper was asses in the term of energy expenditure. The ergonomic cost was calculated by measuring heart rate, energy expenditure, and total cardiac cost of the work. The results indicate that the 105 bud/hr chipped by traditional tools baka whereas 140 bud/hr chipped by sugarcane bud chipper with increase of efficiency 25% and reduction of drudgery. Women also reported that no injury in fingures with less pain.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 110

A SUSTAINABLE INTENSIFICATION IN HORTICULTURAL SYSTEM

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ABSTRACT

Sustainability was defined as "meeting the needs of today without compromising the ability of future generations to meet their needs." We now hear about sustainable forestry, sustainable buildings, and sustainable development along with sustainable agriculture, an indication that the negative impacts of human activity on the global systems we rely upon are being recognized and addressed. The ter m "sustainable" first became widely known during the 1990s as a result of the Brundtland report (1987) from the World Commission on Environment and Development of the United Nations. Some of the earliest sustainability discussions for agriculture in the 20th century revolved around soil erosion and conservation. These are all "people" problems rather than agronomic or horticultural problems. Continued technological advancement can and must play a role in moving towards sustainability, but it will not be successful by itself in isolation from ecological issues, social concerns or long-term thinking. Sustainable agriculture should be considered a goal, a direction, or a concept, rather than a specific set of farming practices. Sustainable agriculture can be thought of as an array of options that emphasize management rather than purchased inputs, where production takes advantage of biological relationships that occur naturally on the far m. The objective is to support and enhance rather than reduce and simplify the biological interactions on which crop and livestock productions depend. The extent to which this can be achieved is of course influenced by economic factors (profitability) and social factors. Sustainable agriculture should be considered a direction rather than a threshold. We can determine if a farm is becoming more sustainable relatively easily, for example, if it reduces soil erosion, increases reliance on bio-control, or obtains a greater amount of N2 nutrition from legumes instead of purchased fertilizer. However, it is more difficult to validate that a farm is "sustainable", implying it has crossed a threshold much like a certified organic farm has done.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 111

AN EDUCATIONAL EXPOSITION OF BOTTLE VERTICAL GARDEN SYSTEM: A SUSTAINABLE APPROACH OF COLLEGE IN URBAN SETUP

K. Vandana Rani, Shanuja Beri, Nusrat, Saumya Singh, Priti Kumari, Ragini, Rachita chauhan, Megha Bhadauria, Mansi Gaur, Kanika, Charu Sharma, Saloni saini, Vishakha Rathi, Anju kumari, Navisha, Garima Yadav, Chanchal Yadav, Nidhi and Zeba Parveen

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ABSTRACT

The living Green wall is an initiative towards achieving sustainable rehabilitation, due to the lack of free space in the consolidated area. Now a day, green walls are considered to be an innovation in the fields of ecology, horticulture or buildings. This project aims to demonstrate some practical application of green wall and their real life application in using the plastic waste material. Vertical garden is a garden in which the plants are supported to grow along vertical surfaces, especially fences, posts, trellises, and walls, rather than along the ground. This green wall is self-sufficient and can be maintained indoors as well as outdoors. The vertical garden bottle system project used the waste plastic bottles, initially from College Canteen and later from garbage collector or from marriage banquet halls where these plastic bottles are used in bulk and were installed in the college premises to create a vertical garden. The caps of each bottle were pierced to make a hole for the drip tubing installation. Soil was prepared with organic manure and water system was attached to each bottle with drip tubing. Experimental observations and data were recorded. The green vertical walls solve the problem of plastic waste management and can be used as an educational exposition for the students. Green walls are not only spectacularly beautiful, adding to the aesthetic value of a place, but they can also absorb heated gas in the air, lower both indoor/outdoor temperatures and provide a healthier indoor air quality. Installation of such vertical garden on the outside walls of building can be useful in creating a micro climate that can act as natural shield and can insulate a building from heat, noise and pollution. Students could observe the plant-animal relation, understanding the green microclimate, microenvironment setup and awareness/sensitivity towards the changing environment. Students with this collaboration learnt about effective waste management and helped them to set up a similar wall garden at their homes. This reduced the number of plastic bottles dumped into the dustbin and instead used in an innovative manner. The students also learnt about the various types of plants that can be grown in such setup through various propagative techniques.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 112

ENVIRONMENTAL HEALTH AND SOCIAL SUSTAINABILITY

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ABSTRACT

Environmental health addresses all human-health related aspects of the natural environment and the built environment. Environment pollution is the unfavourable alteration of our surrounding wholly or largely by products of man's action, through direct or indirect effect of changes in energy's patterns, radiation levels, chemical and physical constitutions and abundance of organisms. The addition of unwanted material or energy in a particular environment in concentration greater than the normal renders the environment partially or wholly unfavourable for human life. Economic development and population escalation result in environmental imbalance. Increase of industrialization, modernization, and increasing energy consumption are the most powerful forces of the environmental pollution. Harmful consequences of this environmental pollution to human health are already being felt and could grow considerably inferior over the next fifty years. Improving air quality and securing sufficient supplies of safe drinking water are related to significant remuneration for human health and well-being.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 113

ASSESSMENT OF THE WATER QUALITY OF RIVER PRAVARA AND GODAVARI ON THEIR SANGAM AT TOKA AHMEDNAGAR

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ABSTRACT

The present study was intended to calculate water quality of river Godavari and pravara on their sangam at Toka. District Ahmednagar MS.The physiological parameters were studied for calculation of the water quality. The seasonal variation of different physico-chemical characteristics was studied from May 2018 to April 2019. i.e. Twelve months period The parameters like Atmospheric temperature Alkality,Acidity,Dissolved oxygen, dissolved carbon dioxide,Total dissolved solids etcThe result shows the reservoir water is poor due to polluted water of sugar factories like sanjivani,Pravara,Sangamner,Mula etc and sewage water of kopargaon,Nashik,Newasa and small villages which are located on the banks of river, so after proper treatment it can be use for drinking .It is good to pisciculture and safe for aquatic biodiversity.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 114

LIVELIHOOD MANAGEMENT AND SUSTAINABLE DEVELOPMENT OF ETHNIC COMMUNITIES OF SIKKIM HIMALAYAS WITH REFERENCE TO TRADITIONAL FOODS

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ABSTRACT

India is highly diverse in culture; geography as well as the climatic conditions is diverse, along with food culture. Sikkim also known as "Sukkhim" is a part of this rich Indian cultural heritage. Sikkim has an old history of production of traditional fermented foods. These foods have a large impact on the nutrition, health and socio economy of the people of the region. The present study is an attempt to document the indigenous knowledge of preparation of fermented food by the local people on traditional preparation, culinary practices, and mode of consumption, ethnical values, therapeutic uses, socio-economy, market survey and case study of marginal producers of fermented foods/alcoholic beverages. The indigenous knowledge all together plays a pivotal role in maintaining livelihood sustainability. Thus the documentation of traditional knowledge would provide the preservation of culture and indigenous practices used by the Lachenpas, Lachungpas, Dokpas and Bhutia communities of South, West, North and East Sikkim that is used as a key for poverty mitigation and food security. Indigenous communities prepare foods like plant based, animal meat based, milk, soybean and fish fermented products along with alcoholic fermented beverages using rice, maize, finger millet and sweet cassava. They use locally available raw materials to transform into ethnic fermented foods to sustain their daily living. In the northern part of Sikkim, the livelihood sustainability of the herdsman of the alpine Sikkim is mainly around the Yak, a "surefooted" multipurpose animal is also remarkable. Yak is their major income generating source for poor herdsman from its milk, meat, hair, skin to tail serving them to help their survival in this world away from transformation making them to value traditional values, religion, community and ethnic beliefs. Without it, one cannot imagine how humans could survive in this beautiful but hostile environment.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 115

DIVERSITY OF YEASTS AND MOLDS BY CULTURE-DEPENDENT AND CULTURE-INDEPENDENTMETHODS OF TRADITIONALLY PREPARED DRIED STARTERS FOR THE PRODUCTION OF INDIAN ALCOHOLIC BEVERAGES

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ABSTRACT

Marcha, thiat, dawdim, hamei, humao, khekhrii, chowan, and phut are traditionally prepared dried alcoholic starters used for production of various ethnic alcoholic beverages in North East states of India. The surveillance of mycobiome associated with these star ters have been revealed by culture-dependent methods using phenotypic and molecular tools. We identified Wickerhamomyces anomalus, Pichia anomala, Saccharomycopsis fibuligera, Pichia terricola, Pichia kudriavzevii, and Candida glabrata by culture-dependent tool ITS-PCR. The diversity of yeasts and molds in all 40 alcoholic dried starter samples were also investigated by culture- independent method using PCR-DGGE tool. The average distributions of yeasts showed Saccharomyces cerevisiae (16.5%), Saccharomycopsis fibuligera (15.3%), Wickerhamomyces anomalus (11.3%), S. malanga (11.7%), Kluyveromyces marxianus (5.3%), Meyerozyma sp. (2.7%), Candida glabrata (2.7%), and many strains below 2%. About 12 strains of molds were also identified based on PCR-DGGE analysis which included Aspergillus penicillioides (5.0%), Rhizopus oryzae (3.3%), and sub- phylum: Mucoromycotina (2.1%). These techniques used to explore the mycobiome diversity of different starter cultures of India which may be refer red as baseline data for fur ther research. This is the first report on fungal communities of traditionally prepared alcoholic starters of India using culture dependent ITS-PCR and culture-Independent tools such as PCR-DGGE.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 116

HEALING OF EARTH AND ECOSYSTEM DURING THE COVID-19 LOCKDOWN

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ABSTRACT

Corona virus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome corona virus. The first case was identified in Wuhan, China, in December 2019. It has since spread worldwide, leading to an ongoing pandemic. The virus that causes COVID-19 spreads mainly when an infected person is in close contact with another person. Small droplets and aerosols containing the virus can spread from an infected person's nose and mouth as they breathe, cough, sneeze, sing, or speak. Other people are infected if the virus gets into their mouth, nose or eyes. The entire country was under lockdown during the early stages of the vir us spread, with this nature found a way to let Earth regain its lost wealth. Considering excessive pollution of domestic waste, industrial dumping, irresponsible chopping of trees and every other possible abuse that our Earth has been enduring, no one would have imagined it would start healing in a speck of time. But the lockdowns surely turned the tales. Not only the air became purer but also the endangered flora and fauna started healing itself back to normal. Clear blue skies and empty roads were the rarest of sites in many cities, since vehicular disruption was halted for several hours rather days. In cities like New Delhi, which are known to be one of the highly polluted cities with an Air Quality Index (AQI) ranging from 500-600ppb (this range is supposed to be hazardous and causes severe health emergencies) magically swooped down to 50ppb AQI (a greener range with a satisfactory air quality and little risks of air pollution). The wildlife also breathed a moment of relief because of the deserted roads and the near-silent ambience all around, as a result of which various wildlife animals were witnessed wandering around in the cities. Numerous instances of wild animals on city streets have been confirmed • A small Indian Civet was seen on a main road in Meppayoor bazaar, Kozhikode, Kerala • Three Sambar deer (Barasingha from Jhilmil Jheel Conser vation Reserve) were found casually strolling in a society in Haridwar • A Nilgai (Blue bull) was also spotted near a popular mall in Noida. Gautam Buddh Nagar, sector-18, almost after 15 years confirmed by the sector president • Spotted deer (Chital) was found running in by lanes of Dehradun and Chandigarh • A unique and rare yellow turtle (probably an Albino) was rescued by locals from Sujanpur village in Soro block of Balasore district, Odisha. The lockdown which was imposed to contain the spread of virus to prevent human infection proved to be an added blessing for the environment and other ecological factors in terms of reduction of toxic gases like nitrogen dioxide, sulfur dioxide, carbon monoxide, aerosols, atmospheric ozone, particulate matter etc.

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Abstract No. 117

COVID-19 OUTBREAK: E-LEARNING RESOURCES AND ONLINE CLASSESS, ADVANTAGES AND DISADVANTAGES

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ABSTRACT

Objectives: The purpose behind this quantitative research was to explore the experiences of students in order to studying, how students assessed their ability to examine the physiological, cognitive and behavioural responses experienced by students during lockdowns. Methodology: The research information were gathered by using Google online questionnaire. There were total of 156 students from various regions of India were classified as Graduate, Postgraduate PhDs, and Post-doctorate based on educational degrees. Information were collected, categorised as (1) Demographic data; (2) Activities during lockdown; (3) Resources used by students and the effects of it's during COVID-19. SPSS 21.0 used for the factual analysis of the data. According to current study result, female respondents use to more like watching television, reading /writing and using social media though male respondents were engaged with playing computer game, doing exercise and yoga and cooking. Af ter getting the crisis circumstance, we need to continue our education that way.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 118

ENVIRONMENTAL ISSUES AND PUBLIC HEALTH CRISES IN CURRENT PANDEMIC SITUATION

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ABSTRACT

The coronavirus COVID-19 pandemic is the defining global health crisis of our time and the greatest challenge we have faced since World War Two. Since its emergence in Asia late last year, the virus has spread to every continent except Antarctica. We have now reached the tragic milestone of one million deaths, and the human family is suffering under an almost intolerable burden of loss. The COVID-19 pandemic is an ongoing global pandemic of coronavirus disease caused by severe acute respiratory syndrome coronavirus 2 (SARS CoV-2). Its impact has been broad, affecting general society, economy, culture, ecology, politics, and other areas. There are curfews, quarantines, and similar restrictions (variously described as stay-at-home orders, shelter-in-place orders, shutdowns or lockdowns) in place in many countries and territories around the world, related to the COVID-19 pandemic and established to prevent the further spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which causes COVID-19. Covid-19 has impacted millions of peoples who have been out of work for weeks, thus creating a financial burden. Without a job and the certainty of knowing when one will return to work, paying rent and utilities has been a problem for many. With unemployment on the rise, relying on unemployment benefits has become a necessity for millions of people. The actions taken to control the spread of the virus and the slowdown of economic activities have significant effects on the environment. Therefore, this study intends to explore the positive and negative environmental impacts of the COVID-19 pandemic. Due to the pandemic's impact on travel and industry, many regions and the planet as a whole experienced a drop in air pollution. Reducing air pollution can reduce both climate change and COVID-19 risks. This study indicates that, the pandemic situation significantly improves air quality in different cities across the world, reduces GHGs emission, lessens water pollution and noise, and reduces the pressure on the tourist destinations, which may assist with the restoration of the ecological system. In addition, there are also some negative consequences of COVID-19, such as increase of medical waste, huge amount of disinfectants is applied into roads, commercial, and residential areas to exterminate SARS-CoV-2 virus. Chaos and the negative effects of the COVID-19 pandemic may have made a catastrophic future seem less remote and action to prevent it more necessary and reasonable. However, it may also have the opposite effect by having minds focus on more immediate issues of the pandemic rather than ecosystem issues such as deforestation. Similarly, in some places, rates of transmission of influenza and other respiratory viruses significantly decreased during the pandemic. The pandemic has also negatively impacted mental health globally, including increased loneliness resulting from social distancing and depression and domestic violence from lockdowns.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 119

ANALYSIS OF PHYSICO CHEMICAL PARAMETER OF SOIL SAMPLES AND NEMATODE DIVERSITY OF SEASONAL CROPS FROM SAKUR REGION, TAL. SANGAMNER (MS) INDIA.

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ABSTRACT

In the present study, we analyze the physico-chemical parameters of soil samples from different localities of seasonal crops from Sakur region. The soil samples were collected and analyzed to measure various physical and chemical parameters by standard methods. The soil parameters like pH, temperature, Total hardness, EC, organic carbon, calcium, magnesium, nitrogen, potassium and phosphorus were studied. From the analysis, the variation in physico-chemical parameters observed with respect to crop field pattern. In continuation to our research, study was carried out for nematode diversity of seasonal crops. Nematode diversity shows their interactions with plants and other organisms. They play important role in nutrient cycle and as plant parasites. The recorded nematode species are Meloidogyne incognita, M. javanica, Rotylenchulus sp., Heterodera glycines, and Paratrichodorus sp.. From these, most dominant species are M. incognita, M. javanica which found in all seasonal crops.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 120

MATHEMATICAL MODELLING TO ANALYSE THE FUTURE BEHAVIOURS OF COVID-19 VIRUS

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ABSTRACT

These days, there is an assortment of elucidating investigations of accessible clinical information for corona-virus illness (COVID-19). Numerical displaying and computational recreations are effective instruments that help worldwide efforts to assess key transmission boundaries. The model conditions regularly require computational devices and dynamical investigation that assume a significant job in controlling the illness. This work surveys a few models for Covid virus, that can address significant inquiries concerning the worldwide medical care and recommend significant notes. At that point, we model the sickness as an arrangement of differential conditions. We create past models for the Covid, some key computational recreations and affectability examination is added. Likewise, the nearby sensitivities for each model state with deference to the model boundaries are processed utilizing three different methods: non-normalizations, half normalizations and full normalizations. The Results dependent on affectability examination show that practically all model boundaries may have job on spreading this infection among helpless, uncovered and isolated susceptible individuals. All the more specifically, convey rate person to person, isolated uncovered rate and change pace of uncovered people have an effective job in spreading this infection. One potential arrangement recommends that medical care projects should give more consideration to mediation procedures, and individuals need to self-isolate that can effectively decrease the sickness.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 121

NATURAL POLYPHENOLS OF GREEN TEA AS POTENTIAL ANTIVIRAL DRUG

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ABSTRACT

COVID-19 is spreading at an alarming rate and the lack of an approved treatment is causing a major load on the healthcare systems. Several antiviral drugs are under clinical trials however; owing to possible side-effects higher doses of these drugs cannot be administered. Comparing with the mechanism of action of possible drug candidates in previously known viral diseases, we can shortlist some potential viral targets and drugs that can act on these sites. Green tea contains a number of bioactive chemicals, it is particularly rich in catechins, of which epigallocatechin gallate (EGCG) is the most abundant. Catechins and their derivatives are thought to contribute to the beneficial effects ascribed to tea. Tea catechins and polyphenols are effective scavengers of reactive oxygen species in vitro and may also function indirectly as antioxidants through their effects on transcription factors and enzyme activities. EGCG is polyphenolic catechins found abundantly in green tea with a vast array of health benefits. Their antiviral activities also have been reported against various viral infections. In depth analysis of antiviral activities of EGCG and TFs reveals that both of them are wide spectrum antiviral molecules with no definite interaction sites. They act at different stages of the viral cycle.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 122

FRESHWATER BIODIVERSITY IN THE PRESPECTIVES OF COVID-19 PANDEMIC

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ABSTRACT

Human civilization increased pressure on biodiversity, with fast urbanization increased devastating effect on biodiversity. This biodiversity plays vital and crucial role in maintaining environmental balance. As far as freshwater biodiversity concern, it is more fragile than marine one. Freshwater biodiversity is more sensitive and any slight change in environmental parameters has huge effect on freshwater ecosystem. Due to the global crises of SARS COVID-19 pandemic and lockdown coming after it; has enormously changed human lifestyle, still we are not recovered from this trauma. Present investigation deals with the subsequent lockdown and post lockdown effect on freshwater biodiversity due to this COVID-19 pandemic. Yet it is very early to conclude the precise effect of COVID-19 pandemic on freshwater biodiversity still an attempt is made with some finding due to lockdown and industrial shutdown which routinely minimize the stress on bioresources and which must help to flourish the biodiversity to some extent. Ban on human travel, industrial shutdown and lockdown automatically help to reduce the carbon emission in environment, which help to boost the biodiversity.

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Abstract No. 123

SEASONAL VARIATION IN HEMATOLOGICAL PARAMETERS IN SURFACE, COLUMN BOTTOM DWELLER EXOTIC CARPS

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ABSTRACT

The present investigation show that seasonal (spring, summer, autumn and winter) changes in haematological parameters in the blood variation cause immunological impairments in Silver carp(surface dweller) Grass carp (column dweller) Common carp (bottom dweller) The significant effect of temperature variation on haemoglobin % is observed in surface dweller (Silver carp) during April, August, December and January Hb % 6.7±0.56, 3.7±0.70, 6.8±0.34, 6.9±0.81, column dweller (Grass carp) 2.9±0.98, 4.5±0.62, 5.5±0.55, 6.5±0.51 and bottom dweller (Common carp) 2.90±0.62, 4.90±0.11, 5.90±0.33, 5.80 ± 0.55 respectively, which suggests that the haematological parameters change to counter temperature variation . If the biotic factor viz., temperature reaches extreme limits that result in ser ve physiological problems, ultimately leading to the death of fish.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 124

SOLID WASTE MANAGEMENT IN RURAL INDIA

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ABSTRACT

A huge amount of waste is generated every day by the existing consumption-driven society. The continuous depletion of scarce natural resources is contributing to an uncertain future for the globe. Sustainable consumption and a strategic waste management system will therefore be needed to avoid further depletion of global resources. The waste generation rate in the country today is worrying, posing a challenge to governments regarding contamination of the atmosphere. In India especially in the rural areas, waste is a severe threat to the public health concern and cleanliness. Though, the form of waste (both solid and liquid) generated in rural areas is predominantly organic and biodegradable yet it has become a major problem to the overall sustainability of the ecological balance. A visionary paradigm for confronting waste issues in our society is the zero waste model. Policymakers have adopted the zero waste model for solid waste management because it stimulates sustainable development and use, optimal recycling and resource recovery. A 100 percent recycling of rural solid waste and a 100 percent recovery of all energy from waste materials are part of the zero waste model principle. However, it is difficult to turn already over-consuming villages into zero waste. This study therefore seeks to understand the main factors in rural waste management systems, such as consumption, depletion of resources and potential decoupling opportunities, through the introduction of the "zero waste model" concept. This will conceptualize the 'zero waste model' principle and introduces a new instrument called the 'zero waste index' to measure the efficiency of solid waste management systems.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 125

SEWAGE SURVEILLANCE OF SARS COV2 – TRACING COVID 19 WITH WASTEWATER

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ABSTRACT

Waste water based epidemiology or sewer surveillance of SARS COV 2 is the analysis of waste water to identify the presence of SARS genes in water for the monitoring of public health. Environmental surveillance implies testing wastewater or other environmental samples for the presence of a virus or other microorganism or fractions of its structure. On the other hand, clinical surveillance includes systematic collection, analysis and interpretation of direct (e.g. throat swab) and indirect (e.g. symptom observation) health- related data. Combinations of both surveillance methods have proven to be useful for the planning, implementation and evaluation of public health practices. Notably, in the 2020 pandemic, WBE is used to understand the epidemic within the population generating the wastewater. Furthermore, WBE allows scientists and health agencies to monitor the spread of the epidemic even if a large fraction of the population is asymptomatic because this fraction also sheds the virus. However, the extent of shedding by the asymptomatic fraction of the population still requires further investigation. While focusing on SARS-CoV-2 and the virus in water, it is worth reviewing the disease and its implications for WBE. The current scenario on the possibility of fecal–oral transmission of COVID-19 and related water contamination along with the precautionary measures that need to be taken by the government as well as by the individuals with an eye on knowledge-based scientific resolution to confront the COVID-19 outbreak.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 126

ENVIRONMENTAL CHALLENGES IN COVID-19 PANDEMIC

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ABSTRACT

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus (WHO). COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 Most people infected with the COVID- 19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. The outbreak was first identified in December, 2019 in Wuhan, Hubei Province, China and quickly spread internationally. WHO declared the outbreak a Public Health Emergency of International Concern on 30 January, 2020. As of end September, 2020, more than 2.40 crore cases of COVID -19 have been confirmed in more than 188 countries and territories, resulting in more than 82,3278 deaths; more than 1.6 crore people have recorded. India is on the third number after USA and Brazil in all over the world with 31.67 lakh confirmed, 2404585 recovered and 58390 death till now. Coronaviruses are a large family of viruses that are actually common throughout the world and cause respirator y illness in people and animals. World will not be the same after Covid-19 environment. Next World Changes in our life. Our efforts to be conserve biodiversity and maintain Natural Balance.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 127

QUANTITATIVE ASSESSMENT ON TOTAL NITROGEN CONTENT OF ANABAENA ORIENTALIS UNDER THE INFLUENCE OF CARBARYL AND ENDOSULFAN PESTICIDES

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ABSTRACT

In the present research endeavor, the effect of commonly used pesticides viz. Sevin(carbaryl, 50%) and Endotaf (endosulfan, 35%) was studied on the nitrogen fixation efficiency of soil blue-green alga Anabaena orientalis. Total nitrogen fixed by the tested alga was estimated by conventional micro-kjeldahl method after 28 days of harvesting in the experiments with 2.5 ppm to 500 ppm concentrations of each pesticide in nitrogen free BG- 11 medium. The consequences of pragmatic results revealed that, Anabaena orientalis showed a progressive decline in the total nitrogen content with the increasing concentrations of Sevin and Endotaf pesticides. However, at lower doses of pesticides viz. 2.5 ppm to 10 ppm of Sevin and at 2.5 ppm Endotaf, total nitrogen fixed by the tested alga also increased over the absolute Control. While at higher dose level i.e. 500 ppm Sevin and 100 ppm Endotaf the tested alga showed 73.3% and 82.9% decrease in total nitrogen content respectively than the Control. In general, it was seen that at higher levels of pesticides application i.e. 20 ppm Sevin and even at 5 ppm Endotaf adversely affected the nitrogen fixation efficiency of Anbaena orientalis in the laboratory cultures. The study concluded that, indiscriminate use of Sevin (carbaryl, 50%) and Endotaf (endosulfan, 35%) pesticides had deleterious effect on nitrogen fixation of soil blue-green alga Anabaena orientalis under various crop fields.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 128

IMPACT OF COVID - 19 ON FASHION & APPAREL INDUSTRY

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ABSTRACT

The global pandemic caused by COVID-19 has affected the economy badly and has led to the closing of many business houses at medium and lower levels Even some big brands have also witnessed a significant drop in Revenue/ Sales But we expect customer need for more protective & comfortable clothing to grow in the near future Pre-COVID Scenario of Indian Fashion & Apparel industry 1. Textile and Apparel Sector concentrated mostly on expor ts earning. 2. Majority of the domestic apparel sector (more than 83 %) is still unorganized and is still open for being organized and re calibrated. Current Scenario of Indian Fashion & Apparel industry during Covid -19 1. In order to sustain due to closed apparel retail outlets. Many of the fashion brands are facing a downturn in their sales and are offering huge discounts just to keep the financials running. 2. Many Fashion houses have temporarily shifted majority of their operations and offerings towards, Online Stores and Social Media Marketing. 3. More demand has been observed in Daily wear or regular clothing rather than occasional wear and formal segment. 4. E-commerce has seen a growth in the apparel demand. Post COVID- 19 Scenario- Indian Fashion & Apparel industry 1. Global demand will again resume but there will be rise in demand for sustainable/ handloom / local products 2. Eco-entrepreneurship will have more emphasis due to shifting demand pattern of global and local consumers. 3. Investment schemes offered by Government via various scheme to strengthen more textile parks and artisan at grass root level has been initiated. 4. More Skill based concentration for organizing regional handloom sector has been initiated under various Government Policies and Schemes. Beneficial Impact of COVID-19 on Indian Fashion & Apparel industry The unprecedented global crisis has adversely affected the Indian Fashion & Apparel industry. However, online businesses have doubtlessly gained momentum. Over thousands of stores have been added to the armada of leading e-commerce players during the lockdown, and more are still to following. Interestingly, the consumer base is also expanding, with even senior citizens and the uninitiated embracing new technology.

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Abstract No. 129

COVID-19 AND HEALTH RELATED PROBLEMS

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ABSTRACT

COVID-19, a disease caused by a Novel Corona virus, turned into a pandemic. During COVID-19 pandemic many of us are sitting down more than that of we usually sit down. In daily routine life regular physical activities are essential to persons of all age groups for their well being and all overall good feelings. COVID-19 pandemic imposed a new set of challenges for the individual to maintain a healthy diet. COVID-19 pandemic, lead to irregular eating patterns and frequent snacking, both of which are associated with higher caloric intake and increases risk of obesity. For optimal health, it is very important to remember to eat healthy and stay hydrated. Dietary ingredients are significant determinants of gut microbial composition and consequently can shape the characteristics of immune responses. It is very essential to maintain an effective immune system to avoid deficiencies of the nutrients.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 130

FIRST NEW RECORD OF CUCULLANUS SP. FROM FRESHWATER FISHES *MYSTUS VITTATUS* IN RIVER YAMUNA AT YAMUNA NAGAR

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ABSTRACT

The present communication deals with first record of species of Cucullanus from fresh water fish *Mystus vittatus*. This study was conducted from July 2018 to August, 2019 in river Yamuna at Yamuna Nagar, Haryana, India. The present communication deals with first record of species of *Cucullanus* from fresh water fish *Mystus vittattus*. This study was conducted from July 2018 to August, 2019 in river Yamuna at Yamuna Nagar, Haryana, India for the first time. Out of 280 host fish, 135 fish were found infected with this nematode and 186 parasites were recovered from 135 infected *Mystus vittatus*. Prevalence calculated is 48.216 % and M.P./ MI recorded was 1.378. This parasite is member of class nematoda and family cucullanidae. These parasitic nematodes are the most important parasites of fishes in the freshwater, brackish-water and marine environments throughout the world, but the knowledge about these parasites is not still enough, especially related to their taxonomy, phylogeny, zoogeography, biology and ecology. Therefore, the consumption of infected fish may leads to the transmission of infection and deleterious diseases to top consumers of food chain of an ecosystem like human, birds etc. Hence the present investigation taken in consideration to explore the diversity , prevalence and zoonotic potential of the nematodes infra-communities.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 131

ANTIHEPATO-TOXIC ACTIVITY OF HERBAL NANOPARTICLES AGAINST SODIUM HYPOCHLORITE (A POTENT DISINFECTANT DURING COVID-19) INDUCED TOXICITY

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ABSTRACT

Sodium hypochlorite (NaOCl) is the active ingredient in household bleach and is a very common chemical. It has been used in medical and commercial situations dating back to the 18th century for its disinfectant properties, including topical use in medicine as an antiseptic. Hypochlorite was again found to be extremely useful on a large scale during World War I. For this indication, NaOCl is a proven and safe chemical. There is limited information regarding statistical trends on world-wide poisoning from sodium hypochlorite. However, exposure of NaOCl beyond topical use, whether it is intentional or accidental, is associated with significant risks due to its strong oxidizing properties. Potentially damaging scenarios include ingestion, inhalation, deposition into tissue or injection into the bloodstream. The ingestion of sodium hypochlorite may cause burns to the mouth and throat, gastrointestinal irritation, nausea, vomiting and diarrhea. The inhalation and ocular exposure to chlorine gas, produced when sodium hypochlorite is mixed with acidic or alkaline solutions, results in burning of throat and lungs, eye and nose irritation, chest tightness, coughing and sore throat. The exposure to higher concentrations of chlorine may lead to tachypnoea, cyanosis, swelling of the airway and, in severe cases, pulmonary oedema and respiratory failure. The sodium hypochlorite is corrosive and may irritate the skin or cause burning pain, inflammation and blisters ocular exposure may cause irritation, pain, lacrimation, photophobia and retinitis. All of these scenarios can lead to significant morbidity and even mortality. The International Agency for Research on Cancer (IARC) classified sodium hypochlorite as a category 3 carcinogen, i.e. not classifiable as to the carcinogenicity to humans. The Government issued guidelines the environmental cleaning /decontamination of common public places including offices in areas reporting coronavirus disease 2019 (COVID-19) to cubed its further expansion. In view of the same all indoor areas such as entrance lobbies, corridors and staircases, escalators, elevators, security guard booths, office rooms, meeting rooms, cafeteria should be mopped with a disinfectant with 1% sodium hypochlorite. The current study focused on the hepato-toxic causes in experimental models exposed to the sodium hypochlorite and potent therapeutic activity of herbal nanoparticles against the NaOCl induced toxicity.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 132

SMALL INDIGENOUS FRESHWATER FISH SPECIES (SIFFS): IMPORTANCE AND CONSERVATION

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ABSTRACT

Consequence of small indigenous freshwater fish species (SIFFS) in improving the nutritional security, sustain the biodiversity, ecosystem stability, livelihood and improvement of rural economy have been grown up nationwide since the obtainability has been thoroughly reduced. These small fishes are considered as weed fish/trash fish/miscellaneous fish/poor men's fish/incidental catch and simply relinquished without documented any data. So their potentiality in nutritional role is being overlooked. Several water bodies like rivers, streams, lakes, canals, reservoirs, wetlands, floodplains, swamps, ponds, tanks and low lying paddy fields are the areas where they naturally breed, nurture their young and grow.In a country with a population suffering from malnutrition and protein deficiency, consumption of SIFFS may have positive effects in improving the health of the nation. Conservation of SIFFS is also essential to maintain ecological, nutritional and socio-economic equilibrium. Species diversity and genetic variability are necessary for the long term maintenance of stable, complex ecosystem and species. Culture will help to conserve these species from the edge of extinction or vulnerable status. Challenging issues for sustaining aquatic biodiversity and proper management of freshwater resources highlight the research priorities and need to develop appropriate conservation strategies for small indigenous freshwater fish species.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 133

CORONA VIRUS PANDEMIC (COVID-19) AND ITS NATURAL ENVIRONMENTAL IMPACTS

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ABSTRACT

COVID-19, which is the new coronavirus causing uncommon pneumonia, outspread in Wuhan, China on December 31, 2019 (Kavanagh 2020; Wu et al. 2020; Zhu et al. 2020). Since then, the national and international spread of the disease has threatened people's lives all around the world (Wu et al. 2020; Zhou et al. 2020). The early cases of human infection with COVID-19 in Wuhan were associated with big seafood and live animal markets, which indicated the transmission of the virus from animals to humans. Soon after, several people who had not been exposed to animals, were infected by the disease, which indicated the virus transmission from one individual to another. The disease spread was observed out of Chinese borders, almost in all countries over the world (Tahir and Batool 2020). Coronavirus Disease 2019 (COVID-19) is the official name of a respiratory infectious disease caused by a new coronavirus that started first in Wuhan, China, and outspread worldwide with an unexpectedly fast speed. Flights have been canceled worldwide and transpor tation has been closed nationwide and across international borders. As a consequence, the economic activity has been stopped and stock markets have been dropped. The COVID-19 lockdown has several social and economic effects. Additionally, COVID-19 has caused several impacts on global migration. On the other hand, such lockdown, along with minimal human mobility, has impacted the natural environment somewhat positively. Overall carbon emissions have dropped, and the COVID-19 lockdown has led to an improvement in air quality and a reduction in water pollution in many cities around the globe. A summary of the existing reports of the environmental impacts of COVID-19 pandemic are discussed and the important findings are presented focusing on several aspects: air pollution, waste management, air quality improvements, waste fires, wildlife, global migration, and sustainability.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 134

IMPLEMENTATION OF VEGETATIVE IMMUNITY BOOSTER APPROACH TO RESTRICT THE SARS CoV 2 INFECTION

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ABSTRACT

The infection of COVID-19 is contagious that is caused by severe acute respiratory syndrome coronavirus-2. Now this pandemic has affected our healthcare systems, destroying the global economy and led to a devastating loss of life. It was the third severe outbreak of COVID-19 in recent times which is following SARS and MERS. In late December 2019, the WHO was first alerted for a mysterious viral respiratory disease spreading in form of pneumonia across the city of Wuhan in China. Presently there are multicentre controlled clinical trials are going on to assess the safety and efficacy of the vaccine in the patients infected with this virus. Ayurveda is the precious gift of India to the world that makes life healthy and happy forever. According to the research, Ayurveda has played an important role in the pandemic situation of COVID-19 as given herbal immune boosters. Result of previous studies showed that 98% of the population was aware that ginger and turmeric is one of the best medicines for SARS CoV 2 because it has anti-inflammatory properties. Turmeric being contained curcumin that is a natural antioxidant, used as an immune booster, anti-pathogen, antimicrobial, and detoxifying agent. Curcumin can improve anxiety and the stress-related manifestation of depression. Depression-disorders in COVID-19 prevention measures-driven social distort are possibly brought by oxidative stress. Curcumin, through Nuclear factor erythroid-2-related factor 2 (Nrf2), can prevent such stress and improve antioxidant Glutathione (GSH) production.GSH prevents physiological damage to brain cells during stress. Nrf2 also helps to balances the immune response. Vitamin C is a very powerful antioxidant that reduces the duration and severity of infections of the upper respiratory tract. AyurvedicRasayana that containing har-itaki, pippali, and Agastya are more effective against COVID-19. A diet that is containing low fat and high vitamin intake based on plants helps to improve the immune system. Some algae mainly Spirulina used to boost immunity against viral diseases.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 135

BIO-PESTICIDEAL MANAGEMENT OF GROUND NUT APHID AND CHILLI MITE FOR SUSTAINABLE ENVIRONMENT

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ABSTRACT

Groundnut (*Arachis hypogaea L.*) family (Fabaceae) is a legume crop grown for its edible seeds. The plant is damaged by various insect pests of which *Aphis craccivora* Koch. causes heavy damage to tender leaves of the plant and reduces its yield. The *Polygonum hydropiper* and *Spilanthes paniculata* floral partswere extracted in methanol. The tobacco (*Nicotiana tabacum*) leaves were extracted in water by following the standard method developed by Ghosh. The incidence of aphid was higher on the upper and middle canopy of the groundnut plant.Imidacloprid was found most effectively against aphids providing 85.82 % suppression, closely followed by mixed formulation imidacloprid + Polygonum (79.61 % suppression) and Azadirachtin+tobacco providing 78.93% suppression. From over all observation it was revealed that mixed formulation Azadiractin+ polygonum, microbial toxin spinosad, botanical pesticide Azadiractin and tobacco leaf extract gave moderate to higher results. A rapid degradation of persistency was observed in imidacloprid and neem oil. So imidacloprid as small amount may be recommended mixing with plant based insecticides for general use of the farmers for its higher efficacy and rapid degradation. Among the seven treatments evaluated for chilli mite control microbial toxin-avermectin resulted in the best suppression of mite population (86.32% suppression), closely followed by chemical insecticide, fenazaquin (73.07%) and mixed formulation of botanical pesticide, azadirachtin with botanical extract, Spilenthes (70.99%). The botanicals, *Spilanthes paniculata* floral parts and garlic were extracted in methanol. Four sprays at 10 day intervals were made. Mite population was recorded 3, 6 and 9 days after each spraying. Avermectin and mixture of azadirachtin with botanical extracts gave moderate to higher mite suppression (more than 64% suppression). When plant extract is mixed with plant based insecticides like azadiractin or small amount of chemical insecticide it provides better aphid control on groundnut. Plant extracts (bio-pesticides) having less or no hazardous effects on environment can be incorporated in pest management.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 136

SURVEY OF HELMINTHES PARASITES IN FRESHWATER FISHES FROM YAMUNA RIVER, UTTAR PRADESH, INDIA

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ABSTRACT

The present studies are helpful for the status of diversity of helminthes parasites from rive Yamuna, U.P., India. The survey of helminthes parasites in freshwater fishes was undertaken to investigate the internal helminthes parasitic environment within the host and its interaction with the external environmental factor such as seasonality, water temperature, and other physicochemical parameters of the water body. The survival, establishment and transmission dynamics of parasites in hosts are influenced by climate change, short term or long term alike confirmed during investigation. The parasite assemblages in freshwater fishes include the larval stages of several groups of parasite helminthes as intermediate hosts. The varied patterns of distribution of helminthes by body weight, size and sex of fish were analyzed also. The parasite mix is affected by seasonal change only if the abundance of an obligatory intermediate host varied seasonally was noticeable, thus making dietary habits responsible for access to helminthes invasions in the body of a fish.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 137

ISSUES AND CHALLENGES FACED BY MIGRANT WORKERS DURING COVID-19 PANDEMIC

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ABSTRACT

A democratic society like India marked by constitutionalism and human rights and social justice. One among the key features of a democratic community is that it should be free from inequity, injustice and unfairness in treatment. However, a country like India remains struggling to avoid these unacceptable occurrences. But the things arose thanks to covid-19 pandemic is panic and have become a tragedy of the history of India. The outbreak of corona virus with continuous reporting of fatality of the disease created consternation among the migrant workers staying miles far away from their near and dears. The imposition of lockdown and shutdown in phase manner also created uncertainty on their food security. The migrants without jobs and money haven't any other choice to sustain within the host city except returning to their hometown. This desperate movement of the giant number of migrants within the pandemic situation has created a much bigger challenge for the governments to with the life and livelihood issues simultaneously with a limited resource and infrastructure facilities. The increasing trend of covid-19 and itsprolong nature has posed challenges for the government to contain it and revive the economy at the earliest. Hence, an effort has been made here to look at the influx of migrants to status during a period of health crisis from the size of the challenge and issues for the governments which can pave thanks to address such vulnerability in the future.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 138

AGRICULTURE: A SAFEGUARD & IMPORTANCE IN PANDEMIC COVID-19

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ABSTRACT

The COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the world of work.The economic and social disruption caused by the pandemic is devastating millions of people are at risk of falling into extreme poverty, while the number of undernourished people.During lockdown period Government ordered to close marketing of many thing but the food stores partial shutdown because without food people will not survive. In lockdown period agriculture sector prove as a life safeguard for us. Food helps human beings to eat healthy diets and form strong immune systems to fight against corona virus diseases. “For us to rise stronger from this Covid-19 crisis, the government must encourage the development of an agriculture-driven economy,” by introducing several policies related to agriculture sector.We believe that economic growth in agriculture is more effective at reducing poverty and food insecurity than growth in other sectors. Investments in agriculture can help revive food production and create jobs in this crisis.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 139

IMPACT OF COVID-19 ON INDIGENOUS COMMUNITIES GLOBALLY

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ABSTRACT

The whole world is facing the COVID-19 pandemic, Indigenous communities are also especially at the risk due to inequalities as they are facing in their home countries and already impacted by extreme poverty, malnutrition and lack of access to medical supplies & a quality health care in terms of preventive measures, diagnosis and treatment thus, such communities have always suffered from multiple obstacles in matters of health. Today this pandemic places them in a state of greater vulnerability by not getting the chance even to attend for prevention and diagnosis. Due to lack of well-paying jobs or workable lands and permission to reach the general communities area, such communities are also facing a challenge for the fulfillment of the basic need of food and water supply as they can't afford it. In order to choose self-isolation and starvation or continued work, such communities must choose to continue work obviously rather than being quarantined. Recently UN Permanent Forum on Indigenous Issues Chairperson Anne Nuorgam urged states to take immediate steps to ensure that indigenous peoples are informed, protected and prioritized during the COVID-19 global health pandemic. In the United States, the federal government has taken the opportunity of crisis to revoke a local tribes' right to their land. There is also a major need for reliable, regular communication in Indigenous languages via community radio. A community of Oaxaca, Mexico has a strong community radio program supported by cultural survival, helping people to get through this crisis. Indigenous peoples have solutions and need to be active participants in action being taken by government. Their good practices of healing and knowledge, such as sealing off communities to prevent the spread of diseases and of voluntary isolation, are being followed throughout the world today. Governments must ensure that indigenous peoples are specifically included in economic and social recovery stimulus plans and policies which recognize indigenous peoples' representative institutions, authorities and governments as the legitimate representatives of indigenous peoples their representatives, leaders and traditional authorities in the planning and design of health services and responses to the COVID-19 pandemic, providing effective support to indigenous communities that have imposed lockdowns or other restrictions to stop the spread of the COVID-19.

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Abstract No. 140

BRILLIANT GREEN DYE REMOVAL BY ADSORBENT PTEROCARPUS MARSUPIUM

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ABSTRACT

The adsorbent *Pterocarpus marsupium* (PM) used for the removal of Brilliant Green dye in aqueous solution. The Plant moiety stem part was utilized, the spent obtained after extraction from principle component(s). The study of adsorbent with dye on adsorption process influenced on factors like effect of temperature, Initial dye Concentration, pH, kinetics, adsorption Isotherms which confer an effective removal. Adsorption phenomenon has been used extensively to investigated adsorbate–adsorbent molecules surface interaction. The characterization of SEM analysis indicates to adhesion of dyes on their porous surfaces and FTIR analysis reveals the functional groups on adsorption sites which favors adsorption on surfaces favorable.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues: Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 141

CORONAVIRUS DISEASE (COVID-19) AND IMMUNITY BOOSTER

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ABSTRACT

Coronaviruses are large group of viruses that cause illness in humans and animals. Realy, animal corovaviruses can evolve and infect people and then spread between people such has been seen with MERS and SARS. Although most human coronavirus infections are mild, the epidemic of the severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), have cause more than 10,000 cumulative cases in the past two decades, with mortality rates of 10 percent for SARS CoV.People with low immunity are more prone for this world pandemic named as COVID-19. The immune system is built on beneficial live bacteria that lives in the gut which protect the human body from various diseases. When the immune system response is low, weak, or damaged, it becomes an open invitation for infections such as coronavirus or other diseases like diabetes, heart disease, or cancer. Plant-based foods increase and help the intestinal beneficial bacteria, and the overall gut microbiome health which makes up to 85% of the body's immune system. On the other hand, excess of animal foods deplete the body from good bacteria, promote inflammation, and are the underlying cause of diabetes, chronic obstructive pulmonary disease cardiovascular diseases, hepatitis B, cancer, and chronic kidney diseases. For fighting above disease to help or boost the immunity, the plant-based foods play vital role by promoting beneficial bacteria in the body. Some of the immunity-boosting herbs are garlic, black cumin, and liquorice. Include them in the diet of the elderly in the form for tea or by adding them in their food. This will not enhance their immunity but improve their gut as well. Various vitamins like C, D, and E are investigated to provide important aspects for improving immunity. Fruits like oranges, papaya, kiwi, and guava are rich in vitamin C, while vegetables like eggplant, bell peppers, beetroots, spinach, and cauliflower are known to be quite rich in vitamin C and are good for immunity. A very crucial micronutrient is used in DNA synthesis and cell proliferation, which regulate innate and adaptive immune responses. Vitamin D improves cellular resistance, partially by raising the cytokine storm that the innate immune system causes. Green vegetables like broccoli, mushrooms, and even kale are a few immunity boosters that improve the immune system of older people quite rapidly

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 142

PSYCHOLOGICAL IMPACT OF COVID 19

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ABSTRACT

Human civilization probably is passing through the foremost critical juncture of this millennium while its existence is being challenged by the emergence of a completely unique severe acute respiratory syndrome coronavirus (SARS-Cov-2) encroaching newer territories everywhere in the planet earth expeditiously. In India, cases of COVID-19 began to rise by the 2nd week of March 2020. A sense of panic has set in among the overall population aided by the increasing number of positive cases with each passing day and therefore the rumors and myths about COVID-19 being circulated within the social media platforms. Both the central government and state governments had been issuing advisory to the people to take care of social distancing to prevent the community spread.This unpredictable, fast spreading communicable disease has been causing universal awareness, distress and anxiety . This recent Covid-19 pandemic has had significant social impact and psychological effect on the population.Studies has highlighted the impact on psychological well-being of the foremost exposed groups. These groups including children, college students, doctors and nurses, who are more likely to develop post-traumatic stress disorder, anxiety, depression, and other symptoms of distress. The social distance and thereforethe security measures have affected the connection among people and their perception of empathy toward others. From this attitude, telepsychology and technological devices assume important roles to decrease the negative effects of the pandemic. These tools present benefits that would improve psychological treatment of patients online, like the likelihoood to satisf y from home or from the workplace, saving money and time and maintaining the relationship between therapists and patients.Psychosocial crisis prevention and intervention models should be urgently developed by the government, health care personnel and other stakeholdersfor better handling with these psychosocial problems of different strata of the society. Apt application of internet services, technology and social media to curb both pandemic and infodemic must be instigated. Psychosocial preparedness by fixing mental organizations specific for future pandemics is certainly necessary.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 143

MANAGEMENT OF APHID *LIPAPHIS ERYSIMI* (KALTENBACH)

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ABSTRACT

Lipaphis erysimi (Kaltenbach) is most harmful insect pest of mustard crop. It is a pest which is known to suck the sap of plant and deposit honeydew, because of which the photosynthesis of plant is highly affected. As a result, the total yield is reduced drastically. It has very high reproductive rate because of which it establishes and extends its population in a short time unit. If not managed, an average yield loss caused by L. *erysimi* is about 60-70% per year. Biocontrol is one of the most significant and ecofriendly method with which the L. *erysimi* infestation can be managed in the affected field without causing any residual effect or disturbance to biodiversity . Among insect predators, Ladybird beetles (Coleoptera: Coccinellidae) are considered one of the most preferred and useful biocontrol agents. Many ladybird beetles *viz. Coccinella septempunctata, Menochilus sexmaculatus, Propylea dissecta* have been reported to voraciously feed upon *L. erysimi.* Utilizing these Coccinellids with more integrated tools and techniques of pest management can effectively manage this pest problem in the field.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 144

HYGIENE HYPOTHESIS AS AN EFFECTIVE IMMUNITY BUILDER

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ABSTRACT

Many studies point out that previous exposure to viruses and pathogens can make a person's immune system smarter. Few studies found that most of the world's population impacted by these risk factors resided in places with higher HDI (Human Development Index) and GDP, which could be yet another reason why some countries are experiencing staggering death rates, while some, like India, are seeing surprisingly better recovery rates and fewer deaths. A better life expectancy, found in developed nations could also make people live longer, compromise their immunity and make them more vulnerable to pandemic like COVID-19. Hence, this study is an update to find whether hygiene hypothesis works or not and up to which extent.

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Abstract No. 145

EFFECTIVE DRUGS ON COVID-19

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ABSTRACT

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronaviruswhich is highly contagious. Scientists are trying to work with the already existing antivirals and simultaneously also working on new drugs which can treat corona virus. Some of the already existing drugs have shown some progressive reports in various clinical trials. Hydroxychloroquine and chloroquinedrugs were recommended by FDA (USA) for the treatment of covid19, but the results of clinical trials are still controversial. Lopinavir and ritonavir are another which is generally used for the treatment of HIV, as it is protease inhibitor hasalso shown positive reponsefor covid19 virus treatment in clinical trials in China. Nafamostat and camostat are another protease inhibitor and these drugs are undergoing phase 2 and phase 2/3 clinical trials in the USA and Japan for their effectiveness against COVID-19. Bevacizumab, a monoclonal antibody the scientists in China and Italy had done some clinical trials and found in results to be effective upto some extent. Ivermectin is well known broad spectrum antiparasitic drug when used against covid19 has associated with lower death rate but not highly curable. Besides that number of other drugs including Corticosteroids, Nitazoxanide, Umifenovir, Famotidine and many more are still under clinical trials and reaching to a conclusion on those basis is very early. Scientists all over the globe are also working on vaccines and ready to launch them in market after all clinical trials.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 146

WATER QUALITY ASSESSMENT USING GILL MONOGENEAN PARASITES OF OREOCHROMIS NILOTICUS (LINNÉ, 1758) AND LABEO CALBASU (HAM, 1822) OF RIVER PENNA YSR KADAPA DISTRICT A.P.

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ABSTRACT

Parasitological survey on monogenean parasites was carried out on the gills of two fish species *Oreochromis niloticus* (n=133) and *Labeo calbasu* (n=122) from three different locations of River Penna flowing through YSR Kadapa District, Andhra Pradesh from March, 2017 to March, 2018. A total of four species of monogeneans i.e., *Cichlidogyrus sclerosus* Paperna & Thurston, 1969, *Cichlidogyrus tilapiae* Paperna, 1960 and *Scutogyruslongicornis* (Paperna& Thurston, 1969) Pariselle and Euzet, 1995 from O. *niloticus* and *Dactylogyrus fotedari Gusev,* 1973 from L. *calbasu* were detected. There was significant correlation ($P < 0.05$) between the prevalence of monogeneans and some water quality [e.g. temperature, alkalinity, total dissolved solids (TDS), total hardness, dissolved oxygen (DO) and calcium hardness] parameters in all the fishes examined. Results also revealed highest prevalence rate of monogenean infection during the winter, followed by rainy season and the lowest rate during summer season. Parasitisation was analysed location wise and fishes collected from Somasila backwaters were highly infected with monogeneans though its prevalence is less. The positive correlation existing between the monogenean infectionand water quality variables in the two basic seasons has led to the conclusion thatectoparasitic monogeneans are good biological indicators in assessing the water quality of River Penna.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 147

STUDY OF SPATIAL DIVERSITY OF SOIL NEMATODE COMMUNITIES IN TOMATO CROPPING AGRO-FARMS IN KATHMANDU VALLEY, NEPAL

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ABSTRACT

The study aims to analyze the spatial diversity of soil nematodes community structure in different toma to (*Lycopersicon esculentum,* Mill) cropping agro-farms of Kathmandu Valley. Nematodes were extracted by Cobb's sieving and decanting method. The nematode community composition, generic richness and abundance were analyzed. A total of 36 genera of 19 families with five different trophic groups were identified, among them 16 genera of plant feeder, 13 genera of bacteriovorous, 3 genera of omnivorous and 2 genera of each predator and fungivorous feeding groups were identified from the different tomato agro-farms. Out of 19 families, most of the genera of nematodes were recorded from families Tylenchidae with 6 genera and Cephalobidae with 5 genera. Generic richness of nematodes among these sites was compared using One-way ANOVA. It was found that the generic richness of nematodes in Kathmandu, Bhaktapur and Lalitpur was significantly different. The number of nematode genera was the highest in Bhaktapur (10.97 genera per plot) and the lowest in Lalitpur (9.28 genera per plot).Higher variations of relative abundance of trophic guild to nematode communities were observed within each agro-farm and found that the higher contribution of Bacteriovorous (i.e. Ba1-71%, Ba2-70%, Ba3-86%), Omnivorous (Om4) i.e. 77%, plant feeder(Pf3) were 45%, (Pf4) were 73% and predator(Pre4) i.e. 53% found in Kathmandu whereas the higher abundance of Bacterivorous (Ba4) i.e. 87% in the samples of Bhaktapur. Need of further exploration on the diversity and community dynamics of soil nematodes in tomato agro-farms for sustainable soil ecosystem service in Nepal.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 148

LEGAL INITIATIVES FOR THE EFFECTIVE ENVIRONMENTAL GOVERNANCE AND FOR THE SUSTENANCE OF SUSTAINABLE DEVELOPMENT BY THE SUSTAINED JUDICIARY IN INDIA

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ABSTRACT

Though Sustainable Development word has come in to existence from Rio Declaration (1992) . But if any one could trace the history of the Indian culture, whatever the practices we were doing from time immemorial were all of towards Sustainable Development. But most unfortunately due to the introduction of western culture in to our system it has slowly changed into consumerist culture. From the repair to remove and replace to use and throw culture. Even though the Sustainable Development principle has come into existence since Rio Declaration (1992), strictly and judicially speaking it was in the form of soft law only , which is judicially non enforceable and non obligatory on the part of signatories. It is needless to say India was also partner for the Declaration. But still the soft law was given hard law status in India by our Hon Supreme Court in its land mark judgement in the Vellore Citizen Welfare Forum vs Union of India case in the year 1996. For the effective Environmental Management three "E" s are essential vide Engineering, Education and Enforcement. In Engineering point of view to attain the sustainable development we have to have a comprehensive look and control of all the sources and types of pollution through technological input and ways and means. It is highly imperative to blend the scientific principles into the engineering and develop technology to control and manage the pollution both at the source and end pipe treatment with clean development mechanism where it is possible. The second "E" is Education –namely creating an awareness and sensitizing the people the importance of pollution control, changing the life style and behaviour of the people and practice more ecofriendly methods. Infact Hon Supreme Court in one of its land mark judgements made Environmental Education as one of the compulsory paper in the college and University curriculum irrespective of the branch of study , with same syllabus throughout the length and breath of the country. Finally with reference to third "E" namely Enforcement here the laws play good amount of role in managing and controlling the Environmental pollution and Environmental Protection . Laws are the tools in the hands of the enforcement agencies to control and combat the pollution. Again for the purpose of enacting the laws the Constitution has give room for the legislature. In this connection it can be very proudly said that India is one among the few countries in the world where the Environmental Protection is given the Constitutional status. We have enacted a plethora of Environmental Legislations in the last two decades in addition to the Indian Penal Code for the effective environmental management. Apart from this Legislature, Executive, the third arm and pillar of the democracy namely Judiciary also played a very active role and paved the way for the emergence of environmental Jurisprudence. In my paper, I am going to discuss the how far the Sustainable Development has been given a hard law status by the Judiciary and more so the higher judiciary innovatively interpreting the Constitution elevated the Environmental Right in to a Constitutional Right from the ordinary simple public nuisance under the IPC. Apart from that the judiciary also ingrained certain principles and doctrines into our Environmental Jurisprudence.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 149

ROSE PROCESSING AND PRODUCTS: AN OVERVIEW

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ABSTRACT

Rose (*Rosa indica L.*), the king of flowers, commonly known as Gulab-Jo-Gul in sindhi, belongs to family Rosaceae. A rose is a woody perennial flowering plant of the genus R osa, with the Rosaceae family, or the flower it bears. There are over 300 hundred species and tens of thousands of cultivars in the old as well as the new world, only eight species have played a major role in the development of the modern garden roses. Rose petals are carefully hand-picked from the plant, done solely by hand which is a time consuming process. After picking the roses for the day, the fresh blossoms is then cleaned and sorted. The fresh rose petals are taken to the distillery where the distillation process takes place. The roses are placed in a special still, and then stream is discharged through the fresh petals to release the essential oil into vapour. The aromatic vapour is then condensed by cooling. Finally the rose absolute essential oil is separated from the rose water, and stored in temperature controlled room. Rest of this there are many rose products in market such as gulkand, rose syrup etc. The rose, because of its place amongst the flower crops and is one of the oldest of fragrant flowers to be cultivated by man. Its different types having beautiful flowers of exquisite shape, sizes, bewitching colours and most delightful fragrance has made it an important flower for its varied uses.

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Abstract No. 150

INDIA AFTER COVID-19: A FUTURE PERSPECTIVE

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ABSTRACT

COVID-19 the highly contagious disease caused by the novel corona virus belonging to the SARSCoV family has created a havoc in the entire world. To fight against this deadly disease, almost all the countries of world have implemented complete lockdown. Due to this, the lifestyle of the individuals as well as the different sectors of a country including education, economy, politics, environment and climate change etc. are facing huge changes. In the present study, several consequences of COVID-19 in India have been highlighted. As reported by the UN's trade and development agency UNCTAD, the cost due to COVID-19 may go up to $1trillion in 2020. The countries like India should look forward to take adequate steps in minimizing the damage caused during the ongoing pandemic of COVID-19 and be resilient to face the future pandemics.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 151

COVID-19: IMPACT ON AGRICULTURE, FOOD SECURITY IN INDIA

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ABSTRACT

Agriculture remains a central pillar of the Indian economy. The sector serves the food consumption needs of the whole country, while also placing among the top exporters of agricultural produce in the world. COVID-19 is an unprecedented challenge for India; its large population and the economy's dependence on informal labor make lockdowns and other social distancing measures hugely disruptive. The central and state governments have recognized the challenge and responded aggressively, but response should be just the beginning. India must be prepared to scale it up as events unfold, easing the economic impact through even greater public program support and policies that keep markets functioning. The end of the lockdown will not end the problems. On the contrary, they are likely to be compounded at the onset of the new agricultural sowing season. There is a greater need for government support in the form of support for other agricultural inputs. Lack of any relief will only make the agricultural crisis worse. The need of the hour is to maximize possibilities of agriculture, which has demonstrated its utility and resilience in trying times.From an environmental viewpoint, the COVID-19 impacts point to a modest reduction of direct greenhouse gases from agriculture of about 1% or 50 million tons of carbon dioxide equivalents in 2020 and 2021.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 152

DIVERSITY OF TWISTED WING PARASITOIDS (INSECTA: STREPSIPTERA) IN INDIA

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ABSTRACT

Strepsiptera (Greek *strepsi*, "twisted"; *pteron*, "wing") comprise a group of unusual, obligate endoparasitoid. Every aspect of their morphology, life history, genetics, and hostparasitoid relationship is unusual. They maintain one of the most bizarre and complex life cycles of any organism, and they have one of the smallest insect genomes, although the size of the entire *18S* ribosomal DNA sequence is among the biggest, containing a number of totally unique expansion segments. One of the numerous complex features of Strepsiptera is their extreme sexual dimorphism, whereby the adult male and female share no external morphological characters and the females are neotenic. Till now 639 species have been described globally. There is very limited information on record about Indian representative of this bizarre insect order. Prior to this study only 28 species are known from India. The last species of this weird order described in 2000 from India by Kathirithamby & Ponnamma. In 2016 to 2017 five new species include 5 genera under 3 families are describe from India by Roy & Hazra. A new species *Viridopromontoriusaequus* Roy &Hazra, 2016under family Corioxenidaeis described from West Bengal. This is the first species in this genus from the Oriental Region. *Coriophagus calcaneus* Roy & Hazra, 2016and *Halictophagusprominens* Roy & Hazra, 2016under family Halictophagidae are described from West Bengal, India. *Coriophagus calcaneus* is the first record of the genus *Coriophagus*Kinzelbach from India. Two new species, *Myrmecolaxcomparilis* Roy & Hazra, 2017 and *Stichotremasagax* Roy & Hazra, 2017of the family Myrmecolacidae are described from West Bengal, India. *Myrmecolaxcomparilis* Roy & Hazra, 2017 is the third new species recorded from India while the genus *Stichotrema* Hofeneder is the first record from India. Strepsiptera castrate their hosts and death of the host is a direct and/or indirect consequence of parasitization. Some of the hosts are economic pests. For example, *Nilaparvatalugens* Stål (Hemiptera: Delphacidae) which spread virus diseases and cause 'hopper burn' in rice in South and South East Asia, are parasitized by *Elenchus*sp and *Cofana* sp., a vector of a virus disease in rice in South and East Asia, are parasitized by *Halictophagus*sp.Strepsiptera being found over a wide geographical range. Studies of different families of Strepsiptera are in progress to untangle cryptic species, their host associations and sexual selection. Infestation of strepsipteran parasitoid causes changes in the morphology and physiology of the host that make their host infertile. Since some of the hosts of the Strepsiptera are pests of crops viz., rice, corn, oil palm, areca nuts, coconuts mangoes etc. they have the potential to be used as biocontrol agents. Such a venture is already in place in Papua New Guinea where the female strepsipteran *Stichotremadallatorreanum* Hofeneder is being used as a biocontrol agent for the long-horned grasshopper that severely defoliates oil palm.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 153

MULTIVARIATE ANALYSIS AND CORRELATION REGRESSION EQUATION OF WATER SAMPLES OF AURANGABAD CITY

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Shaikh Uzma Parveen & Mohammad Mohsin**

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ABSTRACT

The present investigation deals with the study of physico-chemical parameters of bore well water of Aurangabad city from different areas. The purpose of study is whether water is suitable for drinking and other purpose. In the month of April and May-2019, in the Marathwada region, water scarcity, hence people use bore well water for drinking and other purpose. It is necessary to check the quality of water. The samples were collected from different areas. The physico-chemical parameters were recorded such as temperature, pH, conductivity, alkalinity, DO, COD, BOD, NO_3^-, SO_4^{2-}, Hardness, chloride etc. Also regression and correlation analysis of these samples were done.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 154

DEVELOPMENT OF PH OPTIMIZED AMPEROMETRIC GOLD NANOPARTICLES FROM MARINE MACROALGAE, PADINA GYMNOSPORA FOR CANCEROUS CELL TARGETING AND DESTRUCTION

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ABSTRACT

The main aim of this study was applied with biomechanistic approach to synthesize and characterize amperometric stable gold nanoparticles under different pH conditions using UV Spec, DLS, and TEM with EDX. The biomolecules involved in conjugation and reduction were further characterized by FT-IR analysis. The pH stabilized nanoparticles were studied to determine the functional and molecular mechanism of cell death on Liver cancer (HepG2) cell line and Gastric cancer (YCC3) cell line. The Zeta potential and TEM imaging demonstrated that AuNPs were spherical in nature and can pass through the cellular membrane because of their intrinsic properties of AuNPs to bind to carbon-bonded sulfhydryl (–C–SH or R–SH) group and therefore could interact with intracellular components of the cell which was confirmed through phase contrast microscopy. Altered molecular mechanism and cellular effects in different cancer cell suggests a potential for *in vivo* applications of gold nanomaterials.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 155

IMPACT OF OPEN CAST COAL MINING ON GROUND WATER QUALITY AND SURROUNDING ENVIRONMENT

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ABSTRACT

Coal mining is one of the core industries, which provides coal as primary source of energy and contribute to the economic development of a country but deteriorate the environment. Coal mining is excavated by both opencast and underground mining methods and affects the environment constituents, especially water resources, by discharging huge amounts of mine water. Large scale open cut coal mining operations significantly impacts on groundwater in surrounding areas in both active and post-mining phases. The open cast coal mining may impact in term of lowering water table, lower soil and atmospheric moisture, rise in temperature due to Albedo effect, disturbance in hydrological cycle, rainfall and climate, increase in SPM and RSPM due to dust pollution, spontaneous heating and chances of fire. The pyrite content in the coal as inorganic impurities may change the pH of water due to presence of sulphur in pyrite (FeS2). It's also increases the level of total suspended solids, total dissolved solids and some heavy metals. Pollutants such as TSS, TDS, heavy metal, oil and grease are found in the coal mining waste and successfully treated by the modern water treatment technologies. The open cast mining directly or indirectly affects flora and fauna in the surrounding areas of mining and resulting in a grave ecological imbalance.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 156

SANITATION KNOW-HOW FOR FUTURE PANDEMIC CRISIS

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ABSTRACT

Novel Coronavirus diseases-19 (nCoV-19) has been emerged as the main cause for recent global pandemic and infected over 46 million people in less than a year. Global warming due to climate change creates opportunity for pathogens, which will play a bigger role in future pandemics. The infectious agent for this disease is Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).It is related to SARS-CoV-1, that caused the 2002–2004 SARS outbreak. While scientists around the Globe are evaluating candidate therapies and vaccines to treat and prevent the disease, currently there are no treatments or vaccines for nCoV-19. People through close contact and respiratory droplets produced from coughs or sneezes are the prime mode of transmission but several environmental factors might also contribute for the virus spread. In humans, SARS-CoV-2 enters to lungs through respiratory droplets and attack type-2 pneumocyte cells by binding with angiotensin converting enzyme 2 (ACE2) receptor. The major symptoms after infection are hypoxemia (low oxygen), fever, increased heart rate, increased respiration rate and shortness of breath due to fluid accumulation. This eventually leads to systemic inflammatory response syndrome (SIRS) affecting circulatory system characterized by low blood pressure, low blood volume, low perfusion and finally multi system organ failure (MSOF). Death of infected individual occurs and through faecal matters, saliva etc. the viral cycle continues. Water can be contaminated with SARS-CoV-2 through sewage system and other secondary sources containing viral particles from faecal matters of infected patients. Good quality water is essential for life. The provision of safe water, sanitation and hygienic conditions (WASH) is essential for preventing and for protecting human health during all infectious disease outbreaks, including nCoV-19. Indirect contact via contaminated surfaces is another possible cause of infection. The virus may remain viable on plastic (polypropylene) and stainless steel (AISI 304) for up to three days. Hence household sanitation and hygiene is highly essential to keep everyone safe. Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the SARS-CoV-2 virus.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 157

INTEGRATED DISEASE MANAGEMENT OF WILT IN CHILLI THROUGH TRICHODERMA

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ABSTRACT

Chilli is one of the most important crops of spice and vegetable. It is especially liked for their spicy taste, pungency, besides its appealing colour. Production of chilli is limited due to various diseases. In field of nursery fusarium wilt disease is main which is caused by *Fusarium oxysporum*f.sp. *capsici.* The conventional method of its control is based on direct elimination of pathogen but research is going on in search of nonconventional and ecofriendly management measures that can give well return to growers. *Trichoderma* spp. optimistic management of these diseases. As an antagonistic fungus *Trichoderma* spp. subtract the growth and establishment of the wilt pathogen through multifaceted mode of action of various *Trichoderma* species includes competition for nutrients and space, mycoparasitisim by secretion of enzyme, secretion of antimicrobial secondary metabolites and induced systematic resistance.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 158

IMPACT of COVID-19 PANDEMIC IN INDIAN ECONOMY

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ABSTRACT

COVID-19 has impacted nations in an enormous way, especially the nationwide lockdowns which have brought social and economic life to a standstill. A world which forever buzzed with activities has fallen silent and all the resources have been diverted to meeting the never-experienced-before crisis. There is a multi-sectoral impact of the virus as the economic activities of nations have slowed down. What is astonishing and worth noting is an alarm bell which was rung in 2019 by the World Health Organization (WHO) about the world's inability to fight a global pandemic. A 2019 joint report from the WHO and the World Bank estimated the impact of such a pandemic at 2.2 per cent to 4.8 per cent of global GDP. Mostly affected the manufacturing and the services sector—hospitality, tours and travels, healthcare, retail, banks, hotels, real estate, education, health, IT, recreation, media and others. The economic stress has started and will grow rapidly. While lockdown and social distancing result in productivity loss on the one hand, they cause a sharp decline in demand for goods and services by the consumers in the market on the other, thus leading to a collapse in economic activity. However, lockdown and social distancing are the only cost-effective tools available to prevent the spread of COVID-19. Governments are learning by doing, as it was in the case of success of containment strategy in Bhilwara district, Rajasthan, India, the economic risks of closing the economy remain nonetheless. Similarly, flattering the caseload curve is critical for economy at large, but it comes with an economic cost. The crisis has already transformed into an economic and labour market shock, impacting not only supply (production of goods and services) but also demand (consumption and investment). 'World is faced with extraordinary uncertainty about the depth and duration of this crisis, and it was the worst economic fallout since the Great Depression'.Major companies in India such as Larsen & Toubro, Bharat Forge, UltraTech Cement, Grasim Industries, Aditya Birla Group, BHEL and Tata Motors have temporarily suspended or significantly reduced operations. Young startups have been impacted as funding has fallen. Fast-moving consumer goods companies in the country have significantly reduced operations and are focusing on essentials. Stock markets in India posted their worst loses in history on 23 March 2020. However, on 25 March, one day after a complete 21-day lockdown was announced by the Prime Minister, SENSEX and NIFTY posted their biggest gains in 11 years.The Government of India announced a variety of measures to tackle the situation, from food security and extra funds for healthcare and for the states, to sector related incentives and tax deadline extensions.

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Abstract No. 159

ASSESSMENT OF THE IMPACT OF COVID 19 PANDEMIC IN SUAOON NAALA BALRAMPUR (U.P.)

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ABSTRACT

Human life comes to standstill as many countries shut themselves off from the work due to the novel corona virus disease pandemic (COVID 19) that hits the world severely in the first quarter 2020. Here we collect water samples from suaaon broomstick (Suaaonnaala) famous naala in Balrampur city near industrial area where almost 75% effluent released from sugar industry. All types of industries, vehicles movement and people's activity suddenly halted perhaps for the first time in the history due to this effluent load and discernible improvement in drain contaminated status also decreases due to this suspended particles concentration during this period decreased as compared with pre-lockdown period.The BOD and COD values also decreased as compared to previous years while faecal coliform increases. When we compared our overall data with preceding years, the percentage decrease in suspended particle matter for April 2020 is upto 34% from previous minima.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 160

SOCIOECONOMIC IMPACT OF COVID-19 PANDEMIC IN INDIA

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ABSTRACT

The COVID-19 pandemic is the biggest challenge in 2020 which faced by whole world in all aspects (occupation, education, income, wealth, and where someone lives). High spread rate makes it dangerous for human being that forced government to impose lockdown. Due to lockdown all the socio-economic activities has been shut down which creates major challenges like financial uncertainty, decrease in the income, fears of job, and food insecurity in developing country like India due to novel corona virus. As the health and human toll grows, the economic damage is already evident and showed about 5.2 percent contraction in global GDP in 2020, using market exchange rate weights—the deepest global recession in decades. Global recession also affected India; number of people lost their jobs or received deducted salary by employer. Job loss and decreased income creates food insecurity. In addition to this, education is one of the factor which also affected by COVID-19 like i) teaching method change from offline to online that created a large gap in student teacher interaction, ii) many students don't have sufficient net connectivity for online classes and iii) few students did not have e-devices like laptop or smart phones to attend the classes. Moreover, COVID-19 also affected health system of the country; general OPD are not working in all hospitals that caused troubled for chronic disease patients. In country like India many people work as labor on daily wage basis. Daily wageworkers faced lot of problem like food insecurity, due to closed transport they travelled a large distance by walking to reach their home. Although government provides free food to everyone during lockdown but a large number of labor are walking on roads. Many people died during lockdown due to lack of food while travelling large distance by walking. Despite of this, community cooperation is very poor with government agency (people going outside without wearing masks) which is the major factor that caused the spread of coronavirus cases. "The crisis highlights the need for urgent action to cushion the pandemic's health and economic consequences, protect vulnerable populations, and set the stage for a lasting recovery."

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 161

BIOAEROSOL SIZE EFFECT IN COVID-19 TRANSMISSION

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ABSTRACT

The fast spread of COVID-19 constitutes a worldwide challenge to the public health, educational and trade systems, affecting the overall wellbeing of human societies. The high transmission and mortality rates of this virus and the unavailability of a vaccine and antidote resulted in the decision of multiple governments to force measurements of social distancing. Thus it is of general interest to consider the validity of the proposal for keeping a social distancing of at least 6.0ft from persons with COVID-19. The eventual exposure to the bio aerosol can result in the deposition of the pathogen in the respiratory track of the host causing disease and an immunological response. In the atmospheric context the work evaluates the work of aerodynamic particle size in carrying RNA copies of the novel coronavirus. A COVID-19 carrier person talking, sneezing or coughing at distance of1.8 m can still provide a pathogenic bioaerosol load with submicron particles that remain viable in air for up to 3 hours for exposure of healthy persons near and far the source in a stagnant environment. The deposited bioaerosol creates contaminated surfaces which if touched can act as a path to introduce the pathogen by mouth, nose or eyes and cause disease.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 162

EFFECT OF TEMPERATURE AND HUMIDITY LEVEL ON THE DEVELOPMENT OF CABINET BEETLE

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ABSTRACT

There are a large number of insect-pests that attack on wheat crops. Among them Cabinet Beetle is the most damaging pest. Insect infestation causing losses are the most serious problem in the stored grain because of humid-tropical condition, poor sanitation and inappropriate storage facility. In the present scenario, food quality and management efficiency are the most important for the planning, storage and conservation of agricultural products. The growth and development of Cabinet Beetle was studied under stored conditions at different temperature and humidity levels. The incubation period, larval and pupal period, preovi-positional and ovi- positional period and longitivityof adults decrease with increase in temperature. However, these parameters of growth and development increase with the decrease humidity.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 163

DIABETES AWARENESS AMONG THE PEOPLE : BECAUSE IT IS SILENT KILLER

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ABSTRACT

Diabetes mellitus is one of the common endocrine disorders of the recent times with increasing mortality and morbidity worldwide. Even also diabetes occurrence is high in India and the numbers are increasing every year. Many Patients are aware that they have diabetes only when they develop on of its complication. Since there is a paucity of literature on the level of awareness and knowledge about diabetes this study was done. Wherever the knowledge is deficient measure can be taken and appropriate information, education and communication. Awareness program can be carried out based on public health program. Among 104 diabetes,60%,49% and 66% of patients answered high sugar intake as cause of diabetes, loss of vision and diet control as important measure of treatment of diabetes. Only 30.67%of patient was aware of name of medicine they consume. Awareness and knowledge about diabetes are based on information and advisable character. Most of respondent know that sugar consuming food can lead to diabetes and diabetes can control but not curable.Most of patient know that frequency of Diabetes Mellitus (DM) increase urination and increase thirst. Unfortunately, 50% patient aware that dm can damage kidney and blood flow to heart increase and loss of sensation in hands and feet.61.5% responded aware that eating wheat and vegetables are advisable and 4% know that soft drink and juice are advisable for diabetes. Among the students in aims good awareness on diabetes basically DM among university students will help crucial role in fight against diabetes. The awareness program on DM in population are least and many patient knowledges on DM are least.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 164

PROXIMATE ANALYSIS AND ANTIOXIDANT PROPERTIES OF DRACAENA REFLEXA

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ABSTRACT

Natural as well as herbal medicine plays a vital role in maintaining the health and wealth of mankind. Majority of world population use herbal medicines. Herbs have stood the test of time due to their low side effects, high safety and efficacy cultural acceptability. In the present study, the antioxidant activity of successive leaf extracts of *Dracaena reflexa* (family:Liliaceaewas) investigated using the scavenging activity on 1,1-diphenyl-2-picrylhydrazyl and reducing power by ferric reducing antioxidant power assay. Methanol extract was found potent in both the assays. IC50 values of 1,1-diphenyl-2-picrylhydrazyl assay for the 0.97 mg/ml methanol extract and ferric reducing antioxidant power value is 1.19 for the same. Phytochemical screening, proximate analysis and total phenolic content were also determined. Qualitative screening for phytochemical have been investigated that the presence of alkaloids, flavonoids, terpenoids, glycosides and saponins. Highest phenolic content was performed by the help of methanol extract (49.69 mg gallic acid equivalent/g dry weight). Proximate analysis showed moisture content is 3.31%, ash content is 8.02%, crude fibre 1.31%, crude fat 0.97%, total protein present 3.70%, total carbohydrate 86.01 % and nutritive value include 367.56 kcal/100 g, which would make it a potential nutraceutical. This study suggested that *Dracaena reflexa*, a potential natural free radical scavenger, which could find use as an antioxidative. In future the standardization and stabilization studies on *Dracaena reflexa* an be carried out which can help in proving it to be a promising source in pharmaceutical as well as neutraceutical industry.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 165

EFFECT OF WEIGHT STATUS OF UNDERWEIGHT ADOLESCENTS ON THEIR PSYCHOLOGICAL WELL-BEING

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ABSTRACT

The aim of the present investigation is to study the effect of weight status of underweight adolescents on their psychological well-being. The main study was conducted on stratified random sample of 40 underweight adolescents. For this study, 20 samples(Girls) were taken from J.B.A.S. College for Women, Chennai and 20 samples (Boys) were taken from The New College, Chennai. Weight status was evaluated using BMI of the respondent. Psychological well-being was assessed using the modified questionnaire prepared by the investigator in the present study. The collected data was tabulated and subjected to statistical analysis using arithmetic mean, standard deviation, student's t-test and correlation test. The results reveals that there exists a significant difference in the psychological well-being of underweight boys and girls as the calculated 't' value (t = 3.730) is greater than the table value (2.58), therefore it is found to be significant at 1% level of significance. Therefore, the hypothesis which states that there will be a significant difference in psychological well-being of underweight boys and girls is hereby accepted. The findings of the present study reveals that there is remarkable psychological well-being of underweight adolescents girls when compared with the underweight adolescents boys. It can be concluded that weight status of the adolescent is related to their psychological well-being.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 166

EFFECTS OF CARBOHYDRATES ON VEGETATIVE SURVIVAL AND AKINETE FORMATIONS IN GREEN ALGA *PITHOPHORA OEDOGONIA* UNDER LIGHT AND DARK CONDITIONS.

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ABSTRACT

The main aim of the experiment was to study the effects of carbohydrates along with light and dark conditions on vegetative survival and reproduction of fresh water green alga *Pithophora oedogonia*. Light and dark conditions played important role in growth and survival of the alga. Vegetative survival and reproduction of the alga was higher in presence of light than the total dark conditions. In presence of light, carbohydrates, both glucose and starch acted as a growth enhancer, increased its reproduction process by increasing the akinete formations and induced its germinations earlier.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 167

EMISSION INVENTORY OF AIR POLLUTANTS FROM CROP RESIDUE BURNING IN NORTHERN INDIA

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ABSTRACT

Stubble burning is now recognized as one of the major contributors to atmospheric pollution in Northern India and has severe impact on human health and environment. A district-wise comprehensive emission inventory for thirteen air pollutants ($PM_{10,}$ $PM_{2.5}$,CO_2, CO, SO_2,N_2O, NOx, NH_3, CH_4, PAH, OC, NMVOC, EC) emitted during primary crop residue burning was prepared using IPCC,2019 guidelines for the major agrarian states of North India for the agricultural year 2017-18. The results show that rice and wheat crops were major contributor to residue burnt at the field (>90%) leading to the high load of atmospheric emissions in the Indo Gangetic Plains. An estimated 20.3 Mt and 9.6 Mt of crop residue were burned in Punjab and Haryana, resulting in an emission of 137.2 Gg and 56.9 Gg of $PM_{2.5}$ and 163.7 Gg and 72.1 Gg of PM_{10} Gg for respective states. In Punjab and Haryana, maximum residue burning was recorded in Sangrur district (2.1Mt) and Karnal district (0.98Mt) respectively. The GIS-based bottom-up approach using gridded emission inventory shows pollutant distribution dominates over the south-western part of Punjab and north-western region of Haryana. The proximity of these regions to Delhi and transboundary movement of emissions towards Indo-Gangetic plains leads to high air pollution episodes in region.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 168

SALICYLIC ACID: ITS INTERACTION WITH DIFFERENT MOLECULES IN THE STRESS TOLERANCE

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ABSTRACT

In present time, the ever-increasing development has contributed a lot towards the polluted environment. This has led to contamination of soil and water bodies used in agricultural fields which adversely affects the crop plants. Thus, it has become a major concern, and to improve the tolerance of plants towards several kinds of abiotic stresses such as heavy metal, pesticides, salinity etc. as well as various biotic stresses. It is well known that, on stress exposure plants initiate a signaling mechanism against it; therefore the role of different plant hormones is being studied under stressed conditions. Salicylic acid (SA) is one of them; it is an anti-oxidant phytohormone as well as a signal molecule which plays important role in plant defense against variety of abiotic and biotic stresses. Against the stress, SA has shown to interact with nitric oxide, hydrogen peroxide and other different molecules which are still being explored. Application of SA has shown to regulate various physiological processes in the plants exposed to stress but does SA perform this via production of different metabolites or using which mechanistic pathway is still not completely understood. In plants, several signal transduction pathways run in response to disease resistance such as jasmonic acid, ethylene and obviously salicylic acid too. In the future, research on salicylic acid and its application in crop plants may make them more tolerant to pathogen associated diseases and other stresses. This chapter focuses on the major stresses in environment, ROS signaling mechanisms which are linked to SA signal transduction pathway and the ways by which they ultimately execute stress tolerance response in the plants, which is an area of interest still being understood by researchers.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 169

HERBAL IMMUNITY BOOSTERS: AN ECO-FRIENDLY APPROACH TO CURE THE SARS-COV-2 INFECTION

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ABSTRACT

Current outbreak SARS-COV-2 is a major concern for the world. Although some countries approved vaccine for general use and mass production of vaccination is underway, however it will protect individuals from getting frequent illness. And several vaccines are under trial phases in different countries and expected that it reaches to the people quickly. Apart from vaccination, individuals should take care of one important thing that is their immune power. The concept of diseases is directly linked to the human immunity system. The person who has a weak immunity then definitely the chances of getting ill is higher. Allopathic treatment for boosting immunity against the corona virus is may be effective plan to work but still these drugs are not a solution to kill the roots of this novel virus and due to this limit, alternate treatments are too required for a effective solution. Immunity boosting ayurvedic therapies are one of them and herbal medicines eliminate the diseases from the root and also have no side effects. The selfless nature has already grown the precious herbs in its treasure. There are several natural herbs and plants available that strengthen the immune system. Medicinal system of Ayurveda also describes the strategies to increase the immunity power through using the immunomodulatory plants followed by decoctions, crude extracts and powdered form. One emerging example is *Tinospora cordifolia,* there are several researches that have been done and some are ongoing on the immunoregulatory properties of the plant since the corona virus crisis. Researchers are also paying attention towards the herbal medication through plants and herbs to fight this pandemic. Some important medicinal plants with higher immunomodulatory properties are,*Acacia catechu* (Khadira), *Allium sativum* (Garlic), *Andrographispaniculata* (Kalmegh), *Asparagus racemosus* (Shatavari), *Mangiferaindica* (Mango), *Morus alba* (white mulberry), *Picrorhizascrophulariiflora* (Kutki), *Ocimumsanctum*(Tulsi), *Terminaliaarjuna* (Arjun) and a lot are there.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 170

APTI AND CARBON SEQUESTRATION POTENTIAL OF SELECTED TREES ALONG A 16-KILOMETER STRETCH ON ANNA SALAI, FROM GUINDY TO KAMARAJ PROMENADE IN CHENNAI CITY, TAMILNADU, INDIA

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ABSTRACT

Air pollution is a significant problem in all the major cities of the world. Trees flank both the sides of roads in most urban areas. These trees are constantly exposed to the vehicular pollution that is in the form of particulate matter from the soot and gases like carbonmonoxide and sulphur dioxide. Many of the trees are stressed and most succumb to the unfavourable situation created due to automobile exhaust. Hence in order to identify tree species that are tolerant to Air Pollution and at the same time able to sequester Carbon effectively, a survey has been taken along a 16-kilometer stretch on Anna Salai, an arterial road in Chennai, Tamilnadu, India. The stretch was divided in to 10 zones and a tree census was taken on both sides of the road in all the 10 zones. The survey revealed that 7 trees species were present in all the zones in greater numbers compared to other species and had a higher APTI (Air pollution tolerance Index). Selected trees of these species were used to calculate their carbon sequestration potential based on dbh (diameter at breast height), height and ageof the tree. The best species have been recommended to be grown as avenue trees in areas with high Air pollution.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 171

BLAST FURNACE SOLID WASTE-'FLUE DUST': CHALLENGES & MANAGEMENT

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ABSTRACT

The Steel sector of India is one of the major segments that highly contributes in the economy of Indian. For the infra structure development, one of the main elements required during the construction phase is steel and hence the demand of steel is expected to continuously increase in the upcoming future. The Steel making process uses Blast furnace technology for its production, which also generates byproducts such as slag, Flue dust, sludge and blast furnace gas along with main product pig iron (hot metal).Iron making process generates a huge quantity of solid waste Flue dust. It could not be recycled due to presence of undesirable element Zinc and alkali potassium, sodium which is responsible for the failure of operation in the blast furnace. Also, as per the collected data, it is found that the average flue dust rate is 6-8 kg/thm in process. The statistical analysis is also carried out which showed that there is a positive correlation between hot metal and flue dust. Now a days some amount of flue dust is used as flux, pellets, sinter making and cement industry but even after this large amount of flue dust remains unused and hence directly dumped on the open land which is harmful for the environment. The challenges faced in this research is to find out the new application of flue dust so that it can be utilized and reused and hence the objective of this studies is to determine the best utilization Technique of remaining dumped flue dust for domestic and industrial purpose. This will minimize the soil and air pollution during dumping at site and protect the environmental issues caused due to its generation in steel industry.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 172

CLIMATE CHANGE AND GLOBAL WARMING

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ABSTRACT

On the earth climatic changes day by day increases due to the industrialization and population density. Therefore global warming refers to an increase in earth's average temperature. Whereas, climate change is an implication of global warming. However, global warming refers to the long term warming of planet since industrial revolution. The average temperature of the earth has gone up by a little over 1°C, a change which might seem small, but even small changes in earth's temperature could have damaging affects and moreover the temperature is still gradually on rise. Therefore, global warming results in unexpected weather changes, apart from other effects like melting glaciers, raised ocean temperatures and extreme cold or heat. All these conditions cause changes in climatic conditions throughout the earth. One of the most important causes of global warming is green house effect. The green house effects by the green house gases such as CO_2, CO and CH_4 etc. All these gases directly or indirectly cause impact on the climate change. These gases are emitted as byproducts of different fossil fuel and their uses. However in ideal conditions, earth's atmosphere contains a number of gases including quantities of green house gases. During sunlight hours, these gases do the job of filtering UV rays of sun and also the intensity of sun's rays. In night these gases help retain the heat absorbed by the earth during the day, by not letting it escape in the atmosphere, thereby resulting in a maintained temperature of earth. Green house gases forms a glass like thick layer around the earth which prevent heat transmission from the earth to atmosphere. Therefore, these phenomenons are called green house effect, and form the basis of global warming. Sun's heat is blocked from escaping the surface of earth by certain gases which form a thermal blanket over the earth. These gases constitute primarily of water vapor and other gases like CO_2, CH_4 and N_2O which are responsible for maintaining earth's temperature to a life supporting 15°C. A rise in earth's average temperature also changes the movement of currents monsoon, which has resulted in some areas witnessing lesser rainfall, since the past few decades. All these phenomena are responsible for the climate change. Therefore, it is necessary to take appropriate steps in this regard and save the earth from the climate change and global warming.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 173

BIODIVERSITY OF CHITAURA JHEEL, A WETLAND OF TARARAI REGION OF BAHRAICH DISTRICT

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ABSTRACT

Wetlands are among the world's most productive environments. They are cradles of biological diversity, providing the water and primary productivity upon which countless species of plants and animals depend for survival. They are probably the earth's most important fresh water resources which provide food and habitat for much aquatic life including threatened and endangered species. So, conservation of wetlands is very much essential as wetlands are one of the most threatened habitats of the world. The present study is undertaken to assess the biodiversity of naturally occurring Chitaura Jheel of Bahraich district of Uttar Pradesh. The said wetland is one of the natural fresh water reservoirs of this district and is rich in biodiversity. The data obtained during the detail survey of the study area and taal during 2019-2020 indicated that this wetland is rich in biodiversity. It has been found that management of wetland has received inadequate attention as a result, it is subject to anthropogenic pressures, including land use changes in the catchment; pollution from households, encroachments and over exploitation of its natural resources.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 174

ECOFRIENDLY MANAGEMENT OF SESAME ROOT ROT BY SEED PELLETING WITH TRICHODERMA VIRIDE.

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ABSTRACT

In present investigation ,seed plating of sesame seeds (Sesamum indicum) which is one of important oil seed which is rich in dietary protein with high quality of amino acid. Sesame root rot caused by *Macrophomina phaseolina* is one of important disease which is responsible for reducing the yield of crop to greater extend. For control commonly called Agro Derma (*Trichoderma viride*) is a fungus and biofungicide as used for seed and soil treatment for suppression of various diseases caused by fungal pathogen was found to be very effective for controlling in checking the root rot incidence. Seed pelleting has proved combined with soil applications in significantly reduced 3.7% disease incidence, that than that of the untreated Control and chemical seed treatment .

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Abstract No. 175

COVID-19: PSYCHOLOGICAL WELLBEING OF COLLEGE GOING STUDENTS DURING LOCKDOWN

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ABSTRACT

World Health Organization (WHO) has announced COVID-19, as a pandemic and there is a feeling of dread and panic all around the world. In India, lockdown due to the COVID-19 has developed for the long time, Central and state governments are finding a way to control the spread of virus and that incorporate closing down educational institutes, vacating hostels, postponing entrance examinations, convocation ceremonies, and more. The principle objectives of this study is to find out the mental prosperity of students. Most of the participants in our study were from graduation, post-graduation, PHDs and post doctorate students.

2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 176

PTEN: A POTENTIAL PLAYER IN BREAST CANCER THERAPEUTICS

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ABSTRACT

Protein tyrosine kinases and protein tyrosine phosphatases regulate the levels of protein tyrosine phosphorylation within a cell. During the cell cycle, progression and signal transduction, protein tyrosine phosphatase (PTP) can act as both positive and negative regulators. Phosphatase and Tens in homolog (PTEN) protein encoded by PTEN gene present on 10q23 human chromosome exhibit the phosphatase activity. The role of PTEN as a tumor suppressor in Cowden's disease has been confirmed by earlier studies, whereas mutation in PTEN resulted in disease outcomes. Successive studies found the role of PTEN mutations in various human cancers like breast cancer, colon cancer, lung cancer, liver cancer, prostate cancer making it one of the enormous studied tumor suppressor genes. PTEN may act as a negative regulator in breast cancer pathway along with other genes. The current study has been planned to get extensive understanding of the potential role of PTEN in a variety of physiological processes involved in normal development like cell growth, migration, and differentiation in breast cancer pathway along with the factors, regulation, and fundamental mechanism.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 177

MEASURES TO REDUCE IMPACT ON ENVIRONMENT CAUSED DUE TO INEFFICACY OF BIOMEDICAL WASTE MANAGEMENT FOLLOWING COVID-19

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ABSTRACT

The wastes generated during the diagnosis, treatment and immunization of humans or animals, including those for research activities are termed as biomedical wastes or BMW. BMW's can include human tissues, items contaminated with blood, body fluids, plaster casts, cotton swabs, contaminated beddings ,syringes, empty sanitizer bottles etc. Following the pandemic our hospitals are overworked and overloaded and so these BMW's have increased manifolds and cannot be segregated cautiously before disposal. The Central Pollution Control Board, India (CPCB) has issued new guidelines to tactfully work on this. COVID-19 is seriously affecting our waste management efforts. The waste which goes unchecked will have immense ecological impacts in the long run. CPCB has directed to use effective measures like incineration, Plasma Pyrolysis, Autoclaving, Microwaving, chemical disinfection etc. for effective disposal. Separate colour coded containers for proper segregation of waste should be used. Another practice should be segregation and separation at source. Local communities can actively collect and segregate waste at the source; this will reduce the risk of cross-contamination and ensure more environment friendly waste disposal. We need to create public awareness about responsible waste management and train our hygiene workers to increase their future efficiency to deal with such situations. The Central CPCB has also developed a COVID-19 Biomedical Waste Management app, the Covid19BWM. It will help to track biomedical waste management in the country. Collecting data on waste-management during COVID-19 can prove helpful for future crises. Development of new waste-processing plants, upgradation of the existing ones will prove beneficial to build robust waste systems in India. The country can reduce waste and environmental excesses by recycling and reusing non-biodegradable waste. Although thepandemic has stressedon the weakness of India's waste management efforts, it has also provided the country with an opportunity to construct a more robust waste management system. Close observations can provide long-term systemic solutions facilitating proper waste management which may not only lessen the impacts of the current crises but also help us tide over the next pandemic.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 178

IMMUNOMODULATORY EFFECT OF MEDICINAL PLANTS

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ABSTRACT

Traditional medicine practices in India are largely dependent on Medicinal plants. Medicinal plants are capable of synthesizing chemical compounds like polyphenols which help in protecting body against diseases and can promote immune system. Many of the medicinal plants have been reported to have immunomodulatory activity. Immunomodulation of one's immune system is an alternative to conventional method of treatment of many disease medicines. Traditional herbs like *Allium sativum, Withania somnifera, Morusalba, Nigella sativa, Curcuma longa, Zingiber officianale, Ocimum santum* etc. have potent activity which can mount immune system of animals, protects them against stress, improves health, vitality and prepare them to fight against infections. Plant products/extracts obtained from these medicinal plants have potent therapeutic effect because they have low toxicity and are highly effective and therefore can be preferred as immunomodulator.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 179

MANAGEMENT OF CURRENT PANDEMIC RELATED BIOMEDICAL WASTE

Sippy Singh

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ABSTRACT

Biomedical waste can be defined as waste generated out of hospital during medical practices which can be infectious. Management of biomedical waste is of prime concern as improper disposal of these wastes can be highly hazardous. During current pandemic situation of COVID-19 when there is rigorous testing of samples of patients, proper disposal of the biomedical waste out of samples is very important issue. COVID-19 is transmitted through droplets and the immediate surroundings of infected individual or any source containing droplets/cough from patient can transmit the infection. Some of the prime COVID-19 waste management measures are providing awareness training to handle used PPEs; sanitization; use of double layered bags for storage of biomedical waste; creating separate team for waste collectors who are properly trained; sanitization of biomedical waste bags and vehicles with 1% hypochlorite; demarcation of COVID-19 biomedical waste from other wastes; and used masks and gloves generated from home quarantine is suggested to be kept in paper bag for atleast minimum time period of 72 hours before disposing it off. These are some of the suggested management ways which can help in minimizing the spread of COVID-19 infection through biomedical wastes.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 180

EFFECT OF CEMENT DUST DEPOSITION ON CHLOROPHYLL CONTENT IN CERTAIN PLANTS IN SURROUNDING AREAS OF PRISM CEMENT PLANT, SATNA(M.P.)

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ABSTRACT

Study was carried out to assess the impact of cement industry pollution on some selected plant species around cement Plant.Effect of cement dust deposition on photosynthesis and chlorophyll content was studied in *Sesamumindicum* and *Triticum* species. Sampling was done a tdifferent distance like 0.5km, 1.0km, 1.5km, 2.0km 2.5km 3.0km and 3.5km from the cement industry. The chlorophyll pigments werer educed in dust-exposed plant species compared with control site Mankahari and Bamhori (3.5km away from the Prism Cement Plant Satna). Changes in photosynthesis and chlorophyll content were investigated in selected plant species exposed to dust emitted by the cement industry. The concentration of chlorophyll in all thes elected plant species i.e. *Sesamumindicum* and *Triticum* species were investigated and noted that amount of photosynthesis and *Chlorophyll* content in all plants that are away from cement plant have more photosynthesis and *Chlorophyll* content than that of near to the Cement Plant. Control plants were found always with higher photosynthesis and chlorophyll content content in comparison to dusted plants. Upto 71.93% reduction was observed in studied plants in the year 2019-2020. In general, pollution by the cement dust has caused adverse effects on the growth of plants, internodel length, stomata function, respirationrates, yield and quality traits.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 181

PHYSICO-CHEMICAL PARAMETERS IN RELATION TO FISH DIVERSITY OF BAIGUL RESERVOIR IN UTTARAKHAND

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ABSTRACT

Fresh water ecosystems and environment systems of India are distributed in bio-geographic regions or environments. Uttarakhand is full of diversity of small and big reservoirs. Uttarakhand has also many fish production seed and farms. The present study dealt with assessment of some physico-chemical parameters and fish diversity of Baigul reservoir at Udham Singh Nagar District. Physico-chemical parameters such as water temperature, transparency, turbidity, pH, dissolved oxygen, carbon-dioxide, phenophthalein alkalinity, methyl orange alkalinity, ammonia-nitrogen, nitrate-nitrogen, phosphate-phosphorus etc. are some of the factors which determine the quality of water, which in turn, influence the productivity of fish fauna. A total of 36 species of fishes were identified in Baigul reservoir. The fish species such as *Labeo gonius, L. calbasu, L. rohita, Catla catla, Cirrhinus mrigala, C. reba, Mystus tengara, M. seenghala, Puntius* spp., *Nandus nandus, Gudusia Chapra, Notepterus notopterus, Wallago attu, Xenentodon cancila* and *Mastacembelus armatus* etc. were quantitatively the main components of the fishery of the reservoir. The fish fauna is comprised of major carps, cat fishes, medium carps, minor carps and a large population of trash fishes. *Labeo gonius* which contributed 40.83% to the annual catch constitutes the most dominant fishery in the reservoir, followed by *Gudusia chapra* (29.53%) and *Notopterus notopterus* (7.92%). The present study is about ichthyo faunal diversity in the Baigul reservoir is necessary to understand the current status of the water, Ichthyofaunal diversity, physico-chemical parameters that will help in maintaining the ecological balance of the reservoir. The results indicate that all the physico-chemical parameters are within the permissible limits and reservoir is productive.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 182

DOUBLE HAPLOIDS IN CROP IMPROVEMENT

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ABSTRACT

A doubled haploid (DH) is a genotype formed when haploid cells undergo chromosome doubling. Haploid cells are produced from pollen or egg cells or from other cells of the gametophyte, and then by induced or spontaneous chromosome doubling, a doubled haploid cell is produced, which can be grown into a doubled haploid plant. Conventional inbreeding procedures take six generations to achieve approximately completehomozygosity, whereas doubled haploidy achieves it in one generation. Dihaploid plants derived from tetraploid crop plants may be important for breeding programs that involve diploid wild relatives of the crops. Technological advances have now provided DH protocols for most plant genera. Hence it will provide greater efficiency of plant breeding. The homozygous lines are almost importance in breeding programmes. Androgenesis, Inducer based approach and Bulbosum techniques are most common ways to support the development of such valuable DH lines. The doubled-haploid technology enhances "forward breeding" by allowing hybrids to be bred with new traits without locking up the germplasm and by developing stacks without negative side effects. Besides the practical facet of this technique, it is a valuable method for genetic cartography of complex traits, transgenesis and genomics. From a breeding point of view, in self-pollinated species, such as the small grained cereals, doubled haploids can be used directly for the production of varieties, since each DH has the potential to become a new variety.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 183

IMPACT OF COVID-19 ON HIGHER EDUCATION CHALLENGES & OPPORTUNITIES

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ABSTRACT

Every challenge opens up a new opportunity! Higher education has many possibilities and challenges during the "Keep Social Distance" period. Generally, during this time students write entrance exams, think of which colleges to apply to in India, or make plans to study abroad. But there is nothing ordinary about this day. The Covid-19 pandemic shocked the world. Schools and universities were closed and exams postponed. Classrooms are becoming virtual and admissions for the coming academic year are fraught with confusion. This makes the learning process a difficult proposition during this period. The immediate and effective response to the crisis is going digital. Online classes used through different platforms offer a great opportunity to reach students in remote areas. Virtual classrooms are already popular. But online education also has its limitations. The main obstacle to digital segregation is the unavailability of high-speed internet in rural and remote areas. An inclusive education system does not work to keep the poor away from this exercise. The second problem is the financial backwardness of students. The main society is still unable to buy a good quality smartphone or laptop required for online education. Online education is successful if it reaches every student. For this, you need to solve the problems mentioned above. Internet infrastructure in the country should be made available first. They can only do this because the spectrum and infrastructure are controlled by governments.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 184

COVID-19: MITIGATION STRATEGIES AND THEIR IMPLICATIONS FOR THE GLOBAL ENVIRONMENT

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ABSTRACT

The outbreak of COVID-19 has become the most significant global public health emergency to human society in the 21st century. Until now, there has been a lack of effective antiviral medication and vaccines against COVID-19. Various mitigation strategies have been taken to slow down the rapid spread of COVID-19, such as complete or partial lockdown, travel bans, mass gathering restrictions, home quarantines within communities, social distancing measures, personal protective actions, and other non-pharmaceutical interventions (NPIs). These intervention and prevention measures have not only sharply reduced global economic activity, but also have greatly changed patterns of human behavior. Thus, the environmental response to the COVID-19 pandemic can help us to better understand the interplay between human and nature, and has drawn great attention from the academic community and from policy makers. Moreover, a thorough understanding on the environmental consequences of mitigation strategies in communities would assist in preventing and controlling an emerging public health emergency in the future. The COVID-19 pandemic has posed unprecedented challenges for public health, the economy, the environment, and human society. Mitigation measures against COVID-19 have resulted in contaminated aquatic environments owing to the sewage carrying coronaviruses, disinfectants, and antiviral medicines. The sharp increase in the amount of medical and hazardous waste such as masks also threatens local ecosystems during the pandemic. On the other hand, environmental pollution across the world has been greatly mitigated after the outbreak of COVID-19 due to the implementation of lockdown, travel bans, and stay-at-home advice, which has had a positive impact on the global environment despite the economic and social disruptions caused. Based on current knowledge on COVID-19, a second wave of the disease could be highly possible, especially when our society is gradually getting back to normal after the primary attempt to gain control of COVID-19. Nonetheless, the consequence of the long-term battle against COVID has barely been elaborated. Currently, there are many relevant questions that remain unanswered due to the limited understanding of the interactions between COVID-19 and the global environment, such as the role of environmental change on disease transmission, the impact of human activity and lifestyle change on the environment, and environmental concerns during a long-term battle against COVID-19.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 185

COVID-19 PANDEMIC: EMERGING PERSPECTIVES AND FUTURE TRENDS

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ABSTRACT

Human population faces a grave health-related challenge in the form of infectious diseases that are responsible for the highest number of deaths globally. The tiniest primitive invisible life form is now controlling the behavior of the most powerful and evolved life form on earth. Tough times ahead! Between 1940 and 2020, around 340 new infectious diseases have emerged globally. The compromised health and disability due to infectious diseases, which accounts for 30% of all disability- adjusted life years, decreases work productivity, and increases morbidity.1,2 Since the dawn of civilization, humans and microbes have co-existed and interacted with each other. Is the situation worse now? The answer to this question might be yes. It is because of our immense population and our several activities that lead to flourishing of infections. World is living on the edge. The human cost of COVID pandemic could be extraordinary. We find ourselves in a time of great economic, social, and medical uncertainty. The pandemic demands action on many fronts, from prevention to testing to treatment. We need to create simple, cheap, more accessible testing for SARS-CoV-2. A faster way has to be developed to identify antibodies that neutralize the virus. More than 100 vaccines for the SARS-CoV-2 are at various stages of development. Some six groups have already begun injecting formulations into volunteers in safety trials; others have started testing in animals. The biggest challenge is to determine which vaccine is ideal. Reason and science have to guide us. There is urgent need to critically appraise evidence in deciding how to treat patients. We need a drug or combination of drugs that work. Remdesivir has generated hope. It may prove to be a magic bullet. Countries like Taiwan, Vietnam, Singapore, Hong Kong, South Korea, New Zealand have done exceptionally well to contain the spread of COVID-19. It is widely believed that during the pandemic treatment suffers. Patients with diseases like cancer, diabetes, renal failure, CAD and pregnant women need special attention. As the pandemic pushes up levels of hunger among the global poor, governments must prevent devastating nutrition and health consequences for children missing out on school meals amid school closures. Nations will have endemic SARS-CoV-2 infection for the foreseeable future. A structured and well-coordinated approach is critical for tackling this global crisis.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 186

TAXONOMICAL STUDIES AND DIVERSITY OF SEASONALLY IMPORTANT PLANT IN SOUTH EAST REGION OF NARMADA RIVER JABALPUR REGION (M.P.)

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ABSTRACT

Jabalpur is one of the districts in Madhya Pradesh as known "heart of the state" with luxurious and rich floristic biodiversity. But, now a day's drastic changes in environmental conditions, biotic factors, and destruction and loss of habitat, urbanization and industrialization have affected the flora of Jabalpur a lot. Biodiversity of plants ensures a resource for new food crops and medicines. Plant life balances ecosystems, protects watersheds, mitigates erosion, moderates climate, and provides shelter for many animal species. The number of plant species becoming extinct is increasing at an alarming rate. Diversity of seasonally important plant in south east region of Narmada river was studied during January 2020 to November 2020.Taxonomical investigation were undertaken to explore the floristic status of the 27 families represented by 37 species of plants which are seasonally important.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 187

SCIENTIFIC APPROACHES OF FRESHWATER MOLLUSCA IN JABALPUR REGION (M.P.)

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ABSTRACT

Taxonomy is the science of naming, describing and classifying organisms which provides basic understanding about the components of biodiversity for effective decision-making about conservation and sustainable use. Folk taxonomy allows popular identification leads to aware the local people about importance of diversity conservation. Globally 876 species of freshwater Mollusca are known while in Indian subcontinent 34.24 percent *i.e.,* 300 species are present. The communication enumerates a review on freshwater Mollusca and also states biodiversity and conservational approaches. Works on freshwater mollusca in river Narmada at Jabalpur region have been surveyed and analyzed to identify the problems related to taxonomy. The freshwater mollusca biodiversity indices are mainly associated with patterns of changing environmental features. The relative contribution of these groups is to decompose organic matter in rivers. Mollusca communities possess many attributes as biological indicators of spatial and temporal environmental changes. An opportunistic survey and study shows the systematic account of mollusca, their diversity in world, India, Madhya Pradesh and Jabalpur. The present study was carried out at three selected sites (Bargi Dam, Gwarighat and Bhedaghat) in the River Narmada at Jabalpur region located between 23°10'N latitude and 79°56'E longitude from January 2014 to December 2016. Specimens were collected, sorted, preserved and identified by using standard identification keys provided by Fauna of British India (1908), Needhem and Needhem (1962) and Subba Rao (1993). In present study total 284 specimens of fresh water mollusca have been studied under 13 species of 2 classes namely Gastropoda and Bivalvia.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 188

NEW RECORDS OF BUTTERFLIES (LEPIDOPETRA : INSECTA) OF AZMAT ABAD VILLAGE OF THANNAMANDI DISTRICT RAJOURI OF JAMMU AND KASHMIR

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ABSTRACT

The present communication is based on the sighting of five new species of butterflies viz recorded first time in Azmat Abad Village and Thanna Mandi District Rajouri Jammu and Kashmir, based on the field survey. The Butterflies recorded the first time in Azmat Abad village and Thannamandi Viz (Junoniaiphita) Chocalate pansy, (Pieriscanidia) Indian cabbage white, (Fabricianandippe) High brown fritillary, (Aglaiscaschmirensis) Indian tortoiseshell. The Altitude is 1668 meters above the sea level support sub-tropical to temperate vegetation and offers congenial climatic condition favorable for growth of vegetation including fauna. Altitude distribution of butterflies from higher to lower altitudes. With an altitudes ranges number of species present in lower altitudes and keep decreasing toward higher altitude .The present study added valuable information on diversity of butterfly fauna and will contribute in developing effective conservation in Azmat Abad village and Thanna Mandi District Rajouri of Jammu and Kashmir.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 189

CROP RESIDUES BURNING IN AGRICULTURE: CHALLENGES AND MITIGATION

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ABSTRACT

Crop residue burning causes huge impact on Indian agriculture. Out of various crops grown, rice, wheat and sugarcane are prone to crop maximum residue burning. It is estimated that about 500 million tons of crop residues are generated annually. The generation of crop residues and burning is highest in Uttar Pradesh (60 million tons), followed by Punjab (51 million tons) and Maharashtra (46 million tons). Among different crops, cereals generate maximum residues (352 million tons). Although there may be some short-term benefits to burning crop residue, there is a slow and steady reduction in soil health that will eventually result in reduced productivity that cannot be overcome with increased additions of mineral fertilizers. Crop residue burning released 149.24 million tonnes of carbon dioxide (CO2), over 9 million tonnes of carbon monoxide (CO), 0.25 million tonnes of oxides of sulphur (SOX), 1.28 million tonnes of particulate matter and 0.07 million tonnes of black carbon. The heat from burning paddy straw penetrates 1 centimeter into the soil, elevating the temperature to 33.8 to 42.2 degree Celsius. This kills the bacterial and fungal populations critical for a fertile soil. One tonne stubble burning leads to a loss of 5.5 kilogram nitrogen, 2.3 kg phosphorus, 25 kg potassium and more than 1 kg of sulfur all soil nutrients, besides organic carbon, With the incorporation of these residues in to soil enhances the soil fertility through increases the microbial activity which improve the nutrient uptake to crop at the same time we can reduce the environmental pollution also.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 190

PROTEIN CONTENT VARIATIONS OF *LAMELLIDENS MARGINALIS* IN DIFFERENT SEASON FROM KUTLUQ LAKE, DAULTABAD NEAR AURANGABAD (M.S.) INDIA

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ABSTRACT

The seasonal variation of biochemical compositions in bivalve, *Lamellidens marginalis* from Kutluq Lake, Daultabad. In the present study, variations in organic constituents were observed in different body parts of the species. It is well known that seasonal variations in nutritional contents of bivalves are closely linked to the reproductive cycle and climate changes and are affected by the availability and composition of the natural diet. As changes in the environmental conditions, it showed an effect on protein contents in the tissues like, mantle, he patopancreas, gonad, gill and foot. Protein content maximum found in gonad in all the three seasons, whereas mantle shows minimum values of protein. There are great fluctuations in the values of protein during different seasons.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 191

ISOLATION, SEQUENCING, AND *IN SILICO* COMPARATIVE MODELING OF ZEA MAYS β-GLUCOSIDASE

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ABSTRACT

Maize (*Zea mays* L) is known as queen of cereals because it has the highest genetic yield potential among the cereals. It is cultivated on nearly 150 m ha in about 160 countries having wider diversity of soil, climate, biodiversity and management practices that contributes 36 % (782 million tonnes) in the global grain production. β-glucosidases (b-D-glucoside glucohydrolases; EC 3.2.1.21) occurs ubiquitously inplants, fungi, mammals, and microorganisms. It constitutes a major group in glucosidehydrolase families and catalyzes the hydrolysis of aryl and alkyl β-glucosidases such as cyanogenic glucosides, thioglucosides, glucosedisaccharides or phenolicglycosides. In plants, β-glucosidases have been implicated in regulating various aspects of development, for example, phytohormone activation, pathogen defense reactions, cell wall degradation in the endosperm during germination, and lignifications. b-glucosidases was isolated from roots, coleoptile, and radicle of *Zea mays* using sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE). Each protein sample was sequenced using Edman's degradation method. Comparative modeling was performed to generate good quality models of each sequence using Geno3 D and Swiss-model. The assessment of the generated three-dimensional structure against structure verification tools PROCHECK showed that model generated by Geno3D was acceptable. The predicted model can be used in future studies.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 192

INHIBITION OF ATPASE ACTIVITY IN CYFLUTHRIN EXPOSED *CHANNA PUNCTATUS* AND ITS RECOVERY

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ABSTRACT

In the present investigation targeted activities of Na^+-$K^+$and Mg^{++}ATPase were worked out in reference to hepatic, kidney and muscular tissues of the freshwater snake head fish, *Channa punctatus*. The results were recorded at the intervals of fortnight and 30 days exposure to 20% of 96h TL_m of cyfluthrin i.e., 0.00038 mg/l. The activities were found to be inhibited significantly at $p<0.02$.The recovery response of the adverse effects of cyfluthrin exposure was also carried out. The inhibition in activity of Na^+-K^+ ATPase after 15 days exposure was 33.63%, 28.80% and 31.87% which was recovered after 15 days in toxicant free water up to the levels of 12.41%, 10.12% and 14.77% in liver, kidney and muscles, respectively. The activity of Mg^{++} ATPase was inhibited by 38.31%, 35.38% and 37.59% which was found to be improved up to 14.49%, 12.54% and 14.18%in liver, kidney and muscles respectively. The activity of Na^+-K^+ ATPase after 30 days exposure was inhibited to 48.86%, 38.24% and 46.28% and after 30 days in control water that was recovered up to 15.31%, 11.84% and 15.14% and inhibition of Mg^{++} ATPase was found to be 58.39%, 53.43% and55.75% and after recovery it was found to be 16.31%, 13.27% and 14.87% in liver, kidney and muscles respectively. This inhibition of the ATPase activities may modify cellular metabolism which may results in variation of physiology and could also cause alteration of nerve impulse transmission in the fish.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 193

USE OF TECHNOLOGY IN PRESENT COVID-19 CONDITION

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ABSTRACT

In last few months the whole world is changed and facing new type of problem. Due to COVID-19 condition all developed and developing countries came together to fight against it. From the perspective of India technology is very important. To fight with this pandemic, role of technology is very important in various fields like medical, education, economic etc. All the informations regarding COVID-19 provided by WHO and other organizations and research institutes are easily available by the advanced technology. With the use of technology all updates related to COVID-19 like total data of patients, treatment method, and availability of medicines are provided very quickly. In medical field technology is useful to develop vaccines, masks, sanitizers, plasma therapy and other treatment of this pandemic. Now whole world is ready to develop new vaccine to fight with COVID-19. Technology also supported education system during this period. New Apps and Softwares are developed to support education system. Faculties of Higher Education institutes and Schools are connected with their students via virtual classes, webinars etc. Entertainment industry is totally changed in last few months. OTT platform provided films, serials and other information. In the field of economics many inaugurations, programmes were done virtually. All countries are connected with each other with technology and informations are shared very quickly. Due to this reason all countries are in strong positions. Hope in the future we will be in more strong positions with the help of new technology.

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2nd Annual Meet of GESA
2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 194

INCREDIBLE IMMUNE BOOSTING PROPERTY OF *TINOSPORA CORDIFOLIA*

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ABSTRACT

Tinospora cordifolia has an important place in Ayurvedic system of medicine and used to cure a wide ranging set of diseases. The objective of the present study was to examine the natural chemical compounds present in the of the leaf of *Tinospora cordifolia* of Menispermaceae family a promising medicinal plant with great economic potential.The extracts of *Tinospora cordifolia* were rich in tannins, saponins, quinones, terpenoids, steroids, flavanoids, phenols, alkaloids, cardiac glycosides, coumarins and betacyanin. Among the five extracts, ethanol extract found to contain more amounts of phytochemicals followed by aqueous extract and other extracts. The ethanol extracts of *Tinospora cordifolia* recorded higher percentage of free radical scavenging activity than aqueous and acetone.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 195

IMPACT OF COVID-19 ON INDIAN EDUCATION: A CASE STUDY OF KV NTPC DADRI

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ABSTRACT

In this planetary emergency of covid-19 pandemic, valuable lessons from these extraordinary times are with us. Whole world is facing challenges in different sectors. Among the most affected sectors education is one. Since the first phase of lockdown in March educational institutions have been working hard, transformed new innovative and alternative ways to reach out to the students to impart education so that their studies could not get hampered. This pandemic has forced us into a virtual world of teaching through different apps and devices. As far as communication is concerned these apps are offering much help but here is the big question that how much knowledge is being actually received by the receivers? Since there is limited or no personal interaction in these online classes one of the most alarming problems arising out of this set up is the continuous use of mobile phones and computers by our students. This is not only affecting their eyesight but also their bodies as well as mind. The teachers also feeling the same pinch like online classes don't give as much as satisfaction as the personal interaction gives. Parents are also facing several challenges. Few among them is the issue of availability of signals in remote areas, affordability etc. This research paper deals with all these aspects of online education through the case study of KV NTPC Dadri (G.B. Nagar) U.P. through questionnaire method and personal telephonic interview method and tries to give few suggestive measures.

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Abstract No. 196

COVID-19 AND HIGHER EDUCATION

Ramavath Naresh

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University of Hyderabad

ABSTRACT

Several factors influence the education sector. A number of the economic, political, social and environmental factors affect the education sector. The COVID-19 (Coronavirus disease) is one among the environmental factors that affected the education sector. Education is Nation's strength. A developed nation is unavoidably an informed nation. In India, education is conducted indifferent stages i.e., primary schooling, Secondary School, higher secondary School and university. Indian education system is the third-largest in the world after United States of America and China. Since independence, India as a developing nation is contentiously progressing within the education arena. There are tons of challenges to the higher education system in India with tons of opportunities to beat these challenges and to transform education systems better.

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2nd International (Web) Conference on
Environment and Society (ICES 2020)
Theme: Socio-economic and Environmental Issues:
Challenges and Future Prospects in Current Pandemic Situation
December 26th, 27th & 28th, 2020

Abstract No. 197

COVID-19 AND ITS IMPLICATIONS OF AIR POLLUTION

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ABSTRACT

Coronavirus Disease 2019 (COVID-19) is the official name of a respiratory infectious disease caused by a new coronavirus that started first in Wuhan, China,First time in India, total lockdown was announced on 22 March 2020 to stop the spread of COVID-19 and the lockdown was extended for 21 days on 24 March 2020 in the first phase. Due to lockdown in Delhi, the air pollution level has been found to be 49% lower. Worldwide spread of COVID-19 in a quite short time has brought a dramatic decrease in industrial activities, road traffic and tourism. The country-wide drop in NO_2 emissions during this lockdown may currently be saving human lives. COVID-19, like other viruses, have an airborne transmission, and particulate matter (PM) could act as a carrier to increase the spread of the virus. Secondly, PM could induce damage to lung cells, increase inflammation leading to increase in mortality. Long-term exposure to particulate matter (PM) 2.5 is a major risk factor leading to deaths. In addition, traces of SARS-CoV-2 RNA, the genetic material of the virus, can be found on pollution particles may act as a vehicle to increase Covid-19 transmission in highly polluted places. U.P., Maharashtra, Bihar, W. Bengal and Rajasthan account for over 50 per cent deaths attributed to air pollution in India, according to data published in Lancet Planetary Health December 22, 2020.It was conducted under the India State-Level Disease Burden Initiative by the ICMR, Public Health Foundation of India and Institute for Health Metrics and Evaluation. This study recommends to plant some air pollution-tolerant plant species (in urban vacant spaces and roof tops) for long-term cohabitation among environment, society and development. This study intends to explore the positive and negative environmental impacts of the COVID-19 on air pollution, by reviewing the available scientific literatures.

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Abstract No. 198

DIAZOTROPHS: AN ALTERNATIVE APPROACH FOR CHEMICAL NITROGEN TO IMPROVE THE PLANT GROWTH IN CEREALS

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ABSTRACT

Nitrogen is an essential element and a limiting factor for plant growth. In atmosphere, nitrogen content is approximately 80% in the form of N2 whereas plant access biological nitrogen for their growth in the form of ammonium and nitrate only. Biological nitrogen fixation (BNF) is a natural process by which N2-fixing bacteria (diazotrophs) convert atmospheric nitrogen into plant accessible forms (ammonium and nitrate).Due to limitation of biological nitrogen there is a huge demand of chemical nitrogen based fertilizer since 1980s globally. About 60 % of chemical nitrogen fertilizers are presently used for cereals. Both free-living and associative N2 fixing bacteria are occurring in association with cereal crops, sugarcane and other non-leguminous plants. The diversity of diazotrophic communities was mostly based on cultivated members of the Proteobacteria, green sulfur Bacteria, Cyanobacteria, and Firmicutes. Biological nitrogen fixation by diazotrophic bacteria, reduces dinitrogen to ammonium using nitrogenase enzyme systems, is one of the major phenomenons to enrich the nitrogen content in soil and improves the agronomic conditions of soil fertility. It is reported that non-symbiotic bacterial diazotrophs have major contribution in BNF system and have potential to be a significant fixed nitrogen source in many terrestrial ecosystems. Thus, their contribution to enhance the plant growth is one of the less technically challenging waysto develop BNF in cereals and could reduce the chemical nitrogen use in agriculture.

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Abstract No. 199

ANTAGONISM AND HYPHAL RELATIONSHIP BETWEEN *TRICHODERMA* SPP. AND SOME SOIL BORNE DISEASE CAUSING PATHOGENS

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ABSTRACT

Application of fungicides is commonly used to effectively control the different soil borne diseases. Although these fungicides are not desired as they affect the environment. To cope with these problems and due to the increase of public concern about adverse effects of agrochemicals on food safety and environment there is a need to initiate the search for new control strategies that are more durable and preferably based on natural products. Biological control agents which include effective micro-organism and microbial products have been attracting the attention as alternatives to the chemical agents. Bio-control agents could be used as an eco-friendly approach and may be advised to the farmer. Different species of *Trichoderma asperellum* were tested in vitro for their antagonistic activity against some soil borne diseases. The isolates show differential reaction patterns against the different test pathogens (*Fusarium oxysporum* f. sp. *Lycopersici* and *Pythium aphanidermatum*). Microscopic observations about hyphal interactions between antagonist and test pathogen shows that the mycoparasitic hyphae were usually attached longitudinally to the hyphae of the Pathogen. Coiling of hyphae, hyphal depression and pincer shaped structures were seen during observation through microscope indicates the mode of action in biological control of the test Pathogen.

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December 26th, 27th & 28th, 2020

Abstract No. 200

EDUCATIONAL INEQUALITIES IN THE TIME OF COVID-19 PANDEMIC: AN ANTHROPOLOGICAL REVIEW

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ABSTRACT

The present paper provides an in-depth review of key factors that cause the inequalities and disparities in education system during COVID-19 pandemic. The COVID-19 crisis may look to be apparently a global public health related one, but it has already had devastating impact on human life that are likely to bear long-term social-cultural, economic, environmental, health and educational consequences. The crisis has exacerbated already widespread educational inequalities and disparities due to factors involving to gender, age, disability, indigeneity, linguistic background learning difficulties or other sources of socio-economic disadvantage. The UNESCO identifies an exacerbation of exclusion during the COVID-19 pandemic and estimates that about 40 per cent of the world's poorest countries have been unable to support their disadvantaged learners during temporary school shutdown (UNESCO,2020). In India, the COVID-19 pandemic has starkly highlighted the fragility of our education system particularly severe for disadvantaged and deprived community children and their families, as well as for all learners with learning difficulties. The UNESCO estimates that around 32 crores college students are affected in India. The Government has provided with e-learning program but India's education system is marred by gross inequalities in availability, accessibility and affordability. It has additionally introduced the hitherto peripheral problem of digital education or e-learning which is affordable to India's mainstream population. All these in turn, contribute to inequalities and disparities in knowledge, wealth and political participation in Indian society. Anthropology is a subject which deals primarily with the socio-cultural, biological, ecological ways of humankind tried to address and bring possible solutions on the future prospects of educational policies after COVID-19 pandemic.

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Abstract No. 201

NATURAL DISASTER, WASTE MANAGEMENT AND PANDEMIC

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ABSTRACT

COVID -19 is a viral sickness that is brought about by SARS-CoV-2(severe acute respiratory syndrome coronavirus 2). It is symptomatic disease like fever, cough, shortness of breath, headache. Pandemics pose a natural disaster and threat to human society, including energy and waste management. Waste materials like single use plastic (SUP) such as N-95mask, Gloves, personal protective equipment(PPE) kits and surgical mask played a hazardous role in ecosystem and human health. 350% and 370% increment of medical waste are reported from the parts of world such as Spain, China and Catalonia. SUP, that soaked in liquid soap and water on temperature greater than 40^0C, is used nowadays which causes a high potential risk. SUP is non-recyclable. If we try to recycle the used SUP, it converts into the form of Macro-plastics.Waste management is a serious concern for human growth and health outcomes during the COVID-19 pandemics. In the lockdown period, the quantity of waste has increased across countries in the panic of purchasing goods for everyday use but the lockdown period decreases energy usage in the transport sector.

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The Indian sarus crane, *Grus antigone antigone* (State Bird of Uttar Pradesh): An eternal symbol of unconditional love, devotion and good fortune with high degree of marital fidelity.

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A. K. Verma

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