INTERNATIONAL CONFERENCE

on

Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment

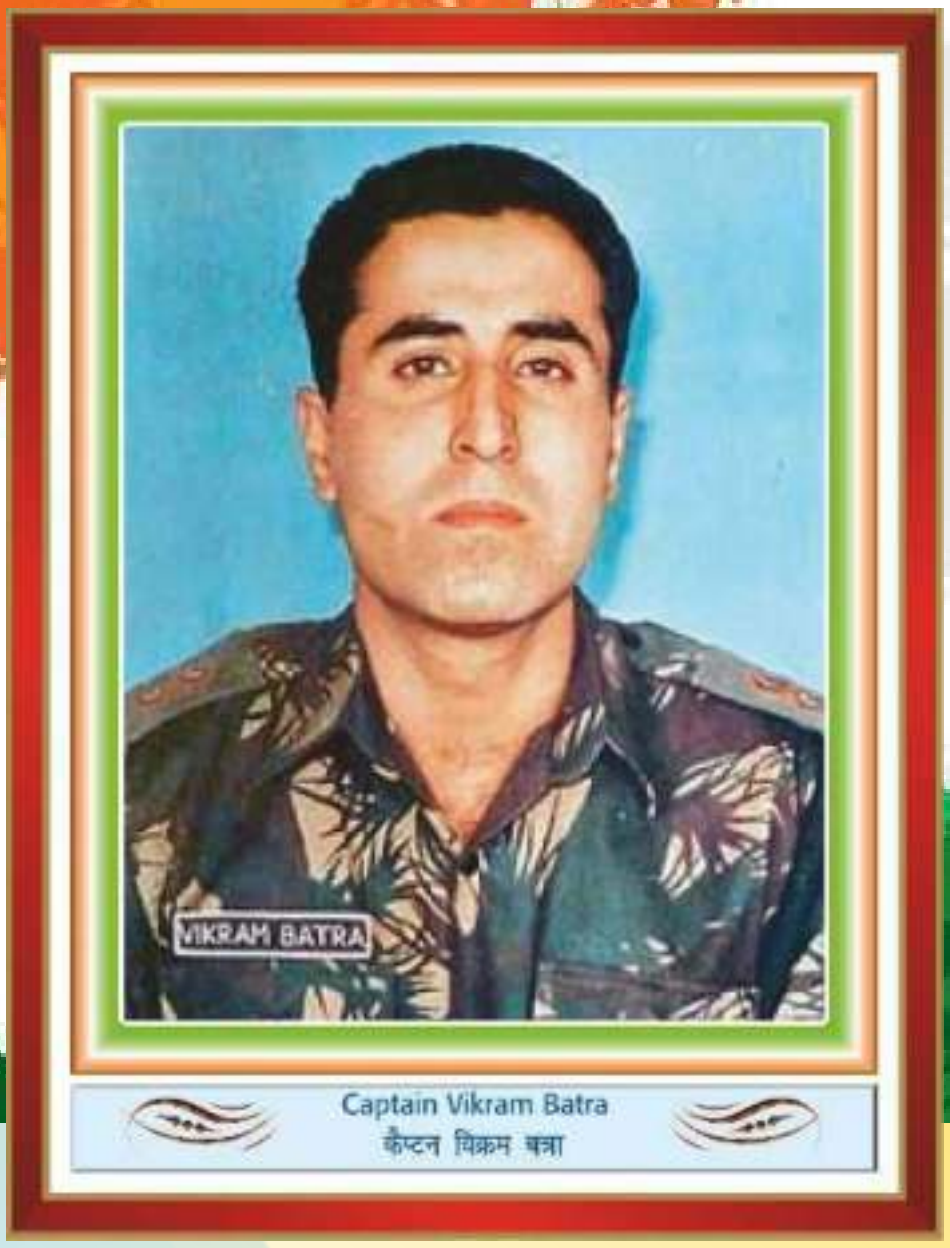
29th December 2023
(HYBRID MODE)

organised by

Shaheed Captain Vikram Batra Government College,

Palampur, Himachal Pradesh - 176061

SHERSHAH OF KARGIL



AMAR SHAHEED CAPTAIN VIKRAM BATRA

PARAM VIR CHAKRA RECIPIENT

09.09.1974 TO 07.07.1999

Sukhvinder Singh Sukhu

CHIEF MINISTER
HIMACHAL PRADESH

MESSAGE

I am glad to know that SCVB Government College, Palampur, Distt. Kangra, is organizing an international conference on ***"Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment,"*** on 29th December,2023. A Souvenir is also being brought out to make this academic event memorable. The role of science and technology in combating the climate change is gaining global attention, especially when many developmental activities are occurring though out the globe. Finding solutions through science has been more critical given the challenges posed by manmade climate change. It is essential to harness the power of science and technology to combat these issues. The present State Government is actively encouraging electric vehicles to address environmental concerns like climate change, waste management and environmental concerns like climate change, waste management and environmental degradation. This demonstrates a commitment to conserving the environment and achieving sustainable development goals.
I hope this conference will provide an apt platform to academicians, scientists, engineers and researchers to discuss and exchange knowledge about the latest research in the applications of science and technology for environment conservation and sustainable development. I convey my good wishes for the grand success of the Conference.

(Sukhvinder Singh Sukhu)

Rohit Thakur

EDUCATION MINISTER
HIMACHAL PRADESH

MESSAGE

I heartily congratulate SCVB Government College, Palampur, Distt. Kangra for hosting the International Conference on ***"Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment,"*** *on* December 29, 2023. This momentous occasion, being the college's Second International conference since its establishment in 1995, is a testament to your institution's commitment to academic excellence.

The Theme of the Conference, focusing on climate is highly commendable. With over 200 participants expected from India and abroad, the conference promises to be a melting pot of ideas and expertise. May this conference serve as a catalyst for positive change and inspire future generations to pursue knowledge and innovation.

Warmest congratulations on the successful publication of the souvenir, a testament to your dedication and hard work. Best wishes for a fruitful conference, and may It continue to shine as a beacon of educational excellence.

(Rohit Thakur)

Ashish Butail
Chief Parliamentary Secretary
(Education and UD)
HIMACHAL PRADESH

MESSAGE

Congratulations to SCVB Govt. College Palampur, on hosting the 'Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment' International Conference on December 29, 2023. Your commitment to addressing global challenges through dedicated discussions is commendable and deserves applause.

To the students involved, your active engagement showcases a promising future where your enthusiasm drives positive change. Your participation signifies a proactive approach towards understanding and tackling pressing environmental issues. This conference aims to explore adaptable strategies for sustainable growth amidst climate variability, fostering innovative solutions in agriculture, economy, and the environment.

Wishing the conference great success in fostering insightful discussions, generating innovative ideas, and formulating actionable strategies to adapt to climate variations. Your efforts exemplify a proactive stance towards building a more sustainable and resilient future.

(Ashish Butail)

Dr. Amarjeet K. Sharma

Director (Higher Education)

MESSAGE

It gives me immense pleasure to know Government College, Palampur, Distt. Kangra is organizing International Conference on ***"Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment"*** on 29th day of December 2023. Latest Research in Science and Technology can be a key to address environmental issues such as climate change, waste management and environmental conservation. Innovations in Science and Technology can also direct developmental activities in sustainable manner. I hope that the International Conference will provide a podium for all participants to exchange ideas and share their expertise to conserve environment and protect our mother earth.

I wish organizers and delegates very meaningful deliberations on this conference and I also wish organizers a very successful conference.

(Dr. Amarjeet K. Sharma)

Dr. Ranbir Singh

Key Note Speaker

MESSAGE

Climate stands as a pivotal factor shaping the lives, livelihoods, and overall socio-economic development of communities worldwide. Climate change has explicitly revealed its pervasive impacts, affecting every facet of life. In agricultural sectors, these effects manifest through altered weather patterns, increased risks of extreme events etc and which call for an urgency to implement resilient strategies for sustainable food production. Mitigating the adverse impacts of climate change on agriculture, various sectors, and societies, while harnessing the positive effects, necessitates a dual approach—reducing greenhouse gas emissions (mitigation) and adapting to climate change effects (adaptation). Historically, the emphasis on adaptation strategies has gained momentum among climate scientists and policy planners, recognizing their central role in lessening climate impacts recently. The Dissemination of knowledge through such events to stakeholders on resilient futures is vital for fostering climate-adaptive practices in agriculture, securing economic stability, and promoting environmental sustainability, enabling farmers and other communities to proactively address the challenges posed by climate variability and Change. I wish to express my earnest appreciation for the commendable efforts and organizational proficiency displayed by Coordinators and organisers of S.C.V.B. Government College Palampur in envisioning, conceptualizing and executing the International Conference on Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment. This conference is being held on December 29, 2023 and I wish it to be emerged as an intellectually enriching and flawlessly executed event, leaving an indelible mark on all participants.The conference would provide a comprehensive platform for scholars, researchers, and professionals from diverse fields to converge and deliberate on critical issues related to climate change /variabilities and their impact on agricultural sector, economy, and the environment. Moreover, it will address adaptation strategies aiming at enhancing climate resilience. The thoughtfully agenda, to be featuredin technical sessions, panel discussions, and interactive workshops, underscored the commitment of S.C.V.B. Government College to

fostering interdisciplinary dialogues on pressing global challenges.The selection of speakers and panelists as presented in program of seminar reflect a judicious choice of experts at the forefront of their respective domains. The presentations expected to be not only informative but also thought-provoking, offering valuable insights that resonated with the current challenges our world faces due to climate change. The organizers demonstrated a keen understanding of the critical role resilience plays in addressing these challenges and fostering sustainable futures.The conference will create an environment conducive to meaningful discussions and networking. The inclusion of virtual participation options further emphasized S.C.V.B. Government College's commitment to inclusivity and accessibility. As an attendee, I found inspiration in the dedication of S.C.V.B. Government College to advancing knowledge and fostering collaboration. The conference not only facilitated the exchange of ideas but also provided a platform for forging meaningful connections among participants. The palpable dedication and hard work of the organizing committee truly deserve commendation.In conclusion,I once again, extend my heartfelt gratitude to Coordinator Dr Minakshi Thakur ji and Dr Tanbir Singh Ji and organisers of S.C.V.B. Government College for hosting a conference . Thank you for your unwavering dedication to academic excellence and your invaluable contribution to the discourse on climate resilience.

Dr. Ranbir Singh

Dr. Amit Chawla

Key Note Speaker

MESSAGE

It is heartening to learn that Shaheed Captain Vikram Batra Government College, Palampur is organizing an International Conference on the topic 'Resilient Futures: Adapting to Climate Variabilities in Agriculture Economy' on 29th December 2023. I'm happy to know that a good number of eminent scholars, faculty members and students from different places would be participating in the Conference and discussing their valuable research outcomes, expert opinions and share their experience in different thematic areas. The recently held COP28 event in Dubai has once again highlighted the risks associated with changing climate and the agreement very aptly and timely signalled the “beginning of the end” of the fossil fuel era. The declaration also included that from now onwards the global community should be guided by their every single commitment on finance, adaptation, and mitigation which must bring us in line within a 1.5-degree temperature rise in future. This is a big declaration and certainly suggests change in approach of governments of various countries accepting the risks associated with future global warming are real. Another concern raised in COP28 is for the importance and need of generation of datasets on the impacts of climate change on various sectors including agriculture and environment. In the Himalaya, which is said to be more vulnerable to the climate change, these studies are all the more important to be undertaken by the researchers and the academia. The present Conference is in the right direction and will serve as a beacon for the participants.

I hope the scientific presentations, discussions and other activities are going to be of immense help and would definitely create new dimensions and perspectives towards the issues arisen due to climate change and the actions required to be undertaken for its mitigation. I wish the delegates the best and believe that this Conference will dwell at length on all the issues related to Climate Change.

Dr. Amit Chawla

Dr. Anil Azad

Principal & Patron

MESSAGE

"Greeting to all'.

I feel privileged that Shaheed Captain Vikram Batra Government College Palampur, established in the year 1995 to provide quality education, has now become a pioneer institute in organizing Regional, National & International seminars, conference s, projects, vocational and skill based programs and workshops, Training and Talent research programmes. I take this opportunity to welcome academicians, scientists, veterinarians, faculty members, Research scholars, PG & UG students from different parts of Himachal Pradesh, other states and from abroad in the International conference on , ***"Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment", on, 29th December, 2023,*** organized by Department of Botany and Environmental Science on, 29th December, 2023. The conference is an attempt to organize thought provoking sessions on various thrust areas and exchange of ideas about latest researches in their respective fields. The outcome of these presentations will be forwarded to the higher authorities for implementation in the future policy making. *The success of this Conference is solely on the dedication and efforts of innumerable people who started working on the preparations to make this Conference become a reality. Event ually I express my special thanks and appreciation to all*

I congratulate wholeheartedly the entire team for their untiring efforts and endless enthusiasm to organize this Conference on a very relevant thematic area. I wish you a grand success.

(Dr. Anil Azad)

Principal

MESSAGE

Conference for Change: A Call to Action on Climate Variabilities

Dr. Sunil Katoch

In the face of an escalating global crisis, the urgency to address climate Variabilities has never been more critical. The upcoming conference on resilient futures, set to unfold on 29th day of December 2023 at SCVB Government College, Palampur, represents a beacon of hope and a platform for collective action. As we stand at the crossroads of environmental peril, this message serves as both an invitation and a rallying cry for stakeholders from all walks of life to engage, collaborate, and effect meaningful change in the immediate environment we live in.

The conference theme, ***"Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment,"*** underscores the need for comprehensive strategies that extend beyond rhetoric. It is a call to arms for researchers, policymakers, businesses, and communities to converge and share their insights, innovations, and commitments to address the profound challenges posed by our changing climate. Climate change knows no borders, affecting every corner of our planet. The extreme weather events and the loss of biodiversity are stark reminders that the consequences of inaction are dire. This conference serves as a clarion call to recognize our shared responsibility in mitigating the impacts of climate change and fostering resilience in the face of its inevitable effects.

The battle against climate variabilities requires a holistic and interdisciplinary approach. Scientists, Academicians, Policymakers, Industry Leaders, and Activists must come together to bridge gaps in knowledge and perspectives. The conference offers a unique opportunity for these diverse voices to harmonize, fostering a rich exchange of ideas that can drive the development of effective, evidence-based solutions.

Innovation is the lifeblood of progress, and the conference will showcase cutting-edge technologies and methodologies designed to address climate variabilities. From renewable energy solutions to sustainable agriculture practices, participants will have the chance to explore and collaborate on innovative approaches that promise a more sustainable and resilient future.

True change begins at the grassroots level. The conference will not only highlight top-down strategies but will also emphasize the importance of community engagement. By empowering individuals and local communities with knowledge and resources, we can create a groundswell of action that amplifies our collective impact.

The conference on climate variabilities is not merely a forum for discussion; it is a call to action. As we convene to share knowledge, envision sustainable futures, and forge alliances, let us remember that the success of this conference lies in the commitment we make to translate words into deeds.

Every participant has a role to play, be it through policy advocacy, corporate responsibility, or individual lifestyle changes. By aligning our actions with our shared goals, we can usher in a new era of sustainability and resilience.

In the spirit of collaboration and urgency, let us make the conference on climate change a turning point in our shared commitment to safeguarding the planet for future generations. The time to act is now, and the stage is set for a transformative journey toward a more sustainable and resilient world. Together, we can make a difference.

(Dr. Sunil Katoch)
Convener

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Dr. Meenakshi Thakur

Organising Secretary

MESSAGE

It gives me immense pleasure to welcome you in One Day International Conference on, ***Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment", on 29th December, 2023on in the campus of Shaheed Captain Vikram Batra College, Palampur.***

I feel great privileged and honored to be the organizing secretary of this event. I hope this conference shall provide appropriate platform to researchers, experts, scientists, academicians , students and other to exchange innovative ideas. I hope that the conference will reflect new finding and promote sustain and intense efforts to conserve environment, economy and agriculture in a sustained manner. I would also like to express my sincere gratitude to the Key Note Speaker and invited speakers. We are eager to hear from our delegates and presenters about their views in the field of climate change. I also extend my gratitude to college advisory, research and development committee and technical staff for their valuable support and suggestions throughout.

(Dr. Meenakshi Thakur)

Dr. Tanbir Singh

Organising Secretary

MESSAGE

It is my distinct pleasure to welcome you totheInternational conference entitled "Resilient Futures: Adapting to Climate Variabilities in Agriculture, Economy, and Environment". Climate variability poses a profound challenges to our world, affecting crucial sectors such as agriculture, economy, and the environment. In the face of these challenges, this conference seeks to foster a collective understanding of the intricate relationships between climate dynamics and these key domains.

As we navigate the complexities of our ever-changing climate, I hope the insights shared in this conferencewill serve as beacons of inspiration. This will illuminate the path toward a future where adaptation is not merely a response to challenges but a proactive, integrated approach that will strengthens our ability to thrive in the face of uncertainty.

As an organizing secretary,I extend my sincere gratitude to all the speakers, researchers, scientists, academiciansand participants who will enrich this conference with their expertise and passion. May this conference be a source of inspiration, collaboration, and a catalyst for the ongoing dialogue on creating resilient futures.

Best regards

Dr. Tanbir Singh

Conference Abstracts

Landslide Hazard Analysis using Analytical Hierarchy Process in North Western Himalayan Range of District Kullu, Himachal Pradesh, India

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Abstract

The North Western Himalayan Zone lies under highly active seismic zone that falls under Zone IV and V respectively. Seismicity is one of primary factor for landslides and mass movement activities in Himalayan zone. The rugged mountainous topography having various geological formations, fragile and unconsolidated nature of rocks too plays an important role in de-stabilizing the slopes. Landslides being one of the most common occurring geological hazards in the mountainous regions of the Himalayas have largely influenced the valley of Kullu in last few decades. By using Analytical Hierarchy Process the development of pairwise comparison matrix and computation of criteria weights are given. Estimation of consistency ratio find out the consistency of the comparison criteria. The weights are given depending upon the scale of intensity of importance. LHZ map thus generated using Arc GIS is validated with the results obtained and priority given to each factor. The individual effect of each factor, their overall weightage is studied by using AHP. In general the study of LHZ methods is used to identify the zones of relative weaknesses in the region. LHZ maps divide the landslide terrain into different zones according to their relative scale of vulnerability to mass movements. This needed the classification of areas which are, or that could be affected by the landslides in future and probability of landslides occurring in these areas. To study the landslide susceptible areas and to apply loss reduction approach requires a suitable scientific basis. This work carry out the temporal proportions of landslide in the valley of Kullu District of Himachal Pradesh with a focus to identify highly concentrated vital zones of landslide behaviour. The obtained results from the study shows that slope failures has increased trend and there is rise in annual incidences of landslides. The natural conditions like weaker rock strata, steep and unstable slopes, discontinuities and intense rainfall are main reasons for slope failure in the valley. Due to complexity in the landslide triggering factors number of several methods for landslide hazard assessment is proposed by several researchers.

Keywords: *Landslides, Temporal, LHZ, Zonation, AHP, Computation, Estimation*

Socio-Ecological Resilience to Natural Hazards, a Household Level Analysis in Chamba District of Himachal Pradesh

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Abstract

Hazard is a natural phenomenon that threatens and damages both life and property. In the mountainous terrain like Chamba district of Himachal Pradesh the relevance of the study of occurrences and impacts of the hazards on the socio-environment is much needed for the stable and sustainable development of the society. The present study focuses on the hazard induced changes and difficulties in the livelihood of the society by the assessment of the hazard vulnerability and occurrences in the Chamba region of the Western Himalaya. The Himalayan terrain is very vulnerable to various hazards like Earthquakes, Landslides, Flash floods; Cloud bursts etc. which cause huge loss to the society. The present study suggests a framework for assessment of natural hazards and their inter-relationships among them. The results of the study will be helpful to different government and non-government agencies working in the field of disaster and hazard management. The study proposes hazard management and mitigation measures that could be implemented for the safe and sustainable development of the society by the hazard impact minimization. The study en-lights the present and future prospective of the socio-impact of hazards on the society in the Chamba district of Himachal Pradesh.

Keywords: *Vulnerability, Hazards, Mitigation, Terrain, Sustainable*

Green Technologies in Agriculture- Illuminating Farmer Practice Preferences

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Abstract

Agriculture is the prime occupation for more than 70 per cent of the rural population of India. The country has seen many phases in agriculture from importing food products to achieving food sufficiency and then to generating revenue through the export of food commodities and now the effects of climate change such as prolonged summers, heavy and unpredictable rains, floods and droughts, soil losing its fertility, groundwater depletion, reduced crop yields and overall food production and even it also makes agricultural practices more difficult. However, some agricultural activities are practised by the farmers in India in an eco-friendly manner using green technologies to adapt to climate change. This paper presents farmers' preferences in green farming technologies and discusses the practices performed by them. It is an attempt to explore the benefits and challenges faced by the farmers while using green technologies in agriculture of Sohna block of Gurgaon district in Haryana state. A sample of 60 farmers has been selected purposively from the villages; Bhondsi and Sohna of Haryana and semi semistructured interview schedule has been used to collect data. The findings showed that 93 per cent of farmers practise waste management of their agricultural waste, 96 per cent use Integrated Nutrition Management (INM), 80 per cent of farmers use Integrated Pest Management (IPM) and 23 per cent of farmers use green energies; solar, biogas and biomass. It was also found that more than 75 per cent of farmers were highly satisfied with INM and IPM methods in sustainable agriculture. Understanding and adapting to farmers' preferences is critical in advancing green technologies in the agricultural domain.

Keywords: *green technologies, farmer preferences, waste management, integrated nutrition management, integrated pest management*

Climate Change and Problem of extinction of Water sources

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Abstract

Today we see scarcity of water not only in plains but also in hilly areas the arable land is gradually getting converted into arid and semi arid land. Nowadays people prefer to sell their land rather than harvesting crops and getting trapped into the vicious cycle of indebtness due to lack of irrigation facilities as weather conditions are seldom favorable to poor farmers. Not only agriculture is suffering because of scarcity of water but human beings and animals are also facing scarcity of potable water. The prediction that third world war will be fought on the issue of water seems to be coming true. No one else but human beings themselves are to be blamed for this water crisis which seems to be putting the whole life on the verge of extinction. Our ancestors were wise enough to take care of traditional water sources like their own children but pathetically our generation is much more individualistic. Reckless Human activities to extract maximum wealth from natural sources have changed the whole cycle of seasons and summers are getting hotter and longer, thick glaciers which used to be the grace of high mountains are constantly getting thinner and getting extinct. Summer temperatures are setting new records with each passing year. The day is not far when it will not be easy to survive on this hot planet if we don't act wisely. We need to preserve the water sources to preserve the humanity .

Keywords: *Irrigation; Scarcity; Humanity; vicious; ancestors*

Carbon Footprint Analysis and Environmental Initiatives: A Case Study of Himachal Pradesh University, Shimla, H.P., INDIA

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Abstract

Carbon footprints (CFs) serve as a metric for quantifying the release of greenhouse gases (GHGs) attributable to a specific organization or activity. Taking a step towards fostering sustainable practices in education institution involves reporting CF levels within college campuses. This research centers on computing the carbon footprint of Himachal Pradesh University's Shimla campus (2020-2023), with a focus on understanding emissions trends, particularly the transition from lockdown (2020–2021) to post-lockdown (2021–2022 and 2022–2023) periods amid the COVID-19 pandemic. The study aims to address the challenge posed by educational institutions' substantial energy demands, contributing significantly to GHG emissions. Achieving net-zero emissions remains a formidable task for educational institutions, even with options like remote work and learning. The study underscores the persisting challenge of insufficiently addressing these concerns, despite the potential for students to play a role in mitigating greenhouse gas emission issues with the right information and resources. The research employs the Greenhouse Gas Protocol method to compute the Scope 1 carbon footprint of energy sources, encompassing kerosene, petrol, diesel, and LPG. This approach empowers educational institutions and businesses to construct dependable inventories of their GHG emissions, facilitating progress monitoring and the cultivation of sustainable practices aligned with climate objectives. By utilizing the Greenhouse Gas Protocol, the study evaluates Scope 1 emissions from energy sources like kerosene, petrol, diesel, and LPG, offering a systematic approach for institutions to create reliable inventories aligned with climate goals. The findings highlight kerosene as the predominant contributor, prompting the study to recommend curbing the use of conventional energy sources and transitioning to alternatives. Additionally, the research conducts Scope 2 emission calculations to compare the carbon footprint resulting from electricity consumption, contrasting coal-based electricity generation with hydropower generation. Valuable insights are provided for universities to leverage calculated carbon footprints in identifying effective emission reduction strategies. The study identifies information gaps and inefficient data collection as significant challenges, proposing energy-saving measures and enhanced procurement strategies as beneficial mitigation measures.

Keywords: *Carbon Footprint, HPU, Shimla, strategies*

Changes In Lifestyle And Health

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Abstract

Health refers to being free from disease or abnormality, on a physical, mental and emotional level, or to the harmony between the body and its environment. Lifestyle refers to the patterns of interaction between individuals and their environment. Human health is the result of the interaction of genetic, nutritional, socio-cultural, economic, physical infrastructure and ecosystem factors. All of the individual, social, cultural and socioeconomic factors are influenced by the environment they are embedded in and by changes in this environment. The aim of the paper is to illustrate the influence of environmental change on living conditions and life style and some of the mechanisms through which such changes affect physical and mental health. The interrelationship between environmental and societal change is illustrated by an example from a small community in Greenland, where changing environmental conditions have influenced fishing and employment opportunities to the extent that the size of the population has changed dramatically. The link between social change and health is shown with reference to studies on education, housing and occupation as well as life style changes. The paper further illustrates the relationship between the rapid socio-cultural and economic change and the health of the population. Psychosocial stress is reflected in problems such as alcohol abuse, violence and suicide, and these factors have been shown in studies on migration and transitions in health to be connected to changes in lifestyle and living conditions.

Keywords: *socioeconomic factors, Psychosocial stress, migration*

Analyzing composition, emerging trends, and environment impact of MSW in MC Shimla, H.P., INDIA

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Abstract

The rapid growth of urbanization and industrialization has resulted in a substantial increase in daily municipal solid waste (MSW) generation. This waste contributes significantly to environmental pollution and the spread of diseases. Unmanaged waste attracts pests and decomposers, leading to unhygienic conditions and heightened health risks. The study aims to assess the quantity, trends, and composition of MSW, as well as the environmental consequences associated with its disposal in landfill sites. The data analysis of solid waste in MC Shimla from 2013 to 2023 reveals a substantial increase from 38 to 82 MTPD, attributed to rapid economic development and population growth. Correlation analysis indicates significant relationships between municipal solid waste generation and factors like District Domestic Product (DDP), per capita income, and population. This implies that as Shimla's economy and urban population expanded, there was a corresponding rise in waste generation. Notably, there was a temporary dip in waste output between 2020 and 2021 due to COVID-19. The findings underscore the necessity for effective waste management and sustainable practices to tackle Shimla's escalating waste production for environmental sustainability. The monitoring results emphasize the crucial role of proper waste management and ongoing environmental oversight for 59 landfill sites and waste-to-energy plants to comply with regulations. Water analysis reveals that cadmium, nickel, zinc, copper, fluoride, and pH levels downstream are within acceptable limits, ensuring minimal contamination. However, concerns arise over slightly elevated Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) levels. Conversely, air quality monitoring at the waste-to-energy plant indicates effective control of particulate matter (PM) emissions, staying within prescribed limits. This suggests successful implementation of air pollution control measures, mitigating potential impacts on air quality and public health.

Keywords: *MSW, Composition, Trends, Impact, MC Shimla*

The Role of Satellite Technology in Early Warning Systems

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Abstract

Satellite technology stands as a linchpin in fortifying early warning systems against the escalating threats of extreme weather events. This paper delves into the pivotal role played by satellites in enhancing the accuracy, timeliness, and effectiveness of early warning mechanisms. Utilizing remote sensing capabilities, meteorological satellites, and geostationary platforms, satellite technology provides a comprehensive view of atmospheric conditions, enabling precise monitoring and analysis. The integration of satellite-based data into early warning systems facilitates the creation of sophisticated predictive models, allowing for the identification of potential hazards well in advance. Geostationary satellites contribute real-time information, crucial for monitoring rapidly evolving weather phenomena. Additionally, advancements in sensor technology have enabled satellites to capture detailed data on temperature, humidity, wind patterns, and other critical variables, empowering early warning systems with a wealth of information.

This paper explores the stages of satellite data utilization in early warning systems, from data acquisition to processing and dissemination. It delves into the challenges and opportunities associated with incorporating satellite technology into diverse geographical contexts, emphasizing the need for global collaboration and infrastructure development. Furthermore, the paper discusses how satellite technology enables the construction of accurate risk maps, aiding in evacuation planning, resource allocation, and community preparedness. The continuous advancements in satellite technology, including the emergence of small satellites and constellations, offer prospects for even more comprehensive and timely data acquisition. In conclusion, this paper underscores the indispensable role of satellite technology in bolstering early warning systems, thereby contributing to global resilience in the face of an increasing frequency and intensity of extreme weather events. The insights presented aim to inform policymakers, meteorologists, and disaster management authorities about the transformative potential of satellite technology in safeguarding vulnerable communities.

Keywords: *Satellite Technology, Early Warning Systems, Extreme Weather Conditions, Remote Sensing, Climate Resilience*

Environmental Conflict over Hydropower project with special reference to Chamera Stage- I, Himachal Pradesh

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Abstract

The present study deals with the Environmental Conflict over Chamera stage I constructed on River Ravi in Chamba District of Himachal Pradesh. The Ravi basin region is home to diverse indigenous communities, with a significant portion of the population relying on livelihoods based on natural resources. Also has unique socio-cultural, agro-ecological, and landholding systems, including various forms of community control over forests. The impact of hydropower projects on shared natural resources, such as pasture lands, forests, springs, and biodiversity essential to local livelihoods, is a substantial aspect often overlooked in project impact assessments. The survey employed a well-designed interview schedule, covering various aspects such as the loss of green cover, access to common property, impact on flora and fauna, ecological cycle disturbance, loss of natural resources, and the change in microclimate. Five villages -Mohal, Palehi, Chakloo, Thari, and Bhanota were selected being the most adversely affected by. To assess the conflict a direct interview approach with meticulously designed questionnaires supplemented with Systematic Random Sampling method was used; where one hundred households within the affected area were selected for in-depth analysis covering 20% of the affected families in each village. As a result a significant majority, amounting towards the following aspects has close proximity of 89% as change in land use pattern, 86% for loss of access to common property ,67% for ecological balance disturbance ,83% for change in microclimate , 93% for loss in green cover, 64% for loss of wild edible fruit species , 86% for loss of ethanobotanical species ,88 % for loss of biodiversity and 88% for loss of natural resources.

Keywords: *Environmental Conflict, Natural resources, Hydropower, Chamera-I*

Adjusting to Climate Fluctuations and Their Influence on Farming Techniques in Himachal Pradesh

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Abstract

This paper investigates the adaptation strategies employed by farmers in Himachal Pradesh, India, in response to climate variations and their consequent impact on agricultural practices. The region's agriculture is significantly influenced by changing climatic patterns, including alterations in rainfall, temperature, and extreme weather events, leading to challenges in crop cultivation, water management, and overall agricultural sustainability. Through a comprehensive review of existing literature, field surveys, and interviews with local farmers, this study aims to explore the diverse array of adaptive measures adopted by agricultural communities in Himachal Pradesh to mitigate the adverse effects of climate change on their livelihoods. It examines the implementation of resilient farming techniques, changes in crop patterns, adoption of innovative irrigation methods, and utilization of technology to cope with erratic weather conditions. Additionally, this research assesses the effectiveness, limitations, and socio-economic implications of these adaptation strategies, shedding light on their viability and scalability in enhancing agricultural resilience in the face of ongoing climate variations. The findings of this study contribute to a better understanding of the complex relationship between climate change and agricultural practices while offering insights into sustainable adaptation measures crucial for ensuring food security and livelihood sustainability in Himachal Pradesh and similar agro-ecological regions facing similar climatic challenges.

Keywords: *Climate, agriculture, adoption, socio-economic, livelihood*

Biodiversity Conservation in the Face of Climate Change supporting, *In-vitro* technique for haploid breeding (Speed breeding) in Cucumber (*Cucumis sativus var sativus.* L)

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Abstract

The total population in 2050 will be around 9.73 billion from the current population of around 7.71 billion. Therefore, the plant breeders, economist and concerned department working on climate change face a tremendous job of increasing the food production in a much higher rate to feed the increasing population. The threat of decreasing cultivable land and uncertain climatic regions and speed breeding of climate change with standing tolerant hybrids is the most needed at Indian agriculture system. In this context, accelerated plant breeding approaches will be instrumental to meet the future needs of mankind. Development of an end product through conventional breeding selection and other approaches requires more than ten generations to achieve the required homogeneity and their evaluation thereafter under multiple climatic regions is the time consuming and pure genetic plant material development is also a great challenge and less accuracy. Recent development of haploid and doubled haploid breeding is the great approach to overcome this problem. Besides, various biotechnological tools and in vitro techniques have immense potential in reducing the time cycle and aid the plant breeding programme in a great way. Here by, specifically discuss the strategies which would be instrumental in rapid breeding of cucumber (***Cucumis sativus var sativus.* L. 2n=2x=14, Cucurbitaceae)** and achievements till date in the following sections.

Keywords: *Climate Change, Speed breeding, In-vitro, Cucumber and Haploid*

Wonder Herbs: A Modern Perspective on Ancient Remedies

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Abstract

"Wonder herbs" encompass a diverse array of plants celebrated for their purported health benefits, deeply rooted in traditional medicine systems worldwide, including Ayurveda and Traditional Chinese Medicine. These herbs, enriched with bioactive compounds like antioxidants and phytochemicals, are renowned for their healing properties. While some claims lack robust scientific backing, these herbs have gained popularity for potential health promotion. The historical use of wonder herbs spans civilizations such as the Egyptians, Greeks, and Chinese, as seen in ancient texts like the Ebers Papyrus. Globally recognized herbs like ginseng have traversed cultures, adapting to various medicinal practices. In India, wonder herbs are integral to Ayurveda, exemplified by turmeric with its anti-inflammatory curcumin and neem's antibacterial properties. Tulsi, or holy basil, is revered for its adaptogenic and immune-supporting qualities. like turmeric, known for anti-inflammatory properties, ginseng, an adaptogen for energy and stress reduction, and ashwagandha, an Ayurvedic stress-reliever, offer diverse health benefits. Echinacea supports the immune system, while moringa, rich in nutrients, promotes overall well-being. Holy Basil from India is esteemed for stress reduction and respiratory health. Aloe Vera, famed for skin soothing, aids digestion when consumed. Ginkgo Biloba enhances cognition and blood circulation. These herbs, deeply rooted in traditional medicine, provide a holistic approach to health, addressing issues from inflammation and stress to immunity and cognitive function, making them popular choices for natural wellness. India's diverse climate nurtures a rich variety, including ashwagandha and Brahmi. Modern scientific studies increasingly validate traditional claims, particularly in the case of turmeric, explored for its potential in treating conditions like arthritis and cancer. Global interest in wonder herbs has surged, reflected in the growing herbal supplements market, as people seek natural and holistic wellness solutions. As the world continues to explore these herbs in modern medicine, their global recognition remains unabated. However, caution is advised, and consulting healthcare professionals before incorporating these herbs is crucial, especially for individuals with underlying health conditions or taking medications.

Keywords: *wonder herbs, Ancient Remedies, health, Ayurveda*

Climate Change & Livelihood implication of *in situ* on farm conservation strategies of Punica granantum and Syzygium cumim in Sunni tehsil Shimla H.P.

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Abstract

Harvesting and selling wild fruits sustainably offers rural communities a low-cost income option, preserving ecosystems. The study aims to promote the utilization of wild edible fruits (WEFs) in rural areas on a global scale, emphasizing sustainable practices due to increasing anthropogenic pressures. It advocates for public awareness, community-based management, and research on indigenous fruits to diversify diets. WEF collection benefits rural communities economically, providing affordable and accessible food sources. Additionally, the study highlights the ecological contributions of specific fruit trees, such as Pomegranate and Jamun, in providing habitat, shelter, and promoting biodiversity while preventing soil erosion. The Jamun tree, with its extensive root system, plays a crucial role in preventing soil erosion, stabilizing riverbanks, and contributing to nutrient cycling. However, the rich biodiversity in many areas faces threats from population growth, forest fires, unplanned urbanization, and timber collection. To combat the risk of plant extinction, a strategic approach to forest conservation is essential. The focus should be on promoting the sustainable collection and trade of underutilized or neglected plant species with potential benefits for food, medicine, and income generation.

Climate change poses significant challenges to anardana production, the dried seeds or arils of pomegranate fruit used in South Asian cuisine. Temperature fluctuations can disrupt flowering and fruiting cycles, while changes in precipitation patterns may lead to water stress. Extreme weather events, pests, and diseases influenced by climate change can damage orchards and reduce fruit quality and quantity. Additionally, shifts in suitable growing regions for pomegranate cultivation may occur due to altered climatic conditions. Overall, a comprehensive strategy is needed to address the multifaceted impacts of climate change on anardana production and safeguard this important aspect of agriculture. To address the challenges posed by climate change on anardana production, adaptation measures encompass implementing irrigation systems, adopting pest management, using shade structures, and diversifying pomegranate varieties. The in-situ conservation of wild pomegranate and Jamun demands a comprehensive approach, involving habitat protection, restoration, and sustainable agriculture, sustainable land management practices like agroforestry research, community engagement, and policy backing, safeguarding genetic diversity, ecological significance and engaging communities, and fostering collaboration among stakeholders. Emphasizing traditional knowledge and integrating it with modern conservation practices ensures a holistic approach. These methods collectively aim to preserve the genetic diversity, ecological balance, and long-term survival of Pomegranate & Jamun, underscoring the importance of multi-dimensional conservation efforts. By incorporating these approaches, we can actively participate in the on-site preservation of pomegranate and Jamun, safeguarding their genetic diversity, ecological importance, and cultural relevance.

Keywords: *Climate Change, Livelihood, Punica granantum, Syzygium cumim*

Promoting Climate Literacy and Education: A Critical Imperative for Sustainable Global Development

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Abstract

The escalating impacts of climate change underscore the urgent need for widespread climate literacy and education initiatives. This abstract explores the critical importance of promoting climate literacy to address the complex challenges posed by a rapidly changing climate. The paper highlights the role of education in fostering a comprehensive understanding of climate science, environmental sustainability, and the interconnectedness of human activities with the planet's health. Efforts to enhance climate literacy encompass formal education systems, community engagement, and innovative communication strategies. The abstract delves into the multidimensional benefits of climate education, including informed decision-making, resilience building, and the cultivation of a proactive global citizenry. Recognizing the interconnected nature of environmental issues, the paper also emphasizes the potential of climate literacy to drive sustainable practices, influence policy decisions, and inspire collective action. Furthermore, the abstract addresses the need for inclusivity in climate education, ensuring that diverse perspectives and marginalized communities are actively involved in the learning process. It underscores the importance of cultivating a sense of responsibility and environmental stewardship among individuals, communities, and nations to collectively tackle the global climate crisis. In conclusion, this abstract advocates for a concerted global effort to prioritize and invest in climate literacy and education. By fostering a well-informed and environmentally conscious population, the world can better navigate the challenges of climate change and work collaboratively towards a sustainable and resilient future.

Keywords: *Climate, literacy, community, inclusivity, collaboration*

Investigation on Aquatic Floristic Diversity of Shahpur lakes in Bhandara District of Maharashtra , India

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Abstract

This Paper deals with the floristic diversity of aquatic flora of Shahpur Lake in Bhandara District, Maharashtra . Aquatic plants are essential parts of natural aquatic system and form the basis of water body's productivity and health. The lack of quantitative data on the distribution and abundance of aquatic plants is one of the main limitations in under-standing aquatic plant dynamics, which in turn limits formulation of biodiversity conservation strategies. There is a need to obtain more information on aquatic plants in species richness and floristic composition. The vegetation of reported lakes is very interesting and diverse. The total of 14 species of aquatic plants belonging to 13 families have been recorded .The plants were observed in their natural habitat .The digital photographs of plants were taken with their unique characteristics features that can be usefull in identifying the flora in their natural environment.

Keywords: *Aquatic , Diversity , Distribution ,Flora , Conservation*

The Heat is on: Impacts of Climate Change on Honeybee Health and Habitat

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Climate change poses a significant threat to ecosystem services, with honeybees (*Apis mellifera*) being no exception. This study examines the multifaceted impact of climate change on honeybee populations and their critical role in pollination. We conducted a longitudinal analysis of bee populations across various climatic zones, correlating meteorological data with changes in bee behavior, health, and pollination patterns. Our research indicates a notable shift in foraging behavior and reduced pollination efficiency in regions experiencing elevated temperatures and altered precipitation patterns. Habitat analysis showed a decline in suitable foraging areas due to climate-induced vegetation shifts. We observed a decline in colony strength and a rise in queen failure rates in areas with extreme weather events, suggesting a direct link between climate stressors and colony health. We documented that rising temperatures and altered weather patterns significantly affect honeybee colonies. The study highlights the vulnerability of honeybees to temperature extremes, erratic weather patterns, and changes in floral resource availability. Our findings also emphasize the urgent need for adaptive management strategies to mitigate the impact of climate change on honeybees and ensure the sustainability of pollination services.

Keywords: *Pollination, global biodiversity, honeybees, sustainability, climate change*

Dynamics Of Selected Macroeconomic Variables on Indian Stock Market-BSE

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Abstract

Stock market plays important role in overall growth of Indian economy. The stock market is a place where investors, both Indians and foreigners, can invest or withdraw funds in the hopes of gaining capital appreciation. Since 1991 when the government introduced (LPG) liberalization, privatization, and globalization policies, the Indian capital market has seen tremendous growth. Thus, macroeconomics analyzes all aggregate indicators that influence the growth of economy. Government and many Private firms used these macroeconomic models in formulating of economic policies that help them in taking Strategic advantage. Previous studies have been made analyzing the relationship between equity market returns and movements with a specific or a set of macroeconomic variables. The output of the Stock markets is considered to be influenced by macroeconomic variables such as FII,GDP, Index of Industrial Production (IIP), inflation levels (WPI), gold price, rate of exchange and crude oil prices. The present paper depicts to investigate the relationship between BSE (Sensex) and macroeconomic variables such as FII (Foreign Institutional Investors), Index of Industrial Production (IIP), inflation(WPI), price of gold(G), for the period monthly data of 5years i.e. January 2016 -December 2020 . The series of variable stationarity have also been analyzed by using statistical methods like ADF Unit root test and regression analysis through SPSS and E views. In this study BSE **(Sensex)** will be considered as **Dependent variable** and all other **Macroeconomic variables** will act as **Independent variable** with predetermined hypothesis.

Keywords: *BSE (Bombay Stock Exchange), FII (Foreign Institutional Investors Macro Economic variables, Index of Industrial Production (IIP)*

Rising to the Challenge: Exploring Climate-Resilient Infrastructure and Technology Trends

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Abstract

This paper underscores the urgent need for climate-resilient infrastructure amid escalating climate change impacts, emphasizing its role in safeguarding essential services and enhancing long-term community well-being. Exploring the convergence of climate-resilient infrastructure and technology trends, particularly IoT, AI, and renewable energy, the study delves into key principles, case studies, and emerging technologies. Referencing authoritative sources like the IPCC, the literature review identifies gaps, emphasizing the need for real-world implementation insights and comprehensive assessments of social and economic dimensions. Objectives include examining principles, exploring case studies, and analyzing emerging technologies. Core principles encompass adaptation strategies, sustainable design, robust risk assessment, and a lifecycle approach, highlighting the necessity for a holistic and adaptive infrastructure development approach. Case studies, from the Delta Works to Singapore's Integrated Drainage Management, provide tangible examples of effective implementation.

Emerging technologies, including IoT sensors, AI, and renewable energy, offer real-time monitoring, predictive capabilities, and sustainable alternatives, significantly contributing to resilient infrastructure systems. In conclusion, the paper stresses the collaborative, interdisciplinary, and global response needed. By implementing these principles, learning from case studies, and leveraging emerging technologies, communities can build infrastructure that withstands climate impacts, contributing positively to sustainability, social well-being, and economic prosperity. This study provides valuable insights for policymakers, engineers, and researchers engaged in climate-resilient infrastructure development.

Keywords: *Climate-resilient infrastructure, Technology trends, IoT, Case studies, Sustainability*

Impacts of Climate Change on Water Quality and Ecosystem Health

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Abstract

Worldwide hydrological cycles and water supplies are being impacted by the extraordinary changes in the global climate. The quantity, quality, and distribution of water are turning into more pressing issues as temperatures rise and precipitation patterns alter. The many issues that the changing climate presents for water management plans around the world are examined in this paper. The study explores the implications of the intricate relationship between water supplies and climate change for both established and developing regions. It examines how different stresses, like protracted droughts, unpredictable rainfall, glacial melting, and sea level rise, affect conventional water supply systems and exacerbate water scarcity problems.

The study presents a range of creative solutions and adaptable tactics that have been used by businesses, communities, and governments in response to these difficulties. It looks into innovations in decentralised water systems, effective irrigation methods, rainwater collecting, wetland restoration, and reforestation, as well as technical breakthroughs in water conservation. The study also assesses the governance frameworks and policy frameworks required to support adaptive water management techniques. It looks at how municipal laws, international accords, and community involvement may promote resilience and sustainable water practices in the face of climate change. By combining knowledge from policy studies, ecology, hydrology, climatology, and socioeconomic viewpoints, this study leverages interdisciplinary research. In addition to providing insightful information for practitioners, researchers, and policymakers striving for resilient and successful water resource management strategies in the face of climate change, this research paper aims to advance a thorough understanding of the challenges posed by climate change on water management by synthesising current knowledge and best practices.

Keywords: *Climate Change, Water Resources, Hydrological Cycle, Water Scarcity, Water Conservation*

ECO-CRITICISM, CAPITALISM AND MODERNITY

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Abstract

The Presentation aims at uncovering the links between Eco-criticism and modernity which has made plastic indispensable commodity in the global market. The main argument of the presentation is that although plastic is unavoidable and very popular in terms of usage, the challenges of managing it as a waste have not been explored fully by government around the globe. Systems of Waste Management all over the globe, instead of stemming the tide in production by going towards reduction and reuse, go in favour of less eco-friendly ways like incineration and landfills which have proved to have an adverse effect on our ecosystem.

This argument is substantiated by giving examples of a seminal text **titled '*Silent Spring*** 'and a film named ***'Avatar',*** the subject is elaborated. In addition to this paper examines and considers distributive justice (work, money, resource access) as well as Procedural justice (decision-making, leadership, political agency), thereby propagating the **the 3R's i.e Reduce, Reuse and Recycle.**

Keywords: *Climate vulnerability, plastic, water, political agency, waste management*

Changes in Life Style and Health

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Abstract

In the present scenario of technological advancements and evolving societal norms, lifestyle choices imparts a very important role in shaping overall individual health outcomes. This abstract highlights the relationship between lifestyle changes and health, emphasizing the multifaceted nature of this dynamic interaction. The contemporary landscape witnesses a significant shift in lifestyle patterns, characterized by sedentary behaviors, altered dietary preferences, and unprecedented levels of stress in our life. These changes often arise due to urbanization and globalization and create profound implications for health and well-being of every person. Sedentary lifestyles, coupled with the holistic screen-based activities, contribute to a surge in lifestyle-related diseases such as obesity, lung diseases, cardiovascular ailments, and metabolic disorders. On the dietary front, the transition from traditional, plant based diets to processed and convenience-oriented food choices and crash diet has led to an undue escalating burden of nutrition-related health problems. The impact is not only physical but extends to mental health, which are contributors to mood disorders and cognitive decline.

Even, the accelerating pace of life has raised the stress levels, affecting mental health and exacerbating the risk of fatal chronic diseases. This tangled interplay between lifestyle stressors and mental well-being refers the need for holistic approach to health management. However, amidst these challenges lies the potential for positive changes. Engaging in regular physical activity, adopting balanced and nutritious diets, and cultivating mindfulness practices are important components of a health-oriented lifestyle. Exploiting the power of technology for health monitoring also opens new avenues for preventive healthcare. This abstract concludes by highlighting the urgency of recognizing the interconnectedness of lifestyle choices and health outcomes. A precise understanding of such dynamics can create awareness in public regarding our life style and impact on our health.

Keywords*: Sedentary behavior, health management, intricate interplay, preventive health care, optimal health*

Biodiversity Conservation Strategies *vis-a-vis* Climate Change: A Focus on the Western Himalayan Region

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Abstract

The Western Himalayan region, renowned for its rich biodiversity and unique ecosystems, faces escalating threats due to the impacts of climate change. This research delves into tailored conservation strategies designed to safeguard the intricate web of life in this vulnerable mountainous terrain. Recognizing the region's susceptibility to changing climatic patterns, our proposed strategies emphasize the importance of preserving critical habitats through rigorous habitat protection and restoration initiatives. Special attention is given to the establishment of climate-resilient protected areas and the creation of ecological corridors to facilitate species movement amidst shifting climatic conditions. In the context of the Western Himalayas, where local communities have a symbiotic relationship with their natural surroundings, community engagement and education emerge as pivotal components. Integrating indigenous knowledge systems with contemporary conservation practices ensures a holistic and culturally sensitive approach. Climate-smart land use planning, considering the region's unique topography, is proposed to minimize habitat fragmentation and promote sustainable development.

Given the diverse range of species endemic to the Western Himalayan region, adaptive management strategies, such as assisted migration and habitat restoration, are highlighted. Furthermore, the study stresses the need for continuous research and monitoring programs to comprehend the region-specific impacts of climate change on biodiversity. Financial incentives are suggested to encourage local participation in conservation efforts and promote sustainable practices, particularly in the agriculture and forestry sectors. This study underscores the urgency of adopting context-specific, adaptive strategies to ensure the resilience of the Western Himalayan region's biodiversity in the face of an ever-changing climate. As the climate crisis unfolds, ongoing reassessment and implementation of these strategies are imperative for the sustained health and vitality of this ecologically significant region.

Keywords: *biodiversity, climate-smart, sustainable development, financial incentives, Western Himalayas.*

Impact of climate change on food and water resources in India

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Abstract

The impact of climate change is expected to be intensive especially, on developing countries. There is a need to understand the impacts and to make mitigation plans in advance to reduce the severity of climate change on the food and water security. The main aim of this study is to look at the impact of climate change on the water resources as well as the impact on the agriculture sector in India. Demand for water has already increased manifold over the years due to urbanization, agriculture expansion, increasing population, rapid industrialization and economic development. At present, changes in cropping pattern and land-use pattern, over-exploitation of water storage and changes in irrigation and drainage are modifying the hydrological cycle in many climate regions and river basins of India. It has been observed that there is an increase in temperature and precipitation. The population increase projected for the study area for the selected socio-economic pathways is drastic in all the scenarios considered for this study. Thus, even though the amounts of water consumed per capita do not increase in the selected pathways the water demand increases drastically because of the increase in population. Thus there is a need to study the impacts of climate change in India but there is a need to look at the impacts on regional level to better adapt to changes. This helps policy makers to plan and develop more integrated policies to ensure that the impacts of the climate change are kept to a minimum. Knowing the worst can help better plan for the future to try and reduce the impacts to a minimum.

Keywords : *Climate change, food and water security, hydrology, water resources, integrated policies.*

Impact of Climate Change on Water Resources in India

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Abstract

Due to climate change the intensity of weather events, the variation in monsoon and emergence of new disasters are expected to increase. This extraordinary increase may have serious impact on the hydrological cycle, water resource for drinking water, forest and ecosystems, losses of coastal wetlands and mangroves, food security, health and other related areas. The impact would be particularly catastrophic for developing countries, including India and further may reduce the adaptability of poor, vulnerable communities. The hydrological cycle is being modified in most agro-climatic regions and river basins of India by human activities such as land use change, water uses, inter-basin transfers, cropping pattern, irrigation and drainage. Many of the areas are getting transformed from safe area to critical and over exploited area due to water crises. Changes in cropping pattern and land-use pattern, over-exploitation of water storage and changes in irrigation and drainage are modifying the hydrological cycle in many climate regions and river basins of India. In view of this, sustainable management of surface and ground water and the supporting natural environment have gained considerable importance. An evaluation of the availability of water resource and its increasing demand, impacts of climate change and variability is crucial for resource planning and sustainable development. This study is focused on the availability of surface and ground water resources and the potential for water related developments. It is required to develop an integrated framework for addressing the issue of water, community adaptability and reduction of risk due to disasters.

Keywords: *Climate Change, Water resources, hydrology, cropping pattern, sustainable development*

Prevalence of Mental Health problems among college students

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Abstract

A cross-sectional correlation study was carried out to **assess the mental health problems among** 1455 college students of both genders (Females 972 and Males 483) in the age group of 18 to 24 years studying in Degree colleges of Ankola Taluk of Uttara Kannada district of Karnataka state. The self-structured questionnaire was used to collect socio-demographic information, and the **Anxiety Depression Stress Scale (ADSS) developed by Bhatnagar et al. (2011) was used.** Results revealed that about 68% of college students were suffering from anxiety, 67% were from depression and 59% were from stress. The remaining 32% to 41% of the students were seen under the normal category. The higher percentage of the samples were seen under severe level of anxiety (35%) compared to moderate (22%) and mild (11%) levels of anxiety. The students with moderate level of depression (29%) and severe level of stress (24%) were predominantly noticed than their respective counterparts. Further detailed analysis showed that 26.53% of students were seen under normal i.e. they were not suffering from anxiety, depression and stress. The remaining percentage of them were suffering from mono, dual and multiple mental health problems. About 54.5% of the students were suffering from multiple mental health problems, followed by dual (11.36%) or mono (7.3%) mental health problems. Among dual mental health sufferers, higher percentage of students were suffering from anxiety and depression (8.1%), followed by students with anxiety and stress (2.26%) and Depression and Stress (1.23%). For mono mental health problems, students with anxiety were more than students with depression (2.88%) and stress (0.96%). Identification of mental health concerns among college students, along with comprehensive assessments, is crucial for delivering suitable services and enhancing outcomes, such as successful graduation.

Keywords: *Anxiety, Depression, Stress and College students*

Strengthening International Partnerships for Climate Adaptation

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Abstract

Climate change is one of the problems facing mankind as a result of the releasing of greenhouse gas emissions and carbon dioxide into the earth atmosphere which is depleting ozone layers and causing change in climate for a long period of time. Adapting to the impacts of climate change must draw together solutions which includes partnerships as a result of its complexity which includes looking into social, economic and political boundaries. Responding to the issue of climate change requires proper planning as well as management strategies. This will be easier and more cost effective if there is collaboration within and between organisations, and between organisations and stakeholders, in order to identify, implement and finance solutions, and to monitor and evaluate their effectiveness. Collaboration can take place around financing, implementation, knowledge generation, monitoring and evaluation. Several means of collaboration that should take place in order to adapt to climate effectively includes:

• Internal collaboration
• Stakeholder collaboration
• Collaboration between organisations

Collaboration helps organisations to share risks and to pool resources together. Collaboration can support organisations to achieve their desired outcomes by enabling funding, achieving economies of scale, sharing knowledge and expertise, and through facilitating partnerships in implementation, monitoring and evaluation.

Keywords: *Climate Change, Collaboration, Climate Adaptation, International Partnerships, knowledge sharing*

Navigating Climate Complexity: A Multidimensional Approach to Climate Literacy Education

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Abstract

Climate literacy is an indispensable component of modern education as we confront the escalating challenges of climate change. This academic presentation offers a multidimensional exploration of climate literacy education, aiming to foster a comprehensive understanding of its intricacies and significance amidst a rapidly changing climate landscape. The paper begins with an examination of the current state of climate literacy and its evolution within educational frameworks. Through a critical analysis of existing curricula and pedagogical approaches, gaps in addressing the multidimensional aspects of climate change become apparent. Recognizing climate change as a complex, interconnected phenomenon, the presentation argues for an integrated approach that goes beyond conventional climate science education. The proposed multidimensional framework encompasses not only the scientific dimensions of climate change but also delves into its social, economic, and political facets. Drawing on interdisciplinary research, the presentation highlights the interconnectedness of climate issues with social justice, economic systems, and geopolitical dynamics. By broadening the scope of climate literacy, educators can empower students to comprehend the multifaceted challenges and opportunities associated with climate change. Moreover, the presentation emphasizes the role of experiential learning and community engagement in enhancing climate literacy. Utilizing case studies and successful models, the paper demonstrates how hands-on experiences and community involvement can deepen students' understanding and instill a sense of environmental responsibility.

The incorporation of real-world examples and practical applications fosters a more profound connection between students and the climate issues they study. The paper also addresses the importance of critical thinking and media literacy within the context of climate education. In an era of information overload, equipping students with the skills to critically evaluate climate-related information is paramount. The presentation explores strategies to develop students' media literacy, enabling them to navigate a vast array of information sources and discern credible climate science from misinformation. Furthermore, the presentation contemplates the role of technology in advancing climate literacy. Integrating virtual simulations, data visualization tools, and interactive platforms can enhance the learning experience and make abstract climate concepts more accessible. The discussion includes insights into the effective use of technology to engage students in climate-related topics and facilitate a dynamic learning environment. In conclusion, "Navigating Climate Complexity" advocates for a paradigm shift in climate literacy education, emphasizing a multidimensional and interdisciplinary approach. By expanding the scope of climate education beyond scientific fundamentals, incorporating experiential learning, promoting critical thinking, and leveraging technology, educators can empower students to become informed, engaged, and proactive contributors to a sustainable future.

Keywords: *Climate literacy, multidimensional education, experiential learning, community engagement, critical thinking, media literacy, interdisciplinary approach, technology in education*

Promotion of climate literacy by integrating educational awareness and AI tools

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Abstract

Climate literacy is essential for individuals to understand the impact of climate change on our planet and to take necessary actions to mitigate it. However, there is a lack of awareness and knowledge about climate change, especially among younger generations. Integrating educational awareness and AI tools can be an effective approach to promote climate literacy. This paper explores the potential of AI tools, such as chatbots and virtual assistants, in providing personalized climate education to individuals. These tools can offer interactive and engaging learning experiences that are tailored to individual needs and preferences. Additionally, the paper discusses the importance of integrating climate literacy into the school curriculum and the role of teachers in promoting climate education. The paper concludes that integrating educational awareness and AI tools can significantly enhance climate literacy and empower individuals to take action towards mitigating climate change.

Keywords: *climate literacy, AI, Educational awareness*

Adapting Lifestyles for Climate Resilience: Impact on Health and Well-being

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Abstract

Climate change exerts profound impacts on human lives, manifesting in altered lifestyles and affecting health and well-being worldwide. This paper investigates the intricate relationship between shifting lifestyles, prompted by climate change adaptations, and their implications for individual health. It explores the interconnectedness between environmental alterations, behavioural changes, and resulting health outcomes while advocating proactive measures to mitigate adversities. Employing an interdisciplinary approach that integrates findings from environmental science, public health, and social sciences, this research emphasizes the urgent need for strategies fostering sustainable lifestyles, which simultaneously enhance planetary health and individual well-being.

The paper unfolds with an introduction delving into the context of climate change and its influence on lifestyle adaptations, aiming to offer insights into the breadth and depth of the research. It then examines the impact of climate change on diverse aspects of lifestyles, including dietary patterns, transportation, housing, and consumer behaviour, elucidating their intricate connections with health outcomes. Furthermore, it explores the complex nexus between lifestyle changes, health, and the environment, highlighting the reciprocal influences and potential for positive transformation. Moving forward, the paper delineates strategies to promote climate-resilient lifestyles, encompassing education, policy interventions, technological innovations, and community engagement. Drawing from case studies and best practices, it elucidates successful implementations of sustainable lifestyles across varied cultural contexts. Conclusively, the paper consolidates key findings, underlining the imperative for collective action to address climate-induced lifestyle changes and their impact on health. By bridging gaps in knowledge and advocating actionable measures, this research calls for a concerted effort to foster sustainable lifestyles that benefit both individuals and the planet, ultimately mitigating the adverse effects of climate change on human health and well-being.

Keyword: *Climate change adaptations, Lifestyle shifts, Health implications, Sustainable living, Interdisciplinary approach*

Water Management in a Changing Climate

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Abstract

Water management in a changing climate is a critical and evolving challenge that requires a multifaceted and adaptive approach. As the global climate undergoes unprecedented shifts, traditional water management practices must be reevaluated and restructured to ensure sustainability and resilience. The increasing frequency and intensity of extreme weather events, such as droughts, floods, and storms, pose a significant threat to water resources. Effective water management strategies must focus on enhancing water conservation, improving infrastructure resilience, and implementing innovative technologies to mitigate the impact of these climate-induced events. Integrated water resource management is essential to address the interconnectedness of water systems, taking into account the needs of agriculture, industry, and urban areas. Sustainable water practices, including rainwater harvesting, groundwater recharge, and efficient irrigation techniques, play a pivotal role in ensuring a balance between water demand and supply. Climate change also exacerbates water quality issues, affecting both surface and groundwater. Pollution prevention measures and robust water treatment processes are imperative to safeguard water quality and protect ecosystems. International collaboration is crucial for sharing knowledge, expertise, and resources in adapting to changing climate conditions. Implementing adaptive governance structures that involve stakeholders from various sectors fosters a holistic and inclusive approach to water management. In conclusion, effective water management in a changing climate necessitates a comprehensive and adaptable strategy that addresses the complexities arising from climatic variations. By embracing sustainable practices, integrating water systems, and fostering global cooperation, societies can build resilience to the challenges posed by a dynamic and unpredictable climate.

Keywords: *Unprecedented shifts, Water harvesting, Pollution prevention, adaptive governance structures*

The beneficial role of plant growth-promoting bacteria under salinity stress conditions

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Abstract

Abiotic stresses pose a danger to sustainable agricultural production on a global scale, and salinity stress is among the most prominent. By 2050, the United Nations predicts that half of the world's arable land will be in areas impacted by salinity. Salinity stress has a negative impact on the characteristics of soils and plants, which in turn lowers their yield. Consequentially, going beyond traditional agricultural practices and developing methods to increase the ability of plants to withstand salinity stress and more salt-tolerant crop varieties will be necessary if we are to achieve the desired yields. The application of microorganisms that facilitate plant growth in salinity conditions is among the most crucial, long-term, and cost-effective remedies. One important aspect of minimizing salinity stress in plants is the application of plant-growth-promoting bacteria (PGPB), which are currently being used in practice. Because of their many growth-promoting characteristics, plants whose root environments include halotolerant PGPB show improvements in a wide range of parameters. Some of the good effects are that bacteria release phytohormones and control their expression, the soil becomes more fertile, band organic compounds are released, which change the plant rhizosphere and act as signaling molecules that help plants handle saltiness. Reduced nutrient mobilization, hormonal imbalance, ROS production, ionic toxicity, and osmotic stress all contribute to salinity stress's negative effects on plant development. Salinity stress has a negative impact on soil health because it alters physicochemical properties and reduces microbial diversity. The rhizosphere is home to a wide variety of microorganisms that plants may use to their advantage when faced with salt stress. PGPB can endure salt, which helps plants survive in salty environments. This paper will focus on the most significant bacteria species that aid plant growth in various salt conditions. Finally, we suggested solutions for might help restore biodiversity to salt-affected soils.

Keywords: *plant growth promoting bacteria; salinity stress; soil biodiversity; halophyte bacteria; salt affected soil*

Beyond Borders: Tracing Environmental Threads in Temsula Ao's Northeastern Tales

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Abstract

This paper delves into the intricate literary fabric crafted by Temsula Ao, a distinguished writer hailing from Northeast India, with a specific emphasis on her exploration of eco-conscious themes. The research paper, titled "Beyond Borders: Unraveling Environmental Motifs in Temsula Ao's Tales from the Northeast," seeks to uncover the nuanced connection between Ao's narratives and the environmental backdrop of the Northeastern region. This study navigates through Temsula Ao's extensive literary repertoire, examining the varied methods through which she integrates environmental awareness into her narratives. Ranging from vibrant portrayals of the region's landscapes to the detailed examination of ecological challenges confronted by its communities, Ao's literary creations serve as a conduit through which the ecological storyline of the Northeast comes to life. Employing literary analysis, the study unveils the symbolism and imagery linked to nature in Ao's works, underscoring the interconnectedness of culture, ecology, and identity. It probes into the representation of traditional ecological knowledge and practices, illuminating Ao's celebration of the symbiotic relationship between indigenous communities and their natural surroundings. Furthermore, the exploration in "Beyond Borders" broadens its scope to consider the wider implications of environmental consciousness in Ao's narratives, contemplating its impact on cultural resilience and the preservation of identity. The paper critically assesses the role of storytelling and oral tradition in the transmission of ecological wisdom, underscoring the significance of these narratives in cultivating a sense of environmental responsibility. By meticulously tracing the environmental motifs in Temsula Ao's Northeastern tales, this study contributes to a more profound comprehension of the complex interplay between literature, ecology, and cultural identity. It prompts readers to reflect on the importance of eco-consciousness within the realm of Northeastern literature, underscoring the pressing need for environmental stewardship amidst contemporary challenges.

Keywords: *Northeastern literature, eco-consciousness, environmental motifs, cultural identity, storytelling, oral tradition, literary analysis.*

Impact of Covid-19 on Indian Economy

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Abstract

Coronavirus disease has impacted all the countries across the globe. As per the various reports global economy is likely to be impacted by the corona virus to a very large extent. According to the International Monetary Fund (IMF), global GDP is likely to be 3% only which lowest since the great depression 1930. Due to COVID-19, economies activities are closed and business organizations are not able to operate at their full capacity. However the Indian government has taken various measures to control it as soon as possible. COVID-19 have impact all the industries in one way or the other. The degree of impact is not same across the sectors. The different phases of corona virus pandemic could have lead to a four per cent permanent loss to real Indian gross domestic product (GDP) .It is estimated for India's Gross Domestic Product (GDP) growth rate to 1.9 per cent for 2020-21. This will be the lowest after India recorded growth rate at 1.1 per cent in 1991-92.The COVID 19 has effected major sectors, it's clearly examined that various sectors tourism & aviation, telecom, auto sector, transportation are most impacted sectors that are facing negative returns of the present disaster. The present study is undertaken to study the impact of COVID-19 in various sectors considering the data which are secondary in nature.

Keywords: *GDP, IMF, Indian Economy ,Covid-19, recession*

Challenges for maintenance of Water resources

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Abstract

Natural resources of water that are potentially useful for humans, for example as a source of drinking water supply or irrigation water. 97% of the water on Earth is salt water and only three percent is fresh water; slightly over two-thirds of this is frozen in glaciers and polar ice caps. The remaining unfrozen freshwater is found mainly as groundwater, with only a small fraction present above ground or in the air. Natural sources of fresh water include surface water, under river flow, groundwater and frozen water. Artificial sources of fresh water can include treated wastewater (wastewater reuse) and desalinated seawater. Water resources are under threat from water scarcity, water pollution, water conflict and climate change. Fresh water is a renewable resource, yet the world's supply of groundwater is steadily decreasing, with depletion occurring most prominently in Asia, South America and North America, although it is still unclear how much natural renewal balances this usage, and whether ecosystems are threatened.

Surface water is water in a river, lake or fresh water wetland. Surface water is naturally replenished by precipitation and naturally lost through discharge to the oceans, evaporation, evapotranspiration and groundwater recharge. The only natural input to any surface water system is precipitation within its watershed. The total quantity of water in that system at any given time is also dependent on many other factors. These factors include storage capacity in lakes, wetlands and artificial reservoirs, the permeability of the soil beneath these storage bodies, the runoff characteristics of the land in the watershed, the timing of the precipitation and local evaporation rates. All of these factors also affect the proportions of water loss. Humans often increase storage capacity by constructing reservoirs and decrease it by draining wetlands. Humans often increase runoff quantities and velocities by paving areas and channelizing the stream flow. Natural surface water can be augmented by importing surface water from another watershed through a canal or pipeline. The paper will shed light on water as a natural resource, it’s sustainability and challenges faced in recent times to maintain it.

Sedentary Lifestyle and Health: Unraveling the Web of Consequences

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Abstract

This study provides a focused exploration of the profound impact of sedentary lifestyles on health outcomes. Sedentary behavior, characterized by prolonged periods of sitting and low physical activity, has become a pervasive aspect of modern living. This paper reviews current research to elucidate the intricate connections between sedentary lifestyles and various health dimensions. The first section examines the epidemiological evidence linking sedentary behavior to the escalating prevalence of chronic health conditions. Drawing from studies on cardiovascular diseases, obesity, metabolic disorders, and musculoskeletal issues, the paper delineates the direct and indirect mechanisms through which sedentary lifestyles contribute to the onset and exacerbation of these health challenges.

The second segment delves into the physiological repercussions of prolonged sitting, focusing on metabolic dysregulation, decreased muscle mass, and impaired circulation. By scrutinizing the molecular and cellular changes associated with sedentary behavior, this section aims to provide a nuanced understanding of how a lack of physical activity can manifest at the biological level. The third part explores the psychosocial dimensions of sedentary lifestyles, investigating the impact on mental health, cognitive function, and overall well-being. Further this research discusses potential interventions and lifestyle modifications aimed at mitigating the adverse effects of sedentary behavior. It emphasizes the role of workplace initiatives, educational programs, and public health campaigns in promoting physical activity and breaking the vicious cycle of sedentary lifestyle.

In conclusion, this abstract synthesizes evidence from various disciplines to underscore the diversified impact of sedentary lifestyles on health. Recognizing sedentary behavior as a significant public health concern, it advocates for targeted interventions that address both individual choices and environmental factors. By comprehensively understanding the consequences of sedentary lifestyles, healthcare professionals and policymakers can develop informed strategies to promote a more active and health-conscious society.

Keywords: *sedentary behavior, epidemiological evidence, muscle mass, workplace initiatives.*

HEALTH AND HYGIENE

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Abstract
Hygiene and health are closely related concepts that refer to practices and conditions that contribute to the overall well-being of individuals and communities. Maintaining good hygiene is essential for preventing the spread of diseases and promoting a healthy lifestyle. Personal Hygiene: Handwashing: Regular handwashing with soap and water helps prevent the spread of germs and infections. Oral Hygiene: Brushing teeth, flossing, and regular dental check-ups are crucial for maintaining oral health. Bathing: Regular bathing helps keep the skin clean and reduces the risk of skin infections Food Hygiene: Safe Food Handling: Proper storage, cooking, and handling of food are essential to prevent foodborne illnesses. Clean Eating Utensils: Ensuring that utensils and dishes are clean before use helps prevent the ingestion of harmful bacteria. Environmental Hygiene: Clean Living Spaces: Regular cleaning of living spaces, including proper waste disposal, helps prevent the breeding of pests and the spread of diseases. Safe Water and Air: Access to clean and safe water for drinking and clean air are crucial for maintaining health. Personal Care Products: Safe Use of Products: Using safe and approved personal care products, cosmetics, and cleaning agents reduces the risk of skin problems and respiratory issues. Healthcare Practices: Vaccinations: Immunizations protect against various diseases and contribute to community health. Regular Health Check-ups: Routine medical check-ups help identify and address health issues early on. Medication Adherence: Taking prescribed medications as directed by healthcare professionals is essential for managing and treating health conditions. Mental Health: Stress Management: Practices such as exercise, meditation, and seeking support can contribute to mental well-being. Healthy Relationships: Building and maintaining positive relationships with others can have a positive impact on mental health. Physical Activity: Regular Exercise: Engaging in regular physical activity contributes to cardiovascular health, weight management, and overall well-being. Sleep Hygiene: Adequate Sleep: Getting enough quality sleep is essential for physical and mental health. Preventive Measures: Hygiene Education: Educating individuals and communities about the importance of hygiene practices helps prevent the spread of diseases. Preventive Healthcare: Taking steps to prevent illnesses, such as maintaining a healthy diet and exercising, contributes to overall health. Overall, maintaining good hygiene practices and making healthy lifestyle choices are key components of a holistic approach to well-being. These practices not only prevent the spread of diseases but also contribute to the overall physical, mental, and social health of individuals and communities.

Keywords: *Personal Hygiene:Sleep Hygiene Environmental Hygiene Food Hygiene*

Strengthening International Partnerships for Climate Adaptation

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Abstract

This research explores the imperative of strengthening international partnerships to enhance global efforts in climate adaptation. As climate change continues to pose unprecedented challenges, collaboration on an international scale becomes crucial for developing effective and sustainable adaptation strategies. The study investigates the current state of international partnerships for climate adaptation, identifying gaps and opportunities for improvement.

The research employs a multidisciplinary approach, integrating insights from environmental science, policy analysis, and international relations. It assesses existing frameworks and mechanisms for collaboration, highlighting successful models and pinpointing areas where coordination can be enhanced. By examining case studies of collaborative initiatives, the study aims to extract lessons learned and best practices that can inform future efforts.

Keywords: *Climate adaptation, International partnerships, Collaboration, Environmental policy, Sustainable development, Global climate governance.*

Adaptive water resource management in a changing environment

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Abstract

In the face of a changing environment marked by population increase, urbanization, shifting energy needs, socioeconomic shifts, and climate change, adaptive water resource management is essential. It entails creating plans and guidelines that can adapt to changes and uncertainties in the quantity, quality, and demand of water. Both human societies and ecosystems depend critically on water. Human activity has enormous and widespread consequences on both land and water today. These show how the surroundings have physically changed. So, achieving global water security is said to be essential for sustainable development. Taking into account the intricate relationships that exist between environmental factors and human activity, adaptive water resource management necessitates a proactive, all-encompassing strategy. For water management techniques to be resilient and sustainable in the face of environmental change, constant assessment, learning, and adjustment are required. We must all work to eliminate these obstacles if we are to continue doing research. Especially in light of the uncertain and changing environment to come, as well as the rapidly expanding population that is propelling globalization, urbanization, and higher social and economic development, we confront many obstacles in achieving that goal. Research on every facet of water management is necessary to determine the most effective way to address these difficulties. To provide more information to those working to build a more desired and sustainable future, this article outlines the problems that water managers are now confronting as well as the areas that require further research.

Keywords: *Climate change, Environment, Globalization, Sustainable development, Water management*

Don't Blame the Calories, Blame the Clock: Why Meal Timing is the Key to Weight Management

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Abstract

In the ever-evolving landscape of weight management, the conventional wisdom of "eat less, exercise more" has given way to a paradigm shift encapsulated in the concept of chrono-nutrition. While calorie control remains vital, the temporal dimension of meal consumption emerges as a crucial factor in understanding and optimizing weight-related outcomes. Envisioning the body as a symphony orchestra, with organs playing distinct roles, chrono-nutrition acts as the conductor that fine-tunes meals to synchronize with the natural rhythms of our internal biological clock. Aligning meals with the circadian rhythm, akin to striking the right notes in this internal symphony, proves pivotal for optimal performance. Breakfast fuels the day, lunch sustains energy, and early dinners support the body's repair and regeneration during sleep. The disruption of this rhythm, especially with late-night eating, induces metabolic discord, emphasizing the intricate dance of hormones over mere caloric intake. Leptin, the satiety hormone, dips at night, rendering individuals vulnerable to overeating, while insulin becomes less efficient. Chrono-nutrition strategically leverages these hormonal fluctuations, promoting not only weight loss but also overall well-being. Beyond the numerical metrics of weight, studies show that adopting chrono-nutrition positively influences sleep, energy levels, mood, and even offers protective effects against chronic diseases like diabetes and heart disease. Implementing chrono-nutrition involves a lifestyle shift, encouraging individuals to tune into their body's natural rhythms, discard calorie-counting stress, and unlock the door to a healthier, happier existence. It is a call to synchronize our internal clocks with our daily routines, acknowledging the profound impact of meal timing on holistic health. In this chrono-nutrition revolution, individuals reclaim agency over their health, recognizing that it's not just about what we eat but when we eat that shapes our journey toward well-being. As research in this field continues to unfold, chrono-nutrition stands as a transformative approach, guiding individuals toward a healthier and happier existence through the optimization of meal timing and the alignment of dietary habits with the body's internal clock. The present paper deals with the review of scientific literature on benefits of regular meal routines in weight management and overall health status.

Keywords: *Chrono-nutrition, Circadian rhythm, Hormonal fluctuations, Metabolic discord, Holistic health, Lifestyle shift*

Unraveling the Silent Disruptor: The Impact of Circadian Sleep Disruption on Holistic Health

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Abstract

In the relentless pursuit of modern life, where technology and societal demands often encroach upon the sanctity of our sleep, understanding the profound repercussions of circadian disruption on holistic health becomes imperative. This comprehensive exploration delves into the intricate web of consequences stemming from the disturbance of our natural sleep-wake cycle. The circadian rhythm, a finely tuned internal clock governing our biological processes, orchestrates a symphony of hormonal fluctuations, cellular repair, and cognitive functions during sleep. However, the pervasive influence of artificial lighting, erratic work schedules, and the ubiquity of electronic devices disrupts this delicate balance, leading to widespread circadian misalignment. Emerging research unravels the multifaceted impact of circadian disruption on physical, mental, and metabolic well-being. Disrupted sleep patterns have been linked to an increased risk of chronic conditions such as obesity, diabetes, and cardiovascular disease, underscoring the intricate connection between circadian health and systemic functioning. Cognitive faculties, including memory consolidation and emotional regulation, also bear the brunt of irregular sleep, contributing to heightened stress levels and diminished mental resilience. The far-reaching consequences extend beyond the individual, with societal implications manifesting in reduced workplace productivity, increased healthcare burdens, and compromised public safety. Delving into the neurobiological underpinnings, this exploration sheds light on how circadian disruption may impact the immune function, inflammation, and cancer susceptibility. Moreover, the article navigates the emerging field of chronotherapy, which seeks to harness the body's circadian rhythms for optimized treatment interventions, emphasizing the importance of aligning medical practices with the intrinsic biological clock. As we navigate the 24/7 landscape of the modern world, this article serves as a gentle reminder of the intricate connection between our internal circadian rhythm and the external forces that threaten its harmony. Through an understanding of the subtle relationship between circadian disruption and holistic health, individuals are empowered to make informed lifestyle choices, reclaim the sanctity of their sleep, and embark on a journey towards comprehensive well-being.

Keywords: *Circadian rhythm, Sleep disruption, Holistic health, Chronobiology, Biological clock, Metabolic health, Cognitive function, Chronic conditions, Chronotherapy, Stress levels*

Biodiversity conservation and Ecosystem Resilience

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Abstract

Earth is comprised of numerous ecosystems inhabited by many diverse species. Ecosystem consists of every living and non-living objects in a specific natural environment. Human being is blessed to witness and be a part of most of the natural ecosystem. **The 7 Major Ecosystems are forest ecosystem, grassland ecosystem, tundra ecosystem,** desert ecosystem, man-made ecosystem, freshwater ecosystem, and marine ecosystem. Human beings are directly or indirectly affecting all these major ecosystems and are disturbing the ecological balance.

Resilience in Ecology is defined as, "not just the ability to maintain the essential function, identity and structure, but also the capacity for transformation. Our Ecosystem has a capacity to respond to a disturbance by resisting it or by recovering from it. Different ecosystems have different capacities and thresholds for absorbing disturbance. Ecosystem Resilience is affected by many natural and anthropogenic factors. Human impacts on ecosystems like deforestation or pollution are sustained and persistent processes that have much greater impacts than natural disturbances like forest fires, floods, or storms which are temporary and seasonal. The anthropogenic factors affecting Ecosystem Resilience are Biodiversity loss, all types of pollution, Land use, Climate change and exploitation of natural resources. To protect our mother nature and for the survival of human race it is very important to improve the resilient capacity of nature. Major ways to improve Ecological resilience are: Protecting and preserving Biodiversity by various conservation strategies, reducing pollution and Sustainable development: Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Keywords: *Biodiversity, Ecosystem Resilience, Pollution, Climate Change, Sustainable development*

समकालीन हिन्दी साहित्य में वर्णित जलवायु परिवर्तन एवं पर्यावरण संरक्षण

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सारांश

जलवायु परिवर्तन वर्तमान समय के गंभीर मुद्दों में से एक है जो भयावह रूप धारण कर चुका है। प्रकृति चित्रण, पर्यावरण चेतना की समृद्ध परंपरा प्राचीन काल से साहित्य में रही है, जो आज भी उतनी ही प्रासंगिक है। साहित्य के द्वारा लोगों को चेतावनी देते हुए, वातावरण के प्रति सचेत करते हुए उनके मन पर गहरी छाप छोड़ी जा सकती है। समकालीन साहित्यकार, अपने समाज, अपने वातावरण और जलवायु से प्रभावित होकर रचना करता है और समसामयिक परिस्थितियों का यथार्थ चित्रण अपनी रचनाओं में करता है। विकास की तीव्र आकांक्षा और स्वार्थ सिद्धि ने हमारे वातावरण और जलवायु के समीकरण को विकृत कर दिया है जिससे मानव जाति पर निरंतर खतरा मंडरा रहा है। प्रकृति से छेड़छाड़ करके, पर्यावरण को दूषित कर, वृक्षों का अंधाधुंध कटाव कर ,बांध निर्माण एवं पहाड़ों को काटकर मनुष्य निरंतर जलवायु परिवर्तन को बढ़ावा देता हुआ अपने विनाश के पथ पर अग्रसर है। मानव जाति को अगर अपने अस्तित्व को बचाना है तो उसे अपने वातावरण एवं जलवायु परिवर्तन की रोकथाम के प्रति सचेत होना होगा। प्राकृतिक संसाधनों के अत्यधिक दोहन को रोकना होगा। जलवायु परिवर्तन की रोकथाम तथा संतुलित विकास के लिए यह आवश्यक है कि पर्यावरण विघटन तथा जलवायु परिवर्तन से संबंधित क्षेत्रों एवं कारणों का वैज्ञानिक व सामाजिक अध्ययन, चिंतन-मनन किया जाए। वर्तमान समय की यह मांग है कि पर्यावरण के अनुकूलित पारिस्थितिक विकास किया जाए ताकि मानव जाति को विनाश से बचाया जा सके। साहित्य,समाज का दर्पण होता है इसलिए समकालीन साहित्य में जलवायु, वातावरण, प्रकृति को केंद्र में रखकर अधिक से अधिक रचनाएं रची जानी चाहिएं ताकि लोगों को जलवायु परिवर्तन के प्रति जागरूक करते हुए उनमें कर्तव्यभाव जगाया जा सके ।

संकेत-शब्द- *साहित्य, समसामयिक परिस्थितियां, संतुलित विकास, सचेत*

Role of Community Awareness and Participation in Climate Adaptation

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Abstract

Climate change poses a significant threat to communities worldwide, necessitating proactive measures for adaptation. This research paper explores the pivotal role of community awareness and participation in enhancing climate adaptation strategies. It delves into the interconnectedness of community engagement, knowledge dissemination, and sustainable practices as key components of effective climate resilience. Community awareness serves as the foundation for climate adaptation, fostering a collective understanding of the challenges and opportunities presented by a changing climate. Active community participation is instrumental in the co-creation and implementation of adaptation strategies. Local knowledge, embedded in community experiences, enriches the design of context-specific and culturally sensitive initiatives. The engagement of diverse stakeholders, including community members, local authorities, NGOs, and academia, ensures a holistic approach that considers various perspectives and expertise. Community-based adaptation goes beyond information dissemination; it empowers individuals to take ownership of their resilience. Through education and capacity-building initiatives, communities can develop the skills and knowledge necessary to adapt to changing conditions, manage risks, and sustainably utilize resources. This empowerment creates a sense of self-reliance, enhancing adaptive capacity in the face of uncertainty. The abstract also emphasizes the role of communication channels in facilitating effective awareness and participation. Utilizing local languages, traditional communication methods, and modern technologies ensures inclusivity and accessibility, reaching diverse segments of the community. Furthermore, the abstract discusses the co-benefits of community involvement, such as social cohesion, improved governance, and the promotion of sustainable practices. Integrating climate adaptation into local development plans and policies enhances the long-term resilience of communities, creating a symbiotic relationship between environmental and social well-being.

Keywords: *Community Awareness, Climate adaptation, capacity building measures, local knowledge and modern technologies*

Building a Resilient Future Through E-Waste Management

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Abstract

In this publication, we discuss the impact that electronic waste has on the environment through factors such as soil, water and atmospheric contamination. This leads to bioaccumulation of toxic elements like lead, mercury, and cadmium in plants and reduces the crop yield. As organisms move up the food chain, the concentration of contaminants increases. Thus, humans accumulate higher levels of toxins, leading to a decline in health and quality of life. Moreover, the traditional e-waste management methods in India are detrimental to the environment. Manual segregation is done by unskilled labor, often without adequate protective gear, which leads to health hazards, resulting in a disproportionate impact based on the economically weaker classes. Acid washing for extracting valuable metals like gold and copper and incineration to reduce the volume of waste lead to the release of harmful gasses into the atmosphere. Open dumping and landfilling often lead to percolation of leachate into the soil, thus contaminating the soil and groundwater. This leads to severe environmental degradation. As a solution to these problems, we focus on the need for a circular economy, where materials are reused, refurbished, and recycled instead of being thrown away. This reduces the demand for new raw materials, minimizes pollution and waste generation, reduces health hazards and fosters a more sustainable and economically efficient system. It conserves natural resources by reducing the energy and resource requirements to create new electronic devices. This approach also helps the environment by mitigating climate change as it reduces the greenhouse effect caused by incineration of electronic devices. Introducing a better e-waste management system established on the foundations of a circular economy will diminish the harmful impact of these practices on the economy as well as on the environment.

Keywords: *E-waste, Bioaccumulation, Environmental, Recycling, Renewing, Refurbishment, Circular Economy, Greenhouse Effect, Leachate*

Climate Change and its impact on Human civilization

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Abstract

Climate change refers to significant, long-term changes in the global climate. The global climate is the connected system of sun, earth and oceans, wind, rain and snow, forests, deserts and everything people do. In modern era, climate change is lading to Global Warming. Global warming is the increase in the temperature of the earth due to the emission of various gases, deforestation, melting of oceans and other factors. Because all systems in the global climate system are connected, adding heat energy causes the global climate as a whole to change. Much of the world is covered with ocean which heats up. When the ocean heats up, more water evaporates into clouds which can lead to the global warming. Historical research suggests that past societal collapses have rarely been the result of direct climate worries but instead were more commonly attributed to a combination of factors. However, this does not mean that the risk of climate collapse is overstated. To the contrary, it suggests that collapse could result from climate impacts to which global civilization might have adapted. That indeed is the message of the socio-climate feedback and exogenous shock vulnerability mechanisms. The risk to civilization is not from direct climate impacts alone but rather those impacts occurring together with dysfunctional social feedbacks and other destabilizing factors.

Keywords: *Climate Change, Global Warming, Climate Collapse*

Annual Temperature Trends Analysis by Mann-Kendall and Sen's Slope Estimator Test in Himachal Pradesh, India

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Abstract

Using the Mann-Kendall (MK) test and Sen's Slope estimator, this study aims to analyze the annual average variability and trend of maximum and minimum temperatures across twelve meteorological stations situated in the twelve districts constituting the Himachal Pradesh region from 1991 to 2020. Temperature, a crucial climatic parameter, serves as a key indicator for assessing climate change. Investigating the impacts of climate change on agriculture and various sectors necessitates a meticulous examination of temperature fluctuations. The research revealed a consistent yearly temperature trend across all regions. Specifically, for minimum average temperature, the results indicated increasing annual trends at all stations, with the most significant increases observed in Sundernagar and Nahan, both exhibiting Sen's slope values of 0.036. Conversely, the annual average maximum temperature demonstrated a decreasing trend at all stations, with the most notable decreases observed in Bharmour (Sen's slope: -0.059). The implications of these temperature patterns extend to multiple sectors, including agriculture, food production, human health, fisheries, forestry, energy, and tourism, as highlighted in the study. The observed trends, whether upward or downward, may necessitate adaptation measures to address potential impacts on migration patterns and forced relocations. To effectively manage adverse climatic changes, it is imperative for the general population to be cognizant of and adopt viable adaptation strategies. These strategies should be grounded in long-term series data to accurately assess their effectiveness over time.

Keywords: *Temperature trends; Climate variability, Mann-Kendall; Himachal Pradesh*

'Deglobalisation'- A Boom or Bane for India

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Abstract

Deglobalization as a movement towards less connected world, characterized by powerful nation states, local solutions, and border controls rather than global institutions, treaties and free movement. It is the process of reducing integration and dependency amongst countries around the world. Under deglobalization there is a fall in international economic trade and investment. During last few years, like many countries, India has also resorted to some deglobalization practices i.e., with threat to its territorial integrity from China, India has now no normal economic relation with China. It has banned hundreds of the Chinese apps and the government of India has made government approval compulsory for takeovers, mergers and acquisition of Indian companies through the neighboring countries of India. Similarly, it has also revoked Pakistan's most favoured nation status. Recently government of India also launched 'Aatmanirbhar Bharat' campaign. But with many benefits under this change in policy to favour protectionism has also bring many challenges to the country, hence this article. The objectives of this article are to highlight the various benefits that are offered and challenges poses by deglobalization to India. The present article is descriptive in nature and conclusions are drawn by using and analyzing secondary data taken from various published sources such as newspapers' articles, books, and research articles and from various authenticated websites. We found that the as we live in an interconnected world so it is not possible to any country to develop and grow individually. Deglobalisation can be used in restricted sense to some areas while for other cooperation with other countries required. So, India should cautiously use this opportunity to strengthen its crucial domestic industries and promote entrepreneurship to create new job opportunities and foster economic growth.

Keywords: *Protectionism, Deglobalisation, Nationalism, Globalisation*

Water Management in changing Climate

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Abstract

Climate change causes a water crisis. This is a vital fact which we can see nowadays more often. The devastating floods, rising sea levels, shrinking ice fields, burning jungles and droughts are the impacts of climate change. So the water management is very important in this scenario. Water and climate change are inseparable issues. Extreme weather conditions are making water bodies more scarce, more unpredictable, more polluted and more abundant. All these water conditions have threatened sustainable developments, bio diversity and accessibility of water to people. Flooding and rising sea levels of water bodies contaminate the local water bodies with faecal matter, salts and muddy volume of debris. It also harms the drinking water infrastructure, wells, waste water treatment plants etc.

Climate Resilient Agriculture-: Significant effects of climate change on agriculture in India

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Abstract

Studies carried out in many districts of India provide insight into the efficacy of various interventions aimed at augmenting the climate resilience of agricultural systems. Cropping patterns changed and agriculture became more intensive as a result of watershed development interventions. When productivity-enhancing interventions were coupled with water management, soil health, livelihood diversification, and food and nutrition security, climate resilience indicators improved. Rainfall patterns have changed as a result of climate change, including variations in the amount, timing, and distribution of precipitation. Elevated temperatures in the growing season have the potential to diminish crop yields and lower the nutritional content of crops. The productivity and health of livestock can also be impacted by heat stress. Water scarcity may result from altered precipitation patterns and glacier melting, particularly during crucial crop growth phases. Reduced agricultural productivity and more competition for water resources may come from this. Cyclones, storms, and hailstorms are examples of extreme weather events that have been associated with climate change. These occurrences have the potential to seriously harm infrastructure, livestock, and crops, which could result in lower yields and difficult financial times for farmers. Reducing soil erosion, increasing climate resilience, and improving biodiversity can all be achieved by growing different crops in the same field alongside trees or other vegetation. Legumes, for example, can be inter planted with cereals to increase soil fertility by fixing nitrogen, in addition to generating additional revenue.

Keywords: *Drought, heat waves, pink bollworm, cyclone Diaperjoy, watershed development, agricultural productivity*

Role of Literature in Environmental Preservation and Climate Change Advocacy

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Abstract

Literature has been a force to influence and guide the behaviours of society since time immemorial. As the nature and immediate environment are inseparable parts of our existence, in one way or the another they also have been the parts of literary depiction. Literature has had a long relationship with climate as the human species attempts to capture its home environment and convey its sense to others, develop an understanding of why landscapes vary from one place to another, communicate as well as preserve our environmental knowledge. Writers like Rachal Carson well known as mother of the environmentalist moment, Barbara Kingsolver, David Attenborough, Elizabeth Kolbert, Robin Wall Kimmerer, Amitabh Ghosh, Margerat Atwood and many more are the custodians of environment and have been working to make people aware of the various issues pertaining to environmental concern including climate change and their aftermaths through their writing. Eco criticism a branch of literature again is wholly dedicated for the interdisciplinary study of connections between literature and the environment. It takes the holistic approach based on the contribution from natural scientists, writers, literary critics, anthropologists and historians in examining the difference between nature and its cultural constructions. As always has, definitely literature will help imagine new solutions, make people care and help us reimagine our relationship with natural world. In the last few years, the popularity of climate change literature has skyrocketed, as people become more aware of the urgent need to address the issue. This literature can help scientists, policymakers and the readers and surely serves as a warning of what could happen if we don't take action now. Literature had played and has an essential role to play in dealing with climate change and all other environmental issues.

Keywords*: Literature, environment, writers, ecocriticism, climate change literature*

Propranalol a Potential Antihypertensive Drug-Literature Review

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Abstract

Propranalol is a class of drug that bind to β adrenoceptors and inhibits the binding action of epinephrine and nor epinephrine. The drug inhibits simply the normal sympathetic action and is a non selective competitive antagonist. Nerves of Sympathetic system release nor epinephrine which binds to β receptors, Propranalol blocks these receptors by prefential binding to these receptors. It is widely used to treat cardiovascular disorders like hypertension, angina, arrhythmia and myocardial infractions. It has a potential to be used in non cardiovascular conditions like hyperthyroidism and migraine and anxiety. It is much effective drug for patients suffering from irregular heart beat (both ventricular and supra ventricular tachycardia. It is naphthalene derivative having propan-2 ol linked with ether linkage to the naphthalene base. It is having N isopropyl substituted amine group at the end carbon of propanol group. It exist in two isomeric forms and out of which S- form has been reported to be 100 time effective at the β adrenoceptors. The drug is also having some side effects like dizziness and nausea. It should not be used in patients suffering from Bradycardia.

Keywords: *Propranalol, tachycardia, β adrenoceptors, epinephrine, antagonist*

Recent Trends in Nanomaterials for water purification applications

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Abstract

Our environment is constantly under threat due to increasing industry and urbanization which leads to clean water shortage. On the other hand clean water demand is raising day by day and there is growing need for superior purity water. Different materials are available for water purification but nanomaterials are suitable candidates among all due to their increased region of particular surface, nanoparticles often having a maximum density of active sites per unit mass, have a higher surface free energy, which results in increased surface reactivity. Many studies have presented that nanomaterials have enormous potential and capability in water and wastewater remediation, particularly in the areas of membrane process, adsorption, catalytic oxidation, disinfection, and sensing etc. Range of nanomaterials, such as graphene nanomaterials (GNMs), TiO_2 nanoparticles (NPs), nanoscale zero-valent iron (nZVI), Fe_3O_4 NPs, ZnO NPs, silver nanoparticles (Ag NPs), carbon nanotubes (CNTs), and some additional nanomaterials as well as various nanocomposite materials are reported in literature for water purification.

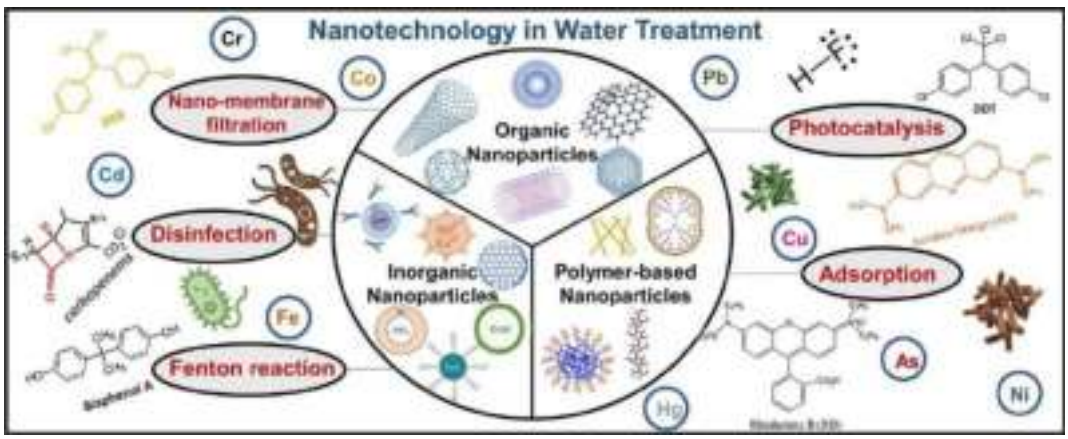

Fig.1 Different nanomaterials for water purifications.

Changes in Lifestyle and Health

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Abstract

The dynamic interplay between lifestyle choices and health outcomes is a subject of constant evolution, reflecting the intricate dance of societal, technological, and personal factors. Over the years, the global landscape has witnessed a profound metamorphosis in lifestyle patterns, ushering in a paradigm shift that extends its influence on individual well-being. In the contemporary milieu, sedentary routines and the omnipresence of digital technologies have become defining features of modern living. The prevalence of desk-bound occupations and screen-centric leisure activities has altered the physical activity landscape, contributing to a rise in health concerns. Concurrently, dietary habits have undergone a transformation, with a surge in convenient yet often nutritionally deficient food choices. Fast-paced urbanization has redefined the urban environment, influencing accessibility to green spaces and opportunities for physical exertion. These lifestyle modifications, in turn, have cast a profound impact on health. The surge in non-communicable diseases, such as cardiovascular ailments and metabolic disorders, underscores the intricate link between contemporary lifestyles and health outcomes. Mental health, too, stands at the crossroads of these changes, with stressors multiplying in the fast-paced, interconnected world. However, amidst these challenges, there is a growing awareness of the importance of holistic well-being. Initiatives promoting mindfulness, exercise, and balanced nutrition are gaining momentum. The narrative is shifting towards a proactive approach to health, emphasizing prevention over cure. In conclusion, the intricate interplay between lifestyle dynamics and health underscores the need for conscientious choices in the modern era. As society navigates this complex web, a mindful and proactive stance towards lifestyle and health emerges as the compass guiding individuals towards a resilient and balanced future.

Keywords: *metamorphosis in lifestyle, mental health, balanced nutrition*

Economic Strategies for Climate Resilient Development

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Abstract

Climate resilience is the "Capacity of Social & Economic Ecosystem to cope with the hazardous event or trend or disturbance because of Climate". Climate resilience is related to climate change adaptation efforts, it aims to reduce climate change vulnerability & includes considerations of climate justice & equity. It is generally considered to be the ability to recover from, or to mitigate vulnerability, to climate related shocks such as Floods & droughts. Climate resilient development has become a new paradigm for sustainable development, to achieve climate resilient development, financial & technical ecosystem need to be improved. Economics is concerned with the organization of the money, industry & trade of a country, region or society. Strategy is a general plan or set of plans intended to achieve something, especially over a long period, strategy is a long term plan with the aim of fulfilling the desired results or outcomes.

So, Economic strategies are the long term plans of a country, region or society, concerned with the money, industry & trade. Economic strategies are designed in such a way to achieve Economic sustainability & growth. With the increasing climate vulnerability & because of continuous & frequent climate changes, it has now becomes a necessity to mitigate it by developing beneficial Economic strategies. Economies of not only developed nations but also of developing ones should focus on long term sustainability by reducing emission of Greenhouse gases, promotion of paperless transactions, avoidance of over-mining for minerals & metals, bringing change in the methods of production/ manufacturing by developing environment friendly machinery, creation & development of sustainable & renewable sources of energy generation without disturbing the ecosystem of a region, development of Eco-friendly Infrastructure. Paper titled "Economic Strategies for Climate Resilient Development" is focusing on the different economic strategies that should be adopted by different Governments, Industrialists & Economists of the nations.

***Keywords**: Mitigate, Vulnerability, Adaptation, Sustainability, Ecosystem*

E-waste recycling

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Abstract

Electronic waste is an emerging problem across the globe. It is also a global environment issue. A recent report by United nation indicates that e-waste generation has grown over 55 metric tons yearly. The waste generates toxic materials and have much pollutant percentage. When these toxic materials are burnt in an uncontrolled manner, its consequences are hazardous. E-waste also produce precious materials such as gold, aluminum, platinum and silver. By retrieving all these materials technically, it can generate lot of revenue and leads to greater employment. It is also good for the environment. It can also one of the factor to reduce global warming.

The Himachal Pradesh State Pollution Control Board (HPSPCB) is a statutory authority entrusted to implement environmental laws &r ules within the jurisdiction of the State of H.P. E-waste (H.P. Management) Rules, 2016 came into force from the 1st day of October, 2016 which shall apply to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection and storage. Recently Himachal Pradesh state pollution control board launches state wide e-waste collection drive. It is an attempt to raise awareness among the people about the proper e-waste disposable.

Keywords: *E-waste, Global Warming, E-waste recycling*

Photocatalytic degradation of organic pollutant (Thiamethoxam insecticide) in water using TiO_2 and DOPED TiO_2

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Abstract

Water, constituting 71% of Earth's surface, is a vital and ubiquitous chemical substance with a molecular formula of H2O. Its presence in oceans, ice caps, clouds, lakes, and sea ice is maintained through processes like evaporation, transpiration, condensation, and precipitation. Oceans hold the majority, with 96.5% of Earth's water, while 1.7% resides in groundwater and glaciers. However, water pollution poses a significant threat, primarily due to untreated wastewater discharge, leading to environmental degradation and affecting diverse aquatic ecosystems. This pollution not only harms individual species but disrupts entire biological communities. Shifting focus to insecticides, these chemicals play a crucial role in various sectors, contributing to the agricultural productivity of the 20th century. However, the use of insecticides raises environmental concerns, with over 98% of them reaching unintended destinations, causing pesticide drift and contributing to water and soil pollution. Thiomax, a new-generation insecticide containing Thiamethoxam, is part of the neonicotinoid group and effectively controls pests like plant hoppers, aphids, thrips, and whiteflies. The study of metal and non-metal-doped TiO2 catalysts reveals their effectiveness in photodegrading thiamethoxam, an organic contaminant. The catalysts, prepared using the Deposition Precipitation method, show enhanced photocatalytic activity under visible light irradiation compared to pure TiO2, thanks to the doping with metals like N (nitrogen) and W (tungsten). Characterization through XRD, UV-DRS, and FE-SEM analyses confirms the improved properties of doped TiO2, with crystal size, band gap energy, and surface activity all showing positive changes. The optimal degradation efficiency for N-doped TiO2 was 93%, and for W-doped TiO2, it was 90%, both achieved under sunlight. The study emphasizes the importance of dopant concentration, catalyst amount, pH, and contaminant concentration for achieving optimal degradation performance.

Keywords: *Photocatalytic degradation, Thiamethoxam insecticide, TiO_2 , DOPED TiO_2*

Phytochemical constitution and propagation of some Indian species of *Eulophia* R. Br. (Orchidaceae)

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Abstract

Eulophia R. Br. is an Epidendroid orchid genus of more than 250 species out of which only 26 occur in India. Many of these species including *Eulophia andamanensis, E. dabia, E. epidendraea, E. graminea, E. herbacea* and *E. nuda* are therapeutically important as their tubers and aerial parts are reported to have alkaloids, phenols; flavonoids, β-Sitosterol, tetracosanoic acid, behenic acid, linoleic acid, palmitic acid, eruccic acid, oleic acid, arachidic acid, stearic acid, etc. They are therefore used as appetizer, stomachic, tonic, aphrodisiac, and remedies of heart troubles and purulent cough. Loss of habitat because of various anthropogenic activities is the main threat to the natural populations of these orchids across the country. Since the extract of pseudobulbs is consumed for varied medicinal properties, these are collected illegally and unscientifically, therefore threatening the survival. Plant tissue culture technology is important for *in vitro* propagation, phytochemical production and *ex situ* conservation of many orchids including *Eulophia* spp. Present communication attempts to present an updated review of phytochemical constituents and *in vitro* culturing of some therapeutically important Indian species of genus *Eulophia*.

Keywords: *Commercialization, conservation, mass propagation, orchids, phytochemistry, salep*

Efficacy of Silver-Based Nanoparticles For Treatment of Canine Demodicosis

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Abstract: Present investigation was conducted for incidence of demodicosis in dogs and its therapeutic management with special reference to herbal nano formulation. A total of 1200 dogs were screened for demodicosis and 35 cases were confirmed for demodicosis by skin scraping & PCR examination. Overall incidence of demodicosis was 2.91% (35/1200). Month wise incidence study revealed highest incidence in summer season (April-July) and lowest in the winter season (October-March). Dogs of 0-6 months and >3 years age group was found more susceptible to demodicosis during the study period. Sex wise incidence showed males were more susceptible to demodicosis. Breed wise incidence revealed crossbred dogs (34.28%) were more affected followed by American Pitbull (17.14%). The typical characteristics of *Demodex* spp. were confirmed in (20/35) 57.14% cases by skin scraping examination while PCR examination demonstrated (35/35) 100% by the amplification of an approximately 483bp. Sequencing of PCR products were analyzed by BLAST & the results indicated 99.7% identical to available sequences of *D. canis* MG372354 (1:99.7) and 98.8 identical with *D. canis* KU253790 (33:98.8) & MG372359 (1:96.8). The sequence of the PCR product of positive samples was submitted to NCBI GenBank for accession number and MK177513 accession number was obtained for GenBank. Anaemia, Leucocytosis, Eosinophilia, Hypoalbuminemia significant ($p<0.01$) increased in globulin, blood glucose, total protein were the characteristics haemato-biochemical changes in canine demodicosis. Among DLC, % of Lymphocyte were significantly ($p<0.01$) decreased, whereas granulocyte count was significantly ($p<0.01$) increased in *Demodex* infected dogs as compared to healthy dogs in the present study. Study of oxidant-antioxidant status of demodicosis, revealed a significant ($p<0.01$) reduction in the mean values TA (0.76 ± 0.04 mM), GSH (0.33 ± 0.03µM), SOD (3.41 ± 0.20µ/ml), LPO (0.06 ± 0.00nmol) in *Demodex* infected dogs. The therapeutic evaluation of herbal formulation against demodicosis revealed all the parameters viz, haemato-biochemical changes and oxidant-antioxidant status was improved on day 21 post therapy onwards which was similar with standard therapy i.e. Amitraz. From the present study it seems that Herbo-Nano medicine can be an effective alternative of Amitraz in case of demodicosis.

Keywords: *Demodicosis, Dog, Molecular Technique, Haemato-Biochemical, Oxidant-Antioxidant, Herbo Nano Medicine.*

Climate resilience development approach in Himachal Pradesh

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Abstract

Climate resilience development in Himachal Pradesh involves implementing strategies to adapt to and mitigate the impacts of climate change. This may include initiatives like sustainable agriculture practises, water shed management, afforestation and promoting renewable energy resources to ensure the state can withstand environmental challenges. Local community engagement and awareness are crucial components of building, climate residence. Climate resilience development in Himachal Pradesh is multifaceted and imperative endeavour, given the states susceptibility to the impacts of climate change as this region nestled in the Himalayas, Himachal Pradesh faces various challenges, including changes in the precipitation patterns, glacial retreat and an increased frequency of extreme weather events Himachal Pradesh is incorporating climate resilience features into infrastructure projects, considering factors like extreme weather events , landslides and changing precipitation patterns. Implementation of advanced early warning system helps communities prepare for and respond to climate related disasters, reducing the impact on lives and property. The state recognizes the importance of biodiversity in building climate resilience. Conservation efforts include the establishment of protected areas, afforestation programs, and initiatives to safeguard endangered species. In the study, Himachal Pradesh's journey towards climate resilience development encompasses a comprehensive approach that addresses the unique challenges posed by its geographical and climate conditions by promoting sustainable agriculture, watershed management afforestation and renewable energy, the state is actively working towards building a resilient and sustainable future. The integration of local communities into this initiative ensures that the benefits are widespread, and that Himachal Pradesh can navigate the challenges of a changing climate successfully.

Keywords: *Sustainable, Watershed management, Afforestation, Renewable energy, Biodiversity*

Social and Economic Impact of SJVN Ltd on Himachal Economy

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Abstract

Established on May 24, 1988, as a joint venture between the Government of India (GOI) and the Government of Himachal Pradesh (GOHP), SJVN Limited is a Mini Ratna, Category-I and Schedule - "A" CPSE that is administratively governed by the Ministry of Power, Government of India. SJVN is a listed company that has a shareholding pattern of 26.85% with the Himachal Pradesh government, 59.92% with the Indian government, and the remaining portion with the public. A public sector enterprise (PSU) of the Indian government, SJVN Limited is committed to producing electricity through hydroelectric power projects. Approximately 25% of the country's hydroelectric power potential is found in the Indian state of Himachal Pradesh. The development of hydropower is the main driver of the state of Himachal Pradesh's economic expansion because it directly and significantly boosts the economy by creating jobs, generating income, and improving living standards. This essay discusses how the general population views the effects of SJVN Ltd. and other development initiatives, as well as the necessity of sustainable development to preserve the environment in Himachal Pradesh's hilly and vulnerable regions. SJVN Ltd is playing a dominant role in the social sector through CSR. The corporate social responsibility initiatives at SJVN are spread over many domains, including, sports, health care and welfare, education, community development and infrastructure development, education, and culture/melas promotion.

Keywords: *SJVN (Satluj Jal Vidhut Nigam), Hydropower Projects, (HEP), Socio economic, CSR (Corporate social responsibility)*

Economic Evaluation of Swan Catchment area of Una District (H.P)

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Abstract

Swan River flows from North to West direction Una (H.P) with 73 tributaries. Catchment area of Swan River is about 1200 sq. Km and its length is 65 Km in H.P. It is popularly called as RIVER OF SORROW, as it often brings floods in rainy seasons. Approximately 10000 hc. Of land was affected by flood where annually 2000 hc. of fertile land which is not cultivated due to fear of floods. Ultimately the fertile land turned into barren one due to deposition of silt by floods. During past years loss of property, civil structure, human lives, and crops with the average loss of 15 Cr. annually took place. Due to huge loss and destruction Govt. has been made strenuous efforts to protect private properties and cultivable land by providing Flood protection measures in shape of embankments, spurs and wire crates etc. The catchment area was developed on Swan River under the Swan River Flood Management Programme. Total cost of catchment works was about 259 Cr with targeted investment was 215.85 Cr. out of which 86% i.e 185.64 Cr was utilized. 58500 trees were planted on 50 hc of different varieties along the catchment area by Forest Deptt. In addition check dams. The project activities included afforestation, civil works for soil and river management, soil protection and land reclamation and livelihood improvement activities. It has been expected that agricultural and forestry production has been improved and ushered socio- economic transformation generating employment, income and capital formation through project interventions. The overall impact of watershed interventions on capital formation in livestock tuned about 58%.The proportional increase in value of different livestock components were found to be highest in case of sale of stock, FYM , milk , ghee approx. 55-62%.The area under vegetables increased 3-6% whereas the total farm income was found to be highest followed by agricultural crops (34-35%) , fruit crops (2%) in both periods.

Keywords: *Economic Evaluation, swan catchment, flood management ,Una*

Promoting Climate Literacy and Education

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Abstract

We are well aware of the adversity faced in all spheres of earth due to climate change. Twenty first century has witnessed adverse effects of the acts of twentieth century and thereafter. After industrialisation and urbanisation, the resultant pollutants added to all spheres of earth caused global warming and climate change. Climate change has affected biodiversity including human life. At present the world is facing increased number of extreme events such as intensity and duration of rainfall, lightening, cloud bursts, landslides, cyclones, snowfall etc. These events have led to changes in growth and production of floral and faunal species making some to get extinct.

In this scenario it has become important to impart education and increase climate literacy to counteract the situation of climate change. Awareness about environment and climate has been made a part of education system in India and in particular Himachal Pradesh. Throughout year government focusses on various programmes to increase awareness about environment. This paper deals with various programmes implemented by the government to increase climate literacy.

Keywords: *Climate change, climate literacy, biodiversity, environment education*

Analyzing the policy framework for climate change adaptation

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Abstract

In light of the rapidly increasing rate of global climate change, this research examines the critical need for strong policy frameworks devoted to climate adaptation. In order to successfully traverse the complex issues brought forth by changing climate patterns, a comprehensive policy approach is needed. Key components of the framework include finance mechanisms, stakeholder engagement tactics, risk assessment methodology, adaptable governance structures, and the incorporation of cutting-edge technologies. The suggested paradigm highlights the interdependence of climate-related impacts and aims to provide an equitable and inclusive response, taking into account the diverse vulnerabilities of different populations. The importance of international cooperation in resolving cross-border climate challenges is emphasized. The policy challenges of delivering climate change adaptation specifically related to autonomous and planned adaptation, public–private decision-making, bottom-up adaptation policy-making, and policy implementation. Moreover, the policy framework advocates for flexibility and adaptability, acknowledging the dynamic nature of climate change. Continuous monitoring, evaluation, and adjustment are integral to ensuring that policies remain relevant and effective in the face of evolving climate risks. In order to guarantee that policies remain effective over time, the study supports a dynamic and iterative implementation strategy that makes continual review and adaption easier.

This analysis aims to contribute insights into the strengths and limitations of current policy frameworks for climate change adaptation. By understanding these aspects, policymakers, researchers, and stakeholders can work collaboratively to enhance existing frameworks and develop more robust strategies to navigate the challenges presented by a changing climate.

Keywords: *adaptation, climate change, policy framework, stakeholders*

The Role of Nematodes on Human Health, Soil and Water Ecosystems

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Abstract

Nematodes are found in almost all habitats but often overlooked because most of them are microscopic. Many species are parasites of vertebrates including humans or of insects and other invertebrates. Other kinds are parasites of plants. Nematodes are abundant in marine, freshwater and soil habitats. Nematodes play a crucial role in both health and hygiene, as well assoil and water ecosystems. Certain nematodes are beneficial for human population they act as predators of harmful insects, acting as a natural pest controlling agents in crops, these are called entomopathogenic nematodes e.g. *Steinernema* and *Heterorhabditis* spp. Some nematodes exhibit mutualistic relationship with plants, help in the absorption of nutrients and promotes the growth of plants e.g. *Heterodera* and Meloidogyne spp.

In soil ecosystem, nematodes contribute to nutrient cycling by decomposing organic matters and release essential nutrients for the growth of plants. Some nematodes also act as soil indicators, to check the quality of the soil. In water, nematodes are integral part of aquatic ecosystem. They act as nutrient cycling, affecting water quality and influencing the composition of microbial population e.g. free living nematodes. The multifaceted role of nematodes is essential for maintaining balanced and sustainable ecosystem, promoting agricultural productivity and ensuring overall health of both aquatic and terrestrial environments.

Keyword: *Nematodes, Health, Soil, water, Ecosystem and parasites*

REDEFINING LIBRARIES : Post COVID-19 Transformation

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Abstract

This paper attempts to preconceive the notion of the respondents, who have been struggling to babble with the digital transformation brought about after a sudden unimagined situation of a pandemic throughout, in and outside library spaces. The main idea propagates from the philosophy that every challenge comes with an opportunity, like sediments flow from the hill top with waterfalls. Traditional library, a space with piles of knowledge sacks and racks accompanied by a custodian have been transformed into a much free and liberal space in the 21st century. However, libraries occupied digital spaces before Covid-19 as well, but their availability and approach have always been confined and restricted, spaces not defined well. The undeniable need for digital sources in place of libraries rose exponentially in developing countries like India only after 'work from home' phase of 2019 pandemic. But the vastness and validity are the two main issues that counter the response to these gates of knowledge. Also, who can deny the significance of engaging oneself in physical spaces rather than appearing virtually, everywhere and nowhere. Thus, there arises a need to develop a not very rigid, yet not too flexible mode. This hybrid mode of library, blending of physical space of interaction and community with virtual platforms of accessibility and convenience, without discounting the role of librarians as nothing less than digital curators and community builders can wholly transform the library and its services.

Keywords: *Digital transformation, Digital spaces, Vastness and validity, Physical space of interaction, Virtual platforms, Digital curators*

Efficient Use of Mathematics in Economics: A Study

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Abstract

Mathematics is used everywhere around the world. Mathematics has an important place in the study of economics. It is almost impossible to know the reality of various economic relationships without the help of mathematics. Economics is generally the study of tax, profit, loss, budget making, revenue calculation and input output analysis, for which mathematics is required for various types of calculations. There are two main objectives of using mathematics in economics, in which the first one is to use the mathematical tools required to make and understand economic logic and secondly to make a comfortable talking about economics by using the shorthand of mathematical technique. The application of mathematical techniques to the analysis of economic problems is a methodological possibility. This technique often called as Mathematical economics. This Mathematical economics is the application of mathematical methods to represent theories and analyse problems in economics. Economists often use various types of math to ensure their personal judgments, inferences or theories are supported by meaningful calculations. Differentiation is extensively used in economic research to study functional relationships between economic variables. Microeconomic theories such as the demand theory uses derivative to measure the price elasticity of demand, income elasticity of demand and cross elasticity of demand. In mathematics, the concepts of input and output are related to functions. A function's input and output are both variables subject to change. In simple mathematical terms, the input goes into the function, and the output is something that the function produces. The aim of this paper is to study basic mathematical tools that are often used in all fields of economics - microeconomics, macroeconomics, business economics and econometrics.

Keywords: *Mathematics, Economics, Calculations, Functions, Mathematical Tools*

Water Management in a Changing Climate

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Abstract
Water management plays an important role in food production and the management of ecosystems. Climate change is expected to affect the hydrological cycle and the availability of freshwater resources for agriculture. The relationship between climate change and water cannot be analyzed in isolation. It must be situated within the larger context of socio-economic development. The main factor which effect this management, particularly population growth, increased food consumption, and urbanization, all have significant influences on the quantity and quality of water resources. Climate change puts greater pressure on water resources in areas where the sustainable management of water resources is already extremely challenging. Observed data show that changes in water quantity and quality due to climate change are expected to negatively affect food security and increase the vulnerability of poor rural farmers, especially in arid and semi-arid areas. In many regions, agricultural production is already being adversely affected by climate change. Between 1961 and 2011, global agricultural output more than tripled. The higher demand for food, fibre and other agricultural products has been met mostly by an increase in agricultural productivity. The expansion of agricultural land has remained relatively limited. Total cultivated land increased by only 12 percent between 1961 and 2009, but productivity more than doubled. The amount of land needed to produce food for one person has decreased from 0.45 hectares in 1961 to 0.22 hectares in 2009. During the same period, the extent of irrigated land more than doubled, increasing from 139 to 301 million hectares. With the doubling of irrigated area, water withdrawals for agriculture have been rising sharply. Globally, agricultural water withdrawals represent 70 percent of all withdrawals. However, as water resources are very unevenly distributed, the impact of these withdrawals varies substantially between countries and regions.

Keywords: *Ecosystem, Climate change, Hydrological Cycle, urbanization, pressure*

Importance and Use of Mathematics in Economics

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Abstract

Mathematical economists like Jevons, Walras, and Fisher are often credited with creating the field in the latter part of the 19th century. It would appear that the debate regarding whether or not economics should be taught in mathematics was particularly during the 1870s and 1880s. Mathematics helps economists to perform quantifiable experiments and create models for predicting future economic growth. Quantitative methods have become an essential part of economics and played a major role to advances in computing power, large-data techniques, and other cutting-edge mathematical technologies. Calculus, probability, statistics, linear programming, and game theory as well as other areas of Mathematics are used to analyze, interpret and predict various economics factors and systems such as price and market action, production cost, business trends and economic policy. This paper aims to investigate fundamental mathematical tools that are frequently utilized across all economics disciplines.

Keywords: *Economics, Mathematics, production cost, linear programming and game theory*

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सारांश

वर्तमान में जल के कु प्रबधं्ान तथा जल की बर्बादी के कारण मनुष्य के उपयोग योग्य जल की निरंतर कमी होती जा रही है इसलिए जीवन के लिए अति आवश्यक बहुमूल्य संसाधन जल का उचित प्रबंधन आवश्यक है सपं ूर्ण विश्व आज भी बडी़ समस्या से जूझ रहा है वह है जल प्रबंधन या जल सरंक्षण। जल सरंक्षण आज एक ऐसी विश्वस्तरीय समस्या का रूप ले चुका है जिसके समाधान के लिए आज संपणर्ूा समाज को संयुक्त रूप से अंतरराष्ट्रीय स्तर पर सतत प्रयास करने की आवश्यकता है। प्राकृतिक संसाधनों में मनुष्य के लिए वायु के बाद जल का महत्व पणर्ूा स्थान है। इसके अभाव में जीवन की कल्पना भी नहीं की जा सकती जल ही जीवन है। जल है तो कल है। जल मानव की मूल आवश्यकता है। पृथ्वी के धरातल का 71ः भाग जल से परिपणर्ूा ा है। जिसमें अधिकतर हिस्से का पानी खारा अर्थात पीने योग्य नहीं है। पृथ्वी पर मनुष्य के लिए जितना पये जल विद्यमान है। उसे अधिकतर जल प्रदूषित हो चुका है। जिसके कारण पये जल की समस्या उत्पन्न हो गई है। जिस अनुपात में जल प्रदूषण की वृद्धि हो रही है, यदि वृद्धि यूं ही रही तो वह दिन दूर नहीं जब अगला विश्व युद्ध पानी के लिए लडा़ जाएगा, इसलिए जल प्रबंधन की आवश्यकता है। यदि हम जल प्रबंधन को प्राथमिकता नहीं देगं े, तो हमारे बच्चे और आने वाली पीढी़ पानी की कमी से पीड़ित रहेगी। जल के उपयोग को कम करने एवं उसके सरं क्षण के लिए जनसंख्या पर नियंत्रण भी आवश्यक है। जल को सरं क्षित करने के लिए गांवो में बड़े बड़े तालाबों एवं पोखरों का निर्माण किया जाना चाहिए। जिसमें वर्षा का जल सुरक्षित हो सके जल प्रदूषण एवं अन्य कारणों से उत्पन्न जल संकट के लिए मनुष्य ही जिम्मेदार है। इसलिए अपने अस्तित्व नहीं पृथ्वी की रक्षा के लिए जल संरक्षित करना होगा तभी इस समस्या से निजात पा सकते हैं। परमात्मा द्वारा दिए गए उपहारों जैसे पृथ्वी जल तेज वायु आदि का हमें सम्मान करना चाहिए। जल सरं क्षण वृक्षारोपण में भी सहायक साबित होता है वृक्ष वर्षा लाने एवं पर्यावरण में जल के सरं क्षण में सहायक होते हैं। इसके अतिरिक्त वृक्ष वायुमंडल में नमी बनाए रखते हैं और तापमान की वृद्धि को भी रोकते हैं, इसलिए जल संकट के समाधान के लिए वृक्षों की कटाई पर नियंत्रण कर वृक्षारोपण को प्रोत्साहन करने की आवश्यकता है। नदियों के जल के प्रदूषण को नियंत्रित करने के लिए नदियों के किनारे स्थापित कारखाने को अपशिष्टों को नदियों में प्रवाहित करने से रोकना होगा शहरो की नालियों के गंदे पानी को भी नदियों में बहाया जाता है। कारखाने के गंदे पानी के उपचार के लिए विभिन्न प्रकार के सयं ंत्र लगाने होगं े इन सब के अतिरिक्त जल प्रबधं्ान को विशेष महत्व दिए जाने की आवश्यकता है। ऋग्वदे में लिखा है ‘‘आपो वैः सर्वा देवता’’ मत्स्य पुराण में कहां है 10 कुओं के बराबर एक बावड़ी दस तालाबों के बराबर एक पुत्र। हमारी सस्ं कृति में पानी को वरुण देवता माना गया है तथा उसमें नारायण का वास बताया गया है, नदियों को मां की संज्ञा दी गई है। सागर मंथन से यह बात स्पष्ट हो गई थी कि जल अमृत है और विष दूषित जल रहिमन पानी राखिए बिन पानी सब सून

मलूवतके: *जल सकंट, पर्यावरण प्रदूषण, जल प्रदूषण, जनसंख्या वृद्धि, पर्यावरण सरंक्षण, अपशिष्ट जल*

Determination of Haemotological Parameters of Native chicken of Himachal Pradesh and Comparison with Dahlem red Breed

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Abstract
Backyard poultry farming has become a promising enterprise for farmers in India. Free range backyard poultry production of rural areas of Himachal Pradesh comprises mainly of Native chicken breed. The study was conducted with the objective of finding baseline values of haematological parameters of Native chicken of Himachal Pradesh , comparing them with exotic breed Dahlem red and observe the alteration in these parameters. The study was conducted on twenty healthy birds which were divided into two groups, each group having five males and five females of Native and Dahlem red breed. Twenty blood samples were collected. The haematological parameters namely, haemoglobin, packed cell volume, total erythrocyte count, total leucocyte count, differential leucocyte count, mean corpuscular haemoglobin, mean corpuscular volume and mean corpuscular haemoglobin concentration were estimated using standard analytical techniques. It was found that paramters were significantly ($p<0.05$) different among the breeds which can be due change in genotype.

Keywords: *Native chicken, Dahlem Red, haematological parameters*

Strengthening EWS for Extreme Weather Events

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Abstract

Extreme weather, defined as unusual meteorological occurrences at the edges of a region's usual climate, marked by occurrences like heat waves, cold snaps, and intense storms such as tropical cyclones, disrupts the usual climate boundaries of a region, causing substantial economic losses in infrastructure, agriculture, and property. The ripple effects extend to human life, encompassing threats from heat-related illnesses, cold exposure, flooding, storm incidents, and the collateral consequences of droughts, floods, and landslides. Severe weather, a subset of extreme weather, directly imperils people and property. To address these risks, Early Warning Systems (EWS) have been implemented, functioning as adaptive measures for climate change. These systems leverage integrated communication channels to empower communities in preparing for hazardous climate-related events. The success of an EWS is gauged by its capacity to save lives and protect jobs, land, and infrastructure, contributing significantly to long-term sustainability. Public officials and administrators benefit from these systems, aiding in strategic planning that results in cost savings and economic resilience. A people-centred warning system outperforms those reliant solely on government action. The triad of essential EWS elements includes the efficient collection and analysis of data from weather instruments, accurate forecasting of disaster intensity and outcomes, and the timely dissemination of impactful information to the public through an official source. A delay or malfunction in any of the elements can lead to a collapse in the system. A robust EWS not only promptly predicts, forecasts, and warns about hazardous events but also serves as an invaluable tool during natural calamities. Its effectiveness ensures swift and efficient responses, safeguarding the safety and well-being of communities in times of crisis. The present paper talks about enhancing the most common methods of warning systems.

Keywords: *Early Warning Systems, Extreme Weather, Forecasting, Weather, Climate Change, Integrated communication systems, Intense storms, Adaptive measures, Long-term sustainability*

Molecular vibrations responsible for melting of glaciers

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Abstract

Glacier melts are primarily influenced by factors related to heat and energy transfer rather than molecular vibrations. However, molecular vibrations do play a role in the broader context of the physical properties of ice and its response to temperature changes. Ice is a crystalline solid composed of water molecules arranged in a hexagonal lattice structure. The water molecules in the ice lattice are held together by hydrogen bonds. These hydrogen bonds are dynamic and allow for molecular vibrations within the ice structure. When external energy, such as heat, is applied to ice, it increases the kinetic energy of the water molecules. The molecular vibrations become more pronounced, causing the ice crystals to absorb energy and transition from a solid to a liquid state. This process is known as melting. In the context of glaciers, the primary factors which affect the melting are related to heat absorption from the surroundings, primarily from air and sunlight. Some important factors which are responsible for the glacier melts are air temperature, solar radiation geothermal heat black carbon and dust. Higher air temperatures can transfer heat to the glacier and which led to melting at the surface. Sunlight can provide a significant amount of energy to glaciers. The absorbed solar radiation can cause localized melting, especially on the glacier's surface. The heat from the Earth's interior can also contribute to glacier melting, although this is generally a minor factor compared to external heat sources. Dark particles such as black carbon and dust can absorb more sunlight, leading to localized warming and increased melting where these particles accumulate on the glacier surface. While molecular vibrations are integral to the phase transition from ice to water, the macroscopic processes involved in glacier melts are more influenced by external factors and energy transfer at the Earth's surface. Understanding these complex interactions is crucial for predicting the behavior of glaciers in the context of climate change and other environmental factors.

Keywords: *Glaciers; Molecular Vibrations; Water; Degrees of Freedom*

पर्यावरण संरक्षण में साहित्य की भूमिका

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संदर्भ

आधुनिक जीवन की कैसी विडंबना है कि हम प्रकृति से निरंतर दूर होते जा रहे हैं। यहां दूरी से मतलब स्थानीय दूरी से नहीं बल्कि प्रकृति की सहभागिता और सहचार्य से है निरंतर प्रकृति की उपेक्षा करता मानव यह भूल जाता है कि उसके शरीर की रचना प्रकृति के पांच तत्वों से मिलकर ही बनी है अर्थात प्रकृति जो मानव के तन व मन दोनों में व्याप्त है । प्रकृति के अभाव में सुखमय मानव जीवन की कल्पना नहीं की जा सकती। तुलसीदास ने रामचरितमानस के किष्किंधा कांड में यही लिखा है कि——--

“क्षिति जल पावक गगन समीरा

पंच रचित अति अधम सरीरा”

अत: प्रकृति से छेड़छाड़ का ही नतीजा है कि हम मौसम की मार झेलने को बेबस है प्रकृति व पर्यावरण को नुकसान पहुंचाऐ जाने के कारण ही मौसम में लगातार बदलाव आ रहा है। असमय बारिश, आंधी व ओलावृष्टि इसी का संकेत है। मौसम वैज्ञानिकों व विशेषज्ञों के अनुसार मौसम में तेजी से बदलाव के कारण स्थिति भयावह होती जा रही है और उनका कहना है कि यदि हम नहीं सुधरे और इसी तरह प्रकृति के साथ छेड़छाड़ करते रहे तो स्थिति और गंभीर हो सकती है । ग्लोबल वार्मिंग और अन्य कारणो से वैश्विक स्तर पर हो रहे जलवायु परिवर्तन का असर पिछले काफी समय से दिखाई पड़ रहा है वास्तव में इंसान अपने भौतिक सुखों की पूर्ति के लिए जिस प्रकार पर्यावरण के साथ छेड़छाड़ कर रहा है तथा प्राकृतिक संसाधनों का अंधाधुंध विदोहन कर रहा है वह भविष्य में पूरी दुनिया के लिए बेहद ही घातक सिद्ध होने वाला है ।

हजारी प्रसाद द्विवेदी ने अपने निबंध **कुटज** में लिखा है **कि “यह धरती मेरी माता है और मैं इसका पुत्र हूं इसीलिए मैं सदैव इसका सम्मान करता हूं और मेरी धरती माता के प्रति नतमस्तक हूं”** आलोच्य कहानी **“आभी”** के माध्यम से भी **कहानीकार हरनोट** ने यही संदेश दिया है और पर्यावरण के क्षरण को लेकर चिंताएं व्यक्त की है। इस प्रकार **“कामायनी”** संभवत पहली रचना है जिसमें प्रकृति और पर्यावरण को अलग-अलग करके देखा गया है और पर्यावरण संतुलन की समस्या पर विचार किया गया है प्रकृति के साथ तालमेल और उत्प्रेरण का शानदार उदाहरण आधुनिक काल के हिंदी साहित्य का छायावादी काव्य है जहां प्रकृति सिर्फ लुभाती नहीं है तथा प्रसन्नता व सुख-दुख की साथी भर नहीं है। वह प्रेरणा है, बंधन से मुक्ति की ।

साहित्य और पर्यावरण अभिन्न है।छायावाद के महत्वपूर्ण कवि सुमित्रानंदन पंत **“प्रकृति के सुकुमार”** कवि कहलाए तो सूर्यकांत त्रिपाठी निराला ने स्वयं को **“वसंत का अग्रदूत”** कहा। महाकाव्यात्मक कथानकों को आधार बनाकर आधुनिक काल में लिखी गई कई रचनाओं में जनजीवन और प्रकृति का बदला हुआ संबंध साफ देखा जा सकता है और ऐसे हिंदी साहित्य में कई उदाहरण है।अत: कहा जा सकता है कि पर्यावरण संरक्षण में हिंदी साहित्य का महत्वपूर्ण भूमिका रही है ।

Towards Resilient Futures: A Comprehensive Policy Framework for Climate Adaptation

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Abstract

As the impacts of climate change continue to intensify, the need for robust policy frameworks to guide climate adaptation efforts becomes increasingly imperative. This paper presents a comprehensive policy framework designed to address the multifaceted challenges posed by a changing climate. The framework encompasses key pillars, including rigorous risk assessment, research-driven decision-making, and community engagement. Emphasizing the integration of adaptation considerations into diverse sectors, such as infrastructure development and early warning systems, the framework aims to foster resilience at local, national, and international levels. The paper delves into the significance of building adaptive capacity through targeted capacity building initiatives and the establishment of effective financial mechanisms to support adaptation projects. It explores the role of legislation and regulation in promoting climate-resilient practices, emphasizing the need for a harmonized approach that aligns with broader development plans. Furthermore, the paper underscores the importance of ecosystem-based approaches in reinforcing adaptive measures. Drawing on examples from successful implementations, both domestically and globally, this paper aims to provide policymakers, researchers, and practitioners with insights into designing and implementing effective climate adaptation policies. The proposed framework serves as a roadmap for creating adaptive, sustainable, and equitable communities in the face of an everchanging climate landscape.

Keywords: *Climate Adaptation, Policy Framework , Resilient Futures, Risk Assessment, Community Engagement.*

Promoting Climate Literacy and Education: A Pathway to Sustainable Future

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Abstract

Climate change poses unprecedented challenges globally, demanding a concerted effort towards education and literacy as essential tools for addressing this crisis. This paper explores the significance of climate literacy and education in empowering informed decision-making, fostering environmental stewardship, and building resilience against the impacts of climate change. It highlights challenges such as misinformation and curriculum limitations while proposing strategies like curriculum integration, experiential learning, community engagement, and digital platforms to enhance climate literacy. By equipping individuals with the knowledge, skills, and attitudes needed to comprehend and respond to climate change, this paper emphasizes the pathway to a more sustainable and resilient future.

Keywords: *Climate literacy, Education, Sustainability, Resilience, Climate change adaptation*

Role of Literature in Climate Change Advocacy

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Abstract

Literature has served two roles since antiquity .To some, it is art for art's sake and to others it is the mirror of contemporary society. Great literature is always built upon these two concepts. Down the ages critics have analysed several contemporary issues of literary values like classicism, neoclassicism, romanticism, postmodernism, de-construction, Marxism, modernism, postmodernism ,post colonialism and feminism and so on. But literary studies for a long time did not pay any attention to a serious issue which is the environmental concern as represented in literature.The world has suffered a lot from global ecological crisis mostly due to human ferocity on nature. So literature cannot turn its face away from this. Towards the end of the previous century, a new era of studying literature came into existence. It is a scholarly approach to studying nature writing which is popularly known as eco-criticism. This environmentally oriented study of literature is also known as environmental literary criticism, green studies etc. The present topic explores the several eco critical issues as represented in the great nature novel Aranyak (Of the forest) by one of the major novelist named Bibhutibhushan Bandyopadhyay. The present work will try to investigate how this long prove prose narrative can lead the self-realization of a city dweller about his sin of deforestation although he had not any love for forest life in the beginning of the novel. As the novel progresses we see a gradual change in his attitude to nature. His initial ego consciousness yields place to his eco consciousness at the end. Human nature interconnection which is the very basis of ecocriticism is paramount in the novel .Climate change is a major global challenge today and the world is becoming more vulnerable to this change. It refers to the change in earth's climate condition. It has an adverse effect on environment and ecosystem. There are many factors such as volcanic eruptions, floods ,forest fires etc. which are responsible for this change. Human activities such as deforestation, burning fossil fuels ,farming livestock etc. generate an enormous amount of greenhouse gases. The government has taken many measures to improve the dire situation of climate change.

Keywords: *Literature, Environment, Awareness, Ecological and Forest*

Changes in Lifestyle and Health

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Abstract

The link between lifestyle choices and health outcomes has become ever more pronounced in current society. This abstract examines the multifaceted relationship between changes in lifestyle and their impact on individual as well as public health. Over recent decades, profound shifts in societal norms, technological advancements, and economic patterns have ushered in transformative alterations in how individuals live their lives. One of the crucial aspects is the evolution of dietary habits, the prevalence of fast food, sedentary lifestyles, and diminished emphasis on nutritious choices has contributed to a surge in lifestyle-related health issues such as obesity, diabetes, and cardiovascular diseases. Furthermore, the dawn of technology has led to a more sedentary existence, with increased screen time and reduced physical activity contributing to a decline in overall fitness levels of people. The psychological dimensions of lifestyle changes cannot be ignored. The uninterrupted connectivity enabled by smartphones and social media has altered the nature of human interactions, impacting mental well-being. Stress, anxiety, and sleep disorders have become increasingly prevalent, underscoring the complex relationship between lifestyle choices and mental health outcomes. While lifestyle changes have brought about challenges, they have also opened avenues for positive transformations. The growing awareness of the importance of holistic well-being has prompted a surge in fitness trends, mindfulness practices, and a renewed focus on balanced nutrition. Individuals are increasingly embracing wellness as a comprehensive concept that encompasses physical, mental, and emotional health. At the societal level, the implications are profound. The shift towards healthier lifestyles has prompted policymakers to reevaluate public health initiatives, emphasizing preventive measures and health education. Employers are recognizing the importance of employee well-being, fostering workplace environments conducive to healthy living. It can be said, the dynamic interchange between lifestyle choices and health outcomes highlights the need for an all-inclusive understanding of well-being. As individuals and societies grapple with the challenges and opportunities presented by evolving lifestyles, there is a growing recognition that health is not merely the absence of illness but a overall state encircling physical, mental, and social dimensions. Addressing the complexities of this relationship requires multifaceted strategies that encompass individual choices, societal norms, and public health interventions.

Keywords: *health, technological advancement, sedentary lifestyle, mental well-being, mindfulness, healthy living*

Electrical and Electronic Equipment Waste: A Growing Environmental, Human Threat and its Management

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Abstract

In India Electrical and Electronic Equipment Waste(WEEE) or 'e-waste' is a growing threat to public health and the global environment. The total waste generated by obsolete or broken down electronic and electrical equipment is estimated to be 16.01 lakh tonnes in 2021-22 and only 5.27 lakh tonnes was collected and processed as per the data from the Central Pollution Control Board(CPCB). India Currently ranks third among the largest generations of e-waste globally after China and the US. In Delhi alone, 50000 workers including children are involved in dismantling and handling e-waste by bare hands that consist of various metals like Silver, Gold, Lead etc. Improper dismantling and processing of e-waste leads to harmful effects on human health and our ecosystem. In this paper, we discuss various e-waste sources and their constituents and health impacts along with various strategies to combat this growing menace and effective implementation of e-waste management rules 2016 as designed by the Government of India. It was found that even e-waste recycling operations are causing high levels of polychlorinated dibenzofurans(PCCD/Fs) in the environment as well as in humans. For e-waste management many technical solutions are available, but to be adopted in the management system, prerequisite conditions such as legislation, collection system, logistics and manpower should be prepared. This may require operational research and evaluation studies.

Keywords: *Electronic, Ecosystem, Processing, Health, Management*

Role of Nuclear Energy in Climate Change

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Abstract

The present scenario demands the reduction in the carbon footprint to mitigate the adverse effect being experienced by the modern world. A carbon footprint is a simple way to express that impact. The "size" of your carbon footprint depends on multiple factors. The primary one is the amount of greenhouse gas emissions released into the atmosphere by a given activity. Nuclear power is one of the world's energy sources, that **emits the least greenhouse gases.** Its very low CO_2 emission rate - four times less than solar energy for example - makes it an essential energy source for **the low-carbon transition and hence a best alternative to control the harmful changes in the climate . Currently,** there are about 437 operational nuclear reactors for electricity generation across 32 countries around the world, with 60 further nuclear reactors being constructed in 18 countries. Put together, nuclear plants provided around 10% of the world's electricity production in 2021. Nuclear power has a minimal carbon footprint of around 15–50 grams of CO_2 per kilowatt hour (gCO_2/KWh). In comparison, the average footprint of a gas-powered generator is around 450 gCO_2/KWh and for coal it is around 1,050 gCO_2/KWh. Nuclear power can therefore contribute to the de-carbonization of the global energy system thus assisting in the maintenance of better climatic conditions. According to roadmap designed for bringing energy-related CO_2 emissions to net zero by 2050, global nuclear capacity would need to almost double from current levels to reach 812 gig watts (GW) in 2050.

Keywords*: Nuclear Power, Carbon Footprint, Climate*

Impact of modern lifestyles on Environment

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Abstract

The lifestyle can be defined as habits, attitudes, tastes, moral standards, economic level, etc., that together constitute the mode of living of an individual or group. The modern lifestyle has several advantages which includes easing people's life, saving hundreds of people's lives by the new development of medicine and vaccines. But modern lifestyle also led to too much pressure on Earth's resources. Simple example: Petroleum products. Global warming also called as climate change is an outcome of modern lifestyle. The more modern you want to become the more waste you will produce. In the present scenario we are also using commodities without thinking about their impact on our planet. This over convention of goods has caused dramatic rise in waste generation putting enormous pressures on earth's natural resources. Accordingly, modern lifestyle choices have significant impact on the environment. The growing uses of fossil fuels, greenhouse gas emission, and deforestation as well as access resource consumption are major contributors to environmental degradation. Now it is high time to recognize the gravity of the situation and do something about it. In this paper I would like to discuss the consequences of modern lifestyles on our environment and adopting sustainable practices that minimize waste and promote responsible use of resources. We are responsible for protecting our planet, and it is essential to prioritize sustainability in our lifestyle.

Keywords*: Lifestyle, habits, development, consumption, environment*

Insights into Biomedical Waste Management: Methods And Guidelines

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Abstract

The volume of biomedical waste (BMW) generated daily is increasing along with the expansion of healthcare facilities. Waste materials containing infectious or possibly contagious components, such as research, laboratory, or medical waste, can be classified as biomedical waste. This waste can be either liquid or solid. Improper handling of BMW may likely result in infections among hospital staff, patients who are visiting the facilities, and members of the community. Many of the related problems can be avoided with proper biomedical waste management. As part of healthcare waste management, biological waste is frequently separated, stored, processed, transported, and disposed of. An extensive overview of the subject of biomedical waste management is provided in this paper. It describes BMW and explains the various methods used to manage it in healthcare settings, as well as how it is classified. Subsequently, the paper looks at various approaches for the treatment of biomedical wastes, ranging from state-of-the-art technology to conventional methods like autoclaving and incineration. Also, the guidelines for disposing of biomedical waste take up a significant portion of the paper. It looks into the appropriate practices in healthcare settings and covers both national and international legislation comprehensively. Emphasis is placed on the healthcare workers' responsibility to follow these rules, highlighting the necessity for a team effort to ensure proper waste management.

Keywords: *Biomedical waste, management, treatment, practices, regulations*

Changes in lifestyle and Health

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Abstract

It's quite intriguing how our way of life can have a profound impact on our overall well-being. So, let's dive into it, shall we? In recent years, there has been a growing awareness regarding the importance of a healthy lifestyle. People are realizing that the choices they make can have significant consequences on their physical and mental health. As a result, we're witnessing some fascinating changes taking place. Firstly, there's been a shift towards incorporating more physical activity into our daily routines. It seems like folks are finally recognizing the immense benefits of moving their bodies and shunning the sedentary lifestyle. From engaging in regular exercise to opting for active means of transportation, the trend of being more physically active is on the rise.

Secondly, there has been a notable change in dietary habits. People are becoming more conscious of what they put on their plate. There's a greater emphasis on wholesome, nutrient-rich foods while reducing the consumption of processed and unhealthy options. Embracing plant-based diets, mindful eating, and seeking out organic and locally sourced produce are becoming common practices. Additionally, mindfulness and self-care practices have gained significant attention. People are realizing the importance of taking care of their mental and emotional well-being. Whether it's through meditation, yoga, or simply embracing moments of relaxation, cultivating inner peace and balance is becoming an integral part of many individuals' lives.It's incredible to witness how these lifestyle changes are positively impacting our health. Increased physical activity helps reduce the risk of chronic diseases, boosts cardiovascular health, and enhances overall fitness. Opting for a nutritious diet means providing our bodies with the essential nutrients they need, improving immune function, and decreasing the likelihood of obesity and related issues. Beyond the physical benefits, embracing mindfulness and self-care practices leads to reduced stress levels, improved mental clarity, and enhanced overall happiness. By carving out time for ourselves and prioritizing self-love, we're fostering a healthier mindset and emotional well-being. All in all, the changes in lifestyle we're witnessing are undoubtedly for the better. As people become more informed and empowered, they're taking charge of their health and making choices that contribute to their overall vitality. And that, my love, is something to celebrate! So, what are your thoughts on these changes? How do you see them affecting our lives in the long run?

Biophysical Factors and Computational Assessment of Hepatotoxicity in Mammals Caused by Type II Pyrethroids

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Abstract

Type II pyrethroids are widely used synthetic insecticides known for their potency against pests. However, concerns regarding their potential hepatotoxicity in mammals have emerged due to prolonged exposure. This comprehensive review delves into the biophysical aspects underlying type II pyrethroid-induced liver toxicity and explores computational tools for assessing and predicting these effects. The hepatotoxicity of type II pyrethroids involves multifaceted biophysical mechanisms. Metabolism within the liver, mediated by cytochrome P450 enzymes, plays a crucial role in the conversion of these compounds into metabolites, some of which may possess enhanced toxicity compared to the parent molecules. Furthermore, type II pyrethroids have been shown to interact with liver receptors and enzymes, disrupting normal physiological processes. In this review, we provide a detailed examination of these biophysical factors and their implications for hepatotoxicity. We explore the molecular interactions between type II pyrethroids and liver components, shedding light on potential mechanisms of toxicity. Additionally, we discuss the relevance of membrane disruption and the involvement of intracellular signaling pathways in hepatotoxicity. To aid in the assessment and prediction of type II pyrethroid-induced hepatotoxicity, this review discusses computational approaches and tools. These include quantitative structure-activity relationship (QSAR) modeling, molecular docking simulations, and toxicogenomics analyses. Leveraging these computational methods allows for the early identification of hepatotoxic potential, reducing the need for extensive in vivo testing. In conclusion, this review offers a comprehensive overview of the biophysical aspects of type II pyrethroid-induced hepatotoxicity in mammals. It underscores the importance of computational approaches in toxicity assessment and provides valuable insights for researchers and regulators alike in evaluating the safety of these widely used insecticides.

Keywords: *Type 2 pyrethroids, Toxicity, Human health, Environmental impact, computational approach.*

Assessment of Gaj Khad Mining Impact on Cropping Systems in Rajol and Adjacent Villages, District Kangra, Himachal Pradesh

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Abstract

About 52 per cent of the population in India depends on agriculture for its livelihood. Proper utilization of land resource halts the process of land degradation and increases productivity. The factors of land degradation may include improper agricultural practices, indiscriminate extraction of sand and stones from the khads, etc. The indiscriminate sand and stone extraction from the khads affects the water availability for irrigation and thereby affecting the productivity of the crops. The study was conducted in Himachal Pradesh of India. The Gaj is a Khad among different khads of the hill State and its water is used for irrigation and drinking by the people of the catchment area. The khad has become a victim of sand and stone mining as the extraction has increased over the years due to urbanisation and economic development. Water level of the khad has also gone down and during the summer the people of the region experience water crises. Therefore, the study was conducted in the catchment area irrigated by this khad to analyse the effect of sandand stone extraction on the cropping pattern. The study suggests that the farmers should be educated to go for high value and low water-requiring and demand-driven crops in their production programme. Prudent efforts should be made by government agencies for systematic/scientific extraction of mining materials and control the over-exploitation of khad mining materials so that water table of khads may not affect the cropping system adversely. The study concluded that khad mining causes drying up of water sources, lowering of water table, soil erosion and shortage of water. Therefore, efforts should be made to address these issues by enforcing suitable laws and regulations.

Keywords: *Agriculture livelihood, Land degradation, Khad mining impact, Crop productivity, Water scarcity.*

Revolutionizing Buffalo Health Monitoring System: An IoT-Driven Paradigm for Sustainable Farming

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Abstract

The agricultural landscape faces a pressing challenge in efficiently monitoring and ensuring the health and well-being of dairy buffaloes, particularly within expansive herds. In response to this challenge, this study presents an innovative Internet of Things (IoT)-based system tailored for comprehensive buffalo health monitoring. This system comprises a sophisticated amalgamation of specialized sensors and devices strategically affixed to buffaloes to continuously gather vital health metrics. The collected data is seamlessly transmitted to a centralized cloud-based infrastructure, serving as a secure repository and providing real-time accessibility.

A cornerstone of this system is its user-friendly interface, empowering farm managers and staff with a dedicated application for streamlined monitoring of buffalo health. Moreover, this interface includes an alert mechanism, promptly notifying stakeholders of any emerging health concerns. The pinnacle of this system resides within its cutting-edge data analysis algorithms. These algorithms proficiently scrutinize the amassed health data, adept at recognizing nuanced patterns and early indications of diseases, thereby facilitating swift and targeted interventions. The multi-faceted benefits of this IoT-driven buffalo health monitoring system are profound. Notably, it alleviates the labor-intensive burden of continuous monitoring for farm personnel while ensuring expedited disease detection, allowing for timely and precise treatments. Furthermore, its implementation yields a substantial enhancement in farm productivity by mitigating disease risks and optimizing resource utilization. This groundbreaking system marks a pivotal advancement in agricultural practices, alleviating the complexities associated with monitoring while markedly enhancing animal welfare. By amalgamating technological innovation with agricultural stewardship, it contributes significantly to fostering more sustainable and efficacious farming methodologies. However, while the promise of this system is substantial, challenges in its implementation and further refinement warrant continued research and development.

Keywords: IoT-driven monitoring, Buffalo health, Agriculture innovation, Sustainable farming, Data analysis algorithms

समकालीन हिंदी कविता में पर्यावरण विमर्श

आशु फुल्ल

हिंदी विभाग, शहीद कैप्टन विक्रम बत्रा राजकीय महाविद्यालय पालमपुर

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सार संक्षेप

समकालीन हिंदी कविता आधुनिक हिंदी साहित्य की विविध संदर्भों से समन्वित एक विशिष्ट काव्यधारा है जिसमें समसामयिक जागरूकता और काव्य बोध के विविध आयाम स्पष्ट दृष्टिगत होते हैं। सनातन मानवीय मूल्यों के संरक्षण हेतु निरंतर प्रयासशील हिंदी कविता ने अनगिनत आधुनिक मानवीय सरोकारों और मूल्यों को समाहित किया हुआ है जिनमें पर्यावरण विमर्श इस कविता की संवेदना का अति महत्वपूर्ण पक्ष रहा है। यद्यपि अनादि काल से साहित्य और प्रकृति का घनिष्ठ संबंध रहा है। संस्कृत के महाकाव्य से लेकर लगभग सभी कालजयी रचनाकारों ने प्रकृति के मनमोहक और नवोन्मेषशालिनी स्वरूप को अपनी-अपनी रचनाओं में अभिव्यंजित किया है। प्रकृति जो समस्त प्राणियों के लिए जीवनदायिनी शक्ति का अदम्य स्रोत रही है लेकिन आधुनिक भूमंडलीकरण, उपभोक्तावाद और अतिशय बाजारवाद प्रभृति वैश्वीकरण संक्रमण के मध्य प्रकृति का अनवरत क्षरण और दोहन बहुत बड़े पैमाने पर किया जा रहा है। इसीलिए पर्यावरण प्रदूषण और संरक्षण को लेकर प्रबुद्धजीवियों के मध्य व्यापक बहस जारी है। प्रस्तुत शोध आलेख में समकालीन हिंदी कविता में इसी बहस और विमर्श केंद्रित पर्यावरण स्वरूप, कारकों और संरक्षण पर ध्यान केंद्रित किया गया है तथा समाधानों की ओर संकेत किया गया है।

संकेत शब्द :: हिंदी कविता, प्रकृति, पर्यावरण, विमर्श के विभिन्न बिंदु, समाधान

Role of Mathematics models in Climate Change mitigation: Review

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Abstract

Mathematical models play a pivotal role in advancing climate change mitigation strategies by providing a systematic framework to comprehend, analyze, and optimize complex interactions within the Earth's climate system. These models, rooted in mathematical equations and simulations, contribute to a multifaceted understanding of climate dynamics and assist in devising effective strategies to mitigate the impact of climate change. By simulating atmospheric circulation, oceanic currents, and biogeochemical cycles, mathematical models enable researchers to explore the fundamental mechanisms driving climate change. This comprehension forms the basis for informed decision-making in climate mitigation efforts. Scenario analysis is a cornerstone of climate modeling, wherein these mathematical tools project future climate conditions based on varying emission scenarios. By evaluating the consequences of different levels of greenhouse gas emissions, models aid in forecasting potential climate trajectories and identifying critical factors influencing climate change. This foresight is invaluable for policymakers seeking to implement targeted and effective mitigation measures. Mathematical models also serve as essential tools in policy evaluation, enabling the assessment of the efficacy of diverse mitigation strategies. From analyzing the impact of sector-specific emission reductions to assessing the feasibility of transitioning to renewable energy sources, these models inform evidence-based policy decisions.

Integrated Assessment Models (IAMs) represent a synthesis of climate and economic models, facilitating a comprehensive analysis of the interplay between economic activities, energy usage, and environmental outcomes. This interdisciplinary approach supports the development of policies that strike a balance between fostering economic development and ensuring environmental sustainability. Furthermore, optimization models play a critical role in resource allocation for climate mitigation. By identifying the most cost-effective pathways to achieve specific climate targets, these models aid in the efficient deployment of resources, maximizing the impact of mitigation efforts. In conclusion, the role of mathematical models in climate change mitigation is integral, providing a robust analytical foundation for understanding, predicting, and optimizing strategies to address the challenges posed by climate change.

Keywords: *Climate Change, Mathematical models, IMA, climate modelling*

Forging a Resilient Tomorrow: Harnessing the Power of Osmolytes and Transgenic Plants in Agricultural Sustainability

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Abstract

The imminent global food crisis, driven by climate change, poses a significant threat to humanity. Agriculture faces challenges such as disrupted traditional practices and extreme weather events, intensifying difficulties in meeting the world's growing food needs sustainably. These challenges result in reduced crop yields, compromised quality, and substantial losses from events like droughts, floods, and hurricanes.

To address these issues, innovative strategies in agricultural science involve osmolytes and transgenic plants. Osmolytes, crucial for osmoregulation, help plants adapt to environmental changes and mitigate the adverse effects of stresses like drought and extreme temperatures. Concurrently, transgenic plants, created through genetic modification or GMOs, present a promising avenue for enhancing resilience in the face of climate change.

Transgenic plants are engineered to express specific traits, such as resistance to drought, temperature extremes, pests, or improved nutrient utilization. This involves introducing genes that instruct the plant to produce proteins aiding in water retention, facilitating efficient photosynthesis in stressful conditions, or fostering resistance to pests or diseases. Through genetic modification, crops become better equipped to handle the challenges posed by climate change, resulting in higher yields and improved overall performance.

In conclusion, both osmolytes and transgenic plants offer promising solutions to bolster agricultural resilience amid the multifaceted challenges of climate change. Osmolytes contribute to cellular protection and water balance, while transgenic plants, with their genetically modified traits, empower crops to thrive in changing conditions. These innovative approaches hold great potential in addressing urgent issues of food security and sustainability in the dynamic landscape of a changing climate, providing a pathway towards a more secure and resilient future for global agriculture.

Keywords: *Global food crisis, food security, osmolytes, transgenic plants, improved food quality, yield*

Anthropogenic Effects: Climate change

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Abstract
A human being, right from cradle to pyre entirely depends upon nature for fulfilment of its needs. Out of all the needs and dependencies that are met by nature, food is the most essential and constant need that the earth bears. However, additional secondary materials provided by the earth are also needed by human civilization. Every activity of human beings results in waste products or pollutants, some of which are biodegradable i.e. they eventually die and return to the earth. However, others are not biodegradable or perishable. These non-biodegradable materials build up and show to be harmful in a number of ways, including directly endangering our health and well-being and indirectly entering our food chain and migrating to different recipients before becoming a part of it. In addition, they are altering our climate cycle and environment. These foreign particles eventually find their way into the food chain that is produced by agriculture and manifest themselves negatively in all people, such as through various chronic illnesses. We must alter how we use various materials to meet our needs if we are to avoid this negative aspect of the rise of human civilization. We must practise austerity in our lifestyles and take responsibility for the environment. We need to use more biodegradable materials and reduce our consumption to the absolute minimum. The environment and we must coexist in perfect harmony.

Keywords*: Biodegradable materials, environment , climate cycle*

Strategic management through liquid biofertilizers to boost vegetable oil production and climate resilience development

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Abstract

Chemical fertilizers exert a detrimental impact on climate change by emitting nitrous oxide and undergoing energy-intensive manufacturing processes. Furthermore, they adversely affect agriculture by inducing soil degradation, water pollution and fostering unsustainable practices. This underscores the imperative for environmentally friendly alternatives. Shifting away from chemical fertilizers towards biofertilizers is essential for climate change mitigation. Chemical fertilizers release greenhouse gases, harm ecosystems and degrade soil. Conversely, biofertilizers derived from natural sources and beneficial microorganisms, enhance soil health, reduce carbon emissions and promote sustainable agriculture, making them an environmentally friendly choice for sustainable crop production. Thus, influence of fertility levels *viz.,* control (no fertilizer), 75% RDF (Recommended dose of fertilizers) and 100% RDF and seed inoculation with liquid biofertilizers *viz., Azotobacter*, phosphate solubilizing micro organism (PSMO), potassium mobilizing biofertilizer (KMB), NPK consortia + zinc solubilizing biofertilizer (ZSB), ZSB and control (no biofertilizer) on seed & oil yield, oil content, soil organic carbon and soil microbial population had been studied. Seed inoculation with liquid biofertilizers was done by soaking the rapeseed seeds for 30 minutes in liquid biofertilizers and data resulted that higher seed yield, oil content & oil yield recorded by 7.9-32.4%, 1.3-5.7% and 9.6-39.9%, respectively over control (no inoculation) treatment. Soil organic carbon and microbial population also increased with different biofertilizer treatments. The interaction effect between 75% RDF (90 kg N, 45 kg P_2O_5 & 30 kg K_2O ha^{-1}) and *Azotobacter* recorded significantly higher seed yield (1961 kg ha^{-1}) and oil yield over 100% RDF alone. Biofertilizers enhancing soil quality and carbon sequestration, making agricultural resilient to climate change. In summary, integrating biofertilizers with reduced chemical fertilizers is a sustainable approach that boosts crop yield, reduces environmental harm and addresses climate change.

Keywords: *Biofertilizers, Azotobacter, climate change, carbon sequestration, sustainable agriculture*

Climate Change: Major Cause of Water Related Hazards

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Abstract

Water scarcity and water related hazards like floods are becoming more severe due to climate change, which also affects people's access to water globally. One of the primary causes of the disruption of precipitation patterns and the entire water cycle is rising global temperatures. Climate change affects the water cycle by changing the amount, timing, and location of precipitation as well as causing increasingly extreme weather events over time. Rising global temperatures causes more water to evaporate, which will increase atmospheric water vapour concentrations and bring on more frequent, heavy, and intense rainstorms. Larger bodies of water like lakes, estuaries, and the ocean eventually receive this excess runoff, which contaminates the water supply and restricts access to it for both ecosystems and people. Melting of freshwater glaciers at an unsustainable rate rising the sea levels and every coastal and island population on the planet is eventually impacted by it. These effects can include flooding, increased storm surges, tides, tsunamis, contaminated subsurface freshwater and decreased crop productivity due to salinization of irrigation water. It is predicted that by 2050, unless there is a significant drop in global temperatures, the sea level will rise to the point where millions of people will be at risk of yearly flooding. In addition, the areas that are not directly at risk may see significant economic disruption and mass migration. Some countermeasures include growing your own fruits and vegetables or purchasing locally grown food, as produce is frequently delivered by trucks from a distance to grocery stores, increasing atmospheric carbon dioxide. As an alternative to driving a car or bike, one could choose to walk or ride a bicycle. To improve the environment on a larger scale, industries that rely on fossil fuels must convert to cleaner, renewable energy sources.

Keywords: *Climate change, global temperature, sea levels, floods*

Climate literacy for developing sustainable global citizenship

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Abstract

The accelerating pace of climate change and its insightful impact on our wonderful planet Earth demand a widespread and intensive endeavor to enhance climate literacy and education. This abstract aims at the critical role of promoting climate literacy for developing sustainable global citizenship. Recognizing the interdependence of environmental, social, and economic systems, we advocates for the integration of climate education across various disciplines and educational levels. The abstract explores into the importance of raising awareness about the causes and consequences of climate change, emphasizing the need for an informed and empowered general public to address the challenges posed by a warming planet. It discusses the multidimensional nature of climate literacy, encompassing scientific comprehension, environmental ethics, and socio-economic dimensions. Furthermore, the abstract highlights the urgency of developing educational programs that not only convey the scientific basis of climate change but also cultivate critical thinking and innovative troubleshooting skills. The study explains the role of educational institutions, policymakers, and communities in collaborating to create a healthy agenda for climate education. It explores effective pedagogical approaches, utilizing experiential learning, technology, and community engagement to enhance climate literacy. An emphasis has been made on the importance of promoting a sense of responsibility and global citizenship, encouraging individuals to make informed choices that contribute to a more sustainable future.

Effect of Anthropogenic Activities on Climate: A Case Study of Himalayan States in India

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Abstract

The Himalayan region in India, renowned for its natural beauty and ecological significance, is facing increasing threats from anthropogenic activities that contribute to climate change. The region, encompassing states like Himachal Pradesh, Uttarakhand, Jammu and Kashmir, and parts of northeastern India, is not only a biodiversity hotspot but also plays a vital role in regulating the Indian subcontinent's climate. Recent incidents of floods in Himachal Pradesh and Uttarakhand, the Teesta River Dam tragedy in Sikkim, the Uttarkashi tunnel collapse and other such incidents raise formidable questions on the development trajectory being taken and the immediate necessity to intervene. This research paper explores the multifaceted impacts of human interventions on the climate of the Himalayan states in India. It delves into the scientific evidence, socio-economic consequences, and policy implications of these changes. The findings highlight the urgent need for sustainable practices and policies to mitigate the adverse effects of anthropogenic activities in this ecologically sensitive region.

Keywords: *Himalayan Region in India, anthropogenic activity, Ecologically sensitive region, Policy Implications, Impact on Glaciers*

Water Management in the Era of Climate Change

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Abstract

Water is a crucial element on Earth for all living and non-living components. The water resources all over the world have been drastically placed under a stressed condition, which is evident from the uneven weather patterns, droughts, floods and cloud bursts. Only three percent of the water resources on Earth are fresh and two-thirds of the freshwater is locked up in ice caps and glaciers. Of the remaining one percent, a fifth is in remote, inaccessible areas. Climate change is primarily a water crisis. Water and climate change are inextricably linked. India is especially vulnerable to climate change and its impact and is already facing it. Geographic location, huge population, high dependence on agriculture, and huge income inequalities together make India very vulnerable to climate change. India is already being affected by climate change and its impact will be stronger in the coming years. Eight of the ten warmest years ever were recorded during the decade 2001-2010. Apart from sea-level rise, the meltdown of Himalayan glaciers is another effect. Climate change has already affected our monsoon patterns. This changing trend of the monsoon has made us more vulnerable to disasters such as floods and landslides and has also led to heavy crop losses. Climate change affects water management in multiple ways, ranging from changes in precipitation and therefore seasonal and annual patterns in floods and droughts, water availability or dilution capacity. Climate change is exacerbating both water scarcity and water-related hazards, as rising temperatures disrupt precipitation patterns and the entire water cycle.

In future, global warming could change the climate in ways we have never before experienced. Some states are likely get very heavy rains, while other states could experience severe droughts. The meltdown of glaciers would ultimately lead to water scarcity and severe fall in food production. In a nutshell, Climate change is likely to result in massive increases in natural disasters, biodiversity loss, water scarcity, sea-level rise, and human migration. Sustainable water management helps society adapt to climate change by building resilience, protecting health and saving lives. It is essential that we take action now to manage the various impacts and promote a sustainable future for our planet.

Keywords: *Biodiversity loss, water scarcity, cloud bursts, global warming, monsoon*

A Policy Framework for Climate Adaptation

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Abstract

Climate change has posed a huge challenge in front of human society. A policy frame work for climate adaptation is crucial for addressing the challenges posed by the climate change and its impact on communities, economies and ecosystems. The framework outlines a set of policies and strategies to help societies adapt to the changing climate to minimize vulnerability. Risk assessment and planning with legal and institutional framework could be included in comprehensive policy framework for climate adaptation. Natural resource management with building a resilient infrastructure is necessary part of the policy framework. There is a great need of community engagement and a suitable financial mechanism with capacity building. Policy must promote the innovation and transfer of eco-friendly technology to support adaptation efforts. Cross sectoral coordination measures among different sectors and levels must be there in policy framework. The policy framework should include provisions for monitoring and evaluating the effectiveness of the adaptation measures. Regular assessments of progress and learning will help to refine and improve the adaptation strategies. This may involve the development of monitoring indicators, knowledge sharing platforms, and evaluation mechanism to track the implementation of adaptation actions.

Keywords: *policy framework, resilient infrastructure, financial mechanism, climate adaptation, monitoring indicators.*

Navigating Water Resilience: Strategies for Climate-Responsive Management and Sustainable Futures

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Abstract

This paper explores the critical role of water management in the context of climate change, recognizing its pivotal significance in addressing the challenges posed by shifting climatic patterns. As global temperatures rise and precipitation patterns become increasingly erratic, water resources face heightened vulnerability, impacting ecosystems, agriculture, and human populations. The paper delves into the multifaceted dimensions of water management strategies designed to enhance resilience in the face of climate-induced uncertainties. The first section delineates the evolving landscape of water availability and distribution, emphasizing the need for adaptive measures to mitigate the impacts of prolonged droughts and extreme weather events. It explores innovative approaches to water conservation and efficient utilization, underscoring the importance of sustainable practices in agriculture and urban planning. The second segment focuses on technological advancements and data-driven solutions for real-time monitoring and management of water resources. Remote sensing, Internet of Things (IoT) applications, and artificial intelligence are discussed as tools to optimize water allocation, predict water stress, and facilitate timely decision-making. The paper also addresses the socio-economic dimensions of water management in the face of climate change. It examines the importance of community engagement, stakeholder collaboration, and policy frameworks that promote equitable access to water resources, particularly in vulnerable regions. Furthermore, the paper highlights the role of nature-based solutions, such as watershed management, reforestation, and the preservation of wetlands, in fostering resilience and sustainability in water ecosystems. In conclusion, the paper advocates for a holistic and integrated approach to water management that considers the complex interplay between climate change, water resources, and human societies. By embracing adaptive strategies, leveraging technology, and fostering collaboration, communities can build resilience to the water-related challenges posed by climate change, ensuring a sustainable and secure water future for all.

Keywords: *Water management, Climate change, Resilience, Sustainable practices, Adaptation.*

Environment and Life Style related Diseases

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Abstract

Environment is the established and fundamental support of human being existence and their sustainable survival . We will use the term environment for all external components like living & non-living, material & nonmaterial etc, those surrounds humans. In the modern concept environment comprise apart from air, water and soil forms of environment it includes physical, biological, socioeconomic and cultural conditions under which we reside. Inside the human environment there exist environmental hazards which threatens human beings-causes sickness, reduce our life span and contribute in several ways to human misfortune.

The basic objectives of the present research paper :

1. Explain the significance of environment and lifestyle impact on human health.
2. Enumerate the most common causes of lifestyle related diseases.
3. Classify the lifestyle related diseases.
4. Determine the agents in the environment may affect human health.
5. Identify and bring awareness about the changes in the lifestyle.
6. Differentiate the bad practices of lifestyle.

Keywords: *Epidemiological, Unhealthy, Eating habits, Weight gain and bad practices of lifestyle*

Impact of climate change and sustainable agriculture

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Abstract

Climate change can be a mega catastrophe if we do not take action now, both in the area of adaptation and mitigation. anticipatory preparation to potential changes in temperature, precipitation and sea level can help to introduce new technologies in farming. The technological transformation of small scale agriculture and fisheries can be a beneficial outcome. Climate change has already increased the volatility of prices of agricultural commodities. In the future, it will be difficult to import food grains at an affordable price. Therefore, the future will belong to the nations with grains and not guns. An uncommon opportunity now exists for converting a potential calamity like climate change into a tool for achieving the goal of sustainable agriculture.

The rise in mean temperature of the order of 2 to 30C will lead to a reduction in the duration of the wheat crop in North India, resulting in a loss of 6 to 7 million tonnes of wheat every year. Certain regions of the world like Siberia or Northern Canada will benefit from a small rise in temperature since this will help to prolong the duration of the crop. Thus, climate change will have both common and differentiated impact. In keeping with its policy that India will assist in arriving at a mutually agreed reduction in greenhouse gas emissions, the Government of India had announced on October 1, 2015 the following two major decisions.

1. Reduce by 2030, the emission intensity of the GDP by 32 to 35 per cent from 2005 level.
2. Generate about 40 per cent of electric power installed capacity from non-fossil fuel based energy resources by 2030 such as nuclear, solar, wind, biomass and biogas.

Keywords: *sustainable ,anticipatory, commodities, energy*

Strategies for Biodiversity Conservation in the Face of Climate Change

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Abstract

Conservation biology is the study of the conservation of nature and of Earth's biodiversity with the aim of protecting species, their habitats, and ecosystems from excessive rates of extinction and the erosion of biotic interactions. Importance of Biodiversity: Biodiversity has a number of functions on the Earth. These are as follows: Maintaining the balance of the ecosystem: Recycling and storage of nutrients, combating pollution, stabilizing climate, protecting water resources, forming and protecting soil and maintaining eco-balance. Provision of biological resources: Provision of medicines and pharmaceuticals, food for the human population and animals, ornamental plants, wood products, breeding stock and diversity of species, ecosystems and genes. Social benefits: Recreation and tourism, cultural value and education and research. Biodiversity refers to the variability of life on earth. It can be conserved in the following ways: In-situ Conservation Ex-situ Conservation In-situ conservation of biodiversity is the conservation of species within their natural habitat. In this method, the natural ecosystem is maintained and protected. The in-situ conservation has several advantages. Following are the important advantages of in-situ conservation: It is a cost-effective and convenient method of conserving biodiversity. A large number of living organisms can be conserved simultaneously. Since the organisms are in a natural ecosystem, they can evolve better and can easily adjust to different environmental conditions. Certain protected areas where in-situ conservation takes place include national parks, wildlife sanctuaries and biosphere reserves.

Understanding the policy framework in context of socio-environmental impacts of ecotourism in Himachal Pradesh

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Abstract

Eco-tourism is the most uprising sub-sector of tourism industry. It comprises protection of the ecosystem along with educational recreation of the visitors and economic development of the host community. To overcome the detrimental effects of anthropogenic degradation of the environment through uncontrolled activities undermass tourism, ecotourism has evolved as a holistic approach and sustainable environmental practicewhich seeks in developing an understanding of harmony and peaceful co-existence among man and the environment.In Himachal Pradesh, the spread of Community Based Ecotourism (CBET) has been brought about through Himachal Pradesh Ecotourism Society –HP ECOSOC with the contribution of State Forest Department, NGOs and Tourism Department. The paper is based on a study which has analysed the re-revised ecotourism policy and DPRs of government and private ecotourism sites maintained under the ecotourism framework.

Opinion on execution of ecotourism policy from the department was gathered along with relevant information regarding the various components of eco-tourism framework and SWOT analysis was attempted to understand the policy framework. An attempt has been made to assess the nature and characteristics of the existing government and private eco-tourism sites along with their roles in the conservation and development of natural, social and cultural environment. They showed that the concept of ecotourism is still in its infancy stage and despite many good and eco-friendly practices being brought into force, a lot more improvement is required. Involving local rural communities for improving the conservation practices along with livelihood opportunities must be given impetus for the promotion of sustainable ecotourism. A model ecotourism plan has also been proposed. The recommendations and suggestions include the impressions gathered during the field survey and principles adopted for implementation of ecotourism policy framework.

Keywords: Ecotourism, Sustainable environmental practice, Ecotourism policy, Ecotourism framework, Ecotourism Plan

Quantifying atmospheric emissions from crop residue burning in North India: Implications for Air Quality and Public Health

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Abstract

Crop residue burning in North India is a significant contributor to atmospheric pollution, with far-reaching impacts on both regional and global air quality. This study presents a detailed district-wise emission inventory of key pollutants (particulate matter, greenhouse gases, trace gases, and non-methane volatile organic compounds) resulting from open crop residue burning in major agrarian states of North India. Notably, paddy and wheat cultivation account for over 90% of the generated and burned crop residue. In states such as Punjab and Haryana, approximately 20.3 million tons and 9.6 million tons of crop residue were burned, leading to emissions of 137.2 Gg and 56.9 Gg of $PM_{2.5}$, 163.7 Gg and 72.1 Gg of PM_{10}, and 34.8 Tg and 17.3 Tg of CO_2 equivalent greenhouse gases, respectively. Utilizing satellite based VIIRS fire count data and a GIS-based bottom-up approach, emissions were scaled to a 1 km grid resolution. Spatial distribution analysis reveals a concentration of pollutants over the south-western part of Punjab and the north-western region of Haryana, areas in close proximity to the National Capital Region of New Delhi. These regions experience elevated air pollution episodes due to favorable meteorology and the transboundary movement of air masses. The high-resolution pollutant inventory generated in this study provides crucial input for regional air quality models, aiding in better prediction and management of air pollution hotspots. Additionally, the study explores factors contributing to uncertainties in crop residue burning emission inventories and suggests a way forward for improved emission estimates to enhance accuracy and reduce uncertainties, considering the associated health impacts.

Keywords: *stubble burning, VIIRS, fire counts, emission inventory, air quality*

Water Management in a Changing Climate

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Abstract

Climate change is a well- demonstrated global portent that is anticipated to hold expressive impacts on the attainability of brackish resources, and India is not vulnerable to these goods. The country is formerly scuffling with an ever-adding demand for water due to urbanization, agrarian expansion, population growth, rapid industrialization, and profitable development. Likewise, changes in cropping and land-use patterns, over-exploitation of water storehouses, and variations to irrigation and drainage systems are formerly altering the hydrological cycle in numerous regions and swash basins of India. Thus, it's imperative to assess the vacuity of water coffers in light of unborn public conditions and the anticipated impacts of climate change and variability. This assessment is vital for developing applicable long-term development strategies that promote sustainable development. In this composition, we will examine colorful approaches for the sustainable development of face water and groundwater coffers in India, while considering the constraints assessed by climate change and relating unborn exploration requirements. The Earth's climate is changing and becoming warmer. As a result, we are seeing less average rainfall and higher average temperatures. There are many debates worldwide about how this affects different ecosystems and climatic variables over time and in various locations. Climate change is expected to have negative consequences on various parameters, including rainfall, relative humidity, sunshine, and evapotranspiration. Coming warming seems probable to direct in general to increased possible evapotranspiration over India, although this increase will be fluctuating between areas and seasons. Similar changes could have marked counts for profitable and environmental well-being in the country, especially if the increases in evaporation are not compensated by acceptable increases in downfall.

Keywords: *climate change, climate indices, evapotranspiration, land cover, water resources*

Changing Lifestyles and Health in a Polyandrous Society: A Contemporary Analysis

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Abstract

This abstract provides an overview of a study examining the dynamics between lifestyle changes and health outcomes in a polyandrous society. As societal structures evolve, traditional norms surrounding relationships are being redefined. This study investigates the impact of polyandrous relationships on individuals' lifestyles and their subsequent effects on physical and mental well-being. The research employs a mixed-methods approach, combining surveys and in-depth interviews with members of polyandrous communities. Quantitative data will be collected to analyze patterns of lifestyle choices, such as dietary habits, exercise routines, and sleep patterns. Qualitative data will be gathered to explore the emotional, social, and psychological dimensions of polyandrous relationships and their influence on mental health. Preliminary findings suggest that individuals in polyandrous relationships often experience increased social support, emotional fulfillment, and a sense of belonging. However, lifestyle changes, including the negotiation of multiple relationships and time commitments, may introduce stressors that impact overall health. This study aims to uncover the nuanced relationship between polyandrous lifestyles and health outcomes, shedding light on both the positive and challenging aspects of this evolving societal structure. Understanding the interplay between lifestyle choices and health in a polyandrous context has broader implications for healthcare professionals, policymakers, and individuals navigating non-traditional relationship structures. By acknowledging and addressing the unique challenges and opportunities presented by polyandrous lifestyles, society can better support the well-being of individuals in this growing demographic.

Keywords: *Social support, Emotional well-being, Mental health, Dietary habits, Exercise routines*

Lifestyle evolution: Olden days vs Modern times and its impact on Health

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Abstract

Lifestyle is referred to as patterns of unconscious behavioral choices from the alternatives that are available to an individual according to his social, economic and cultural circumstances. It includes day today behavior or daily activities of an individual. It is living condition, or the mode of life chosen by the individual. Lifestyle has far-reaching effects on physical and mental health of a person. The quality of life and well-being of an individual is determined by his lifestyle. Today we see suffering nation with lot of sick people, this is all due to faulty lifestyle. The way we live, the activities we do, the habits we have, play a major role in deciding our health and kind of ailments we may contact. We have adopted the lifestyle mostly copied from the western countries which is suitable for them. India already has a practical and natural culture and environment that arises and coexist with nature. Unhealthy lifestyles make us encounter many problems and diseases like obesity, diabetes, hypertension, pulmonary ailments, erratic sleeping patterns, anxiety, depression and joints and skeletal issues etc. It threatens both our physical and mental health. This study provides a comprehensive understanding of the shifts in the lifestyle patterns over time, shedding light on the implication of adopted lifestyle on health.It seeks to incorporate healthy practices from the past and promoting healthier and more sustainable lifestyle in the contemporary context. People do not pay attention to their daily schedules and allow the risk of chronic diseases to crop up. Even the leisure activities pattern has changed with the introduction of tv, computer, internet, mobile phones and other devices. Until modernization people lived a happier and healthier life It is great to have technology and comfort, but it has started ruling our minds and we are becoming addicted to them compromising our healthier and happier life.

Keywords: *hypertension, pulmonary ailments, anxiety, erratic, contemporary*

Role of Community Awareness in Combating Climate Change in India

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Abstract

Present study delves into the pivotal role of community awareness in combating climate change in India, recognizing the significance of grassroots engagement and collective action. As a country grappling with multifaceted climate challenges, the need for informed and empowered communities is paramount. India, with its diverse landscapes and ecosystems, faces a spectrum of climate-related issues, from extreme weather events to water scarcity and agricultural disruptions. The abstract highlights the interconnectedness of these challenges and posits that community awareness stands as a linchpin in the nation's efforts to address and adapt to climate change. Emphasizing the power of knowledge dissemination, the abstract advocates for comprehensive community awareness programs that educate individuals about the impacts of climate change, sustainable practices, and local adaptation strategies. It contends that an informed community is better equipped to make environmentally conscious choices, reducing carbon footprints and fostering resilience. The present study tried to explore the social dimensions of climate change, underscoring how awareness initiatives can catalyse behavioural shifts, promote eco-friendly practices, and encourage community-led initiatives. It posits that such bottom-up approaches are integral to India's climate resilience, acknowledging the diverse cultural and regional contexts within the country. Furthermore, the abstract discusses the potential of community awareness in building a constituency for climate action. By fostering a sense of shared responsibility and collective ownership of environmental issues, communities can actively participate in advocating for policies that prioritize sustainability and climate resilience. In conclusion, the abstract asserts that community awareness is not merely an adjunct to climate action in India but a cornerstone. It contends that empowering communities with knowledge, fostering local initiatives, and building a collective consciousness are indispensable components of India's holistic approach to combating climate change. The abstract encourages a sustained commitment to grassroots education and awareness as an integral strategy in India's broader climate resilience effects.

Keywords: *Climate Change, Climate Resilience, Community, Local Initiatives*

Water Management in climate change

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Abstract

Water is vital to all form of life on earth. India is home to a billion people, the water plays important role in agriculture, fisheries, livestock production, forestry and industrial activity. Water management in changing environment is critical aspect of sustainable development necessitated by the escalating challenges posed by climate change population growth and urbanization. This paper presents an overview of relevant issues related to development and water management practice. Due to change in climate traditional water resource management strategies facing numerous challenges like rising temperature, altered precipitation patterns, extreme weather events needs adaptive measures. Community engagement and education plays pivotal role in fostering water conservation and sustainable usage practice. Policy framework that integrates climate science, technological advancement and local knowledge become paramount for navigating the complexities of water management in changing environment. The water resource management practice should be based on increasing the water supply and managing the water demand under the stressed water availability conditions.

Keywords: *Climate change, Adaptive measures, Integrated water resource management, Sustainable practice, Technology*

Strategies for Biodiversity Conservation in the Face of Climate Change

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Abstract

As the climate change is posing unprecedented challenges to ecosystem, there is a greater urgency for developing practical measures for biodiversity protection. Climate change results in alteration in the morphology of the species, physiology of the species, distribution of the species, consequently leading to the extinction of the species from wild. Climate change is one of the major threats to biological diversity. Over the next century, atmospheric CO_2 has been predicted to rise with the probability to become either the primary or secondary driver of the loss of biodiversity worldwide. Climate changes are heterogeneous in nature means there is variation in the climate change in different areas. Due to climate change, diverging local communities have become more suited to warm adapted species. These changes raise concerns about the effectiveness of existing biodiversity protection strategies. The main tactics and methods for protecting biodiversity in the face of challenges imposed by climate change include integrating climate change into planning exercises (reserves, pest outbreaks, harvest schedules, grazing limits, incentive programs); increasing the number of reserves; conducting fundamental monitoring programs, protecting the vast areas, expanding the size of reserves; establishing and managing buffer zones surrounding reserves; enhancing methods for the restoration of wetlands; promoting multidisciplinary cooperation; encouraging conservation measures that involve local people; involving social media to spread awareness about climate change; employing regional and long-term perspective while managing, modeling, and planning; anticipating how directional climate change will affect populations, communities and ecosystems; developing public education initiatives about land use practices and their impact on climate change; promoting proactive climate change research; preserving threatened species, functional groups and keystone species. Enhanced connectedness of the protected areas via creating corridors, removing barriers to dispersal, placing reserves adjacent to one another and reforestation reduces additional risks. Moreover, it is necessary to investigate how physiology, behavior and demographics of different species are affected by climate change. In order to effectively conserve biodiversity in the face of climate change, an integrative approach incorporating modern technology, community involvement, scientific understanding and adaptive management techniques are required.

Keywords: *Biodiversity, Conservation, Climate change, Adaptive management*

Analysis of Language influence on advocacy of environmental issues

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Abstract

Mother earth is under tremendous environmental stress due to increasing population and consequent incremental usage of resources for its sustenance. Any top-down mitigating regime is bound to fail unless the masses are made aware and sensitized. But what the experience shows that people are not taking the impending threatening ecological stress ratio holistically and seriously. Survey across the perceptible grouping of people fare poorly in gauging the scale and irreversibility of the ongoing damage to the environment especially in the developing world. United nations 'Sustainable Development Goals' are almost alien to these masses. Therefore, to make the enormity of the threat to sink in the masses, language and its awareness generating quotient hold the light on the path of amelioration. In the present studies we are analyzing the role of language, its expressions and the connecting firmament in advocating the threats connected to the environmental degradation.

Keywords: *SDGs', Ecological Stress, Environmental degradation*

Structural study of Lead-free $BaTiO_3$ based Multiferroic

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Abstract

The composite ceramics consisting of both ferroelectric and magnetic phase have been extensively investigated due to their technological important multiferroic and magnetoelectric coupling properties. The diverse potential applications include magnetoelectric random access memory (MeRAM) four stage logic memory devices, magnetic field sensors, magneto electric read heads, resonator and **in energy harvesting**. Thus, the multiferroic in multicomponent composite forms have received increasing interest for their strong multiferroic and magnetoelectric properties well below room temperature. Here in this article, we have prepared ferrite phase with Metello-Organic-Method (MOM) while ferroelectric phase with sol-gel method. In this paper, we are reporting the effect of ferrite and ferroelectric phase on the structural and microstructure of the composite $Ba_{0.85}Ca_{0.15}Zr_{0.10}Ti_{0.90}O_3$-$CoFe_2O_3$ (BCZT-CFO) materials. The devices based on these materials are posed for very low energy consumption, high efficiencies and maximal use of the energy with very low volatility.

Keywords: *Ferrite, Ferroelectric, MOM, composite, Magnetoelectric*

PROMOTING CLIMATE LITERACY & EDUCATION

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Abstract

Climate change education for sustainable development program, UNESCO aim to "help people understand the impact of global warming today and increase "climate literacy". Climate change education is more important to aware the people from certainly mishappning. Climate change will bring economic and environmental challenges as well as opportunity. Climate literacy is essential principles of climate science presents information for individuals and communities to know and understand about earth's climate impact of climate change and approaches to adaptation or indignation. Climate literacy also understands your influences on climate and climate's influences on you and society. A climate literate person understands the essential principles of Earth's climate system. To attain climate literacy involves all scientific disables and grounding in social, economic and political forces. With this comes an understanding of environmental justice .A climate literate person knows the disposition (how to respond) competence's (skill and abilities of how and when) and environmentally responsible behaviors to address climate change. Climate education includes a variety of informal sectors, including museum, aquariums, nature centers and Zoo, as well as post-secondary institution such as carrier and Technical Colleges and universities. We have needs to engage individuals and communities from our youngest to our oldest members of society.

Residential status of bird species of Pong dam lake wildlife sanctuary

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Abstract

Pong Dam Lake wetland, located in the Kangra district of Himachal Pradesh, Northern India, stands as one of the region's largest man-made wetlands. Its origin traces back to 1974, coinciding with the construction of the Pong Dam on the Beas River. Recognizing its ecological significance, the Government of Himachal Pradesh declared it a Wildlife (Bird) sanctuary in 1983. Remarkably, in 2002, it became the first wetland in the state to attain international recognition, earning the designation of a "RAMSAR SITE." Due to its clear waters, elevated levels of dissolved oxygen, and the presence of diverse aquatic weeds and fish species, Pong Dam Lake has emerged as a favourable habitat for numerous bird species. Avifaunal studies in Pong Dam Lake Wildlife Sanctuary were undertaken during the years 2021-2023. The study revealed the presence of a total of 225 species of birds, in the region, spread over 150 genera, 17 orders and 54 families. Of the 225 species, 194 species showed either seasonal local or long-range migrations and rest 31 were purely residents. Further, of these 194 species, 84 were seasonal-local migrants, 15 were the species with winter influx, as their populations got augmented during winter months due to movement of more individuals from other areas, 1 species showed summer influx and rest 94 showed long range migrations to the area. It was reported that 34% of the species (77 species), which is relatively a significant proportion of the avifauna, were winter visitors and 17 were summer visitors to the area. Most common migratory birds visiting Pong wetland during winters include - bar headed geese, brahminy ducks, common shelduck, common pochard, common coots, eurasian wigeons, mallards, shovelers, ruddy shelduck etc. The study revealed that Pong dam lake wetland is one of the important wintering and staging grounds for a number of migratory waterbirds. Therefore, stakeholder interventions are urgently needed to ensure conservation of an enormous range of biological diversity, particularly the avifauna, of the region.

Keywords: *Avifauna, Pong dam lake wildlife sanctuary, Relative abundance, Resident birds, Migratory birds.*

A Review Paper on Faunal Diversity and Conservational Efforts in Kalatop-Khajjiar Wildlife Sanctuary

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Abstract

Chamba district is one of the most beautiful districts of Himachal Pradesh. It is a northernmost district blessed with natural beauty and huge biodiversity. Its average elevation is 1,006 Metres (3,301 ft) from means sea level. Chamba has five wildlife sanctuaries within its jurisdiction. Kalatop-Khajjiar Sanctuary one of those five sanctuaries. It is a 30.69 km² wildlife sanctuary located at Chamba district of Himachal Pradesh, India. The sanctuary lies in the path of the Ravi River and is surrounded by coniferous and oak forests. This sanctuary is a house for Pheasants like Koklas (*Pucrasia macrolopha)*, Kalij (*Lophuraleuco melanos),* Cheer pheasant (*Catreus wallichii*) and Himalayan Monal (*Lophophorus impejanus*), Himalayan Griffon vulture (*Gyps himalayensis*), Large billed Crow (*Corvus macrorhynchos*), Yellow Throated Marten (*Marten flavigula*), Himalayan Goral (*Naemorhedus goral*), Hiamalayan Grey Langur (*Semnopithecus ajax*), Leopard (*Panthera pardus*), Asiatic Black Bear (*Ursus thibetanus*), Black Musk Deer (*Moschus moschiferus*) etc. Review of literature of various studies done by researchers in the area has concluded that this sanctuary has 223 species of different faunal diversity groups. This includes 100 vertebrates and 123 invertebrates. Data analysis revealed that Class Aves dominated the area with 77 species followed by 49 species of Lepidoptera, 29 species of Orthoptera, 16 species of Mammals, 15 species of Coleoptera, 10 species of Odonata, 7 species of Hymenoptera, 5 species of Hemiptera, 5 species of Diptera, 4 species of Reptiles, and 2 species of Amphibia. 9 species of Mammals amongst 16 species have been listed as Threatened in CITES under different schedules. One more study confirmed the presence of 95 avian species in the area. Studies have revealed the presence of 49 species of butterflies, 18 species of beetles, three new species of insects belonging to order hymenoptera and family tenthredinidae, 121 species of class insecta belonging to 108 genera, Himalayan Musk Deer, two species of genus *Venessa fabricuius*, 1807 belonging to family Nymphalidae and sub family Nymphalinae in the sanctuary region. The review paper is an attempt to document the conclusive status of faunal diversity in the area and efforts of wildlife Department, Chamba, Himachal Pradesh for their conservation. Among the efforts: installation of trap cameras, awareness and participation of local people, professional monitoring, use of social media to promote conservation practices, technological advancements, restrictions of human activities are few to count. It has been noticed by the researcher that with such interventions, the survival of faunal diversity of the sanctuary has increased.

Keywords*: Kalatop- Khajjiar, Wildlife, Chamba, Himachal Pradesh, faunal diversity*

Ethnobotanical Records of Subathu area of Solan, Northwest Himalayas

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Abstract

Subathu area of Solan, Northwest Himalayas is home to important herbs and medicinal plants. These plants play an important role in the health, culture and religious arena of the local inhabitants. Our research is based on the quantitative evaluation of the ethnomedicinal plants used in this area. The data was collected from 80 informants from May 2022 to June 2023 based on walking transacts and semi-structured interviews. Data on different ethnobotanical indices were analyzed using different methods; *i.e.,* Used Value (UV), Frequency of Citation (FC), Relative Frequency of Citation (RFC), Fidelity level (FD) and Informant consensus factor (ICF). A total of 55 plant species under 39 families were recorded, and Fabaceae and Moraceae are the most representative families with 5 species each. The Used Value (UV) recorded 0.007 to 0.046. *Ocimum tenuiflorum* (UV 0.046), *Tinospora cordifolia* (UV 0.045) and *Berberis aristata* (UV 0.045) were recorded with the highest Used Value. The Relative Frequency of Citation (RFC) ranged from 0.005 to 0.056. The taxa recorded with the highest RFC were *Ocimum tenuiflorum* (0.056) and *Berberis aristata* (0.049). The six plant species calculated with 100% Fidelity level, are highly cited for common ailments like cough, cold, diabetes, hypertension, stomachache, headache etc. The medical usages of all recorded species were grouped into 8 disease categories. Informant consensus factors (IFC) show the highest value for gastrointestinal disorders (0.70) followed by ailments like lung disorders (0.67) and skin problems (0.66). The present investigation provided a picture of the medicinal knowledge in the study area. This study provides raw data for discovery of new drugs and control of various diseases, as well as in the conservation of useful plant genetic resources.

Keywords: *Ethnomedicinal, Himalaya, Ethnobotany, Conservation, Ailments*

Biological performance of phytoseiid mite Neoseiulus longispinosus (Evans) against two-spotted spider mite Tetranychus urticae Koch on tomato

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Abstract

Tomato is an important horticultural crop providing high economic and nutritive benefits. The off-season cultivation of tomato in Himachal Pradesh provides a major source of income for farmers. However, the low genetic diversity in the cultivated tomato makes it prone to various pests and diseases which necessitate the use of pesticides. This overdependence on pesticides has led to the loss of numerous beneficial organisms and contamination of agricultural products with pesticide residues. *Tetranychus urticae* Koch (Trombidiformes: Tetranychidae) also known as the two-spotted spider mite is among the major pests of tomato in open fields as well as under protected conditions. It feeds upon the chlorophyll content of tomato leaves and reduces the photosynthetic activity. Its incidence is more severe during hot and dry weather conditions and thus, the increasing temperature conditions could be more suitable for its survival. This mite is known to possess resistance to most of the acaricides and therefore, its biological control seems to be an eco-friendly option. The purpose of our study was to evaluate the biological control potential of the predatory mite *Neoseiulus longispinosus* (Evans) (Mesostigmta: Phytoseiidae) against two-spotted spider mite on tomato under laboratory conditions. The developmental biology of *N. longispinosus* was studied on tomato leaves with *T. urticae ad libitum* over the wet sponge. The pre-adult duration, male and female longevity, and oviposition period of the predatory mite were reported to be 5.61, 11.00, 14.55, and 7.64 days, respectively. The time taken to complete one generation was recorded as 11.58 days with a fecundity of 11.73 eggs/female. In addition, the life parameters of *N. longispinosus* were also studied using an age-specific two-sex life table to better know the biotic potential of the predatory mite against the pest. The gross reproductive rate (*GRR*) and net reproductive rate (R_0) of the predatory mite were recorded to be 11.63 offspring/individual and 7.80 offspring/individual, respectively. Similarly, the finite rate of increase (λ) with a value of more than one (1.19 times/day) and a positive intrinsic rate of increase (r) (0.18 offspring/individual/day) of *N. longispinosus* showed that it could survive well on the tomato crop plants infested with *T. urticae*. Thus, the repeated use of chemicals against *T. urticae* could be avoided with the release of *N. longispinosus* in the tomato fields. This practice in turn will also be helpful in biodiversity conservation which otherwise could face challenges due to exposure to chemical pesticides.

Keywords: *Pest Management, Biological Control, Phytoseiid mites, Phytophagous mites, Tomato*

Projection of population dynamics of *Spodoptera frugiperda* (J. E. Smith) on maize

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Abstract

Biological invasion by alien species is one of the most rapidly expanding threats to agricultural biodiversity. Improved connectivity due to globalisation has led to the introduction of numerous invasive insect pests in new habitats thereby hampering food production. Additionally, climate change has also created new ecological niches that provide greater opportunities for insect pests to establish and expand in new geographic regions. The fall armyworm, *Spodoptera frugiperda* (J.E. Smith) is one of the most infamous polyphagous invasive insects known for its destructive feeding. The recent invasion of fall armyworm in India has created an alarming situation for Indian agriculture. This voracious intruder was tracked as a serious pest of maize throughout the country within a year of the first report, including the north-western Himalayan region - land that is considered a major biodiversity hotspot. Maize is the third most important cereal crop in India valued for ensuring food as well as nutritional security. The unforeseen introduction of fall armyworm has resulted in blanket application of insecticides to contain this pest. This has resulted in the loss of various beneficial and other native organisms besides affecting the environment and human health. The right timing of application of insecticides or their alternatives is crucial to develop effective management strategies against a pest. Thus, the current study was conducted to evaluate the biology, consumption and population projection of *S. frugiperda* on maize. The pre-adult development of *S. frugiperda* was completed in 28.04 days. The adult female laid 1348.20 eggs when reared on maize. The net reproductive rate, intrinsic rate of increase, and finite rate of increase were observed to be 404.46 offspring/individual, 0.19 offspring/individual/day and 1.21 offspring/day, respectively. The mean leaf consumption of sixth larval instar was 19470.47 mm^2. Population projection curves based on life table and consumption rates revealed that in the simulation period of 90 days, *S. frugiperda* was expected to complete 3 generations in 84 days. Simulations based on age-stage, two-sex life table described the stage structure and stage growth rate during the projection period. These curves can help in predicting the most suitable time for pesticide application as well as augmentative releases of egg and larval parasitoids for the control of *S. frugiperda*. This information will be valuable for developing targeted strategies for fall armyworm prevention, to achieve the target of reviving food security.

Keywords: *Spodoptera frugiperda, maize, life table, population dynamics*

Harnessing Technology for Climate Monitoring and Adaptation: A Himalayan Outlook

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Abstract

Climate variability poses a significant threat to the delicate ecosystems and communities in the Himalayan region. With erratic precipitation patterns, rising temperatures, and unpredictable extreme weather events, agriculture, the economy, and the environment face substantial risks. This paper advocates for the integration of technology as a potent tool in climate monitoring and adaptation to address these challenges. Technological advancements, such as satellite imagery, weather stations, and sensor networks, provide real-time data crucial for understanding changing precipitation patterns, glacial melt, and soil moisture levels. Utilizing this information, early warning systems can be established to manage floods and droughts proactively, protecting vulnerable communities. Precision agriculture, facilitated by drones and AI-driven irrigation systems, offers a promising solution to optimize resource utilization and enhance crop yields, particularly in the face of water scarcity. By tailoring fertilizer and pesticide application based on real-time data, environmental impact can be minimized while maximizing agricultural productivity. Moreover, climate-resilient infrastructure development, guided by geospatial data and advanced simulations, can withstand the increasing frequency and intensity of extreme weather events. Sustainable construction practices and early detection of landslides and avalanches through sensor networks are vital in safeguarding critical infrastructure and saving lives. The success of these technological solutions relies on community engagement and capacity building. Empowering local communities with the knowledge and skills to use and maintain these tools ensures their long-term effectiveness and fosters a culture of climate adaptation. In conclusion, leveraging technology for climate monitoring and adaptation is not just a technical endeavour; it presents a transformative opportunity for the Himalayan region. By harnessing the power of data, precision agriculture, and resilient infrastructure, a future can be built where communities thrive and ecosystems flourish, even in the face of a changing climate. This approach charts a course towards a climate-resilient future for generations to come.

Keywords: *Technology, Climate Monitoring, Adaptation, Himalayan Perspective*

India and Climate Change: Evolving Ideas and Increasing Policy Engagement

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Abstract

India is a major actor in politics and climate policy. Although it has spoken out during international climate talks, its position has evolved over time. India has evolved into a trial ground for policies that integrate climate considerations into development, with an interactive relationship between national policy and international views. The evolution of Indian politics and climate policy over time is examined critically in this essay. It starts by looking at how perceptions of climate change have changed in India, especially in relation to ethics, the effects of the climate, the country's energy transition, sustainability, and sequestration. Changes in international and national politics, policies, and governance are examined in the following section. The paper makes the case that discourses in India's domestic and international policies reflect and reflect changes in beliefs and knowledge about the costs, benefits, and repercussions of taking action against climate change as well as changes in the global context.

Keywords: *climate change, co-benefits, discussions, planning, climate ethics, and India*

Safeguarding Our Biosphere: Global Environmental Issues and Mitigation Strategy

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Abstract

The study urgently underscores the imperative of environmental stewardship in the face of escalating global challenges. It meticulously explores the delicate equilibrium within the biosphere, encompassing the hydrosphere, lithosphere, and atmosphere—foundational to life sustenance. Drawing inspiration from Sir Edmund Hillary's perspective that environmental issues are inherently social, the analysis unveils intricate links between environmental challenges and societal dynamics, depicting humanity as both the originator and victim. The comprehensive exploration spans the depletion of vital resources, disruptions in biogeochemistry, and societal upheavals, highlighting the complexities arising from rural-urban divides, uncontrolled urbanization, and burgeoning refugee populations as the global count approaches 3 billion by 2025. An investigation into global climate change and the greenhouse effect sheds light on escalating concentrations of greenhouse gases (GHGs) and their multifaceted impacts. It delves into the vulnerability of the ozone layer, introducing the cosmic ray theory and evaluating mitigation efforts through agreements like the Montreal Protocol. The historical trajectory of climate change agreements, from the UNFCCC to the Paris Climate Deal, underscores the pivotal role of international collaboration. Advocating for a comprehensive and sustainable approach, the study proposes initiatives such as afforestation, water resource conservation, waste management, and integrated urban-rural planning. Crucial tools for environmental mitigation encompass carbon footprint reduction, the adoption of renewable energy, and the application of carbon credits. The conclusion strongly emphasizes the urgent need for collective efforts, providing actionable insights and strategies for policymakers, researchers, and individuals. Despite monumental challenges, the study instills hope for a balanced and resilient biosphere through global collaboration and sustainable practices, ensuring the preservation of a legacy for future generations.

Keywords: *Biosphere equilibrium, Social perspective, Biogeochemistry disruptions, Societal upheavals, Ozone layer vulnerability, Cosmic ray theory, Carbon credits, Resilient biosphere*

The Energy Concept and Climate Literacy: A Systematic Literature Review

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Abstract

Climate change is one of the most significant socio-scientific challenges of this century. To address this challenge, people need to be empowered to assess information about climate change and make informed decisions. Both aspects are covered by the concept of climate literacy. Many phenomena in the context of climate change, such as the greenhouse effect, are based on energy related processes. Thus, we assume that for dealing with climate change in education the understanding of the energy concept is essential. Although curricula across the globe have strengthened efforts to support teaching the energy concept, most learners struggle to develop a deep understanding of energy. To examine the current state of research in science education concerning the relationship between the understanding of climate change and the energy concept, we conducted a systematic literature review. This research summarizes and discusses previous findings regarding the extent to which learners use the energy concept to explain the causes and consequences of climate change, whether energy knowledge is a prerequisite for understanding climate change and to what extent knowledge of energy influences the intention to engage in activities to reduce climate change and its impacts.

Keywords: *Climate Change, Climate Literacy, Energy, Systematic Literature Review*

Molecular and morphological studies on the genus *Celastrina* (Lycaenidae: Lepidoptera)

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Abstract

Butterflies constitute one of the most prominent groups of insects, with nearly 19,000 described species. They show fascinating wing colour patterns, mimicry and migration. Their sensitivity to minor changes in the forest structure and environment makes them useful bio indicators. Members of family Lycaenidae which comes under superfamily Papilionoidea are commonly known as 'Gossamer-winged butterflies'. They are generally smaller in size and extremely delicate. Family Lycaenidae constitutes around 5200 species under 416 genera worldwide, while 380 species are available in India. This family is further divided into 8 subfamilies: Curetinae, Lipteninae, Poritinae, Liphyrinae, Miletinae, Lycaeninae, Theclinae and Polyommatinae. Subfamily Polyommatinae further divided into tribes and subtribes. The genus CelastrinaTutt, 1906 is included in the subtribe Lycaenopsina (Talavera, 2016 &Stradomsky, 2016) equivalent to the section Lycaenopsis of the tribe PolyommatiniSwainson (Eliot, 1973). Evans (1932) also followed the same classification. This genus is distributed in the Palearctic, Nearctic, Indomalayan and Australasian realms. Although this genus has had about 25 species reported, the precise number of species is still unknown. From India this genus is represented by six species i.e. *Celastrina argiolus* (Linnaeus, 1758), *Celastrina gigas* (Hemming, 1928), *Celastrina hersilia* (Leech, 1893), *Celastrina huegelii* (Moore, 1882), *Celastrina lavendularis* (Moore, 1877) and *Celastrina oreana* (Swinhoe, 1910) (Kunte, 2023). The species of this genus show considerable similarities in wing color patterns (Evans, 1932). This has caused taxonomic confusion, especially as regards the validity of certain names and their identification. Taxonomic misunderstanding has resulted from this, particularly with regard to the legitimacy of some names and their identification.

Keywords: *Insects, Butterflies, Bio indicators, Taxonomy*

Adapting to Change: Building Resilience in Agricultural Economy, and Environment

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Abstract

This paper delves into the critical imperative of cultivating resilience amidst escalating climate variability, with a central focus on their repercussions on agriculture, the economy, and the environment. Embracing the overarching theme of crafting a resilient future, the paper extends its exploration to encompass the intertwined dynamics of lifestyle and health adaptation. The pressing need to address the multifaceted challenges of a changing climate underscores the paper's mission to provide a comprehensive understanding and strategic framework for resilience-building. The first segment explores the adaptation of agriculture to climate variability, emphasizing sustainable farming practices such as precision agriculture, climate-smart techniques, and the integration of digital solutions for informed decision-making. Water management strategies, including efficient irrigation systems and the development of drought-resistant crops, form integral components of agricultural resilience. The subsequent section navigates the economic terrain, advocating for diversified economies to reduce vulnerability to climate-sensitive sectors. The role of insurance and financial mechanisms in supporting climate adaptation and recovery is underscored, alongside the imperative of investing in renewable energy to fortify economic resilience. Environmental sustainability constitutes a pivotal focus in the third segment, elucidating the importance of biodiversity conservation, sustainable land-use practices, and the promotion of circular economies to mitigate the environmental impact of climate change. The paper concludes by emphasizing the reciprocal relationship between lifestyle choices, health, and climate impact. Public awareness campaigns and healthcare infrastructure enhancements are proposed as essential components of a holistic strategy to foster resilient communities. By amalgamating these dimensions, the paper advocates for an integrated approach that champions innovation, collaboration, and sustainable practices to navigate the challenges posed by climate variability and ultimately shape a resilient future for generations to come.

Keywords: *Climate Change, Economy, Agriculture, Environment, Challenges*

Climate Literacy among the Undergraduates: An Analysis

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Abstract

A critical worldwide issue that needs immediate attention and action is climate change. Making sure that people are well-versed in climate science and its ramifications is crucial for properly addressing this situation. This study, thus aims to analyse the level of climate literacy among the undergraduate students and identify potential gaps in their knowledge. Through a comprehensive survey and data analysis, students' understanding of key climate concepts, their awareness of climate change impacts, and their attitudes towards climate action will be assessed. The results of this study will shed light on the condition of undergraduates' climate literacy at the moment and will point out areas that may require educational interventions. By enhancing climate literacy among the younger generations, they can better appreciate the causes, impacts, and potential solutions to climate change. They will feel more accountable for sustainable habits if they are made aware of how human activity affects the environment. This may result in modifications to one's behaviour, such as the adoption of waste-cutting practices, energy-efficient routines, and policy advocacy. Additionally, there is a growing need for specialists in the sectors of sustainable agriculture, climate policy, and renewable energy. Undergraduates who possess climate literacy are better prepared to pursue professions in these fields. By giving them knowledge, critical thinking abilities, and a sense of environmental responsibility, we may enable them to become knowledgeable and informed citizens who can promote good change in their communities and contribute to climate solutions. Therefore, educational institutions should prioritise climate literacy as a key component of undergraduate education. In conclusion, climate literacy among undergraduates is crucial for building a sustainable future.

Keywords: *Climate literacy, Climate change, Undergraduate students and Educational interventions*

हिंदी काव्य में पर्यावरण चेतना

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सार संक्षेप

पर्यावरण मानव जीवन पद्धति के लिए अनिवार्य है तो इसका संरक्षण और बचाव भी मानव का परम कर्तव्य बन जाता है। आज सारे विश्व में पर्यावरण चिंतन एक ज्वलंत विषय है। सभी देश किसी न किसी प्रकार के पर्यावरण संकट से ग्रस्त हैं। जब-जब मानव ने स्वयं को सर्वशक्तिमान माना तब-तब प्रकृति ने मानव की इस सोच को निरर्थक साबित किया। प्रकृति में एक अलोकनीय चेतना विद्यमान है जो मानव को अनवरत सचेत करती है। विज्ञान और औद्योगीकरण से हुई प्रगति ने जन-जीवन परिवर्तित कर दिया। फिर भी जन-जीवन निरंतर असंतुष्ट और अस्थिर होता जा रहा है। सांसारिक सुखभोग और विलासिता ने इस समस्या को और अधिक जटिल बना दिया है। मानव को यह भी स्वीकार करना पड़ेगा कि प्रगति के साथ विनाश भी निरंतर चल रहा है। मानव ने प्रकृति का इतना दोहन और शोषण किया कि परिणामस्वरुप प्रकृति ने अपना विकराल रूप दिखा दिया। पर्यावरण के प्रति जागरूकता रखना आज हमारी सबसे अधिक आवश्यकता है। हिंदी काव्य और समाज का अभिन्न संबंध है। मानव जगत से संबंधित कोई विषय ऐसा नहीं जिस पर कवियों की लेखनी न चली हो। लेकिन जब बात पर्यावरण चेतना जैसे विषय की आती है तो कहा जा सकता है कि कवियों ने विभिन्न तत्वों प्राकृतिक प्रेम, नदी, जल, जंगल, आकाश, पृथ्वी, पेड़-पौधे पशु पक्षियों को अपने काव्य का विषय बनाने में कोई कसर नहीं छोड़ी। हिंदी काव्य में प्रारंभ से ही प्रकृति के प्रति प्रेम, संरक्षण तथा किसी को भी हानि न पहुँचाने का भाव पाया जाता है। मानव का संपूर्ण अस्तित्व पृथ्वी से जुड़ा है। वह अपने जीवन की सभी आवश्यकताओं की पूर्ति के लिए प्रकृति पर निर्भर है। अतः उसे नष्ट कर स्वयं भी सुरक्षित नहीं रह
सकता है।

मुख्य शब्द: ज्वलंत,अलोकनीय,विलासिता, अस्तित्व, औद्योगीकरण।

Relationship of Mental Health and Dietary Patterns for Health and Well Being: An Exploratory Study

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Abstract

The transition to hostel life can be a challenging time for many students, particularly for women hostel students who may face unique stressors associated with living away from home, adjusting to a new academic environment, and managing personal pressures. Amidst these challenges, their dietary patterns play a crucial role in fostering emotional well-being and promoting positive mental health outcomes. This research study aims to investigate the role of dietary patten in fostering well-being among women hostel students. A good nutritional status is important for maintaining normal body function and preventing or mitigating the dysfunction induced by internal or external factors. Nutritional deficiencies often result in impaired function, and, conversely, intakes at recommended. Diet and nutrition are critical not only for physiology and body composition, but also have significant effects on mood and mental well-being. Poor nutrition may be a causal factor in the experience of low mood, and improving diet may help to protect not only the physical health but also the mental health of the population. Depression and anxiety are the most common mental health conditions worldwide the current research study builds upon this existing literature by specifically examining the role of dietary pattens in promoting emotional well-being among women hostel students. The findings of this study will contribute to a better understanding of the factors that influence mental well-being among women hostel students and provide valuable insights for developing interventions to promote positive mental health outcomes in this population.

Keywords: *well-being, dietary patterns, emotional, nutritional, stress*

Exploiting Bioengineered Crops in Agriculture for Climate Resilience

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Abstract

The world's climate changes are expected to have more adverse effects on food security, especially impacting the quantity, strength and quality of crops. Due to change in weather patterns, the productivity of crops is frequently hindered by droughts, floods, heatwaves and various other extreme weather phenomena. Climate change is changing the types and behaviour of various insects and pathogens, contributing to global crop losses. Agriculture adaptation initiatives will be crucial for controlling climate hazards in decades to come. About 20–25% of crops that are harvested worldwide have already been lost due to pre- and post-harvest diseases and it is predicted that climate change will make these losses even worse. Using methods from conventional breeding, efforts have been made to increase crop resilience against certain biotic and abiotic challenges. Bioengineered crops possess useful traits such as abiotic stress tolerance, nutritional improvement, insect resistance and disease resistance. Bioengineered techniques include recombinant DNA technology, genomic assisted breeding, mutagenesis, cold shock proteins, etc. for transgenic plants. GMO (Genetically modified organisms) technology is recognized as a potential revolution, particularly in the context of enhancing climate resilience and enhancing yield. Adaptation assessments also help to create adaptable climate policies that satisfy the goals including preventing hazardous anthropogenic interference with the climate system. Indian government is recognizing the impact of climate change on agriculture and promoting policies for sustainable agricultural practices. This paper highlights the innovative approaches being employed in crop breeding to develop varieties that are adapted to changing climates.

Keywords: *Bioengineered techniques, agriculture, genetically modified crops, climate change*

आधुनिक हिंदी छायावादी काव्य में प्रकृति

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सार संक्षेप

प्रकृति और मानव का परस्पर घनिष्ठ और सनातन संबंध प्राचीन काल से ही रहा है। प्रकृति मानव की संरक्षणकर्ता है। वह मनुष्य को निरंतर कर्मनिष्ठा और गतिशीलता का उदात्त संदेश देती आई है। हिंदी साहित्य का इतिहास हिंदी भाषा का गौरवशाली अभिमान रहा है जो प्रबुद्ध विचारकों और लेखकों की विचार सारनियों की सशक्त अभिव्यक्ति करता है ।इसी हिंदी साहित्य के विभिन्न कालखण्डों की काव्य रचनाओं की विभिन्न प्रवृत्तियों में से एक प्रकृति वर्णन किसी न किसी रूप में विधाओं में होता आया है। इसकी अभिव्यक्ति पुरातन काल से वेदों, उपनिषदों, पुराणों, महाकवि कालिदास के साहित्य, स्मृति ग्रंन्थों ,रामायण और महाभारत जैसे गौरवशाली ग्रन्थों में निरंतर प्रतिफलित होती आई है। साहित्यकारों ने प्रकृति की सौंदर्यशाली और मनोहारी प्रतिमा को सशक्त और कलात्मक भाषा शैली में प्रस्तुत करने में अद्भुत सफलता प्राप्त की है। इसी कड़ी में आधुनिक काल की छायावादी काव्यधारा के पुरोधा रचनाकारों जैसे जयशंकर प्रसाद ,सुमित्रानंदन पंत, सूर्यकांत त्रिपाठी निराला और महादेवी वर्मा प्रभृति ने प्रकृति का मानवीकरण करते हुए रहस्यवादी चिंतन को समर्थ अभिव्यक्ति दी है। इन्होंने प्रकृति के रमणीय तथा विनाशात्मक दोनों स्वरूपों को अपनी-अपनी प्रभुविष्ण शैली में उभारा है, जैसे आंसू ,झरना, लहर ,यामा, नीरजा, नीहार ,गुंजन ,ग्रंथि, राम की शक्ति पूजा और कामायनी आदि प्रकृति चित्रण की ऐसी कलात्मक और दर्शनीय कलाकृतियां हैं जो हिंदी साहित्य की अनुपम और अनमोल धरोहर के रूप में हिंदी साहित्य में संरक्षित है। प्रस्तुत शोध पत्र में छायावाद काव्य में प्रकृति के विविध स्वरूपों को विस्तार देते हुए कवियों की प्रकृति के संदर्भ में व्यक्तिगत चेतना, अपनत्व और संवेदनाओं को प्रमुखता से उभारा गया है।

संकेत शब्द : आधुनिक हिंदी छायावाद, कवि,काव्य, प्रकृति

Managing Sanitary Landfills in High Density Urban Areas

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Abstract

Landfilling is an unavoidable component in municipal solid waste (MSW) management and its planning and design, construction, operation & maintenance involves technical skills and safety measures in terms of health and environmental protection. With the rapid increase in the population in urban areas, the volume of MSW has increased considerably, posing a big challenge in its disposal. Urbanization, uncontrolled production, poor consumption patterns, lack of adequate resources to manage waste and poor planning has made it necessary to adopt more proactive methods of solid waste disposal (advanced and sustainable sanitary landfills). Within the landfill biological, physical and chemical processes transform the disposed waste not only in physical form, but also generate secondary hazardous compounds (toxic leachate) that further penetrate the environment causing a substantial hazard to the aquifers, surface waters, and the soil. Poorly constructed and mismanaged sanitary landfills are associated with risks like instability of the ground, soil and groundwater contamination, generation of landfill gas (including greenhouse gases) with odors and finally leading to adverse health effects associated with hazardous waste. Sustainable technologies for managing sanitary landfills include recovery of possible materials for recycling, control and treatment of toxic leachate, landfill gas utilization for energy recovery, regular monitoring of ground water and successful remediation of closed sites.

Keywords: *Anaerobic, aquifer, global warming, leachate, passive vents, bioreactor, drainage trenches*

Impact of climate change on Glaciers

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Abstract

A glacier is a large mass of snow and ice that has accumulated over many years and is present year-round. A glacier flows naturally like a river, only much more slowly. At higher elevations, glaciers accumulate snow, which eventually becomes compressed into ice. In the recent past, scientists have discovered an alarming rate of glacier melting. And even though glaciers are reported to be the source of the fresh water available in the world, the concern is the current rate at which the melting ice is pouring into the sea. This intense melting of glaciers is producing a big ripple effect like extreme flooding and biodiversity loss. Scientists have warned that the world is losing its ice fast.

The burning of fossil fuels has resulted in the buildup of greenhouse gases in the environment thus influencing the warming trend because they trap heat in the atmosphere. Research shows that glaciers are capable of absorbing about 20% of heat from the sun, reflecting back the remaining 80%. So, exposing the earth changes this, because now the earth absorbs most of the heat and reflects a lesser percentage. This is a vicious cycle which has already affected most parts of the planet and will be quite problematic to stop if solutions are not put in place in the shortest time possible. Trees play a very important function in balancing the ecosystem and the overall cooling of the planer. Perhaps, that is why they are called the planet's "natural fans". So, cutting down trees to create more space for human activities is actually proving detrimental to the environmental balance.

Keywords: *Climate Change, Glaciers, Global Warming, Biodiversity*

Impact of climate change on agriculture in India and need of adaptation

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Abstract

The phenomena of climate change pose multifaceted challenges to crop and livestock farming, with severe implications on smallholder farmer's income and livelihoods. Climate change is adversely affecting the Indian agricultural sector. Climate change is caused by factors such as volcanic eruptions, nuclear process, solar radiation received by Earth. Also some human activities have been identified as main cause of ongoing climate change. Climate change has an impact on the various resources on earth such as water, which sustains life on this planet. India will begin to experience more seasonal variations in temperature like winters are starting late and summers are ending late. In this paper, there is a study on what is the need for adaptation in agriculture due to climate change.

Keywords: *Climate change, Impact, agriculture, adaptation.*

A Study on Awareness on Climate Change of College Students of (Baddi Barotiwala Nalagarh) BBN Region

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Abstract

Climate change is very important for the economic and environmental health of all people around the world. We can understand it as a long-term significant change in the weather pattern of a region over a specific period. Climate change is the greatest immediate threat facing humans and understanding and addressing it represents a key goal in building sustainable communities and lives. The importance of this can be understood from the fact that life on Earth has become possible only due to favorable climate and environment, but due to some human activities, the climate is constantly changing. In addition to the climate changes in the entire world, there have been many changes in the climate and environment of the BBN region in the last two decades, which has affected the lives of the people living here. So, with the help of this study, an attempt has been made to find out how much the students of this religion know about the urgency of climate change. This study on Awareness on Climate Change of College Students of (Baddi Barotiwala Nalagarh) BBN Region was conducted using descriptive quantitative research design approach, involving 100 randomly selected respondents (students). For this study, an instrument consisting of 6 point modified Likert scale questionnaire along with some other closed ended questions was used.

The research findings revealed that majority of the respondents were aware that manufacturing of goods, excessive use of transportation, industrial emissions, deforestation are some of the factors that are responsible for climate change. However, among the students who were found to be aware of climate change believed that climate awareness in education should be promoted more and it should be an important part of curriculum of all subjects.

Keywords: *Climate Change , questionnaire, Students Awareness, Qualitative Research Design, BBN region.*

Role of Historical Literature in Climate Change Advocacy in India

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Abstract

The intersection of historical literature and climate change advocacy presents a compelling avenue for understanding and addressing environmental challenges, particularly in the context of India. Present study explores the pivotal role that historical literature plays in shaping narratives, fostering awareness, and galvanizing action towards sustainable practices in the face of climate change. India's rich historical tapestry is replete with narratives that chronicle the symbiotic relationship between communities and their natural surroundings. Historical literature serves as a repository of indigenous knowledge, encapsulating traditional practices, ecological wisdom, and the impact of climatic variations on societies across epochs. By delving into these historical texts, contemporary readers can unearth valuable insights into sustainable living patterns, resource management, and adaptive strategies employed by communities in response to environmental shifts. In the realm of climate change advocacy, historical literature becomes a powerful tool for constructing a nuanced understanding of the evolving climate landscape in India. The juxtaposition of past environmental conditions with present challenges provides a comprehensive perspective on the anthropogenic influences on climate. This historical context not only validates the urgency of contemporary climate action but also emphasizes the need for culturally sensitive and context-specific solutions. Moreover, historical narratives have the potential to evoke a sense of collective responsibility and cultural continuity. By weaving climate change discussions into the fabric of historical literature, advocates can tap into the emotional and cultural resonance embedded in these narratives. This approach facilitates the bridging of generational and cultural gaps, fostering a shared commitment to environmental stewardship. As India grapples with the impacts of climate change, historical literature emerges as a crucial ally in the advocacy for sustainable practices. By leveraging the insights from the past, this interdisciplinary approach contributes to a holistic understanding of climate change, guiding informed decision-making, and nurturing a collective ethos for environmental conservation in India. The study shows that the significance of integrating historical perspectives into climate change discourse, emphasizing the potential of narratives to inspire meaningful action in the face of an evolving climate reality.

Keywords: *Environmental Challenges, Communities, Indigenous Knowledge, Resource, Management, Environment*

जलवायु परिवर्तन के परिप्रेक्ष्य में जनचेतना जगाने में संस्कृतसाहित्य की भूमिका

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मानव की नित नवीन अविष्कार करने व सुविधाभोगी होने की प्रवृति ने क्षण -क्षण में प्रकृति का दोहन किया है। खाद्यान्न से लेकर और खनिज पदार्थों की पूर्ति सभी प्रकार की आवश्यकताओं की पूर्ति के लिए वह प्रकृति पर ही निर्भर है। जिससे जलवायु प्रत्यक्षरूप से प्रभावित होती है। पर्यावरण संरक्षण और उसके उचित व सीमित दोहन के लिए सद्साहित्य हमें सदैव चेताता रहता है। श्री मद्भगवद्गीता में भगवान श्रीकृष्ण जलवायु चक्र को बहुत सूक्ष्मता से समझाते हुए व्याख्यायित करते हैं ।

अन्नाद्भवन्ति भूतानि पर्जन्यादन्नसम्भवः।

यज्ञाद्भवति पर्जन्यो यज्ञः कर्मसमुद्भवः॥3.14।

अर्थात् अन्न से प्राणियों का भरण-पोषण होता है। तथा अन्न की सम्भूति पर्जन्य अर्थात् वर्षा से होती है। पर्जन्य अर्थात् मेघ और वर्षा की उत्पत्ति यज्ञ से होती है। तथा यज्ञ की उत्पत्ति कर्म करने से होती है। इस प्रकार से सम्पूर्ण पारिस्थितिकी तन्त्र (इको सिस्टम) पर्यावरण को हानी किए बिना चल सकता है। पर्यावरण की सुरक्षा में वृक्षों के महत्व को प्रतिपादित करते हुए चन्दन वृक्ष के महत्व को बहुत सटीकता से व्याख्यायित किया गया।

मूलं भुजङ्गैः शिखरं विहङ्गैः शाखां प्लवङ्गैः कुसुमानि भृगैः I

आश्चर्यमेतत्खलु चंदनस्य परोपकाराय सतां विभूतय : I

अथर्ववेद के पृथिवी सुक्त में ऋषि धरती को माता मानकर स्वयं को उसका पुत्र घोषित करता है। क्योंकि पृथ्वी धन-धान्य, सुख – सम्पति, व बल प्रदान करने वाली है।

सा नो भूमिं विसृजतां माता पुत्राय में पयः।

माता भूमिः पुत्रोऽहं पृथिव्याः॥

कह सकते हैं कि वैदिक काल में मानव प्रकृति को क्षति पहुँचाए बिना ही उसका उपभोग करता था। वर्तमान में भौतिक सुखों ने मानव को प्रकृति का अपराधी बना दिया है। ऐसे में सद्साहित्य ही जलवायु संरक्षण के उपायों को सुझा सकता है।

सन्दर्भ ग्रन्थः-

01. **ऋग्वेद**
02. **अथर्ववेद**
03. **नीतिशतक**
04. **श्रीमद्भगवद्गीता**
05. **उपनिषद**

मुख्यशब्द : - सद्साहित्य, पारिस्थितिकी-तन्त्र, पर्जन्य, जलवायु, जनचेतना,

Assessing the Impacts of Climate Change on Water Resources: An Indian Perspective

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Abstract

Climate change is reflected in the form of increased number of extreme weather events, greater monsoon variability, unprecedented and localized rainfall, long dry spells, utmost trends of diurnal temperature range, and also the emergence of new disasters and new vulnerabilities with differential spatial and socio-economic impacts on communities. The deviation of weather, seasonal and climatic parameters from normal becomes the regular phenomena particularly in last two decades which is adversely affecting the word's natural resources including agriculture, horticulture, water and forest resources. The impact would be particularly disastrous for developing countries, including India and further may reduce the resilience of poor, vulnerable communities of India. Over the past decade, many regions of has witnessed a profound and far reaching impact of climate change on these resources with significant repercussion on both socio-economic conditions and ecosystem services. Because of this, it has become increasingly important in recent years to manage surface and ground water sustainably, as well as the surrounding ecosystem. For resource planning and sustainable development, which forms the foundation for economic and social development, an evaluation of the availability of water resources in the context of future national requirements is essential. This evaluation should take into account the increasing demands for water as well as the anticipated effects of climate change and variability. No single strategy is sufficient to address the issues, despite the fact that many have been found to assist India in coping with the effects of climate change on water resources. In order to address the issues posed by climate change in India, a holistic strategy adopting integrated methods is highly recommended, as many of the impacts are subjective in nature.

Keywords: *Climate change, variability, sustainable development, water resources, integrated methods*

Water Management in a Changing Climate

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Abstract

Water management is increasingly challenged by the impacts of climate change, posing significant threats to water availability, quality, and distribution. This presentation explores innovative and adaptive strategies for addressing these challenges within the context of a changing climate. The first section outlines the current scenario, emphasising the escalating risks associated with extreme weather events, altered precipitation patterns, and rising temperatures. Understanding these challenges is crucial for developing effective water management strategies. The second part delves into the integration of advanced technologies, such as sensor networks and satellite monitoring, to enhance real-time data collection and analysis. Leveraging these technologies enables more precise predictions, facilitating proactive decision-making in water allocation and distribution. Moreover, the presentation discusses the importance of nature-based solutions, highlighting the role of ecosystems in water regulation and purification. Integrating green infrastructure into water management plans not only enhances resilience but also promotes biodiversity and ecosystem health. Furthermore, the adoption of demand-side management practices is explored as a key component of a comprehensive strategy. Encouraging water conservation, efficient irrigation practices, and promoting water-use efficiency in industries contribute to sustainable water usage in a changing climate. Case studies from regions experiencing significant climate-induced water stress are presented to illustrate successful implementations of adaptive strategies. These examples showcase the versatility and scalability of the proposed solutions in diverse environmental contexts. In conclusion, this presentation advocates for a holistic approach to water management that embraces technological advancements, nature-based solutions, and demand-side management. By synthesizing these elements, communities and policymakers can foster resilience and sustainability in the face of an evolving climate, ensuring the equitable distribution and availability of water resources for future generations.

The environmental Impact of Polymers used in Mobile Covers

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Abstract

This abstract provides the review on the impact associated with use of polymers in mobile covers on environment. Polymers such as Polypropylene (PP), polyurethanes, polycarbonate (PC), Bakelite etc. commonly used in manufacturing of mobile cases due to their durability, flexibility, handy and cost-effectiveness. However, the widespread use of these polymers raised concern about their potential negative effects on the environment. This study examines the life cycle of mobile covers, from production to disposable and evaluate the environmental implications at each stage. The extraction and processing of raw materials for polymer production contribute to energy consumption and greenhouse gas emissions. Additionally, the manufacturing process involves the use of chemicals which can lead to pollution and resource depletion.

Once the mobile covers are in use, their durability and resistance to degradation can result in a longer lifespan compared to other materials. However, when these mobile covers reach the end of their useful life, improper disposable can lead to various environmental issues. Improperly discarded mobile covers can end up in landfills, where they may take hundreds of years to decompose, releasing harmful gases and substances into soil, water and air. To mitigate the environmental impact of polymers used in mobile covers, various strategies can be implemented. These include promoting the use of biodegradable or recycled materials, encouraging responsible disposable practices and fostering a circular economy approach to mobile cover production, recycling and disposing off.

Keywords: *Environment, mobile covers, polymers, pollution, disposable*

आधुनिक हिंदी साहित्य में पर्यावरण चेतना

आरती डोहरू

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सार संक्षेप

प्रकृति मानव को ईश्वर प्रदत्त सर्वश्रेष्ठ रचना है। मानव शरीर पृथ्वी ,जल, आकाश ,एवं वायु पंचभूतों के मेल से निर्मित हुआ है। मानव प्रकृति की गोद में संरक्षित रहता है ,पलता है तथा प्राकृतिक उपकरणों यथा सरिता, सागर ,वृक्ष ,पहाड़, पुष्प, लताएं और झरनों के सौंदर्य का आनंद लेता है और उल्लसित मन से जीवन विकास की रेखाएं तय करता है। वैदिक काल से लेकर हिंदी साहित्य के उत्तर आधुनिक काल की दीर्घकालीन यात्रा में प्रकृति के विविध रूपों का विस्तृत अंकन होने के साथ-साथ प्रकृति के परिवेश के प्रति संरक्षण की जागरूकता हिंदी लेखन में सदैव से रही है। आज के भौतिकवादी दौर में जहां मूल्यवादी विघटन हो रहा है और समस्यापरक विषमताओं का विस्तार हो रहा है, वह सब हिंदी लेखन में दृष्टिगत हो रहा है।इसी में से एक समस्यामूलक संदर्भ में प्रकृति के प्रति मानव की क्रूरता और अमानवीय व्यवहार उल्लेखनीय है जिसके तहत पर्यावरण को बहुत अधिक नुकसान पहुंचाया जा रहा है। वनों का अवैध कटान , वृक्षों का सफाया, जल प्रदूषण, वायु प्रदूषण, प्राकृतिक स्रोतों का निरंतर दोहन और सूखते जाना इत्यादि आधुनिक प्रगतिशीलता पर प्रश्नचिन्ह लगा रहे हैं और पर्यावरण संरक्षण के प्रति लेखक की भावाभिव्यक्ति को बढ़ावा दे रहे हैं। आज आधुनिक हिंदी साहित्य की विविध विधाएं जैसे कविता ,कहानी, उपन्यास ,नाटक ,एकांकी आदि में प्रकृति के अंकन के साथ-साथ प्रकृति के प्रति हो रहे अनावश्यक खिलवाड़ के प्रति आज का लेखक सशक्त लेखनी चला रहा है और आम पाठक की चेतना को झकझोरते हुए सोचने विचारने के लिए मजबूर कर रहा है। अगर प्रकृति को हम नहीं बचाएंगे तो प्रकृति हमारी रक्षा कैसे करेगी, यह विचारणीय प्रश्न मानवीय चेतना को आहत कर रहा है। प्रस्तुत शोध पत्र में आधुनिक हिंदी लेखन में पर्यावरण चेतना विषय को लेकर इसी प्रकार के ज्वलंत मुद्दों को उठाया गया है और सामाजिकों का ध्यानाकर्षण किया गया है।

संकेत शब्द : आधुनिक हिंदी साहित्य , पर्यावरण,लेखन, चेतना

Proposed Architecture for Electric Vehicle Battery as a Service in India

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Abstract

India is becoming a bigger market for EVs. Lack of battery recharging facilities and battery recharge times are major circumstantial factors of slow growth of EV sector. The surge in electric vehicle (EV) adoption has prompted the need for innovative solutions to address challenges associated. This paper proposes a novel architecture for Electric Vehicle Battery as a Service (EV-BaaS) tailored to the unique demands of the Indian market. Electric Vehicle Battery as a service (EV-BaaS) is a model where electric vehicle (EV) owners can buy an EV without a battery and pay a monthly fee for using a battery that can be swapped at designated stations. This reduces the upfront cost of buying an EV and also eliminates the hassle of charging and maintaining the battery. The envisioned architecture combines advanced battery technologies, cloud-based management systems, and strategic infrastructure deployment to facilitate widespread adoption of electric vehicles. The modularity of the battery packs enables seamless integration across diverse vehicle models, fostering interoperability and minimizing the need for specialized charging infrastructure. It can accelerate the adoption of EVs in India by making them more affordable and accessible for consumers. It can reduce the dependency on fossil fuels and lower the carbon emissions from the transport sector. It can improve the performance and lifespan of batteries by ensuring optimal usage and recycling. Moreover, the architecture incorporates machine learning algorithms to optimize battery performance, predict maintenance needs, and enhance overall reliability. By leveraging cloud-based connectivity, users gain real-time insights into battery health, charging patterns, and energy consumption, enhancing the overall user experience. The proposed architecture offers a holistic approach to address the challenges associated with electric vehicle battery management, aiming to accelerate the adoption of electric vehicles in India.

Keywords: *EV Battery Service, Battery Leasing, Swappable Architecture, EV-BaaS*

जलवायु परिवर्तन के कारण व दोमुहे प्रभाव, मध्य हिमालीय क्षेत्र के संदर्भ में

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सार

विश्व का हर देश, प्रांत, शहर ,कस्बा व गांव आधुनिकता व वैज्ञानिकता के दोमुहे प्रभावों से प्राप्त विकास की ओर अग्रसर है हिमालय श्रृंखला के मध्यहिमालयी क्षेत्रो को देखें तो यही दोमुहा प्रभाव पिछले दस बारह वर्षों में अत्यधिक देखने को मिलता है इन स्थानों में गत दशकों में कृषि, घरेलू उद्योग, प्राकृतिक वनस्पती के क्षेत्रों स्थिति प्रभावित हुई है उपरोक क्षेत्रों से आर्थिक लाभ प्रभावित हुए हैं!

•जलवायू व प्राकृति

प्राकृति में जो भी परिवर्तन आते हैं सभी जलवायु में होने वाले प्रभावों के कारण ही होते हैं वास्तव में जलवायु मानव जीवन के हर पक्ष पर प्रभाव डालती है जलवायु से प्राकृति प्रभावित होती है और प्राकृति का जनमानस के जीवन पर प्रभाव रहता है आधुनिकता,विकास की होड़ का मानव समाजीकरण पर दोमुहे प्रभाव संदेहास्पद नही है कि आधुनिकता,वैज्ञानिकता व प्रगति से जलवायू व वातावरण की विशुद्धता प्रभावित हुई है इसीलिए अच्छे व बुरे प्रभावों को दोमुहे प्रभाव इंगित किया गया है! प्रगति को प्रश्नचिन्हित ना माने तो, जलवायू प्रभावित होने के अनेकों कारण पटाक्षेपित हुए हैं जैसे:-

1. पहाड़ी के शिखरों तक यातायात की पहुंच
2. पर्वतीय क्षेत्रो मे औद्योगिक पटाक्षेप
3. अन्य विकास आयामों में अधिकता
4. दोहरी चोहरी सड़कों का निकास
5. गांवों से शहरों की ओर ध्यान
6. पहाड़ी कस्बों में शहरीकरण इच्छा
7. पहाड़ी गांवो में किसानीभाव की नीरसता

उपरोक्त तथ्यों या दोमूहे प्रभावों की व्याख्या में विषय का सपष्टीकरण ज्ञात होना आपेक्षित है

Sal Forest Conservation: Harnessing the Power of Mycorrhiza for Sustainable Ecosystem Restoration

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Abstract

Shorea robusta, commonly known as Sal, faces a concerning decline in India, with its forests diminishing at an alarming rate. The Forest Department and Ministry of Environment, Forests, and Climate Change, New Delhi, identified decreasing sal forest cover as a major problem. Poor regeneration is the primary reason underlying the decrease in sal forest cover. Owing to their recalcitrant nature, sal seeds have to be sown immediately after shedding from the trees, and they require sufficient moisture along with appropriate potential mycorrhizal fungal symbionts to improve seedling establishment and performance. Urgent conservation measures are imperative to safeguard this vital ecosystem and its ecological balance. Purpose of present study is to identify the ECM associates of *Shorea robusta* (sal) and undertake artificial synthesis of ECM so as to raise semicultures of ECM partner and study the impact of ECM on the establishment and growth of sal seedlings. In the view of the above some dominant ectomycorrhizal associates of sal organically attached to the host plant roots were collected, cultured, systematically investigated and identified and inoculated with the roots of sal roots. After three months period, the inoculated and control plants were observed for growth parameters. Overall growth was found to be maximum for seedlings inoculated with ECM fungus and growth was found to be significant with respect to control. The higher growth in inoculated seedlings may be due to mobilization of additional nutrients, water and protection from pathogenic fungi by associated mycorrhizal fungi. The overall results indicate that *S. robusta* seedlings inoculated with ECM fungal partners exhibited better establishment and enhanced growth and development, essential for the regeneration and survival of this plant. This technique will accelerate and assure successful reforestation programs and contribute toward appropriate functioning of Sal forest ecosystems.

Keywords: *Diversity, Phylogeny, Ectomycorrhiza, Shorea, Conservation*

Connecting Ecological Resilience, Ecosystem Functioning and Services, and Biodiversity: Towards an Integrative Framework for Effective Management

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Abstract

Final ecosystem services, or those that directly benefit humans, are largely dependent on the several processes that keep ecosystem structures intact and support ecosystem functioning. These activities are governed by organisms. Primary productivity, detritus breakdown, pollination, soil formation, and nutrient intake and fixation are a few examples of these processes. Research on biodiversity-ecosystem functioning (B-EF) and biodiversity-ecosystem service (B-ES) relationships, meta-ecosystem ecology, and ecological resilience are among the several areas of ecology that have contributed to our understanding of the abiotic, biotic, and spatial factors regulating these "supporting ecosystem processes." However, these fields have not always been well integrated. Here, we combine knowledge from several domains to provide a framework that may be used to address how human disruptions affect ecological processes and the services they sustain.

A set of "resilience attributes" is helpful for evaluating the resilience of ecosystem structure, functioning, and service delivery. We also go over the application of trait-based frameworks and portfolio theory as unifying approaches in the assessment and management of ecosystem functioning and services. Finally, we address potential and obstacles for future study, including the unknowns associated with establishing a connection between species interactions and traits and ecological services. We conclude that the theory and instruments required to initiate the unification of B-EF, B-ES, meta-ecosystem, and resilience frameworks, as well as to test their application in the evaluation and management of ecosystem services, are currently available.

Keywords: *biodiversity-ecosystem functioning, meta-ecosystem, resilience frameworks, management of ecosystem*

Impact of Climate Change on Agriculture

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Abstract

Agriculture is main backbone because we are directly or indirectly linked with the economy of the people. Climate change can effect agriculture in a variety of ways. A strong agricultural economy brings social progress by increasing productivity, employment and income. Agriculture is the main driver of development in most rural areas. Climate change reduces crop yields and lower nutrition quality of product. Agriculture is highly sensitive to climate variability. Each crop has its own requirement of temperature and rainfall. Present study focus on major impacts of climate change on agriculture and efforts to reduce the impact of climate change on agriculture and also focus on new innovations that can change the life of farmers. However, there is need to fill up the gaps and strengthen the database with the previously available data.

Keywords: *climate change, sensitive, variability, major impacts, innovations*

Building a Sustainable Future: Integrating Economic and Climate Resilient Strategies

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Abstract

Building a sustainable future requires integrating climate resilience and economic strategies. Finding innovative solutions that both address the issues raised by climate change and the necessity for economic development is crucial. Investigating significant economic strategies that can help stakeholders, the general public, countries, and local communities build resilience to the effects of climate change is the goal of the present investigation. The outcomes of the study have the potential to mitigate several issues and aid communities, stakeholders, and policymakers in merging climate-resilient economic and economic approaches to ensure sustained stability and prosperity. Determining the effects of climate change on economic activities such as tourism, agriculture, and infrastructure can assist policymakers in making choices that promote sustainable development and deployment of clean technologies, which can lead to job creation and economic diversification. In conclusion, building a sustainable future necessitates the integration of economic and climate resilient strategies.

Keywords: *Economic strategies, climate change, resilient development, adaptation and sustainability*

The Impact of climate change on Environmental Sustainability

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Abstract

Climate dictates the critical aspects of human environment conditions. The frequency and intensity of extreme weather conditions due to human- induced climate change have alarmingly increased. Consequently, climate change directly affects environmental sustainability and human mortality in the short term and creates prolonged and complicated long- term indirect grave risks. This paper examines three level environment impact risks associated with climate change on human mortality. It proposes a conceptual framework for developing an empirical event-based human mortality database related to climate change and communication strategies to enhance global environmental adaptation, resilience, and sustainability.

Keywords: *climate change; remote sensing; science communication; human mortality global sustainability*

Explicating the nutritional-functional, bioactive properties and immunomodulatory efficacy of selected underutilised highland crop: The future crops

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Abstract

Underutilized crops have great potential in building resilient futures as they can provide multiple benefits, including food security, income generation, and soil health. These crops have drawn increased interest as functional foods due to the abundance of bioactive chemicals with health advantages, including antioxidant and immunomodulatory activity. Therefore, the present study aimed to investigate the potential of selected highland crops, viz. hull-less barley, buckwheat and black rice, for their nutritional, microstructural, bioactive and immunomodulatory properties. All the selected crops possess the required protein content, which was found to be the highest in buckwheat (12.33%). Total phenolic content was found to be the highest in buckwheat (319.30 mg GAE per g), followed by hull-less barley (44.80 mg GAE per g) and black rice (77.30 mg GAE per g). Water Absorption Index ranging from 1.46 to 1.73 g.g−1 and Oil Absorption Index from 1.27 to 1.37 g.g−1 , respectively. The results demonstrate the potential immunomodulatory activity of all selected crops. The results reinforce the promotion of these underutilized food grains as they are nutritionally rich, and are natural sources of nutrition and antioxidants, and have potential immunomodulatory activity, which could be used in the food and pharmaceutical industries. Also, by promoting and investing in these crops, we can diversify our food systems and improve the sustainability of agriculture.

Determination of LC50 value of synthetic pyrethroid deltamethrin for common carp (*Cyprinus carpio*) with particular attention to its impacts on behavior

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Abstract

Pesticides are a class of chemical compounds created by humans with the intention of protecting crops and eradicating harmful pests and illnesses. The broad-spectrum, insecticidal potential and high efficacy of pyrethroid insecticides make them one of the pesticides that are most frequently employed in agriculture. Because of their great efficacy, minimal toxicity to mammals, excellent pest specificity, and quick environmental degradation, pyrethroids are favored over other insecticide classes in use. One of the most effective pyrethroid insecides is deltamethrin. Fish are shown to be sensitive creatures capable of detecting changes in the health and efficiency of aquatic ecosystems. Because it is relatively resistant to water contamination, including pesticides, which is crucial for the selection of bioindicators in laboratory and field research, common carp (*Cyprinus carpio*) makes a good test organism for ecotoxicological investigations. The purpose of the current investigation was to ascertain the acute toxicity of deltamethrin (11% EC) and how it affected the behavior of *Cyprinus carpio*. To evaluate the LC50 values at various exposure times, adult common carp were randomly picked and subjected to toxicity testing. Direct Interpolation method was used to determine the LC50 values by plotting graph between percent mortalities and toxicant concentrations. The *C. carpio* in the control group was seen to be showing normal behavior. However, when exposed to deltamethrin, it exhibited a number of abnormal behaviors, including rapid swimming, increased surface activity, increased opercular activity, convulsions, hyperactivity and a gradual loss of balance.

Keywords: *pesticides, pyrethroid, deltamethrin, common carp, LC50, behavior*

Histopathological alternations caused by Pendimethalin on the kidney of freshwater fish *Cyprinus carpio* L.

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Abstract

UN environmental program has defined pesticides as chemical substances that are used to eradicate pests from the environment thereby preventing pests from harming grains, vegetables and household crops by killing them. Herbicides due to their degradable nature are used very commonly in the world. But besides this, herbicides cause harmful defects in target and non-target organisms. These chemicals by coming in contact with waterbodies affect water ecosystems including fish and plankton. These chemicals also cause metabolic alternations in the fish. These herbicides also cause damage to the lipid and protein content of fish for which humans take fish as food. This can cause harmful defects to the human population. Pendimethalin is a dinitroaniline class herbicide and is used for controlling foreign weeds and grasses. It stops cell division thereby stopping cells from elongating. Pendimethalin, a class of selective herbicides, is used to control the growth of particular weeds in crops such as wheat, cotton, tobacco, and soybeans. At natural concentrations, pendimethalin generates active substances that are highly carcinogenic to aquatic animals. The present investigation was carried out on the kidney of C*yprinus carpio.* Normal kidneys of fish showed normal proximal tubules, distal tubules, interstitial spaces, glomeruli, blood vessels and collecting ducts. The pendimethalin-treated kidney of the fish shows various harmful defects at different concentrations.

Keywords*: Herbicide, Pendimethalin, Histopathology, Kidney, C. carpio.*

Effect of Climate Change on Agriculture

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Abstract

Climate is the primary determinant of agricultural productivity. Concern over the potential effects of long term climatic change on agriculture has motivated a substantial body of research over the past decade. This body of research addresses possible physical effects of climatic change on agriculture. Such as changes in crop and livestock yields as well as the economic consequences of these potential yield changes. This paper reviews the extant literature on these physical and economic effects and interprets this research in terms of common themes or findings, Of particular interest are findings concerning the role of human adaptations in responding to climate change, possible regional impacts to agriculture systems and potential changes in patterns of food production and prices. Limitations and sensitivities of these findings are discussed and key areas of uncertainty are highlighted finally. Some speculations regarding issues of potential importance in interpreting and using information on climate change and agriculture are presented.

Keywords: *Climate change, Agriculture, Economic consequences, Regional effects, Adaptations, Uncertainty*

Contemporary Lifestyle Shifts: Implications on Human Health

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Abstract

In recent times, society has witnessed profound transformations in lifestyle, ushering in an era of unprecedented change. This shift, influenced by technological advancements, urbanization, and evolving societal norms, has not only revolutionized daily routines but has also emerged as a significant concern for human health. This paper this explores the multifaceted impact of contemporary lifestyle changes on health, addressing key factors such as sedentary behaviors, dietary patterns, and stress levels. Through an interdisciplinary lens, it investigates the intricate connections between lifestyle modifications and the escalating prevalence of chronic diseases. The paper also aims at to stimulate and foster a deeper understanding of the intricate interplay between modern lifestyles and their consequences on human well-being.

Keywords: *Lifestyle, Health, Society, Diet and Technology*

Music and its Impact on Environment

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Abstract

Music and nature both work to awaken environmental consciousness in life. Music is not only a medium to communicate a message but also a powerful weapon to embed any message deep into the consciousness of a listener. The environment can be saved by the union of music and nature. It is common knowledge, as well as scientific evidence, that music enhances a student's spiritual life and fosters the growth of his creative faculties. In addition to a well-structured subject-spatial environment, psychological and educational factors also play a role in the development of musical ability. Children's unique abilities and the material covered in the classes should be the main emphasis of the musical topic environment in groups. No single kind of musical activity can be fully developed at a purely verbal level outside of the subject-spatial environment. When studying, music might assist students de-stress or feel less anxious. When studying, students who listen to lively music find it difficult to focus. In addition, some pupils make an effort to listen to their folk tunes more frequently, so, that they remain mindful of their culture. The student is influenced by music, which also helps him develop a well-rounded personality, teaches him, and enhances his emotions. When a pupil is exposed to beautiful, real music from an early age, they grow up with a high view on society. Students today are immersed in a diverse range of auditory stimuli, with radio, film, YouTube, and internet music serving as the primary sources. The benefits and drawbacks of listening to music while studying are discussed in this essay. explains the ways that music might affect one's ability to think in a certain context and achieve well academically.

Keywords: *anxious, influenced, auditory, personality, unique*

The impact of lifestyle on physical and mental well-being in the post-covid scenario: A review

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Abstract

The way an individual or group lives is defined by lifestyle, which encompasses habits, behaviors, values, attitudes, and economic levels (Veal, 1993). During day-to-day activities an individual may experience different lifestyle patterns which plays an important role in health. Emerging technologies like internet and virtual communication networks threaten physical and mental health of individuals. Post covid lifestyle changes have resulted in illness, disability and even death of many people. Studies on exercise suggest that people decreased their activity levels during quarantine, which in turn was linked to lower subjective well-being. (Suzuki et al., 2020). The prevalence of work from home led to confinement due to an increase in screen time on TVs, PCs, smartphones and continuous internet usage (Colley et al., 2020; Qin et al., 2020; Smith et al., 2020; Wiederhold et al., 2020). An unhealthy lifestyle can result in problems such as metabolic diseases, skeletal problems, cardio-vascular diseases, hypertension, obesity etc. Advanced technology though facilitates human life but overuse of technology may result in unpleasant consequences like sleep disorders further leading to social, psychological, economical and health related consequences. Addiction to use of mobile phone is related to depression symptoms (Thomee et al., 2011). In addition to this unhealthy diet, smoking, drinking, drug abuse, stress, etc. are all manifestations of unhealthy lifestyle. Eating fast food has led to obesity, a common health problem in urban societies, as diet has a direct relation with health. Addictions like smoking may result in cardiovascular disease, asthma, cancer and brain injury (Farhudd et al., 2015). For treating general health problems, exercise should be included in lifestyle (Dunn et al., 1998). Colley et al., 2020, advocate for reducing the use of screen-based devices and engaging in outdoor exercise to improve mental health. Studies indicate that combining exercise and a healthy diet leads to better health, and an active lifestyle leads to happiness (Farhudd et al., 2015). Non-communicable diseases account for 71% of all global mortalities every year, which are exacerbated by lifestyle behaviors like physical inactivity and unhealthy diet. According to Sevild et al., 2020, it's hard to maintain a lifestyle change when the motivations are external to oneself. To summarize, self-regulation skills are necessary to establish priorities and lead a healthy lifestyle.

Keywords: *Lifestyle, health, diet, exercise, covid*

Water Management Strategies in the Face of Climate Change: A Comprehensive Review

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Abstract

Climate change poses profound challenges to water management systems globally. This article examines the multifaceted challenges posed by climate change on water management systems and explores the intricate relationship between climate change and water management, shedding light on the impacts, adaptation strategies, and the need for sustainable practices. It provides an in-depth analysis of the impacts of changing climatic conditions on water resources, exploring the complexities faced by water managers in ensuring sustainable water availability, quality, and distribution in the face of an evolving climate. As climate change accelerates, the article investigates the implications for water availability, quality, and distribution, emphasizing the urgent need for adaptive and resilient water management practices. Recognizing the urgency of adapting water management practices, the review synthesizes current knowledge and highlights promising approaches for resilience in the face of climate uncertainty. The article also examines the social and economic consequences of climate change on water management, including displacement of communities due to extreme weather events, increased healthcare costs, and potential conflicts arising from competition for water resources. An attempt has also been made to evaluate existing water policies and governance structures, highlighting gaps in addressing the challenges posed by climate change, and also to emphasize the need for adaptive and forward-thinking policies at local, national, and international levels.

Keywords: *Climate change, water management, adaptation, sustainability, water scarcity, urban resilience*

Assessing Consumer Behaviour in Relation to Climate Change

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Abstract

Climate change has been considered the most important environmental challenge that humanity has faced in recent history. Consumer behaviour and climate change research are currently advancing our knowledge about efficient ways to mobilize consumers to help combat climate change. The complicated relationship between consumer behaviour and climate change makes it difficult for most consumers to decide which behavioral adjustments are worthwhile. This paper examines the intricate relationship between consumer behavior and climate change, highlighting the need for substantial assistance to empower consumers in making sustainable choices. The research methodology is a systematic approach of resolution the research problem. The methodology for this study is systematic literature review, where a comprehensive review of previous research papers is performed to come up with a possible solution towards climate change. Mainly the secondary data have been used for the current study. Various journals, articles and web resources are the sources from where data and related information have been procured. As climate concerns increasingly influence purchasing decisions, this research explores the challenges consumers face, including information gaps and the complexities of navigating eco-friendly options. The paper emphasizes the crucial role of education, transparent labeling, and supportive policies in guiding consumers toward environmentally conscious choices. The most significant finding of the reviewed literature is that, in terms of ensuring that prices accurately reflect carbon footprints, that environmentally friendly products outperform their less environmentally friendly counterparts and that carbon labels are applied, the majority of attention should be directed towards making climate-friendly behavior the default choice.

Keywords: *Consumer behavior, climate change, sustainable choices, eco-friendly, education, carbon footprints*

The Role of Marketing Research on the Performance of Business Organization

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Abstract

Marketing is a dynamic business activity. The roles it plays in the existence of a business have evolved significantly due to of economic recession, inflation, material and capital scarcities, unemployment, winding up of industries and firms, terrorism and war. This can also be attributed to the changes in technological advancement, witnessed by the introduction of the internet. All of these have forced marketing executives to become more market-driven when making strategic decisions. Marketing research is one of the important factors that affect marketing performance. In literature, effects of various marketing research activities on business or export performance were analysed. However, there is a lack of studies in literature explaining the effects of marketing research activities on marketing performance in the business organizations. The present study showed that marketing research process plays a significant role in the performance of business organizations which means that there is a positive relationship between marketing research and the performance of business organizations. In view of this, we recommend that business organization should provide adequate fund on market research, provision of suitable and adequate facilities to enhance business environment and make it more responsive to the needs of customers and development strategies should be placed to enhance staff performance and increase their contribution to the organization.

Keywords: *Marketing Research, Marketing Research Process, Performance, Business Organization*

Modern Lifestyle: Impact on Health and Diseases

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Abstract

Lifestyle is generally a reflection of the human behavior, interest and attitude, which an individual learns from his surroundings. Lifestyle plays a very momentous role in the promotion of health conditions as well as it maintains the quality of life. With the advancement of science and technology, most of the people are adopting modern lifestyle. This modern lifestyle is not only affecting the health status of the adults but to a large extent affecting the younger ones also. Adoption of modern lifestyles has increased the risk of various physical and psychological health problems. Excessive use of videogames, mobile phones, unhealthy eating habits, excessive consumption of processed and fast foods, sedentary lifestyle, faulty food habits, lack of sound sleep, lack of physical exercise are the contributory factors for various health related problems. In this modern era, lifestyle disease like obesity, hypertension, diabetes, cardiovascular diseases are widely prevalent issues among population and are even the major cause for the deaths also. In order to improve the physical, psychological health and even the life expectancy as well, there is a dire need to make necessary changes in our lifestyle. Parents and teachers should take the initiative to train the children to eat healthy and balanced diet, importance of physical activities and exercise. Healthy and balanced diet, regular physical exercise, sound sleep can help in reducing the incidences of various lifestyle diseases and hence can improve the health status of the population as well. This can further result in lifting the economic status and building of a healthy and disease free nation.

Keywords: *Modern lifestyle, health, diseases, lifestyle diseases, healthy diet*

समकालीन हिन्दी कविता में पर्यावरणीय चेतना

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सारांश

वर्तमान समय में विद्यमान पर्यावरण संकट किसी एक देश नहीं बल्कि पूरी दुनिया और मानव जाति के सामने एक विकराल समस्या बन कर उपस्थित है। प्रत्येक क्षेत्र में आज इसकी बात हो रही है और एक सार्थक समाधान तलाशने की बात की जा रही है। वैसे तो साहित्य का प्रकृति से बहुत गहरा रिश्ता रहा है। हम कालिदास, तुलसीदास, भारतेन्दु हरिश्चन्द्र, जयशंकर प्रसाद, महादेवी वर्मा आदि अनेक साहित्यकारों की लेखनी में व्यक्ति और प्रकृति के गहरे रिश्ते को देख सकते हैं। लेकिन औद्योगीकरण के बाद जिस तरह से मनुष्य ने विकास के नाम पर हमारी प्रकृति और पर्यावरण को नुकसान पहुँचाया है उससे पर्यावरण के साथ मनुष्य के रिश्ते को नए सिरे से समझना आवश्यक हो गया है। समकालीन हिन्दी कविता में इस समझ को स्पष्ट रूप से देखा जा सकता है। इस युग का कवि समझता है की मनुष्य ने अपनी श्रेष्ठता के दम्भ में किस तरह पूरे परिस्थिति तंत्र का संतुलन बिगाड़ दिया है जबकि मनुष्य का अस्तित्व प्रकृति के बीच में ही संभव है इससे अलग नहीं। इसके साथ ही इस पर्यावरणीय संकट ने आदिवासी जनजातियों और संवेदनशील समुदायों का जीवन बद से बदतर कर दिया है। समकालीन हिन्दी कविता में पर्यावरणीय चेतना साफ़ झलकती है और यह कविता का अपने युग की समस्यओं से जुड़ने का ही प्रतिफल है। सभ्यता के नाम पर किस तरह व्यक्ति पृथ्वी को बंजर किये देता है कैलाश वाजपेयी की कविता से इसका एक उदाहरण दृष्टव्य है- "सब फेंक दे रही सभ्यता/ धरती की कोख/ दिन-ब-दिन खाली/ अस्ति से परास्त/ विभावग्रस्त आदमी/ एक-एक कर/ फेककर/ सारी सम्पदा/ क्या पृथ्वी भी/ फेक देगा?" यह प्रश्न आज के समय का सबसे ज्वलंत प्रश्न है जिसे समकालीन हिन्दी कविता में पुरजोर तरीके से उठाया गया है जो कवि की पर्यावरणीय चेतना का परिचायक है।

Invasion of *Bidens pilosa* L. Impacts Vegetation and Soil Traits Across Different Elevations in Himachal Pradesh, India

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Abstract

The mounting threat to global biodiversity from invasive plants, spurred by climate shifts, human influence, and the introduction of species like *Bidens pilosa* to higher altitudes, poses a critical risk to mountainous ecosystems. In the outer Himalayas of Himachal Pradesh, our research delved into the impact of this invasive Asteraceae species on local vegetation and soil characteristics across varying elevations. Our findings revealed a notable decline in both species diversity, as gauged by Hill's index (E), and species richness, measured by Margalef's index (R), coinciding with the spread of *B. pilosa*. Simpson's dominance index (λ) underscored the persistent dominance of B. pilosa throughout different elevations, while alterations in soil properties were evident. These outcomes stress the urgent need for vigilance in monitoring and controlling invasive species to safeguard the exceptional biodiversity of the Himalayan ecosystem amidst global environmental transformations.

Keywords: *elevational gradient; blackjack; plant invasion*

Water Management in Changing Climate

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Abstract

The effects of climate change on water resources have been getting ever more serious, and this situation is posing a range of challenges to water resource management around the nation. The specific focus of this paper is to address the interaction between climate change and water management, looking for clues concerning what challenges lie ahead in a changing world. With rising temperatures and changing weather patterns, orthodox water management systems are put under abnormal pressure. Irregular precipitation, long droughts, intense floods and rising sea level are also changing the characteristics of water resources. But these changes damage the ecosystems, threaten agriculture and water resources, exacerbate water scarcity problems and challenge efforts to provide clean drinking-water supplies for growing populations. Reducing the severity of these challenges will necessitate a complete change in water management techniques. Innovative adaptation strategies are comprised of various technological as well as policy-based and community-oriented measures. From new methods of storing and conserving water, to all the efforts by government and communities. The first area of focus for this paper is developing sustainable water management practices. Traditional knowledge and cutting-edge technology can combine forces to create sustainable water systems. In this paper, through weighing current research and an overview of several cases, we introduce new methods to the water management dilemma in a changing climate regime that ultimately suggest comprehensive sustainable solutions for safeguarding our future water resources.

Keywords: *Water resource management, Orthodox water management, Irregular precipitations, Rising temperatures, Intense floods, Adaptation strategies, Sustainable water management.*

एस आर हरनोट के साहित्य में पर्यावरणीय संवेदना

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सारांश

पर्यावरण का हमारे जीवन में महत्वपूर्ण स्थान है। मनुष्य और प्रकृति का संबंध प्राचीन काल से चला आ रहा है। सदियों से प्रकृति मानव जीवन का भरण –पोषण करती चली आ रही है। अतः प्रकृति के बिना मनुष्य का अस्तित्व संभव नहीं है। मनुष्य का शरीर पर्यावरण के पंचभूत तत्व पृथ्वी, आकाश, अग्नि, जल, वायु से निर्मित है। परंतु आज इन्हीं पंचभूत तत्वों का अस्तित्व खतरे में है। वैश्वीकरण के दौर में मनुष्य ने विकास के नाम पर पर्यावरण प्रदूषण को अपने चरम पर पहुंचा दिया है। वर्तमान समय में वायु प्रदूषण, जल प्रदूषण, मृदा प्रदूषण , ध्वनि प्रदूषण , ओजोन प्रदूषण, ग्लोबल वार्मिंग इत्यादि अपने चरमोत्कर्ष पर है। वर्तमान समय में पर्यावरण प्रदूषण संपूर्ण विश्व के लिए सबसे बड़ी समस्या बन चुकी है। इस समस्या को दूर करने के लिए संपूर्ण विश्व प्रयत्नशील है। भारत में पर्यावरण प्रदूषण को रोकने के लिए समय-समय पर सरकारों द्वारा कानून बनाए जा रहे हैं ।साथ ही साथ भारतीय परवर्णविदों तथा स्थानीय लोगों के द्वारा समय-समय पर पर्यावरण प्रदूषण रोकने के लिए आंदोलन किए गए हैं। वहीं दूसरी ओर हमारे साहित्यकार भी अपने साहित्य के द्वारा लोगों को पर्यावरण प्रदूषण के प्रति जागरूक करने में अपनी महत्वपूर्ण भूमिका निभा रहे हैं। इसी कड़ी में हिमाचल प्रदेश के प्रसिद्ध साहित्यकार एस आर हरनोट अपने साहित्य के माध्यम से लोगों को पर्यावरण के प्रति जागरूक करने में महत्वपूर्ण भूमिका निभा रहे हैं। इस शोध पत्र का मुख्य उद्देश्य एस आर हरनोट के साहित्य में पर्यावरणीय चेतना की पड़ताल करना है।

बीज शब्द – ग्लोबल, वार्मिंग, पर्यावरण, प्रदूषण, वैश्वीकरण, संवेदना

Crop Diversification for Enhancing Agroecosystem Resilience

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Abstract

Modern agriculture faces a pressing challenge: meeting the escalating demands for food, feed, fiber, and industrial resources within the constraints of limited arable land and amidst a changing climate. Conventional farming practices heavily reliant on inputs like fertilizers and pesticides boost crop yields but at a cost—escalating production expenses and heightened greenhouse gas emissions, which detrimentally impact the environment. The focal point of contemporary agriculture lies in discovering sustainable methodologies to augment crop productivity while minimizing environmental repercussions. Ecologists have made substantial headway over the past two decades in understanding the impact of biological diversity on ecosystem functionality. Increased biodiversity yields a spectrum of advantages within ecosystems, notably enhanced productivity, heightened carbon sequestration, improved nutrient retention, and fortified resilience against various stresses, encompassing pests, diseases, droughts, and floods. This resilience, crucial in managed social-ecological systems like agroecosystems, has sparked a quest to bolster agricultural resilience sustainably. The crux of enhancing resilience in agroecosystems lies in temporal-spatial diversification of crop rotations. Studies substantiate the manifold benefits: intensified crop rotations facilitate greater carbon sequestration into soil, augmenting resilience. Diversified crop mixtures fortify system resilience by fostering resistance to pests, diseases, and weeds while expediting recovery after stress removal. Moreover, diversifying crop rotations at a systemic level amplifies crop yields, coupled with enhanced water and fertilizer use efficiency. The integration of legume-based rotations curtails reliance on synthetic nitrogen fertilizers, consequently reducing N2O and CO2 emissions. Furthermore, crop diversity engenders a rich soil microbiome diversity, optimizing soil microbial community structure and functionality, ultimately nurturing soil health—a cornerstone of sustainable agriculture. The trajectory toward sustainable agriculture hinges on embracing diversified crop rotations, as evidenced by their multifaceted advantages: from bolstering carbon sequestration, enhancing system resilience, and elevating crop yields to mitigating greenhouse gas emissions and fortifying soil health. Implementing these practices presents a promising pathway to meet the escalating demands of agricultural production while ensuring environmental stewardship and resilience in the face of an evolving climate.

Keywords: *Crop diversification, agroecosystem resilience, carbon sequestration, soil health, global warming*

Plant Biodiversity of Himachal Pradesh: Its Uses, Threats And Conservation

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Abstract

Himachal Pradesh is one of the western Himalayan states with varied climatic conditions. The state is one of the biodiversity hotspots, has 8 forest types and 38 sub-types as per Champion and Seth's classification. The varied physiographic and climatic conditions have given rise to diverse natural ecosystems such as forests, grasslands and pastures, rivers, lakes, wetlands and glaciers. Himachal Pradesh is bestowed with 3295 species of plants and 5721 species animals (Kaisth and Sharma). There has been an extremely close association between livelihoods and the biodiversity in Himachal Pradesh. The collection of wild biodiversity such as wild fruits, fuel wood, medicinal plants in Himachal Pradesh demonstrates the direct linkage of the local communities with the biodiversity. Threats to the biodiversity has natural as well man made which causes social, cultural and economic loss to the natives of the state. Natural causes like floods and soil erosion, landslides, earthquakes, natural competition between the species, diseases and exotic species create threat to the biodiversity. Man-made causes like Population explosion, timber for building purposes, furniture and fuel wood, grazing and fodder , forest fires , exploitation of economically important plant species, development activities and agriculture, over exploitation of medicinal plants for trade are major reasons for biodiversity loss. With a view to conserve the wildlife available in the state, the Himachal Pradesh government has declared several areas, having significant ecological and biodiversity value, as Conservation Reserves, Wildlife Sanctuaries and National Parks. At present, there are 5 National Parks, 26 Wildlife Sanctuaries and 3 Conservation Reserves are present in Himachal Pradesh. Government also organizes various programs to make the people aware about the conservation of the biodiversity of state.

Keywords: *Biodiversity, Hot spot, Conservation, Species, Exotic*

Strategies for Biodiversity Conservation in The Face of Climate Change

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Abstract

Biodiversity conservation is the protection and management of biodiversity to obtain resources for sustainable development. Biodiversity conservation has three main objectives: To preserve the diversity of species, Sustainable utilization of species and ecosystem and to maintain life-supporting systems and essential ecological processes. In the coming years, climate change is predicted to be a major factor contributing to species extinctions. Many species will struggle to persist in the habitats they once occupied as ecosystems shift due to increases in temperature and greater variability in precipitation. We need to consider which strategies will be most effective at preserving biodiversity under shifting and uncertain future conditions. Restoration, spatial planning and reserve selection, connectivity modelling, extinction risk assessment, and species translocations have all been reimagined in the face of climate change. New conservation targets, such as geophysical settings and climatic security, are being incorporated into conservation plans. There are some activities which can contribute towards biodiversity conservation such as: Habitat Restoration and Protection Initiatives, Climate-Resilient Agriculture and Sustainable Land Management, Community-Based Conservation Programs, Ecosystem Monitoring and Research, Capacity Building and Training Workshops,Policy Advocacy and Stakeholder Engagement, Educational Outreach and Awareness Campaigns, Partnership and Collaboration Building etc. By undertaking these activities we aim to build resilience, foster community engagement, and promote the sustainable coexistence of biodiversity and human communities in the face of the escalating challenges posed by climate change.

Keywords*: Biodiversity, Conservation, sustainable development, climate change, ecosystem*

Innovative Agriculture Practices for Climate Resilience

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Abstract

Innovative agricultural practices are crucial for climate adaptation, as they can help farmers mitigate the impacts of climate change, increase resilience, and sustainably manage resources. Some innovative agricultural practices like agroforestry integrate trees and shrubs into agricultural landscapes to provide shade, reduce wind and water erosion, and improve soil fertility. Agroforestry systems enhance biodiversity, offer additional income through timber and non-timber forest products, and contribute to carbon sequestration. Precision agriculture enables farmers to monitor and manage their crops more efficiently, reducing resource wastage and environmental impact. Drought-resistant crops can with stand water scarcity, ensuring more stable yields in regions prone to drought. Aquaponics combines aquaculture (fish farming) with hydroponics (soil-less plant cultivation) in a symbiotic system, where fish waste fertilizes the plants. Water harvesting and efficient water management systems, like drip irrigation, can help farmers use water more judiciously, especially in arid and semi-arid regions. Plant cover crops during off-seasons to protect the soil from erosion, retain moisture, and enhance fertility. Crop rotation helps break pest and disease cycles, improves soil structure, and reduces the need for chemical inputs. Biological pest control by utilizing natural predators, parasites, and pathogens to control pests instead of relying solely on chemical pesticides. Agro-ecological farming embrace agro-ecological principles that promote biodiversity, soil health, and natural ecosystem services. These practices, when combined and adapted to local conditions, can contribute to sustainable agriculture and help farmers adapt to the challenges posed by climate change. It's important to involve local communities, policymakers, and researchers to ensure the successful implementation of these innovative approaches.

Keywords: *Agroforestry, Biodiversity, Crop rotation, Water harvesting, Aquaponics, Sustainable*

Importance of Religious Plants in Biodiversity Conservation

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Abstract

India is rich in biodiversity due to varied biogeographical and climatic conditions. It is one of the 12 mega biodiversity regions of the world. Biodiversity is considered as a reservoir of natural resources used for food, fodder, shelter, medicine, industrial and various other commercial products. The increased rate of population results in overexploitations of natural resources leading to loss of biodiversity. Besides using plants for food, fodder and medicines, these are also used for religious aspects. The religious plants are an important and integral part of Indian culture and are being protected by various ethnic groups and communities. In India, number of plants viz. *Ficus religiosa, Ficus bengalensis, Aegle marmelos, Emblica officinalis, calotropis procera, Mangifera indica, Musa paradisica and Ocimum sanctum* are worshiped during various religious occasions. These plants are specially grown and protected in the form of sacred groves. The religious beliefs of sacred trees are one of the best strategies to conserve biodiversity in its natural habitat.

Keywords: *Biodiversity, religious plants, sacred groves*

Policies and Politics Along the Plastic Life Cycle

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Abstract

Despite the fact that plastics have a lot of benefits, it is being recognized as one of the major sources of environmental problems across the globe. There have been a lot of efforts from the various government bodies, researchers, policymakers, citizens, and other stakeholders to reduce plastics pollution but still all of it is failing to stem the tide of the growing plastic production, its use, and its disposal. The present waste management system in India is largely ineffective, with a significant proportion of mismanaged plastic waste due to its untraced littering. This paper attempts to sketch the prominent governmental reforms in the area of municipal solid waste management, which has a major focus on plastic waste. The review describes the development of various policy initiatives in India which targets plastic pollution, followed by a review of the key legislations at each step of the plastics life cycle from production, through consumption, to waste and pollution and finally provides current policy recommendations.

Robotics Revolutionizing Weed Management: Precision, Efficiency and Sustainability

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Abstract

Weed control is an important element in modern agriculture, and herbicides are commonly used. However, indiscriminate use of herbicides can cause adverse environmental effects as well as hazards to human health.. Robotics-based weed management system can provide a sustainable and efficient solution to this problem. The goal of this conceptual scenario is to create a robotics-based weed management system that reduces herbicide consumption, selects the most appropriate herbicide, and increases crop yield. Robotic-based weed management systems involve using sensors, actuators and machine learning algorithms to detect and remove weeds through mechanical, flame and herbicidal spray method. This technology has various advantages over traditional approaches, including greater accuracy, efficiency, and cost-effectiveness. Precision weed management by robotics entails weed detection, identification and weed control. The focus on certain weeds is not just beneficial to the environment; it is also useful to farmers. Farmers reduce their environmental effect and save money by using pesticides more efficiently. This more efficient use of resources enables farmers to better manage their inputs, contributing to a more sustainable and financially sound farming practice. As a result, robotic weed management has the ability to improve present agriculture and provide food security in the face of global issues like climate change and population growth. Further research and development in this subject, as well as the implementation of these technologies into existing agricultural practices, will be important in realizing this potential and creating a more sustainable and resilient agricultural system in the future.

Keywords: *Robotics, weed management, precision, herbicide, sustainable*

Analysing the Impact of Heavy Metal Accumulation from Water Treatment Waste: A Comprehensive Review

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Abstract
Human health is now seriously threatened by the toxicity and persistence of heavy metals. The primary source of these heavy metal accumulations is wastewater that is released by different industries such as coating, metallurgy, paper, mining, tanning, agricultural chemicals, battery manufacturing etc. One of the major issues facing our environment today is the rapid advancements in industry and technology, which have the potential to significantly impact human health and other living systems. Also, the removal of industrial effluents containing heavy metals from freshwater bodies has garnered increased interest in research because of the detrimental impact on the life cycle of living organisms. The recent research trend is more focused on the removal of heavy metals and their reuse for various fruitful purposes. According to many past reports, developing countries are mostly affected by heavy metal pollution. Thus, understanding the influence of heavy metals on environment is highly essential for developing a specific method to remove these metals from wastewater, and further make use of them as valuable resources. In his review, the various kinds of heavy metals found in wastewater and how they are recovered using standard physico-chemical processes are covered. The challenges and future prospects of this research to help protect the ecosystem has also been discussed briefly in this study.

Keywords: *Heavy metals, waste water, industry, reutilization*

Abundance and diversity of insect pests and natural enemies in rice under natural farming

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Abstract

Natural farming is considered as a climate resilient type of farming which is known to harbour and conserve more biodiversity as compared to any other farming system. Therefore, to record the abundance and diversity of insect pests and their associated natural enemies in rice ecosystem under natural farming, a study was conducted during *Kharif* 2021 at Palampur. Various insect pests *viz.*, *Cnaphalocrocis medinalis*, *Sesamia inferens*, *Dicladispa armigera*, *Popillia* sp., *Hydrellia* sp., *Leptocorisa* sp., *Pelopidas mathias* and *Nephotettix* sp. were found infesting rice crop at different crop growth stages. Predators namely Spiders, dragon fly, damsel fly, Coccinellids, syrphids, *Chrysoperla* sp. and rove beetles were found associated with small insect-pests. Of all the predators, the per cent relative abundance was recorded highest in case of spiders with *Oxyopes kamalae* and *Neoscona theisi* being the most prevalent followed by dragon flies while Coccinellids, syrphids and rove beetles were relatively low in numbers. Among parasitoids, *Cotesia* spp. and *Telenomus* sp. were of common occurrence with former being the predominant with maximum parasitization of *C. medinalis* larvae during maturity stage of crop growth.

Keywords: *rice, abundance, natural farming, biodiversity, insect-pests, predators, parasitoids*

Abundance and diversity of insect pests and natural enemies in wheat under natural farming

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Abstract

Natural farming is a low input based farming system which is known to conserve a wide range of natural enemies. Therefore, a study was conducted to record the abundance and diversity of insect pests and their associated natural enemies in wheat under natural farming, during *Rabi* 2021 at Palampur. Various insect pests *viz.*, *Sitobion avenae* and *Rhophalosiphum padi* were recorded as predominant pests infesting wheat crop at different crop growth stages, while flea beetle, *Dicladispa armigera*, and army worm (*Mythimna* sp.) were casual visitors that caused damage to the crop to a relatively lesser extent. Predators namely Coccinellids, syrphids and *Chrysoperla* sp. were found associated with aphids infesting the crop. In case of Coccinellids both the grubs and adults fed on small insects resulting in highest per cent relative abundance with *Coccinella septempunctata* and *C. transversalis* being the most prevalent followed by syrphids and chrysopids. Among parasitoids, *Diaeretiella* spp. was found parasitizing both the aphids, *S. avenae* and *R. Padi* infesting wheat crop.

Keywords: *wheat, abundance, natural farming, biodiversity, insect-pests, predators, parasitoids*

Water Management in a Changing Climate

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Abstract

As climate variabilities increasingly impact agriculture, economy, and the environment, the need for adaptive strategies in water management becomes paramount. This interdisciplinary discussion delves into innovative approaches, technologies, and policies aimed at bolstering resilience in the face of climate uncertainties. It addresses challenges such as altered precipitation patterns, extreme weather events, and rising temperatures, elucidating their ramifications on water availability and quality. The abstract emphasizes a holistic perspective, considering the intricate interplay between water resources, agricultural practices, economic systems, and environmental sustainability. Insights from case studies, research findings, and successful interventions will be presented, providing a foundation for collaborative efforts to forge resilient futures in an ever-changing climate. Climate change poses unprecedented challenges to water availability and distribution, amplifying the complexity of water management. The increasing frequency and intensity of extreme weather events, such as droughts and floods, disrupt traditional water supply patterns, affecting agricultural productivity, economic stability, and environmental sustainability. Therefore, a holistic understanding of the evolving climate-water nexus is crucial for devising effective strategies

Impact of climate change scenario on biodiversity

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Abstract

Climate change is one of the important factor which effects biodiversity. Since climate change and biodiversity loss impact human societies everywhere, so biodiversity conservation and climate change are the interconnected global challenge. Climate change poses significant threats to biodiversity by impacting ecosystem due to rising temperature, altered precipitation patterns and extreme weather events. In the changing conditions certain invasive species thrives which are having competitive edge over the indigenous species which can lead to habitat loss to certain species. Many species have to adapt or migrate to new habitat because their original habitat becomes unfit. Under climate change scenario, the reproductive phenology of various plant species, which directly affects the reproductive phenology (breeding timing or hatching time) and migration of various insects, other invertebrates, birds and animal species. The timing of breeding is a life-history trait that can greatly affect fitness, because successful reproduction depends on the match between the food requirements for raising young and the seasonal peak in food availability.

Keywords*: biodiversity, climate change, habitat and phenology*

Green Resilience: Strategies for Biodiversity Conservation in a Warming World

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Abstract

The rising impacts of climate change and global warming constitute unparalleled threats to biodiversity, demanding swift and innovative conservation strategies. Biodiversity are closely intertwined with climate change and exerting significant direct and indirect influences on biodiversity, emerging as a major potential cause for biodiversity loss. Additional factors contributing to the decline biodiversity include habitat degradation or destruction, overexploitation, deforestation, wildlife poaching and the proliferation of invasive alien species into ecosystems. The acceleration of global warming is a result of the increasing emissions of greenhouse gases. Even a slight temperature change can trigger the extinction of susceptible species. Climate change leads to alterations in the patterns of species distribution, their movements, and shifts in phenological behaviors like breeding seasons and migratory timings. Maintaining the balance of ecosystems requires a comprehensive understanding of the interactions among plants, animals, and biodiversity. Therefore, concerted efforts should be undertaken to actively promote the conservation and protection of biodiversity. This can be achieved by designating specific areas as biosphere reserves, fostering species resilience, promoting genetic diversity, establishing climate-resilient seed banks in safeguarding the genetic material of vulnerable plant species, green infrastructure planning emerges as a forward looking strategy, integrating natural spaces into urban development to enhance biodiversity and support ecosystem services in the face of urbanization and expanding initiatives related to afforestation, reforestation, and agroforestry practices on large scale.

Keywords: *Climate change, Biodiversity, Global warming, Resilience, Agroforestry practices.*

Galactic interference in Ozone layer Depletion

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Abstract

In this review paper authors have described the role of galactic radiations in ozone layer depletion. There are evidences that energy contents of galactic particles and cosmic rays affect the dissociation process of the Halogen based compounds (chloro- fluro carbon, chloro carbon and organo bromines) responsible for ozone depletion. The significant dissociation rates have been observed in these halogens due to interaction of highly energetic charged contents of the galactic particles. After dissociation released atoms/ions, react with ozone in Stratosphere thereby depleting its quality. These galactic partciles are charged s so they deflect towards poles in accordance with Fleming left-hand rule leading to variations in their intensity with the latitude with its highest value near polar region of the earth. As a result these particles mostly affects the ozone depletion in stratospheric space over the poles. Moreover with in cosmic rays there is different in intensity of two types of charged particles which deflect in two different directions thereby making depletion more pronounced on Antarctica (South Pole).

Keywords: *Chloro fluoro carbon, galactic particles, Halogens*

Evaluation of different colocasia (*Colocasia esculenta* L.) genotypes for yield, horticultural and quality attributes under natural farming conditions

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Abstract

The investigation was conducted during *Kharif*, 2020 at Research Farm of Research Sub Station Berthin, District Bilaspur, Himachal Pradesh in which 26 colocasia genotypes, collected within and outside the state were evaluated for yield, horticultural and quality attributes in a Randomized Complete Block Design (RBD) with 3 replications. The promising genotypes identified based on mean performance for yield and its attributes are LC-10 (collection from Baijnath of district Kangra, HP) was found best for highest total yield, cormel yield, cormel diameter, corm yield, number of cormels /plant, sugar and starch content (7 characters) followed by LC-15 (collection from Kolar of district Sirmour, HP) for total yield, cormel yield, cormel diameter, corm yield, crude protein and lowest oxalate content (6 characters); LC-8 (collection form Gagret, Tehsil Amb of district Una, HP) recorded highest total yield, cormel yield, number of cormels /plant and total polyphenols (4 characters); LC-14 (collection from Sarkaghat of district Mandi, HP) for total yield, cormel yield and number of cormels /plant (3 characters), LC-9 (collection from Village Bassi of district Mandi) for total yield, cormel yield and total polyphenols (3 characters). Based on the performance of these genotypes, they can be utilized as source of germplasm in colocasia improvement program under natural farming conditions.

Keywords: *Colocasia, corm yield, cormel, quality attributes, natural farming*

Sustaining Springs as an Effective Strategy for Water Resource Management

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Abstract

Springs are the primary source of freshwater, assuring extensive water availability to rivers, supporting vegetation by supplying soil moisture, and providing the essential foundation for settlement and the existence of life. It is a valuable resource for meeting human needs while also maintaining the balance of other microhabitats. Spring water resources are natural treasures given upon Himalayan states, and Mandi is one such district in Himachal Pradesh, India. A considerable portion of the world's population relies on natural springs to meet their home and livelihood needs. There are numerous seasonal and perennial springs with considerable seasonal fluctuations in flow. The quantity and quality of spring water is determined by the health of the springsheds, which is maintained by adequate vegetation cover, healthy soil, aquifer depth, and adequate precipitation. According to the perception-based study, changing precipitation patterns caused by climate change impacts, watershed degradation, unregulated landuse, illiteracy, and weak restrictions are negatively impacting spring flow and causing water scarcity in the Mandi district. Globally, springs are in danger of drying up. As a result, in order to ensure long term water management springs must be managed sustainably by scientific and community involvement actively in all stages of the rejuvenation program. This research examined the hazards as well as the methodologies used for the effective management of water resources in changing climate patterns.

Keywords: *Freshwater, Himalayas, springs, water management, changing climate, management*

Conservation of Biodiversity and Climate Change : An Overview

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Abstract

For sustaining the life of all living organisms on this planet , the conservation of biodiversity is essentially needed. The anthropogenic activities are largely responsible for the biodiversity loss which is resulting into climate change. It has been noticed that the concentration of carbon dioxide gas and other dangerous gases is increasing rapidly in the atmosphere for the last many years. It poses threat to the life of all living organism of the earth. Efforts must be made to encourage the people to go for the alternate use of sources of energy such as hydroelectricity , solar energy etc.As the world population is increasing rapidly, the people of the developing and under developed countries are ,in a particular , dependent on the forests for fireworld and fodder for animals as well as for other domestic needs. Which is resulting into biodiversity loss and climate change. Community awareness programmes must be started to protect the Ecosystem at the local level throughout the world.In this way we may be able to preserve the biodiversity which will help to improve the quality of life of all organisms.

Keywords: *Organisms, Forests,Eco -System, solar Energy, Anthropogenic*

Conservation of Natural Resources

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Abstract

Natural resources are something that is occurring naturally on Earth. It forms an indispensable part of our lives. The most relevant natural resources to the people are water, land, food, plants, animals, and soils. All the resources are directly or indirectly associated with each other to form a suitable environment for the organisms. Numerous crises have emerged on Earth in the last few decades, including population increase, climate change, and biodiversity loss. Natural resource depletion is the result of all these crises, and the absence of these resources poses grave risks to the ecosystem as a whole. These resources are sufficiently needed for many biological processes to function properly. Thus, the primary necessity of the modern era is the preservation of these resources. The technique of protecting a certain organism or object without causing any harm is known as conservation. Conservation involves the protection of natural habitats, prohibiting the unplanned harvesting of forests and preventing species extinction. It is important for us to realize that natural resources are limited. We must plan and use these wisely so that these are not exploited. This will help in conserving them for our future generations. Government laws and prohibitions are not sufficient to conserve all these resources, rather society itself will also have to be aware and contribute significantly in this direction. Also, the wise use leads to protection of bio-diversity. The main objective of present study is to analyze the importance of natural resources as well as their conservation criteria for a healthy environment and future generations.

Keywords: *Natural Resources, Conservation, Environment, Biodiversity and Nature*

Effect of different weed management treatments on yield and yield attributes of elephant foot yam *(Amorphophallus paeoniifolius)*

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Abstract

The present investigation entitled 'Effect of different weed management treatments on yield and yield attributes of elephant foot yam (*Amorphophallus paeoniifolius*)' was conducted at Experimental Farm of Research Sub Station of CSK, Himachal Pradesh Krishi Vishwavidyalaya at Berthin of Bilaspur district during *Kharif* 2021. The experiment was laid out by planting elephant foot yam variety *Palam Zimikand*-1 in Randomized Complete Block Design with three replications, comprising eight weed management treatments viz., Pendimethalin 30EC @1.0 kg a.i/ha as pre emergence, Pendimethalin 30EC @1.0 kg a.i/ha as pre emergence + HW at 60 DAP, Incorporation of cowpea as green manure after 45-60 days of planting, Plastic mulch (biodegradable double shaded), Dry mulch @ 5 tonnes/ha, HW at 30 and 60 DAP, Weed free and Control (No weeding). Among different weed management treatments, use of biodegradable double shaded plastic mulch was the best treatment with respect to weed density, dry weight of weed and corm yield, gross return (Rs. 1635540), net return (Rs. 1107157) and B:C (3.10) followed by weed free and Hand weeding at 30 and 60 days after planting treatments. Among herbicidal treatments, pendimethalin 30EC @1.0 kg a.i/ha as pre-emergence + HW at 60 DAP (T_2) is better over pendimethalin 30EC @1.0 kg a.i/ha as pre-emergence (T_1), whereas unweeded treatment was lowest for most of the traits due to more crop-weed-competition. Thus, the use of biodegradable double shaded plastic mulch is the best treatment for weed management in elephant foot yam for achieving higher productivity and profitability under low hill conditions of Himachal Pradesh.

Remediation of hazardous water pollutants by biochar-based lanthanum ferrite nanocomposite derived from agronomic materials

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Abstract

Crop wastes are valuable natural resources that are nutrient-rich. Agricultural residue is biodegradable, but due to ineffective management, it is an increasing problem in modern society. Ineffective management of organic waste causes a wide range of issues, including environmental pollution, eutrophication, and aesthetic harm to urban landscapes, greenhouse gas emissions and consequences on human health. Wastes that are disposed of in an unwise or non-scientific manner not only constitute a serious threat to the environment, but also lose some of their economic worth. The burning of crop residue in India is responsible for global warming, decrease in soil fertility and air pollution. One of the significant solution to this problem can be by converting crop residue into biochar through slow pyrolysis. Biochar obtained from agronomic material can be functionalised with lanthanum ferrite via one step co-precipitation method. The obtained nanocomposite can be used for the remediation of antibiotics, dyes, pesticides and heavy metal ions from waste water. The FTIR, FESEM, EDX, XPS techniques can be used to determine the surface composition and functioning of bionanocomposite. In present studies lanthanum ferrite nanocomposite was prepared, characterised and used for effective removal of heavy metals like Chromium from industrial waste.

Keywords: *Agricultural waste, greenhouse gas emission, biochar, nanocomposite*

Social Dimensions of Climate Change

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Abstract

The social dimensions of climate change on society are a complex and multifaceted challenges with far-reaching consequences and impacting communities globally. Climate change presents one of the greatest challenges of the 21st Century. It will massively affect human societies in complex and multiple ways, it seems to be almost uncontrollable in the near future. The poorest and most vulnerable people bear the brunt of climate change impacts yet contribute the least to the crisis. As the impacts of climate change mount, millions of vulnerable people face disproportionate challenges in terms of extreme events, health effects, food, water, and livelihood security, migration and forced displacement, loss of cultural identity. Our knowledge of the chemistry and physics of climate change, its causes and its consequences for planetary systems, is far greater than our understanding of the societal changes it poses. Climate change results from a complex process of societal transformations, which we all need to understand to better cope with the challenges it presents. Climatic conditions play a significant role and interfere with people's lives in multiple ways. The causes are essentially known, based on unequivocal human action. All solutions also involve human decision and action. It is social and human action in both individual and social settings that are decisive for the future pathways of climate change and its disentanglement. The aim of this Research Topic is to understand the multiple social dimensions of climate change and their interdependencies, we need to bring together a multitude of sciences, knowledges, powers, and decision-makers. The social sciences and sociology can play a central role in analyzing the effects of human activities on natural systems.

Keywords: *Social Dimensions, Climate Change, Society, vulnerable People*

Role of Literature in Climate Change

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Abstract

Literature has a multiplier effect, ideas spread quickly and more fluidly than pdf reports, charts and figures. The fuel for change is hope and literature can provide this. It has taken years for the climate to get like this thus we can expect the reversal to be long and arduous, we need to sustain our efforts to reverse climate change. We must be quick to imagine new solutions when current ones fail. Climate change' feels like an amorphous term but it encompasses the manifestations of anthropogenic destruction. This includes global emissions increasing thus heating up the atmosphere; land being lost to rising sea levels; biodiversity and habitats being destroyed and freakish, improbable weather occurring more in parts of the world - destroying livelihoods and lands which feed communities. We are struggling with ecological disasters due to widespread apathy and unsustainable practices. Literature can help scientists, policymakers and readers. What has been missing from the climate discourse is a humanistic approach to policy by helping leaders understand human cultures and our ecosystems. Those who dominate the climate change discourse aren't in close proximity to those who have struggled in the face of ecological disaster. Writers become vessels to tell the story of those who have suffered including nature. We need the mobilisation of people at all levels of society from big corporations and policymakers to individuals. The summation of our efforts is what can help tackle climate change. It is hard to visualise the attack on nature because some of us are living in a 'post-nature' world due to urbanisation and the legacy of industrialisation. Science alone has failed to generate a societal transformation. We need a way to imagine a culture focused on sustainability, conscious consumerism, and exploration of new ideas that can tackle this issue.

Biodiversity: Threats and conservation for sustainable future

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Abstract

Human beings completely relies on nature for fulfilling their basic needs like food, shelter, fibers for making clothes, medicine as well as for earning livelihood. During the past few decades, human population has grown exponentially. To satisfy the needs of ever increasing population, man has been overexploiting the nature. This has put a lot of stress on our biodiversity and other natural resources causing their rapid depletion. Many of the important floral and faunal species have already become extinct and several others are at the brink of extinction. Biodiversity loss is a critical environmental issue caused by habitat degradation, poaching of animals, climate change, pollution, invasive species, overexploitation coupled with unscientific handling of natural resources etc. These threats jeopardize the variety of life on earth, impacting ecosystems and having serious consequences for the overall health of the Mother Nature. Keeping the consequences of biodiversity loss in mind, there is an urgent need to conserve it for the future generations. Without the conservation of biodiversity, modern development is insignificant. Conservation efforts and sustainable practices are crucial to address and mitigate these challenges. *Ex-situ* and *in-situ* conservation methods needs to be implemented on large scales. Besides this, there is an urgent need to generate environmental awareness, framing of strict laws and penalties to maintain the biodiversity level. Preserving biodiversity enhances resilience to environmental changes contributing to derive sustainable benefits for the present and future generations.

Keywords: *Biodiversity, Ex -situ and in -situ conservation*

Exploring the impact of Quinoa and Chia seeds in modern lifestyles

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Abstract

Quinoa (*Chenopodium quinoa*) and Chia (*Salvia hispanica L.*) are nutritious grains which contribute to human health. These are climate-resilient crops as they grow on arid lands and tolerant to diseases. They are often known as super grains as they are abundant sources of minerals, dietary fibre, bioactive compounds, antioxidants, protein and have numerous health benefits such as anti-diabetic, anti-hypertensive, antimicrobial and immunostimulatory etc. Due to lack of gluten, celiac patients can consumed them. Processing treatments (soaking, roasting, and germination) showed enhancement in antioxidant and dietary fibre content. The research study was carried out to evaluate physicochemical, functional, nutritional values and development of value added products, namely cookies and *ladoos* with different formulations. Sensory evaluation of prepared products revealed optimum combination ratios of seeds which were acceptable. Value added products found high in dietary fibre, protein, calcium, phosphorus, potassium, magnesium, and zinc. Storage of products in different packaging materials for three months were done. Microbial load was accepted for three months in cookies and 15 days for *ladoos*. Therefore it was concluded that quinoa and chia could be utilized as potential ingredient for preparation of value added products. This paper contributes to the ongoing discourse on nutrition and lifestyle, shedding light on the seeds of change that resonate in the pursuit of healthier and more sustainable lifestyle.

Keywords: *Chia, Quinoa, Health, Value-added, fibre*

Impact of Industrialization on water Resources

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Abstract

Industrialization has had a significant impact on water pollution, primarily due to the discharge of various pollutants from industrial activities into water bodies. Here are some key ways in which industrialization affects water pollution: Waste water Disposal: Industrial processes generate large volumes of wastewater containing pollutants such as organic matter, nutrients, and harmful chemicals. Improper disposal of this wastewater into rivers, lakes, or oceans can lead to water pollution. Industrial Discharge: Factories often release chemical pollutants into water bodies, including heavy metals, solvents, acids, and toxic substances. These chemicals can have detrimental effects on aquatic ecosystems and may pose risks to human health if contaminated water is used for drinking or irrigation. Eutrophication: Industrial discharges often contain nutrients such as nitrogen and phosphorus. When these nutrients enter water bodies, they can contribute to eutrophication, a process in which excessive nutrient levels stimulate the rapid growth of algae. The subsequent decay of algae depletes oxygen levels in the water, leading to "dead zones" where aquatic life cannot thrive. Ground Water Contamination: Industrial activities, particularly those involving the use of hazardous chemicals and improper waste disposal practices, can lead to groundwater contamination. Once contaminated, groundwater can serve as a long-term source of pollution for surface water bodies. Acid Rain: Certain industrial activities release pollutants into the atmosphere, contributing to acid rain. Acid rain can lead to the acidification of water bodies, negatively impacting aquatic life and ecosystems. Efforts to mitigate the impact of industrialization on water pollution include the implementation of environmental regulations, the development of cleaner production technologies, and the promotion of sustainable industrial practices. Public awareness and community involvement also play crucial roles in advocating for responsible industrial behavior and protecting water resources.

Keywords: *Industrial pollution, Acid rain, Eutrophication*

Environmental Education: A Catalyst for Change

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Abstract
Worldwide recognition has been accorded to environmental education as a vital instrument in the fight against growing environmental concerns. A useful technique for educating pupils about the ecological, political, and economic effects of environmental issues is environmental education. Through the incorporation of ecological concepts, critical thinking, and a duty towards the environment into educational curriculum at all levels, society may develop a workforce capable of handling intricate environmental problems. Environmental education is a comprehensive strategy that promotes experience learning and fosters a strong bond between people and their natural environment. It goes beyond just dispensing factual knowledge. The potential of environmental education to inspire a paradigm change in human behavior is the future catalytic element. People are empowered to make decisions that support sustainable practices, the preservation of natural resources, and the decrease of ecological footprints when they are raised with a sense of environmental ethics and stewardship. Additionally, environmental education fosters a proactive and solution-focused mentality by giving people the tools they need to critically examine and respond to new environmental concerns. The study also looks at how technology may improve environmental education's efficacy. Utilizing virtual reality, internet platforms, and interactive technologies, immersive learning experiences may be produced that increase audience reach and foster global awareness. Furthermore, the effective execution of comprehensive environmental education initiatives depends on collaborations between academic institutions, governmental agencies, and non-profit groups. This research highlights how, in order to give a thorough knowledge of environmental concerns, an interdisciplinary approach integrating science, technology, ethics, and social sciences is necessary.

Keywords: *Environment Education; Environmental Concern; Future Catalyst; Sustainable practices.*

Impact of Globalization and Industrialization on Himalayan Biodiversity

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Abstract

The Himalayan region, known for its rich biodiversity and unique ecosystems, has been significantly impacted by globalization and industrialization. These processes have brought about both positive and negative effects on the region's biodiversity. Here are some key points to consider:

i. Habitat Destruction: Industrialization often leads to infrastructure development, such as roads, dams, and urbanization, resulting in habitat loss and fragmentation. This disrupts the natural connectivity of ecosystems, isolating species populations and making it difficult for them to migrate or adapt to changing environmental conditions.

ii. Deforestation and land use changes: Globalization and industrialization contribute to increased demand for natural resources, leading to deforestation and changes in land use. This is particularly true for the Himalayan region, where forests are cleared for timber, agriculture, and infrastructure projects, putting immense pressure on plant and animal species dependent on these ecosystems.

iii. Pollution: Industrial activities release pollutants into the air, water, and soil. In the Himalayas, pollution from industrial sources, agriculture, and urban areas can have detrimental effects on the health of both terrestrial and aquatic ecosystems. Pollution can result in the decline of sensitive species and disrupt ecological balance.

iv. Invasive species: Global trade and increased human movement can facilitate the introduction of invasive species into the Himalayan region. Invasive species often out compete native flora and fauna, leading to a decline in biodiversity and sometimes causing irreparable damage to ecosystems.

v. Socio-economic changes: Globalization can bring about changes in local cultures and traditional lifestyles. While this may not directly impact biodiversity, it can affect the human communities that are intricately connected to the region's ecosystems. Changes in livelihoods, dietary habits, and resource use can have indirect consequences for biodiversity.

The impact of globalization and industrialization on Himalayan biodiversity is multifaceted, with both positive and negative aspects. Sustainable development practices, conservation initiatives, and international collaboration are essential for mitigating the negative effects and ensuring the long-term preservation of this unique and fragile ecosystem.

Keyword: *Socio-economic, Biodiversity, Invasive species, Pollution*

Heavy metal Analysis of Surface Water of Drain and Groundwater in Vicinity of Hudiara drain: An International Water Channel

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Abstract

Water is an essential component of life and plays a crucial role in various biological, ecological, industrial and societal processes. Groundwater is the only source of drinking water for many rural and small communities. Because of the overexploitation of water resources, improper waste disposal practices, rapid urbanization and industrialization has deteriorated groundwater quality. Heavy metals in groundwater have become an alarming concern due to their potential adverse effects on ecosystems and human health. Among these pollutants, Heavy metal gained significant attention as they are widely used in various industrial and consumer products. The present study is based on Hudiara Drain, located in the Punjab region of India. It is a significant water channel that plays a crucial role in draining excess rainwater and wastewater from various urban and industrial areas. The untreated disposal of wastewater into the Hudiara drain has raised concerns about its water quality and environmental impacts. The drain carries effluents from industries, water from agricultural runoff and domestic sewage. Drain water and groundwater in vicinity of drain were investigated for heavy metals. Estimation of Heavy metals was carried out using Microwave Plasma Atomic Emission Spectrophotometer (Agilent, make: MP-AES 4210). All sites were highly contaminated with heavy metals. According to the US Environmental Protection Agency, higher concentration of heavy metals levels in groundwater may pose a serious threat to Humans and other organisms. The study described the health risks of heavy metals and their exposure levels to the local population due to use of drain water in agriculture and groundwater for drinking.

Keywords: *Heavy metals; Drain; Groundwater; Health risks assessment*

Avian fauna of Bahadurpur hill in District Bilaspur, Himachal Pradesh

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Abstract

The biodiversity of the Himalayan region is abundant in both aspects floral as well as faunal. This Himalayan region is primarily divided into three zones: the inner, mid, and outer Himalayas, each of which is home to a unique biota. About 13% of World's bird diversity is found in India. The outer Himalayan bird life was observed and documented during the current study in and around Bandla hills of District Bilaspur. For the study, the point count method was used, and several points were chosen at various locations along various transects. During current studies birds belonging to nine different orders have been observed such as order Passeriformes, Piciformes, Galliformes, Bucerotiformes, Upupiformes, Columbiformes, Strigiformes, Psittaciformes and Cuculiformes. Birds belonging to order Passeriformes constitute the dominant group followed by other orders. While avian fauna represented by Muscicapidae were dominant belonging to order Passeriformes. Tits (Paridae), Blue Whistling Thrush, Jungle Myna, Indian Robin and Bush Chat encountered commonly. Poaching, predation by stray dogs, habitat destruction, habitat fragmentation and game hunting (pheasants) were observed as major threats in the region. An effective first step towards the protection and conservation of these ecologically significant species can be the implementation of an awareness campaign about the value of biodiversity at the panchayat level, in educational institutions, and among other social groups.

Keywords: *Paridae, Biodiversity, Galliformes, Passeriformes, Muscicapidae*

Exploration of Food Expenditure Pattern of Beneficiaries of Public Distribution System in Sirmour District, Himachal Pradesh

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Abstract

The Public Distribution System of India play a vital role in reducing food insecurity by acting as a safety net by distributing essential food items at a subsidised rate. The study explored the food expenditure pattern of among the rural beneficiaries of PDS in Sirmour district of Himachal Pradesh. In order to achieve the stipulated objective, 200 beneficiaries were selected randomly from the Sirmour district. Beneficiaries were divided into Below Poverty Line (BPL) and Antyodaya Anna Yojana (AAY) categories. The result revealed that daily per capita expenditure of all rural beneficiaries was Rs. 27.34. It was less than required amount which is Rs 32.40 as per Rangarajan Committee. The study suggested that the government should create the more job opportunities to enhance daily per capita food expenditure for the improvement of their health. The study recommends that the government should generate additional job opportunities to increase daily per capita food expenditure, thereby contributing to the enhancement of overall health of the beneficiaries.

Keywords: *Public distribution system, beneficiaries, Per capita food expenditure, Below poverty line, Antyodaya anna yojana*

Impact of Lifestyle on Health - A Review of Studies

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Abstract

Millions of people at present are following an unhealthy lifestyle and are encountering illness, disability and even death. Problems like cardio-vascular diseases, hypertension, overweight, and so on, can be caused by an unhealthy lifestyle. According to WHO, 60% of related factors to individual health and quality of life are correlated to lifestyle. Today, wide changes have occurred in life of all people. Unhealthy diet, smoking, alcohol consuming, drug abuse, stress and overuse and misuse of the technology specially Information technology have a significant impact on physical and mental health of people.. The present study is an attempt to review the existing literature on impact of life style on health to know the most important life style factors responsible for affecting health of the people.

Keywords: *Health, Life style, medication, BMI, smoking, alcohol consuming, drug abuse*

Cultivating Sustainability: Conservation Agriculture Strategies for building Climate Resilience in Farming Systems

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Abstract

Climate change poses unprecedented challenges to global agriculture, necessitating innovative approaches to ensure the resilience and sustainability of food production systems. Conservation agriculture has emerged as a transformative strategy that aligns with the principles of climate resilience. This explores the key components of conservation agriculture and its role as an innovative practice for mitigating and adapting to the impacts of climate change. Conservation agriculture is characterized by three main principles: minimal soil disturbance, permanent soil cover, and diversified crop rotations. By minimizing tillage, farmers can enhance soil structure, reduce erosion, and improve water retention - crucial factors for climate-resilient agriculture. Permanent soil cover, achieved through practices like cover cropping, shields the soil from extreme weather events, reduces evaporation, and promotes biodiversity. Diversified crop rotations not only contribute to pest and disease management but also enhance the adaptability of agricultural systems to changing climate conditions. One of the key advantages of conservation agriculture in the context of climate resilience is its positive impact on soil carbon sequestration. By adopting conservation practices, farmers contribute to the accumulation of organic carbon in the soil, mitigating greenhouse gas emissions and enhancing the overall carbon sink capacity of agricultural lands. Conservation agriculture's water-saving potential is also noteworthy. The practice promotes efficient water use by minimizing runoff and increasing water infiltration, a crucial aspect in regions facing water scarcity due to climate change. Furthermore, the improved soil structure helps crops better withstand both drought and excessive rainfall, contributing to increased climate resilience. Successful implementation requires not only the engagement of farmers but also supportive policies, access to technology, and educational programs. The role of research and development in breeding crop varieties suited for conservation agriculture systems further underscores the potential for innovation in ensuring sustainable and resilient agricultural practices. Conservation agriculture stands as an innovative and promising approach to enhance climate resilience in agriculture. Its ability to improve soil health, water management, and carbon sequestration positions it as a critical component of sustainable farming practices in the face of an increasingly unpredictable climate.

Keywords: *Water retention, soil carbon sequestration, greenhouse gas emissions, soil health*

Value addition and evaluation of Buckwheat based traditional food products of tribal areas - Kinnaur and Lahaul Spiti

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Abstract

Kinnaur and Lahaul Spiti districts are places of residence for many tribal communities in Himachal Pradesh. The climate of Kinnaur and Lahaul is dry and cool. These tribal people rely on the abundance of plant species in their area for food, medicine, fodder, and other necessities. The present study was undertaken with the objectives, to document buckwheat-based traditional recipes consumed in tribal areas and to standardize, and enrich in relation to nutritional quality. Traditional food plants are those that have been maintained by rural inhabitants for centuries and have been conserved via customs, habits, and traditions. Buckwheat is a well-known pseudo-cereal or underutilized crop with outstanding nutritional and nutraceutical qualities and is mostly farmed in several hilly areas of Himachal Pradesh. Some of the most common food products prepared from buckwheat flour are chilla/chilra, aktori, thispole, poltu, and so on which are used in the day-to-day lifestyles of the people living in the areas of Kinnaur and Lahaul spiti. These traditional meals are also known as 'functional foods' since they are high in body-healing compounds, antioxidants, dietary fiber, and probiotics. Local inhabitants utilized these food products in their day-to-day life. Among the different traditional food's recipes of buckwheat, thispole was selected for nutritional enrichment and supplemented with spinach, fenugreek, and jaggery. The protein, fiber, ash, and minerals as well as nutraceutical properties were increased. However, the addition of spinach and fenugreek up to 20% was acceptable was acceptable for making nutritionally rich and value-added products.

Keywords: *Tribal areas, Buckwheat, Traditional food products, value addition*

Transformative Agricultural Strategies for Climate Resilience: A Case Study of District Kinnaur, Himachal Pradesh

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Abstract

This study examines the complex correlation between climate change and apple cultivation in District Kinnaur, located in Himachal Pradesh, which has been significantly impacted by changing weather conditions. During a span of more than 20 years, the area experienced a rise in wealth due to the growth of its apple industry, mostly influenced by shifting weather patterns. The changing climate brings forth novel prospects while also introducing hazards, modifying land use, and testing the sustainability of Kinnaur's agricultural growth. This study uses qualitative ethnographic research to investigate the impact of climate change on agricultural practices in Kinnaur. The scenario reveals a situation in which changes in climate initially benefitted productivity, but are now being offset by growing challenges such as heightened pest activity, decreased yields in lower orchards, soil deterioration, and over dependence on a single source of income. The study highlights the importance of proactive strategic planning and the implementation of sustainable measures to ensure long-term resilience. The text emphasises the need of careful management of land and the need to diversify livelihoods in order to protect against changes in climate and market conditions. Additionally, it explores the crucial role of sustainable agriculture in guaranteeing food security, environmental well-being, and socioeconomic fairness. The text outlines the difficulties encountered by the Indian Himalayan Region (IHR) in the field of agriculture as a result of its fragility, degradation, and inadequate infrastructure. Implementing sustainable practices is essential for attaining the Sustainable Development Goals (SDGs) pertaining to the elimination of poverty and ensuring food security. Collected empirical data from farmers in Himachal Pradesh, gathered across altitudinal gradients, provides insights into the perceived effects of climate change on apple cultivation. Agriculturalists expressed apprehensions over the impact of temperature on the quality of fruits, heightened occurrences of frost and hailstorms, diminished snowfall, postponed harvests, and alterations in land utilisation. This report presents a thorough examination of the effects of climate change on apple cultivation in District Kinnaur. This resource provides valuable information on sustainable agriculture practices specifically tailored for the Indian Himalayan Region. It combines real-world observations with theoretical knowledge to offer comprehensive insights.

Keywords: *Climate Change, Apple Cultivation, Kinnaur District, Sustainable Agriculture, Agricultural Practices, Himalayan Region*

Policy Framework for Climate Change: An Analysis

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Abstract

In the contemporary era, the climate crisis has evolved into a trading currency, emphasizing the critical need for comprehensive policy frameworks to address environmental degradation. As policymakers, the primary focus should be on implementing strategies that safeguard the environment while fostering holistic growth. This paper aims to explore and discuss key policy initiatives necessary to mitigate climate change impacts and promote sustainable development. Topics of discussion will include innovative approaches to carbon reduction, conservation measures, international collaboration, and fostering a green economy. The paper seeks to formulate strategies that not only combat climate change but also facilitate a balanced and sustainable global development paradigm.

Keywords: *Climate, Environment, Sustainable development, Climate Change*

Natural and Organic Farming as a new paradigm for enhancing climate resilience for sustainable Agriculture

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Abstract

Agriculture's role in shaping the destiny of regions and nations has been profoundly significant. India has consistently held a prominent position as a leader in agricultural production, wielding substantial influence on the national economy. Natural farming is a holistic approach that aligns with nature to cultivate nutritious crops, safeguard human well-being, and nurture land vitality while enhancing soil fertility. Both Natural and organic farming techniques under open field condition are essential strategies to mitigate climate change while ensuring food security and sustainability. Mountain Agriculture specifically of Himachal Pradesh characterized by low inputs, its unique topography and climate challenges, requires innovative approaches to ensure sustainable agriculture. Natural and organic farming emerges as a promising paradigm, offering a holistic solution that enhances climate resilience and fosters sustainability. Also growing demand for organic produce presents an economic incentive for farmers by tapping into premium markets, enhancing their income and livelihoods. Many states, especially, Andhra Pradesh, Karnataka, Maharashtra, Himachal Pradesh have adopted Natural Farming as an alternative to the conventional farming. It is considered to drastically cut down production costs by replacing the chemical fertilizers and pesticides with home-grown products like Jeevamritha, Beejamritha, Neemastra, etc, and adopting intercropping and mulching and proved to be climate resilient practices. The plants grown under natural farming system are exposed to a wide array of stresses (abiotic and biotic). In response to such stresses, these plants produce a high amount of complex aromatic compounds, which act as antioxidants in humans presenting a rich nutritional profile (Pedro et al. 2019). Plants grown under natural farming system possess higher amounts of antioxidants (Baranski et al. 2014), water soluble vitamins (Popa et al. 2019), fibre content and dry matter (Yu et al. 2018), essential minerals (Baranski et al. 2014), essential amino acids besides lower level of proteins (Popa et al. 2019), constituting an overall balanced and enriched nutrition profile. This in turn ensures complete intake of nutrients in a lesser amount of food which can be a major contributing factor towards food security. Yet complete transformation from conventional agriculture to sustainable farming systems requires effective and implementable government policies, market demand, consumer awareness, research and development and farmer education.

Keywords: *Agriculture, climate change, climate resilience, food security, natural farming, sustainable agriculture*

Impact of weather parameters on Kangra Tea -An overview

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Abstract

Tea is one of the oldest and most popular beverages in the world, the most widely consumed after water. Climate variability and other global change drivers may have substantial effects on species and ecosystems around the world, with potentially negative consequences for human civilization. India's climate is diverse, and it is home to a wide variety of temperate and subtropical fruits. Tea is one of the most popular drinks in the world.The tea plant grows in a wide range of climatic conditions and it is difficult to specify an ideal climate. Climate change is expected to reduce tea output not only in terms of quality but also in terms of quantity: as a result, increased soil erosion, pests, and diseases that are getting more resistant are all contributing factors. In addition to this, the changing temperature conditions also have an impact on the concentration of secondary metabolites, which are critical for tea quality. At the same time, tea growth is sensitive to climatic conditions making it vulnerable to climate change and variability. Kangra region of Himachal Pradesh is the major tea leaves producing zones along with other agricultural crops due to its climatic condition and geographic position. Therefore, this area was selected purposively to conduct this study. The maximum and minimum temperatures, rainfall, and relative humidity are the most important climatic factors for the cultivation of tea and its production in the conditions of Kangra.

Keywords: *Climatic factors, Humidity, Production, Rainfall, Tea Leaf, Temperature*

Adapting Water Systems to Climate Change: Challenges and Opportunities

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Abstract

Among various environmental sectors influenced by climate change, water resources are of major concern. Climate change affects soil moisture, groundwater recharge and frequency of flood or drought events and groundwater level in different areas. In the era of climatic changes, the management approach should also be changed, and the knowledge of the trend of rainfall temporal changes, population and storage should be at the base of the water management: the storage trend evolves in an opposite way to the rainfall gradient. Physical water shortage, or lack of water, probably will not be extensive, but, instead, the failure to meet multi-purpose water demands (or needs) will cause a profound water crisis due to climate change. This review paper critically examines the complexities faced by water systems in adapting to climate change, navigating the intricate web of challenges while uncovering the promising opportunities for resilient and adaptive strategies in safeguarding global water resources. Over time, several solutions were proposed to counteract or to adapt to climate changes: such as integration of measures of climate resilience through water safety plans and water resources management, strictly connected with policy prescriptions and new technological solutions. The increase of water storage capacity would seem to be the most viable solution: it could increase agricultural and economic productivity, contributing also to hydro-power generation and providing water supply to commercial and industrial enterprises. This solution has strong multi-tasking roles contributing to poverty reduction, sustainable development, and adaptation to climate change. The adaptation to climate change needs to be dynamic, and it is necessary to consider the socio-political contest, the biodiversity, and the ecosystem services into integrated development-oriented processes.

Keywords: *Climate change, Adapting, Challenges, Water, Resources, Sustainable*

Leveraging Technology for Climate Monitoring and Adaptation

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Abstract

Climate change has diverse effects on mother earth. Agriculture practices are responsible for one third of total green-house emissions. Varying climate can affect specific areas and can cause more rainy days or more sunny days. With the evolution of new age technologies it is now easier to identify incoming climate disasters and prepare accordingly. Technologies such as High-resolution satellites offer detailed insights into environmental changes like glacier melting and deforestation. Additionally, micro-sensing satellites provide us real insights into greenhouse gas emissions, air quality, and crop health. Many researchers are harnessing the power of machine learning to analyze climate datasets, for accurate predictions of weather events. With the widespread evolution of AI-powered applications it became easier to identify the likelihood of disaster. Open source platforms like kaggle and github help us analyze vast amounts of data and provide users with real-time notifications. Such technological innovations are instrumental in facilitating adaptation and building safer communities and policy planning. The concept of climate-smart villages serves as a model for integrating practices and innovations that can help farmers to adapt to changing conditions. Geospatial technology, including high-resolution satellite imagery, aerial platforms, and GPS-tagged drone data, plays a decisive role in adaptation efforts by enabling advanced monitoring of crop health and yield. Both public and private institutions can leverage smart farm technology, such as AI-based irrigation optimization and continuous crop monitoring systems. Maximizing technology for climate adaptation requires Public-Private Partnerships between farmers, scientists, governments, and combined grassroots farmers. By adopting a data-driven climate-smart approach, agricultural innovation systems can quickly translate discoveries into recommendations for farmers. Our aim should be to empower vulnerable agricultural communities who are more prone to climate disasters and help them mitigate those challenges.

Keywords: *Climate change, AI-powered applications, open source platforms, Geospatial technology, Public-Private Partnerships*

Impact of occupational health and safety and work environment on workers productivity in construction

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Abstract

Construction safety was a serious issue in the construction industry. Worker's performance and productivity depend on behaviour of workers towards safe Work environment. Unsafe work behaviour was one of the major factors leading to construction accidents. It was believed that company's safety management behaviour has an important impact on workers' unsafe behaviour. Workers could have optimal productivity if they feel safe, healthy and have good working environment The objective of this research was to analyse the effect of occupational health and safety and work environment on the workers productivity in construction industry and to find the dominant variables which primarily affect workers performance. This research was conducted by taking data from 30 respondents. The data was collected by conducting semi-structured questionnaire and Likert rating scales was used for data collection and coding. Validity of the rating scale constructed viz-a viz incidence of accidents and effectiveness of safety training among workers on-site vetted by a group of 20 experts in the field of occupational health and safety. Reliability of the tool was tested using Cronbach's Alpha test for internal consistency of the two rating scales. The technique in data analysis was multiple linear regression with SPSS software to understand which among the independent variables were related to the dependent variable, and to explore the forms of these relationships. The result showed that occupational health and safety and work environment were simultaneously significant to the workers productivity. Safety on-site was the dominant factor which affected workers' productivity.

Biodiversity Conservation and Ecosystem Resilience

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Abstract

Biodiversity reflects the richness and variety of life on Earth. The word **Biodiversity** is consisting of two words '**Bio**' and '**Diversity**' where Bio means ***living beings*** and Diversity means ***variety*** and ***variability***. So, the concept Biodiversity means the variety and variability among all living beings and the ecosystem in which they occur. The word Biodiversity was used for the first time in a symposium held in Washington in 1986. But now, Biodiversity is becoming a buzz word and many programmes, seminars, conferences have been conducted in the name of biodiversity. Today it has become a survival issue.

It is observed that in the last few decades, there has been a drastic extinction of biodiversity in terms depletion of species abundance and diversity, ecosystem disruption due to human action. Because of the increase in population day by day, people have destroyed roughly half of the world's forests for the settlement of human being. In fact, deforestation can be considered as the main reason of loss of biodiversity. So, this paper tries to analyze the importance of biodiversity, its causes of loss and the measures for conservation of biodiversity for ecosystem resilience and make the earth suitable for the survival of living beings. It is a descriptive paper and the study is conducted to highlight the measures for conservation of biodiversity because of its unlimited importance for the living beings. This study is basically based on secondary sources of data.

Keywords: *Biodiversity, variety, variability, extinction, depletion, conservation etc.*

The Transformative Influence of Literature on Biodiversity Conservation and Climate Change Advocacy

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Abstract

In the face of rapid industrialization and unsustainable human activities leading to biodiversity loss and climate change, the imperative to safeguard the environment has become paramount. This research delves into the transformative impact of literature on biodiversity conservation and climate change advocacy. Utilizing vivid storytelling, poetry, and narrative discourse, literature possesses the capacity to elicit emotional responses, establishing a profound connection between individuals and the natural world. The study underscores literature's potency as a formidable medium to communicate intricate scientific concepts, engage diverse audiences, and galvanize collective action in tackling the urgent challenges of biodiversity loss and climate change. Moreover, the research explores how literature surpasses cultural and linguistic boundaries, fostering a global discourse on the significance of preserving biodiversity and addressing climate change. It emphasizes literature's pivotal role in endorsing climate mitigation strategies by heightening awareness. The emergence of climate fiction or cli-fi as a genre is examined, depicting potential future scenarios shaped by climate change and serving as a cautionary narrative, prompting readers to contemplate the repercussions of inaction. By nurturing empathy, understanding, and a sense of responsibility, literature emerges as an invaluable tool in mobilizing individuals and societies to actively engage in the conservation of our planet's diverse biodiversity and the mitigation of climate change. In essence, literature acts as a catalyst for transformative thinking, shaping attitudes and behaviors crucial for a sustainable and resilient future.

Keywords: *Literature, Climate Change Advocacy, resilient future, linguistic boundaries, climate fiction*

Effect of Processing and Storage on Quality attributes of Amla-herb appetizer

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Abstract

The present investigation was aimed to develop wild amla based appetizer and evaluate its quality attributes during storage period. Three different proportions were developed as appetizer control, appetizer cold extract using herbal infusion of *bana, bhavadi* and curry leaf and appetizer decoction of herbs viz. *mulethi* root, *umre* bark and milk thistle seeds in 20 per cent proportion for both. Developed products were stored in ambient conditions for six months in glass bottle and evaluated for different quality attributes viz. color (L*, a*, b*), pH, TSS, Tirable acidity, Reducing and Total sugars at 2 months interval. The results revealed that colour characteristics (L*, a*, b*) of *amla*-herb appetizer were significantly affected by both storage period and treatment. Appetizer cold extract and decoction treatments demonstrated more stable colour attributes, indicating their potential to maintain colour quality during storage. TSS increased with the storage period in all the treatments. Both pH and titrable acidity were correlated to each other so, as the pH increased titrable acidity decreased with prolongation of storage period as 3.56 to 3.69 and 1.06 to 1.53 per cent. Both reducing sugars and total sugars were significantly affected by both storage and treatment. Appetizer cold extract and decoction demonstrated more stable reducing sugars values, with mean values of 29.59 and 30.35, respectively. All the treatments maintained an acceptable quality profile up to the 6-month storage mark. The comprehensive analysis provides a comprehensive understanding of the dynamic changes occurring during the storage of *amla*-based herbal appetizer, offering valuable insights for both consumers and producers.

Keywords: *Amla-herb appetizer, Herbs, Cold extract, Decoction, Infusion, Quality attributes*

Population Density and Diversity Pattern of *Quercus leucotrichophora* forest in Karol hill, Solan, Northwest Himalayas

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Abstract

Quercus leucotrichophora is a dominant species in the sub-temperate region of the Himalayas. The present investigation is done for the plots of *Quercus leucotrichophora* in the Karol Hill, Solan, Northwest Himalayas, to compare the different diameter classes, plant densities and species diversity, as well as the species diversity of different sites within the community. A total of 132 species from 70 genera of 59 families were recorded and *Quercus leucotrichophora* was the most representative species. The ratio of *Quercus leucotrichophora* trees of diameter class III was highest (17.53%) of the total followed by diameter class VI at 16.74%. The tree layers species density recorded 910 trees ha–1 with the highest average diameter of DBH=29.658±3.392 cm, the diversity index (Shannon index H'=1.5051) and the evenness index (Pielou index E=0.5612) of the tree species was also significant. Whereas the shrub layer density was 1015 trees ha–1 with the lowest average diameter of DBH=17.8750±4.223 cm. The species richness (Dma=4.2281), the diversity (H'=1.9541) and the evenness (E=0.7882) of shrub layers show maximum value. The herbs layer recorded with density 1220 trees ha–1, the value of species richness (Dma=3.9902), the diversity (H'=2.9110) and the evenness (E=0.8013) were also considerable like that of trees and shrubs. The high density of trees diluted light intensity in the forest, which resulted in the decrease in the species diversities of herbs and shrubs. Anthropogenic impacts and inappropriate management were the main causes of the low species diversity. The execution of new management plans and strategies is immediately required to optimize the forest structures, which promote species richness and set up a stable forest structure.

Keywords: *Species diversity, plant densities, diameter class, anthropogenic impacts, species richness*

Anthropogenic Activities Causing Climate Change : Need of Climate Resilient Technologies

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Abstract

Frequency of extreme weather conditions like heavy rainfall, floods, cloudburst, drought, wildfire has been increased. These are the symptoms of climate change. Climate change means change in regional climate patterns. The main cause of this alarming situation is anthropogenic activities. Every anthropogenic activity is adding greenhouse gases to the atmosphere. Use of petroleum and petroleum based products have worsen the situation. Sustainable development needs the climate resilient technology. Use of biomass may be the solution of the problem. Everyday products like fuel, cosmetic, perfume, food additives, nutritional supplements ,detergents, cleaning products, plastic and other materials can be made from biomass. Even biomass based electrochemical sensors can be produced. Abundance of biomass on our planet could be a primary source of renewable energy. Rapid depletion of fossil fuel needs the renewable and sustainable energy sources. In addition to this wind energy, hydroelectricity, geothermal energy, tidal energy, solar energy are renewable sources. Lots of research work should be done in this fields to full fill the global energy demands.

Keywords: *Anthropogenic, Climate Change, Greenhouse Gases, Biomass, renewable*

Impact of population growth on natural resource management, climate change, environmental issues- particularly for the conservation of biodiversity

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Abstract

The whole world including India is fighting the crisis of climate change and disbalance in natural resource managements, due to global warming and population rise. Loss of agricultural land, deforestation, water and air pollution, Environmental and biodiversity losses and over exploitation of natural resources is increasing day by day. Rapid rate of urbanization, advance housing schemes, growth in industry, agriculture, means of transportation and communication, ever expanding roads, highways and populations are increasing in India. The rate of exploitation of natural resources has multiplied several times, the pressure on natural resources has risen up to 10 times as compared to 1951. Hills, forests, rivers, ponds, lakes, cities, towns, villages, deserts, oceans, forest animals all are facing severe problems due to the rapid increase in human population. Because of industrial effluents and domestic waste, several rivers such as Yamuna, Gomti etc. have turned into mere sewage carriers. If no control is being implemented on population rise, none of the world's city in the future will remain hospitable., the biodiversity is also being destroyed and the number of endangered species of plants and animals is also increasing everyday. According to UNO, Global Hunger Index, the nutrition of food available to the people in several countries of the world, hunger was found to be a serious crisis in 44 countries, means that to feed such a huge population in 2050, the crop production of the world will have to be increased by 60-70% as compared to it in 2010, which is nearly an impossible task. Thus, population control, environment friendly development, proper usage of natural resources and their conservation are the main tools that can make a balance between population growth, food security and environment conservation.

Keywords: *Climate change, natural resources, biodiversity, ecosystems and global warming*

Socio- Cultural Changes among Lahaula Tribe of Himachal Pradesh: An Impact on their Traditional Costumes

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Abstract

As man travelled the world, his environment governed his costume. Natural resources and animal life were utilized and with man's development costume began to have a threefold purposes i.e. for protection and adaptation to the terrain requirement, for adornment and for recognition of rank and religion. Tribes had developed their own distinct culture and traditions. Lahaul and Spiti district of Himachal Pradesh is entirely one among the tribal sub-plan and the inhabitants of this tribal district are known as Lahaula tribe. Main sources of economy of this district are agriculture, horticulture and animal husbandry. Following this, weaving and knitting are traditional handicrafts of Lahaula, which fulfill their clothing requirement, also add in their economy as well as an identical mark to their local pursuits. Partial shift from home spun sheep wool yarn to cashmilon and acrylic wool for weaving and knitting; declination of these handicraft practices from each household to only selective households and self-help groups are the major signs of changes in lifestyle among the Lahaula tribe. Various socio-cultural factors such as education, occupation, change of residence, connectivity, fashion and availability of readymade garments in the local markets resulted into the decline of traditional weaving culture. Change in the ecosystem too lead to lessen the use of complete fleece based hand woven garments. From the very beginning of mankind, costumes have played a significant role in expressing the socio- cultural advancement of people. These factors though have majorly impacted the outlook and intend of the traditional costumes of Lahaula tribe.

***Keywords**: Lahaula Tribe, Traditional Costumes, Socio-Cultural Factors, Lifestyle Change*

Integrated Water Resources Management and Sustainable Development: The Interlinkages

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Abstract

Integrated Water Resources Management (IWRM) is a concerted step towards sustainable development. Over the past half a century, diverse international fora have emphasised the need for adopting IWRM approach to promote holistic planning, development and governance of water and land resources to maximise the resultant economic and social welfare without compromising the sustainability of vital ecosystems. The United Nations proclaimed the period 2005 to 2015 as International Decade for Action, 'Water for Life'. The objective was to focus on encouraging countries to build on efforts to protect, use and manage fresh water resources in a sustainable manner recognising that water challenge is primarily a governance challenge. To accelerate efforts towards meeting water-related challenges, the United Nations General Assembly further declared 2018-2028 as the International Decade for Action, 'Water for Sustainable Development'. The Water Action Decade commenced on World Water Day, 22 March 2018, and will end on World Water Day, 22 March 2028.

Management of water related challenges hinges on sound policy decisions and their effective implementation. Using secondary data this paper attempts to review the interlinkages between water management policy of Government of India and the connect therein with the approach of sustainable development in the current times.

Keywords: *Water management, Sustainable Development, Public Policy, Governance Challenge*

A Comprehensive Analysis of Economic Policies for Climate-Resilient Development in India

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Abstract

At present, most of the countries of the world including India are facing increasing challenges arising from climate change. The models adopted in the development process have proven to further increase this challenge. Along with GDP growth, it is natural to have adverse effects on the environment. Still, due to increasing problems for human life due to changing climate, a change in economic policies is necessary. The growth rate of the Indian economy has been about 6.5 per cent per year from 1990 to 2022, while per capita carbon dioxide (CO_2) emissions in India have increased in recent decades, from 0.39 metric tons in 1970 to 1.91 metric tons in 2022. It is necessary to create harmony between the strategies to balance economic development and climate change. As a result, the imperative to integrate climate resilience into economic development strategies has become increasingly clear. The present article aims to provide a comprehensive analysis of economic strategies that promote climate-resilient development. The present article is descriptive and conclusions have been drawn by using and analyzing secondary data taken from books, research articles and other published sources.

We found that India is on track to meet the United Nations Convention on Climate Change commitment to reduce emissions intensity by 45% below 2005 levels by 2030. India's emissions intensity rate, the total amount of greenhouse gas emissions emitted for each unit increase in the gross domestic product (GDP), has declined by 33 per cent from 2005 to 2019. We also found that Prioritizing investment in renewable energy, implementing a carbon tax system, starting reforestation programmes, setting strict energy efficiency standards for industries, discouraging the use of diesel engines and encouraging the use of other alternatives including electronic vehicles, Initiatives in international cooperation, including recycling and water conservation, mainly reflect the contribution of Indian economic policies to sustainable development.

Keywords: *Climate Change, Economic Growth*

Promotion of Climate Literacy and Education in India: A need of Hour in Himachal Pradesh

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Abstract

In the Himalayan state of Himachal Pradesh, the promotion of climate literacy and education emerges as a pressing need, reflecting the region's vulnerability to climate change and the imperative for local resilience. The present study explores the specific challenges faced by Himachal Pradesh and emphasizes the critical role of climate education in mitigating these challenges. Himachal Pradesh, nestled in the Himalayan region, confronts unique climate-related issues, including glacial melt, altered precipitation patterns, and increased frequency of extreme weather events. The state's agrarian economy, dependent on rainfall and snowmelt, is particularly sensitive to these changes. As climate impacts intensify, the need for a populace well-versed in climate science and sustainable practices becomes paramount. The abstract underscores the potential consequences of climate illiteracy in Himachal Pradesh, such as compromised water security, disruptions in agriculture, and heightened vulnerability to natural disasters. Recognizing the interconnectedness of environmental, social, and economic factors, it advocates for a tailored approach to climate education that aligns with the region's specific challenges. The urgency of this initiative is highlighted by the fact that Himachal Pradesh serves as a microcosm of global climate concerns, experiencing firsthand the repercussions of climate change. The abstract proposes a multifaceted strategy, including integrating climate education into formal school curricula, conducting community awareness programs, and fostering partnerships with local organizations. By enhancing climate literacy, the abstract argues, Himachal Pradesh can empower its residents to adapt to changing conditions, embrace sustainable practices, and actively participate in climate mitigation efforts. Furthermore, it suggests that a well-informed populace is better equipped to advocate for policy measures that address the unique climate challenges faced by the region. In conclusion, the promotion of climate literacy and education in Himachal Pradesh emerges as a critical and timely imperative. By investing in educational initiatives tailored to the region's specific context, Himachal Pradesh can foster a resilient and informed community capable of navigating the complex challenges posed by climate change.

Keywords: *Climate literacy, Education, Climate, Community, Mitigation*

Farmers Perceptions regarding Integrated Farming System (IFS): Innovative and Economic Agricultural Practice for Climate Resilience

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Abstract
Globally, human activity has changed Earth's climate, affecting agricultural productivity and income, particularly for small-scale farmers. To address food security issues caused by declining food production due to land conversion and climate change, an integrated farming system combining food-crop farming, horticulture, animal husbandry, fisheries, and forestry is needed. Integrated Farming System (IFS) is a whole farm management system that aims to provide more sustainable agriculture. The adoption of feasible farm enterprise combinations, efforts should be made to help farmers to adopt more integrated and resource efficient farming systems that maintain agricultural productivity and profitability while protecting the environment and farm family health. The study investigates the farmer's perceptions regarding Integrated Farming System (IFS) as an Innovative and Economic Agricultural Practice for Climate Resilience. Using random sampling methodologies, a study was conducted in Haryana's two agro-climatic zones, covering two districts in each zone and three villages in each district. Majority of respondents perceived agree opinion on the statement that multi-cropping system in IFS helps to mitigate biotic stress (75.0%), big investment is required in IFS (73.3%) and IFS becomes the source of income for farmers throughout the year (71.6%) in Western zone. Whereas in Eastern zone majority of respondents perceived agree opinion that multi-cropping system in IFS helps to mitigate biotic stress (81.6%), IFS maintains soil health and soil fertility (78.0%) and marketing is difficult for different products produced in IFS (76.6%).

Keywords: *Integrated Farming System, farmers' perception, innovative, economic, agricultural practice etc.*

Cereals and Millets: Contribution to Sustaining Women's Health

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Abstract

The global transformation is brought about by modifications in dietary habits, lifestyles and purchasing power. Modern worldwide developments are responsible for a rise in the prevalence of inadequate nutrition, which can only be eradicated by devouring more cereals with millets, which significantly improve nutritional security. Vital components contained in millets aid in improving nutritional health. As a climate-smart crop, millets adapt to changing weather patterns by requiring less inputs, reducing excessive soil erosion, promoting biodiversity and sustainable land restoration, which are advantageous for farmers. The intent of this study was to explore how the women's food intake influenced their health. 100 female volunteers, aged between 30-45, were divided into 2 groups: 50 labourers and 50 nurses. The results demonstrated that respondents in the labour group were more likely than nurses to experience malnutrition. Height, weight, body fat percentage, and Hb status were all significantly positively correlated with the respondents' cereals and millets consumption. Women in the lower income group were shorter, gained less weight, had lower body fat %, consumed less cereals including millet & having better haemoglobin levels than women in the higher economic brackets. The results of the study will be useful in determining the many reasons behind women's poor nutritional status and in formulating countermeasures. Additionally, by fostering an efficient and healthy world, this opens doors for farmers to increase their income through the sustainable production of millets.

Keywords: *Transformation, development, sustainable, vital components, nutritional health*

Globalization and it's Impact Over Social Change in India

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Abstract

Globalization is an economic concept which has made the world local in its approach and globalized the whole local economy through the technological and information revolution in the present scenario. Globalization not only impacted the economies of the world but also the social life of the people .It is an important fact that Indian socially and culturally plural society has its own features ,qualities, norms ,values, traditions, customs and conventions but due to the globalization of knowledge, technique and information a huge change has been observed in the social life of the society. This new economic environment since 1991,after the end of political situation of cold war has accelerated the speed of social change and market has become the major determining factor of such kind revolutionary changes.

Keywords: *Globalization, social life, social change, cold war, revolutionary changes*

Schemes of Indian Government in Promoting Climate Literacy And Education

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Abstract

Climate literacy promotion and education involves raising awareness about environmental issues. In the present study various schemes are discussed which are taken by Indian government for addressing environmental challenges. In the present time there are many ways opted for educating and promoting awareness for climate like organizing workshops on sustainable practices, supporting eco-friendly initiatives, and integrating climate education into school curricula. The Indian government has implemented various schemes to promote climate literacy and education. One notable initiative is the National Action Plan on Climate Change (NAPCC), which emphasizes the importance of education and awareness. Additionally, National Solar Mission (NSM) aims to promote the development and use of solar energy in the country, National Mission for Enhanced Energy Efficiency (NMEEE) focuses on promoting energy efficiency and conservation measures to reduce energy intensity in various sectors, contributing to sustainable development and environmental goals, National Water Mission (NWM) to ensure sustainable management of water resources, National Mission for Sustainable Agriculture (NMSA) aimed at promoting sustainable agricultural practices and National Mission for a Green India (GIM) to promote sustainable and inclusive growth by addressing various environmental challenges. These efforts aim to enhance climate awareness and empower individuals with the knowledge needed to contribute to sustainable practices.

Keywords: *Climate, Sustainable Development, Environment Challenges, Climate Literacy*

Chemical Pesticides and Human Health: Changing Concept of pesticides

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Abstract

The industrialization of the agricultural sector has increased the chemical burden on natural ecosystems. Pesticides are agrochemicals used in agricultural lands, public health programs, and urban green areas in order to protect plants and humans from various diseases. After 1940, the use of synthetic chemical pesticides remained the major tactics in pest control. When properly used, they provide an efficient, fast, reliable and cost-effective means of pest control. Until 1962, pesticide use in agriculture and public health was indiscriminate. Only after the publication of "Silent Spring" by Rachel Carson in 1962 people's awareness towards the ill effects of pesticides increased. The injudicious and indiscriminate use of pesticides include development of pest resistance to pesticides, destruction of natural enemies, poisoning of man and animals, environmental pollution, minor pest assuming major status and increasing costs etc. Due to their non-biodegradable nature, they can persist in nature for years and are regarded as potent biohazard. Worldwide, very few surveillance methods have been considered, which can bring awareness among the individuals, therefore the present review is an attempt to outline the consequences induced by various types of pesticide exposure on the environment. We discussed the societal need of the implementation of a new agricultural concept regarding food production, which is safer for man and the environment. Further, the prospective of bio pesticides use, organic farming, and suitable agricultural practices could facilitate the increase of crop production without compromising human health.

Keywords: *Ecosystem, agrochemicals, pest, sustainable, bio pesticides*

Change in lifestyle & Health on Adapting to Climate variability's in Agriculture, Economy, and Environment

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Abstract

This abstract delves into the intricate nexus between lifestyle transformations, health dynamics, and the imperative for resilient futures amidst climate variability affecting agriculture, economy, and the environment. It navigates the nuanced interplay of individual choices, examining how lifestyle shifts not only shape personal health trajectories but also influence the adaptive capacity of communities confronting climate-related challenges. By unravelling these interconnected threads, the paper seeks to unearth synergies that can enhance both individual well-being and societal resilience. Moreover, it explores innovative strategies that integrate health-conscious lifestyles into broader resilience frameworks, contributing to a more nuanced understanding of sustainable development in the context of a changing climate.

Keywords*: Resilient Futures, Variability, Adaptability, Sustainable Development, Innovative Strategies*

Role of Literature in Climate Change Advocacy

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Abstract

This abstract explores the intersection of resilient futures amidst climate variability in agriculture, economy, and the environment, with a particular focus on the role of literature in climate change advocacy. It investigates how literature serves as a powerful tool to articulate, communicate, and advocate for sustainable practices and resilience strategies. The paper analyses literary works that contribute to raising awareness about climate challenges, inspiring action, and fostering a deeper understanding of the complex relationships between human activities and the environment. By examining the symbiotic relationship between literature and climate advocacy within the broader context of resilient futures, this abstract aims to elucidate the potential of storytelling and narrative as catalysts for positive change in the face of environmental uncertainties.

Keywords: *Climate Variability, Agriculture, Economy, Environment, Climate*

A Review of Economic impact of Climate Change

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Abstract

This paper reviews the economic impacts of climate changes .Climate change due to rising temperature and changing patterns of monsoon rainfall .Climate changes can severely disrupt crop cycles and cause low agricultural yield due to change in temperature, precipitation pattern, soil erosion, water scarcity and extreme weather events such as flood and droughts. Climate changes can adversely impact both the supply side as well as demand side. It can strike inflation, reduce economic output, trigger uncertainty and change consumer behaviour. Different methods have been used to estimate the impact of climate change on human welfare. Current estimates indicate that climate change will likely have a limited impact on the economy and human welfare. In fact, the initial impacts of climate change may well be positive. However, in the long run the negative impacts dominate the positive ones but these are largely sunk. Negative impacts will be substantially greater in poorer countries. Although climate change may affect the growth rate of the global economy and may trap more people in poverty, quantification of these impacts remains difficult .Poverty reduction complements greenhouse gas emissions reduction as a means to reduce climate change impacts . Estimated aggregate impacts are not very large but they are uncertain and incomplete. Estimates of the marginal impacts suggest that greenhouse gases should be taxed.

Keywords: *Climate Change, economic impact, greenhouse gas emission, output*

Hydro Power Projects and Sustainable Development: A Study of Himachal Pradesh

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Abstract

Hydropower is one of the most important inputs for economic development and makes a direct and significant contribution in the economy in terms of generation of employment opportunities and enhancing the quality of life Hydropower projects have a significant role in the development of the nation as it provides power at lowest cost being perpetual and renewable sources of energy. Seen as the champion of green energy to some and environmentally disastrous to others, Hydropower is a multifaceted issue. The present study, therefore, focuses mainly on the HEPs in river Ravi and its tributaries in the Chamba district of Himachal Pradesh. Frequent natural hazards and their resultant tangible and non-tangible loss on local communities due to the construction of hydropower projects and their surroundings have been analyzed. The impacts due to hydropower development, especially reservoirs, and dams are always space extensive which cover catchment areas upstream, downstream, and on-site surrounding areas of plants. The present study is the need of the hour to protect the rich tribal culture and very high earthquake-sensitive zone (IV& V) of the Chamba district. This paper holistically examines the role of hydropower development in rural Himachal Pradesh. The locus of this study is a tribal region of Bharmour Tehsil within the Chamba District of Himachal Pradesh. The present study is an empirical study to examine the social cost-benefit analysis of Hydro Power Projects in Himachal Pradesh.

Keywords: *Sustainable, Hydropower, Economic Development, Social Cost*

Need for Early Warning Systems for Monitoring Climate Change

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Abstract

Numerous examples can be cited from the various disasters that took place in the world. The loss of human lives could have been averted had there been a credible Early Warning System (EWS) in existence. The twenty-first century saw many climatic disasters striking the world but the state-of the-art technology in the sphere of Early Warning System played a very important role in mitigating the loss of human lives. Early Warning Systems(EWS) are validated cost–effective disaster reduction and climate change adaptation measures which usually save lives, livelihoods, and ecosystems in the face of climate-related hazards. Early Warning Systems (EWS) is an integrated system of hazard monitoring , forecasting and prediction ,disaster risk assessment , communication, preparedness activities systems, and processes that enable individuals , communities , governments, business and others to take timely action to reduce disaster risks in advance of hazardous events.

Keywords: *Climate; Humanity; EWS; Climate; Forecasting*

Comprehensive review of the Photo-nano Catalyst Synthesis via Plant-Mediated Extracts from Wild Plants: A Sustainable Approach for Environmental Applications

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Abstract

This research review explores the synthesis of photo-nano catalysts through the utilization of plant-mediated extracts derived from wild plants, presenting an innovative and sustainable approach for environmental applications. The review encompasses a comprehensive insight into the unique properties of plant extracts, specifically focusing on their ability to serve as eco-friendly precursors for the synthesis of nano-sized catalysts. The review critically examines the various methodologies employed in the synthesis process, emphasizing green chemistry principles and sustainable practices by reviewing the potential of indigenous flora to act as efficient reducing and stabilizing agents in synthesis of photoactive nanoparticles. Furthermore, the environmental applications of these synthesized photo-nano catalysts are explored, including but not limited to photocatalytic degradation of pollutants, water purification, and solar energy conversion. The inherent biocompatibility of plant-mediated extracts adds an extra layer of appeal to these catalysts for potential applications in sustainable and eco-friendly technologies. The integration of wild Himalayan plants in the synthesis of photo-nano catalysts not only exemplifies a sustainable and cost-effective approach but also underscores the importance of preserving and harnessing regional biodiversity for addressing global environmental challenges.

Keywords: *Photo-nano Catalyst, Plant Extracts, Wild Himalayan Plants, Sustainable Approach, Environmental Applications*

Socio-Economic life of Persons with Disabilities in Himachal Pradesh

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Abstract

Persons with disabilities faces multiple marginalization in our society. Present study focuses on the Himachal Pradesh a Himalayan state special economic status in India. The study is based on primary data. Medically proven equal to and more than forty per cent disabled people by the concerned district medical board based on The Rights of Persons with Disabilities Act 2016 were included in the study. Twenty-one types of disabilities mentioned in act of 2016 were included in the study. Sample size of the study was taken 400 according decided based on Cochran's formula. Data was collected through interview schedule from disabled people and their attendants in Kangra and Mandi districts of Himachal Pradesh using random sampling during June to October 2023. Data was analyzed using online software data tab. The study found positive relation between degree of disability and disadvantaged socio-economic life among spheres related to education, health, and employment. The study found less knowledge about welfare schemes among persons with disabilities who are uneducated and having less years of schooling. The study found the need for early detection and guidance to persons with disabilities in their educational and skill development to increase their socio-economic status.

Keywords: *Disability, Socio-Economic Life, Disability Education, Disability in Himachal Pradesh*

Towards a Greener Tomorrow : SDGS and Women Empowerment

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Abstract

Women constitute approximately half of the world's population who have been forced to live as secondary status. They constitute majority of population living in poverty and experiencing multidimensional inequalities. Women empowerment is a means of emancipation of women and their harmonious co-existence with men in society, enabling their ability to contribute in development of society at all levels, maintaining their self dignity, rights and influence in decision making. It also provides women with social justice, equality and improves on her ability to contribute to society at all levels. Women play a critical role in managing natural resources on family and community levels and are most-effected by environmental degradation. Therefore they are it's best protector too. They depend on environment and vice-a-versa. They are active agent of conservation and restoration of environment. Women are frontline workers, though unpaid, they are pillar of strength to society and environment. The more empowered the pillar of strength, the healthier the environment as they are sensitive to environment and have high ecological consciousness. The 17 Sustainable Development Goals or global goals recognise women empowerment and gender equality as pre-requisite and necessary foundation to achieving all the Sustainable Development Goals by 2030. Women have been regarded as contributing greatly to management of natural environment. Therefore women empowerment and gender quality (SDG-5) is closely linked with SDG-15 i.e. life on land. Women empowerment plays key role in protection, restoration and promotion of sustainable use of terrestrial ecosystem, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss. This paper analyses on the need to focus on women empowerment and gender equality (SDG-5) in order to achieve all the 17 SDGs as all the SDGs are interlinked and necessity to empower women to safeguard and protect environment (SDG-15).

Keywords: *Women, Empowerment, Environment, Sustainable, Development Goals*

A Study of Impact of Music on Health

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Abstract

संगीत का हमारे स्वास्थ्य पर बहुत गहरा प्रभाव पड़ता है। जब भी हम अच्छा संगीत सुन रहे होते हैं तब हमारा दिमाग डोपामाइन रिलीज करता है। इसे हैप्पी हार्मोन भी कहा जाता है,हैप्पी हार्मोन खुशी और एक्साइटमेंट बढ़ाने में काफी असरदार है,इसलिए हमारा मूड बदल जाता है और हम अंदर से खुशी का अनुभव करने लगते हैं।संगीत से होने वाले इन्हीं फायदों की वजह से म्यूजिक थेरेपी का चलन भी तेजी से बढ़ रहा है। म्यूजिक थेरेपी (Music Therapy)को संगीत चिकित्सा के नाम से भी जाना जाता है। इस थेरेपी में एक व्यक्ति के जीवन की गुणवत्ता में सुधार के लिए संगीत का इस्तेमाल किया जाता है। यह अन्य प्रकार की थेरेपी, जैसे काउंसलिंग या कॉग्निटिव बिहेविरियल थेरेपी (सीबीटी) का एक विकल्प है। म्यूजिक थेरेपी व्यक्ति की मानसिकता में सकारात्मक बदलाव को प्रोत्साहित करती है। यह थेरेपी हर उम्र के लोगों की मदद करती है।

संगीत हमारे शारीरिक और मानसिक स्वास्थ्य के लिए बेहद लाभकारी साबित हो सकता है। संगीत चिकित्सा कई मानसिक स्वास्थ्य विकारों के लिए फायदेमंद है, जैसे अवसाद, PTSD, आघात, आत्मकेंद्रित, सिज़ोफ्रेनिया और डिमेंशिया।संगीत चिकित्सा सिस्टोलिक रक्तचाप को कम कर सकती है,जो स्ट्रोक के जोखिम को कम करता है। संगीत सुनने से स्ट्रोक का जोखिम कम होता है। विभिन्न संगीत अलग-अलग न्यूरोलॉजिकल प्रतिक्रियाओं को उद्घाटित करते हैं: शास्त्रीय संगीत आरामदायक है, जबकि रॉक संगीत ऊर्जावान है ।अल्जाइमर, डिमेंशिया और अन्य मानसिक स्वास्थ्य स्थितियों में, संगीत चिकित्सा (Music Therapy) बेहद कारगर साबित हुई है। साथ ही इससे व्याकुलता, आक्रामकता और मनोभ्रंश के अन्य लक्षणों में काफी कमी पाई गई है।

आज के समय में हम में से बहुत से लोग कठिन समय और परिस्थितियों का सामना कर रहे हैं और ऐसे में हमारी मेंटल हेल्थ का प्रभावित होना एक आम बात है। बहुत से लोग मेंटल हेल्थ से जुड़ी समस्याओं का सामना कर रहे होते हैं लेकिन फिर भी किसी से सांझा नहीं कर पाते हैं। इस परिस्थिति में संगीत आपकी मदद कर सकता है।

Change in Lifestyle and Health

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Abstract

Lifestyle is the characteristics of inhabitants of a region in special time and place. It includes day to day behavior and functions of individuals. It is the interaction between individuals and their environment. Whereas health refers to being free from disease or abnormality on a physical, mental and emotional level. It maintains harmony between the body and its environment. The relationship between lifestyle and health that give shape to an individual's way of life and pattern of living to improve one's health. Practicing healthy lifestyle improves mental, Physical and emotional health. It improves ability to prevent, treat and cause of disease. There are so many lifestyles: Healthy lifestyle, Bohemian lifestyle, Nomadic lifestyle, Corporate life style, Rural lifestyle, City or Urban lifestyle, Mountain lifestyle, Beach lifestyle, Party lifestyle, Solo lifestyle, Communal lifestyle, Lazy lifestyle, Active lifestyle, Workaholic lifestyle, Dictatory lifestyle, Medical lifestyle, Social lifestyle etc. Our Health depends upon our lifestyle. Lifestyle directly affects our health so there are some tips for healthy lifestyle : Eat variety of foods, Replace saturated and unsaturated fats, eat Plenty of vegetables and fruits, Reduce salt and Sugar intake, drink plenty of fluids, maintain healthy body weight, avoid sitting and smoking, stay away from Mobile phones, meet new people, do regular health check up, do something different, love yourself. Lifestyle have a direct effect on physical, mental and emotional health, it plays an important role in human health. If we need healthy body and healthy mind we should follow these tips. Mostly our health depends upon healthy food, Less stress, physical exercise and peace of mind which add years to human life. Sustainable style changes takes time, dedication, determination and patience, it takes an average 9-10 weeks to develop a new habit to become automatic in human beings. Healthier habits protect us from serious health problems, and helps to manage weight and preserve energy. If we stick to these changes they may become part of our daily life.

Socio-economic Impact of Infrastructure Constructions in Western Himalayan Borderlands: A Qualitative Study of Development in Lahaul-Spiti Region

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Abstract

The chronology of the Himalayan road improvement has been created in a unique historical-geographic setting. For quite a long time, the Himalayas has remained a characteristic hindrance between the barrier between the Tibetan Plateau (and cities of China) and South Asia (and the markets of India). Be that as it may, notwithstanding this complex geology, various valleys and high mountain passes have been used as passages for trade. From the parade merchants of the old Silk Roads to the strict panhandlers that conveyed Buddhism to East Asia, courses through the Himalayas have likewise gone about as verifiable passages for social, cultural, economic, and political commitment. The Himalayan district holds critical significance regarding biological extravagance, biodiversity, socio-cultural variety, and abundance. The district is one of 34 overall organic areas of interest (i.e., a typical habitat with high biodiversity containing an enormous number of imperiled endemic species) as distinguished by Conservation International (Mondal & Zhang, 2018). The delicate landscapes of the Himalayan district are exceptionally helpless to common risks, prompting continuous worry about current and future environmental change impacts around there. Environmental change worries in the Himalayas are diverse, incorporating floods, droughts, avalanches, human wellbeing, biodiversity, endangered species, agriculture livelihood, and food security. While there are a few surveys of existing writing on environmental change perceptions and actual effects on a portion of these perspectives, a complete audit covering the Himalayan locale from all elements of effects is absent (Sharma & Thakur, 2017).The current study will specifically focus on recent developments of infrastructure constructions taking place in the lesser developed Himalayan borderlands, with particular reference to the Lahaul and Spiti District. The developments are beneficial in making economic developments where a high amount of employment generation will occur. However, such constructions also have harmful effects on the residents' social and cultural aspects. Thus, this topic will deal with the advantages and disadvantages of the recent infrastructure constructions and developments and the effects of similar constructions in the past.

Keywords: *Himalaya's borderlands, biodiversity, socio-cultural variety, agricultural livelihood, infrastructure*

Economic Costs and Benefits of Climate Resilient Development

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Abstract

Some climate change is now inevitable and strategies to adapt to these changes are quickly developing. Climate change presents risks to nature, people and infrastructure around the world. These risks will increase with every small increase in warming, and reducing them is made more complicated by other global trends such as over-consumption, population growth, rapid urbanization, land degradation, biodiversity loss, poverty and inequity, etc. Climate Resilient Development cannot be achieved with a single decision or action. It is the result of all of the choices we make about climate risk reduction, emissions reductions and sustainable development on a daily basis. Hence, this paper is an attempt to evaluate economic cost and benefits of climate resilient development.

Keywords: *Climate Change, Economic Cost and Benefits, Climate Resilient Development*

Dynamics of Cropping Pattern and Climate Change on Agriculture in Western Himalaya

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Abstract

The study focused on the dynamics of cropping pattern and farmers' perception of climate change in mountain farming within the Kullu district. The secondary data were used to examine the temporal changes in cropping patterns, while primary data were collected to provide insights into farmers' views on climate change, its impacts on agricultural practices, and the adaptive strategies adopted. The findings of the study revealed that there was a shift in cropping pattern over the past two decades from diverse crops such as paddy, wheat, barley, and maize to a predominant emphasis on monocropping, particularly in apple farming. The attraction of enhanced returns led farmers to convert agricultural land into fruit orchards. Especially, millets were once prevalent in the study area, have disappeared. Farmers, in response to changing climate conditions, expressed concerns about adverse effects on agriculture. Therefore, urgent awareness campaigns are crucial to enlighten farmers about the importance of preserving dwindling cereals, pulses, and especially climate-resilient & health-beneficial millets. Also strengthening the adaptive measures adopted by farmers is vital to safeguard their crops from the adverse impacts of climate change.

Adaptation Policy Frameworks for Climate Change : Policies and Measures

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Abstract

Adaptation Policy Framework is a structured process for developing adaptation strategies, policies, and measures to enhance and ensure human development in the face of climate change, including climate variability. The Adaptation Policy Framework (APF) is designed to link climate change adaptation to sustainable development and other global environmental issues. It consists of five basic Components: scoping and designing and adaptation project, assessing current vulnerability, characterizing future climate risks, developing an adaptation strategy, and continuing the adaptation process. The adaptive capacity inherent in a system represents the set of resources available for adaptation, as well as the ability or capacity of that system to use these resources effectively in the pursuit of adaptation. It is possible to differentiate between adaptive potential, a theoretical upper boundary of responses based on global expertise and anticipated developments within the planning horizon of the assessment, and adaptive capacity that is constrained by existing information, technology and resources of the system under consideration . Climate variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate on all temporal and spatial scales beyond that of individual weather events. Variability may result from natural internal processes within the climate system (internal variability) or to variations in natural or anthropogenic external forcing.

Keywords *: APF , Adaptation Policy , Climate Change , Climate Variability*

Awareness of Rural Folks Regarding Climate Change

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Abstract

Climate Change is now impacting the lives of people around the world negatively. Failure to act immediately will reverse advancements around the globe. Awareness of climate change is an issue facing mankind. The emission from industries & other human activities are making the world warmer, disturbing the rain fall and increasing the frequencies of severe weather conditions. The impact of the air in upholding the temperature at the surface of the earth, the role of carbon dioxide's and methane's absorption of solar radiation, and the potential for global temperature increases as a result of industrial activities. The present study was conducted to study the extent of awareness regarding climate change among the rural people. The study was based on pre and post intervention interview and indicated that approximately all the respondents were found to be more or less aware of the certain climate related indicators like frequent floods, decline of soil productivity, change in intensity of storm, change in length of seasons, rise in temperature, changes in water level and irregular and erratic rainfall. There are strong evidences that significant global warming is occurring but the people are not that aware of the causes and adaptation practices to handle the situation. The study clearly revealed that there is a significant increase in the level of awareness of the respondents regarding climate change after attending the intervention programmes. Therefore, it is essential to conduct intense awareness programmes on causes and adaptation practices to handle the situation by using various Information & Communication Technologies and traditional media so that people can adopt the different adaptation practices available to cope up with the adverse impact of climate change. By *changing* our habits we can tackle the *climate* emergency to a large extent and build a healthier and sustainable world.

Keywords: *Global Warming, Climate Change, Mitigating effects, Farm women, Awareness*

Enhancing Bakery Products with Foxnut Powder for Better Health: Insights from FTIR Analysis and Sensory Evaluation

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Abstract

This study investigated the impact of incorporating foxnut powder into bakery products—bread, cake, and doughnuts—on their chemical composition and sensory attributes. Varying concentrations of foxnut powder were added to refined wheat flour, and sensory evaluations were conducted to determine optimal levels for acceptability. Fourier-transform infrared (FTIR) spectroscopy was employed to analyze molecular changes in the developed products. FTIR spectra of the baked goods exhibited characteristic peaks representing distinct chemical functional groups. Peaks associated with O-H stretching, C-H stretching, alkanes, carbohydrates, alkynes, aromatic compounds, alkenes, phenolic compounds, and various organic compounds were observed within specific frequency ranges. Notable changes in intensities of specific functional groups were detected in cakes, bread, and doughnuts, indicating potential chemical alterations during the baking process. Moreover, the FTIR analysis provided crucial insights into molecular alterations during baking and foxnut powder integration, shedding light on the diverse functional groups and compounds in the samples. These findings highlight the potential of foxnut powder as a beneficial ingredient in functional bakery products and offer a deeper understanding of the molecular changes induced by its incorporation. This research paves the way for developing healthier bakery items and emphasizes the utilization of indigenous, underutilized crops in the food industry. Future studies could explore different processing techniques and formulations to further enhance the nutritional and sensory qualities of bakery products incorporating foxnut powder. Despite potential cost implications, the enhanced nutritional benefits and unique texture make foxnut powder attractive for health-conscious consumers willing to invest in specialty, nutritious products. Effective marketing strategies emphasizing its health benefits could cater to a niche market of health-conscious urban consumers and bakery enthusiasts seeking premium, nutritious offerings.

Key words: *Foxnut, bakery products, foxnut power, sensory evaluation, healthy life*

Biodiversity Conservation and Ecosystem Resilience

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Abstract

Biodiversity conservation plays an important role in maintaining ecosystem resilience, fostering a delicate balance that sustains life on Earth. Ecosystems are complex webs of interconnected species, each contributing uniquely to the stability and functionality of the environment. As human activities continue to exert unprecedented pressures on ecosystems, the importance of safeguarding biodiversity becomes increasingly evident. Biodiversity, encompassing the variety of life forms from genes to ecosystems, provides numerous ecological services essential for human well-being. These services, including pollination, water purification, and disease regulation, underpin the resilience of ecosystems. Conservation efforts focus on preserving species richness and genetic diversity, recognizing their intrinsic value and the ecological functions they fulfill. Ecosystem resilience, defined as the capacity to absorb and adapt to disturbances, relies heavily on biodiversity. Human activities, including habitat destruction, pollution and over exploitation, pose significant threats to biodiversity. Conservation initiatives, ranging from protected areas to sustainable resource management, aim to mitigate these threats and promote the recovery of endangered species. Additionally, community involvement and awareness play crucial roles in fostering a harmonious co-existence between humans and nature. As climate change accelerates, the urgency of biodiversity conservation intensifies. Species with diverse traits enable ecosystems to adapt to changing conditions, reinforcing their resilience against unforeseen challenges. Biodiversity Conservation is indispensable for maintaining ecosystem resilience. By preserving the variety of life forms and their interactions, we bolster the ability of ecosystems to withstand disturbances and ensure the continued provision of vital ecological services.

Keywords: *Biodiversity conservation, eco-system resilience, genetic diversity sustainable resources*

Changing Dietary Patterns and its Impact on Mental Health of Hostel Residents: An Exploratory Study

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Abstract

Entering into the hostel life can be a challenging time for many inmates particularly for women hostel residents who may face distinctive stressors associated with living away from home, adjusting to a new academic environment and managing financial, social and personal pressures. Amidst these challenges, their sleep and dietary patterns play a crucial role in fostering emotional well-being and promoting positive mental health outcomes. This research study aims to investigate the role of dietary pattern in fostering well-being amongst women hostel residents. A good nutritional status is important for maintaining normal body function and preventing or mitigating the dysfunction induced by internal or external factors. Nutritional deficiencies often result in impaired function. Diet and nutrition are critical not only for physiology and body composition, but also have significant effects on mood and mental well-being. Poor nutrition may be a causal factor in the experience of low mood, and improving diet may help to protect not only the physical health but also the mental health of the population. Depression and anxiety are the most common mental health conditions worldwide the current research study builds upon this existing literature by specifically examining the role of dietary patterns in promoting emotional well-being among women hostlers. The findings of this study will contribute to a better understanding of the factors that influence their mental well-being and provide valuable insights for developing interventions to promote positive mental health outcomes among this population.

Keywords: *Hostel life, mental health, dietary patterns, emotional well being, nutrition and stress*

Review of the Initiative by HIMCOSTE HP Government for Environment Conservation and Sustainable Development

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Abstract

Lot of affords are in progress for environment conservation and sustained development by the Government of INDIA and particular by Government of Himachal Pradesh. HIMCOSTE Department of Environment of H.P. Government was set up on 2017 with an objectives to improve the effectiveness of environmental management, protect vulnerable ecosystems and enhance sustainability of development. In this paper we have revisited the events and schemes of the department to analyze the work done / initiatives. We have also talked about buy back policy and model eco village scheme of the government. The urgent need to mitigate environmental degradation, preserve biodiversity, combat climate change, and ensure equitable resource distribution is emphasized. Furthermore, sustainable development, characterized by economic growth, social progress, and environmental responsibility, is explored as a pathway to achieve long-term prosperity without compromising the planet's health. The importance of policy frameworks, technological advancements, public awareness, and international collaboration in fostering a sustainable future is underlined. Ultimately, this abstract advocates for a state commitment to embracing sustainable practices that safeguard the environment while promoting lasting socio-economic advancement.

Keywords: *events, schemes and policy of HP Government for environment conservation*

Climate Resilient Agriculture (CRA): Methods to Reduce the Adverse Effects of Climate Change

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Abstract

Climate resilient agriculture (CRA) is a viable method for changing and reforming agricultural systems to support food security. Agricultural systems are highly sensitive to climate change and diversity in different threats like changing temperature, rains and incidence of disasters such as droughts and floods with this on an average the extreme weather patterns have impact on incomes of farmer. Threats can be reduced by changing the farming system and improving the agriculture technology to enhance the capacity of farmers as well as increasing resource use efficiency in agricultural production systems. Climate resilient agriculture (CRA) promotes systemic planning by farmers, government, NGO, scientists, and policy-makers. The existing conditions of poverty, malnutrition and increasingpopulations puts intense pressure on finite natural resources, especially land, water and energy – all of which are integral to agricultural systems. In this context, it becomes necessary to adopt Climate-Resilient Agriculture (CRA) measures at co-operative scale to address the impending impact of climate changeon agriculture.

Keywords: *Climate Change, Climate Resilient Agriculture, Finite Natural Resources, Food Security, Malnutrition, Threats*

Organic Farming and Socio-economic Life: A Case Study in Himachal Pradesh

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Abstract

Situated amidst the picturesque landscape of Himachal Pradesh lies Dodra Kwar, a distinctive community harmoniously existing with nature. A comprehensive study delved into the geo-demographic aspects and socio-economic life of this region, aiming to uncover the reasons behind their dedication to organic farming and self-sufficiency. The study employed exploratory and descriptive methodologies, gathering primary data through interviews, focused group discussions, and participant and non-participant observations. Secondary sources like published literature, governmental and non-governmental reports, individual accounts, official websites, and visiting personnel's insights contributed to this research. Nestled at an elevation of 2500 meters above sea level, Dodra-Kwar comprises twenty villages, five Village Pachayats, and a Tehsil operating under a single-line administration. Covering 354 km², the region houses 6372 individuals in 1215 households, resulting in a population density of 18 persons per square kilometer. The local temples, revered as abodes of deities, serve as vital centers for socio-cultural and religious activities, playing a pivotal role in community life. Remarkably, the inhabitants practice exclusively organic farming, yielding ample vegetables, fruits, and grains, contributing to their high quality of life. Their togetherness isn't solely reserved for significant milestones like births, marriages, or deaths but extends to routine interactions at homes and communal spaces. Engaging in interactive sessions, they exhibit solidarity and unity, fostering robust societal relations. This close-knit community not only sustains a self-reliant economy but also maintains a harmonious coexistence with their natural surroundings.

Keywords: *Organic, Socio-Economic, Agriculture*

Changes in Lifestyle and Health

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Abstract

The rising severity of climate variability poses a complex problem that affects environmental integrity, economic stability, and agricultural production. Human health stands out as a critical component that is essential to successful adaptation in the face of these changing environments. This study explores the transformative potential of proactive lifestyle alterations in increasing resilience by delving into the complex relationships between climate variability and well-being. We commence by analyzing the complex health effects of climate change. Insidious effects of food insecurity and mental health costs are investigated alongside direct repercussions, such as those resulting from extreme weather events and worsening air quality. A special focus is placed on the increased susceptibility of particular groups, emphasizing the necessity of focused measures to address current health disparities in the context of climate change. Positively, the study supports proactive lifestyle modifications as a catalyst for adaptability. We support dietary changes that focus on nutrient-rich, locally sourced produce, highlighting the vital role that a balanced diet plays in boosting immunity and preventing deficits. The numerous advantages of incorporating physical activity into everyday routines are examined, highlighting its benefits for mental and physical well-being in the face of climate anxiety. In addition, the study suggests ways to improve hygiene and water conservation practices, emphasizing their importance in preventing waterborne illnesses and guaranteeing access to clean water in the face of fluctuating water supplies. Lastly, we examine how environmentally friendly mobility options and disaster-proof infrastructure might serve as catalysts for climate resilience in housing and transportation decisions. The paper emphasizes the need of incorporating local customs and traditional knowledge into adaption tactics throughout this investigation. We support teamwork in bridging the gaps between community-driven projects, healthcare, and climate science. Additionally, we stress the critical role that policy frameworks play in promoting and rewarding healthy lifestyle choices and ensuring fair access to the infrastructure and resources required for effective adaptation. In a nutshell this work provides evidence for the critical relationship between climate variability and human health. We can traverse the intersections of health and climate change by adopting transformative lifestyle changes and promoting cooperative adaptation techniques. This will help us create a future where resilience flourishes in the face of a changing environment.

Keywords: *Climate Variability, Human Health, Lifestyle Adaptations, Resilience, Nutrition, Physical Activity, Water Conservation, Sustainable Housing, Transportation, Policy*

Digital India: New roads ahead

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Abstract

Government of India's Digital India Programme (DIP) has played a major role in fortifying the groundwork of the nation's digital services environment. Digital India programme is a campaign launched by the Government of India on July 2, 2015 with "Power to Empower" motto. The most significant force driving the creative global economy and causing rapid social transformation is technology. It provides a chance for citizens in digital freedom to do trade in India. The volume and range that India offers is a big business opportunity for global companies. Numerous significant achievements have been made by the DIP, and many more are still to come. Every industry has gradually come to understand and experience the actual benefits of digitization. Digital India has played a significant role during COVID-19 period too. The present study focused on different aspects of Digital India Programme its impact on economy, society and environment. Present study is secondary in nature hence depicts the recent trends of digitization along with issues and challenges of Digital India.

Key words: *Digital India Programme (DIP), economy, digitalization*


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The Impact of Climate Change on the Indian Economy

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Abstract
Climate change poses multifaceted challenges to India's economy, affecting agriculture, water resources, public health, and infrastructure. Rising temperatures and erratic rainfall patterns threaten agricultural productivity, leading to reduced crop yields and income instability for millions dependent on farming. Increased frequency of extreme weather events, such as cyclones and floods, damages infrastructure, disrupts supply chains, and imposes significant economic burdens on affected regions. Additionally, the changing climate exacerbates water scarcity issues, affecting both rural and urban areas. Diminished water availability impacts industries, such as manufacturing and energy production, hindering economic growth. Moreover, the health sector faces increased risks due to the spread of diseases and heat-related illnesses, leading to higher healthcare expenses and productivity losses.
Addressing the economic implications of climate change in India requires comprehensive adaptation and mitigation strategies. Investing in resilient infrastructure, promoting sustainable agricultural practices, fostering renewable energy sources, and implementing effective water management solutions are crucial steps toward mitigating the adverse effects of climate change on India's economy. Collaborative efforts involving policymakers, businesses, and communities are imperative to safeguard the economy from the detrimental impacts of a changing climate.

Keywords: *climate change, agriculture, temperature, industries, infrastructure, growth*

Policy Framework for Climate Adaptation

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Abstract

Adaptation research has changed significantly in recent years as funders and researchers seek to encourage greater impact, ensure value for money and promote interdisciplinarity across the natural and social sciences. While these developments are inherently positive, they also bring fresh challenges. With this in mind, this paper presents an agenda for the next generation of climate adaptation research for development. The agenda is based on insights from a dialogue session held at the 2016 Adaptation Futures conference as well as drawing on the collective experience of the authors. We propose five key areas that need to be changed in order to meet the needs of future adaptation research, namely: increasing transparency and consultation in research design; encouraging innovation in the design and delivery of adaptation research programmes; demonstrating impact on the ground; addressing incentive structures; and promoting more effective brokering, knowledge management and learning. As new international funding initiatives start to take shape, we underscore the importance of learning from past experiences and scaling-up of successful innovations in research funding models.

Keywords: *Adaptation, interdisciplinarity, innovations*

Aquatic Macro Invertebrate as a Pollution Indicators-An overview

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Abstract

Aquatic macro invertebrates are pollution indicators. We can know the pollution status of any stream, pond, lake and River. A much polluted stream will have only a few types of macro invertebrates. And less polluted stream will usually have more invertebrates species. Some species of macro invertebrates are sensitive to pollution while others are pollution tolerant. Ephemeroptera (May flies), Plecoptera (Stone flies) and Trichoptera (Caddis flies) are very senstive to pollution. Riffle beetle larvae, water mite and marsh beetle larvae are sensitive to pollution. Larvae of black fly, crane fly, whirligig beetles and freshwater prawn, limpet and water strider are tolerant to pollution. Leech, water scorpion, mosquito larvae/pupae, spring tail, hydra, isopod, flatworm, fishing spider, roundworm, freshwater shrimp, dragonfly nymph, crawling water beetle and damsel fly nymph are very tolerant to pollution. This paper is based on secondary data collected from research paper, magazine and from daily newspaper. This paper concluded that by bio monitoring the water bodies we can immediately asses the quality of water.

Keywords: *Naiads, Benthos, water quality parameter, pollution*

Climate Change: A Challenge to India's National Security

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Abstract
Climate is one of the important factors of human environment. From pre historical era to present era of space and nuclear science, every aspect of human life reflects the influence of climate. The evolution of human civilization in different part of the world is unique and this uniqueness is largely attributed to the different climate conditions. The socio-economic, political, religious practices, habitant patterns, in every aspect of human life, climate is an important, foremost and decisive factor. The issue climate change is merely not an environmental issue; it is politically charged issue and emerged as a battlefield of national interests over the time. India is the land of diversity that exhibits in language, culture, religion, and caste and in many aspects of life. These diversities are mostly induced by the geographical and climatic conditions of environment. Security is the immanent to the life of individual, society and a nation. The Military is the oldest element of national security and it is generally perceived as synonymous to the National Security. The other elements of National Security are Economic Security, Demographic Security, Food Security, Health Security, and Environmental Security. The elements of National Security are cohesive in nature and often influentially interactive and binding with each other. In the emerging new world order, nations are increasingly concerned about the impact of climate change and taking steps to mitigate but it is a one of biggest challenge to the national security. Present paper has been made an attempt to analyse the impacts of climate change in Indian National security.

Keywords: *Climate Change, National, Security, India*

Changes in lifestyle and Health

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Abstract

A person leading a sedentary lifestyle has a low fitness level whereas living a healthier life not only makes a person fit but also extends life. Good health has a direct impact on our personality. A person with a good and healthy lifestyle is generally more confident, self-assured, sociable, and energetic. Lifestyle includes day to day behaviours and functions of individuals in job, activities, fun and diet. In recent time, lifestyle as an important factor of health. According to WHO 60% of related factor to individual health and quality of life are correlated to lifestyle. People of Ancient time follow healthy routine .Today people follow an unhealthy life style like having fast food, not fixed sleeping time, late night parties ,use of alcohol smoking having addictive substances,. Hence they encounter all type of illness, disability, and even death. Problems like metabolic diseases joint problem cardio-vascular diseases hypertension overweight can be caused by unhealthy lifestyle. Healthy lifestyle factor protect us against serious health problems like diabetes cancer ,heart stroke ,high blood pressure Anxiety . Variable of lifestyle that influence on health care: Diet is the greatest factor in life style and has direct relation with health. Poor diet leads to malnutrition and fast food also gives rise diseases. Exercises a walk, swim, practice yoga, included in lifestyle with healthy diet increase the health and release the stress. Limited use of Modern technology enhanced our lifestyle but excessive use lead to health problems. Follow Your Interest such as gardening, reading, writing or anything of your choice. These act as a good replacement for the unhealthy habits and also help in keeping stress at bay. We can say that there are various benefits of living a healthy lifestyle. Also, a healthy lifestyle has many benefits to your social as well as personal life. Besides, it improves the relationships in the family. Most importantly, the person who lives a healthy lifestyle lives longer as compared to those who do not.

Biodiversity Conservation in Great Himalayan National Park

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Abstract

Great Himalayan National Park is situated in the Western Himalayan area of Banjar subdivision of Kullu district in Himachal Pradesh. This national park is also listed in UNESCO's World Heritage Natural site. The area spans over 1,171 sq kms and is home to more than 800 plant species, 209 birds species and 31 mammals. This habitat is home to globally threatened Western Tragopan, Musk deer and Snow leopard. This abstract highlights the multifaceted conservation efforts at GHNP, addressing not only species protection but also the critical link between biodiversity and local communities. GHNP pioneered a successful model of integrating biodiversity conservation with community development, empowering local communities through sustainable resource management and alternative livelihoods. The community living outside the park boundary lives a harmonious lifestyle with nature and understands the importance of biodiversity and its conservation. Recognizing the intricate link between biodiversity and local communities, the park implements a unique model of eco-development. This approach empowers local communities by providing sustainable livelihood options like eco-tourism, honeybee farming, and traditional handicraft production. This not only fosters a sense of stewardship towards the park but also alleviates dependence on resource extraction, creating a win-win situation for both nature and people. Specific initiatives focus on safeguarding vulnerable endemic species like the Western Tragopan, utilizing habitat improvement and anti-poaching measures. One more uniqueness of this conservation area is it's roadlessness. As there is no vehicle road till the park boundary in the four major valleys, not all tourist visits to the park but only the enthusiastic ones. The unique approach of GHNP, showcasing its role as a global exemplar for effective biodiversity conservation through community engagement, scientific research, and targeted interventions.

Keywords: *Biodiversity conservation, Great Himalayan National park, Community Development*

Sustainable Development in India: Transition to Low Carbon and Climate Resilient Economy

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Abstract

India is currently at a crucial point in its efforts to achieve sustainable development, with the goal of successfully transitioning to an economy that is both low in carbon emissions and robust to climate change. In the face of fast urbanization, industrial expansion, and a growing population, the country is implementing a comprehensive strategy to tackle the interconnected issues of economic progress and environmental preservation. This paper explores India's focused endeavors to readjust its development path by adopting the expansion of renewable energy, encouraging energy efficiency practices in various sectors, advocating for sustainable transportation solutions, and strengthening climate resilience through afforestation and innovative adaptation strategies. The discussions will focus on India's policy frameworks, international commitments, and on-ground activities, highlighting the joint efforts necessary to achieve a healthy balance between growth objectives and environmental stewardship. This paper examines the innovative tactics and comprehensive methodologies influencing India's progressive path towards a sustainable, environment-friendly future with reduced carbon emissions. This research article provides a comprehensive and methodical examination of several research papers, articles, reports, and books to investigate the different dimensions of Sustainable Development Goals (SDGs) at both the global and national level in India. Ultimately, the integration of a sustainable and climate resilient economy is crucial for the attainment of the Sustainable Development Goals. By incorporating sustainability into their operations and establishing partnerships, organizations may effectively contribute to the global endeavor of achieving the Sustainable Development Goals (SDGs) while simultaneously making a beneficial influence on society and the environment. The Sustainable Development Goals (SDGs) offer a comprehensive framework that is in line with India's development aspirations and problems. They provide a strategic plan for tackling crucial matters and promoting long-lasting and equitable progress in the nation. India may align its development goals with the SDGs, so making progress towards its own objectives while simultaneously supporting the global agenda for a more sustainable and fair world.

Keywords: *Climate Resilient Economy, Economic Growth, Sustainable Development, Low Carbon Emission*

Economic Strategies for Climate- Resilient Development

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Abstract

There is need for combining the economic strategies with climate resilient development in face of escalating environmental challenges. The adverse impacts of climate change had posed a significant risk to the global economies, which necessitating to take proactive measures to mitigate the vulnerability and enhance the resilience. This paper examines the various economic strategies, including investment in renewable energy, sustainable agriculture, green infrastructure, adaption of climate- smart technologies, financial instruments, policy framework and regulations, community engagement, capacity building and risk management. Moreover, it analysis policy framework, international collaboration like international solar alliance and private public partnership mechanism for effective implementation. By integrating these economic strategies focusing on climate resilient development, the nations can adapt to climate change but also foster sustainable economic growth with safeguarding the environment for coming generation and giving them a healthy and clean environment. This study will explore this imperative need for climate resilient development.

Keywords: *Economic strategies, environmental protection, renewable energy, green infrastructure, community engagement.*

CLIMATE LITERACY IS THE KEY TO REVERSING CLIMATE CHANGE

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Abstract

Climate change literacy is a vital element in strategies for meeting the United Nations Sustainable Development Goal (SDG) 13: "Take urgent action to combat climate change and its impacts." Developing climate change literacy – individually, institutionally, and societally – entails understanding why it is important, who must be involved, what it includes, where and when it takes place, how to deal with challenges that arise, and what the end result, a climate-change-literate citizen, will look like. Climate change literacy is also necessary for understanding how to minimize the disruptions caused by a changing climate that could hamper the successful implementation of other SDGs. For example, the effects of global warming on heat waves and soil moisture will impact SDG 2 – Zero Hunger. "Adverse climate events" already share the blame for a rise in world hunger that started in 2015 ; ocean acidification will impact SDG 14 – Life Below Water by making it more difficult for calcifying organisms (such as mollusks, corals, some plankton, etc.) to build shell or skeleton due to their dependence on abundant carbonate. Furthermore, because the goals are interconnected, the key to success for one goal might involve meeting the targets for another goal (e.g., SDG 7 – Affordable and Clean Energy will lead to lower carbon emissions from energy production; SDG 16 – Peace, Justice, and Strong Institutions will lead to fewer carbon-intensive conflicts). Climate change literacy plays a role in understanding how each of these SDGs can be met. Learning about environmentally conscious practices encourages changes in attitude of young people minds and behavior helps them to adapt to climate change-related trends. Further progress intensely relies on our commitment to provide quality education in schools and colleges to prepare the younger generation for immediate climate change consequences and expose them to environmentally safe practices.

Keywords: *Climate change , Climate literacy*

Conservation of Biodiversity: A way forward to sustainable development

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Abstract

Biodiversity conservation and sustainable use can lead to higher productivity, more efficient resource use, and long-term viability of resources. Biodiversity and healthy ecosystems can provide reliable and cost-effective natural infrastructure. Preserving genetic diversity ensures the continuing existence of a wide-range of crops that may be able to withstand disease, and potentially useful biochemicals such as those used in healthcare.

The important methods to conserve biodiversity are through support local and regional projects aimed at tackling biodiversity loss. Investing in ways that promote biodiversity like Reducing waste of consumer goods: food, clothes, electrical appliances, etc.The importance of biodiversity in realizing SDGs by 2030 is : Biodiversity provides resources and income, particularly in rural areas. A large percentage of the rural population, i.e., between 50% and 90%, depends on ecosystem services for their livelihood. Present paper is an attempt to focus on recognize the need of Biodiversity conservation and its overall role in sustainable development.

Keywords: *conservation, biochemicals, ecosystem*

Ethnobotanical uses of Plants with special reference to Human Fertility and Child Birth in Bilaspur District of Himachal Pradesh (India)

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Abstract

The Shivalik ranges divide the plain and Himalayan Mountain peaks and housed many medicinal important plants. One of the densely populated parts of this region includes district Bilaspur of Himachal Pradesh which has been thoroughly explored to identify the traditional knowledge in relation to plants associated with human fertility and childbirth-related problems in modern society. Infertility may account for many cases of "unexplained" fertility problems due to one or both partners. The present study revealed that people rely on total 24 plants species within 24 genera, belonging to 19 families that are utilized for various types of human fertility problems and child birth. Out of the total 19 family reported, the family Fabacee leading with three species, followed by Lauraceae, Poacee, and Zingiberacee with two species each. The recorded species represent trees (11 species), shrubs (06), herbs (05), and climbers (02). The present information indicates the use of indigenous knowledge of the local people regarding the use of plant-based medicines to boost natural fertility, helps to maintain a healthy pregnancy, and is also recommended before and after parturition for easy delivery and will tone the uterus and nourish the blood.

Keywords: *Aphrodisiac, Child birth, Ethnobotany, Human fertility*

Biodiversity Conservation and Ecosystem Resilience

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Abstract
Biodiversity is the existence of different types of living organisms in an area. In other words the sum total of all the inhabitants present on the planet earth constitutes the Biodiversity. Biodiversity means the diversity of biological species present on the planet earth. The different organisms are plants, animals and microorganisms. All of them are connected and associated with each other in the ecosystem. Biodiversity conservation is the technique of protection and management of living organisms to obtain resources for sustainable development. It means that this technique not only fulfills the needs of present generation but also keep sufficient for the generations to come. Tropical region is richest in Biodiversity accounting to over 90% of the world's species despite the fact that the tropical regions account for only 10% of the world's area. The three elements of biodiversity of a place are:- Genetic Biodiversity, Species Biodiversity and Ecosystem Biodiversity. The pace at which several species are at the verge of extinction is quite alarming. The loss of one species poses a threat to the existence of another species. Numerous Goods and Services are obtained from the floral and faunal species across the world. The main objectives of biodiversity conservation are- to preserve the diversity of species, sustainable utilization of species and ecosystem as well as economic development and poverty alleviation. Biodiversity conservation automatically leads to ecosystem resilience that is the ability of an ecosystem to maintain its normal structure and function after being subjected to damage caused by an ecological disturbance.

Keywords: *Biodiversity, Conservation, Fauna, Flora, Ecosystem*

Embracing Yoga as a Lifestyle: A Holistic Approach to Well-being

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Abstract

In the fast-paced modern world, individuals are increasingly seeking holistic approaches to enhance their well-being, and yoga has emerged as a beacon of balance and tranquility. This paper delves into the profound importance of adopting yoga as a lifestyle choice, exploring its multifaceted impact on physical, mental, cognitive and emotional health.The physical benefits of yoga are manifold, encompassing improved flexibility, strength, and posture. Through a combination of asanas (postures) and pranayama (breath control), yoga promotes cardiovascular health and enhances overall fitness. Moreover, it serves as a preventive measure against various chronic ailments too. Beyond the physical realm, yoga plays a pivotal role in mitigating stress and anxiety. Mindfulness meditation, a fundamental aspect of yoga, cultivates awareness and presence, empowering individuals to navigate the challenges of daily life with clarity and patience. The mind-body connection fostered by yoga facilitates emotional resilience, paving the way for a balanced and harmonious life. This paper also explains the societal implications of widespread yoga adoption, emphasizing its potential to create a culture of well-being. As individuals embrace yoga as a lifestyle, they witness enhanced mental health, reduced healthcare burdens, and increased productivity. In conclusion, this paper advocates for the integration of yoga into our daily life and adopting it as a tool of health education in health institutions. By recognizing the interconnectedness of physical, mental, and emotional well-being, individuals can embark on a journey toward a more harmonious and fulfilling existence through the adoption of yoga as a holistic lifestyle choice.

Keywords: *Yoga, Health, lifestyles, physical and mental health*

Biodiversity Conservation and Ecosystem Resilience

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Abstract

Biodiversity refers to the variety and variability among all groups of organism and the ecosystem complexes in which they take place. In the conversion of biological diversity (1992) biodiversity is defined as variability among living organism from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and ecological complexes of which they are a part .It can be defined as the variety and variability of all animals, plants and micro-organisms. Biodiversity covers wide range of concepts like genetic species, ecosystem diversity etc. The communities are never identical at two different places. It is very important to study the distribution, evolution, dispersal and environmental relationships of plants and animals in the time and space. The multiple use of biodiversity is consumptive use value, productive use value, social value, ethical value, aesthetic value, option value ecosystem service value. The distribution of biodiversity throughout the space is not uniform.IN some area where environment is stable, there are species richness is very high. India is one of the 12 mega diversity countries in the worlds. Every country is characterised by its own biodiversity depending largely on its climate. India has a rich biological diversity of flora and fauna. The tropical rainforests by teeming millions of species of plants, birds, amphibians inspects as well as animals .Extinction of elimination of species is a natural process of evolution. In a geologic period, the earth has experienced mass extinctions.

Keywords: *Biodiversity conservation, organism, consumptive use value, micro-organisms, genetic species, ecosystem diversity, ethical value, aesthetic value*

Innovative agriculture practices for climate resilience

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Abstract

Biodiversity, the variety of life on Earth, is a fundamental aspect of our planet's health and resilience. Ecosystems, comprising diverse species and their interactions, play a crucial role in providing essential services such as clean air, water, and food. Biodiversity conservation involves the protection, restoration, and sustainable management of ecosystems to safeguard the multitude of species that coexist within them. Ecosystem resilience, on the other hand, refers to the capacity of ecosystems to absorb and recover from disturbances, whether natural or anthropogenic. These concepts are intrinsically linked, as the diversity of species within an ecosystem contributes to its overall resilience. Anthropogenic activities, such as deforestation, pollution, climate change, and overexploitation of natural resources, pose significant threats to biodiversity. The loss of species can disrupt ecological balance, decrease ecosystem resilience, and compromise the ability of ecosystems to adapt to changing conditions. Maintaining diverse ecosystems can enhance the adaptability of entire landscapes, contributing to the long-term well-being of both ecosystems and the communities they sustain. In conclusion, the conservation of biodiversity and the promotion of ecosystem resilience are integral components of sustainable environmental management. By recognizing the intricate relationships between species and ecosystems, we can develop strategies to protect and restore the diversity of life on Earth, ensuring the resilience of ecosystems in the face of ongoing global challenges.

Keywords: *Biodiversity, resilience, biodiversity, anthropogenic, ecological balance, sustainable, ecosystem, global challenges.*

Innovative agriculture practices for climate resilience

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Abstract

The increasing impacts of climate change on global agriculture necessitate a **paradigm** shift towards innovative practices that enhance **resilience** in farming systems. This abstract provides an overview of emerging strategies and technologies that contribute to building **resilience** in the face of climate change. Agroecological Approaches: Practices such as diversified cropping, cover cropping, and agroforestry enhance biodiversity, improve soil health, and contribute to climate **resilience** by fostering ecosystems that are more adaptable to changing conditions. Precision farming technologies: Drones, sensors, and satellite imagery enable farmers to monitor and respond to changing conditions promptly by providing real time data. This data-driven precision enhances adaptive capacity, mitigates risks, and contributes to the overall **resilience** of agricultural systems. Climate resilient crops: Through advanced breeding techniques, scientists are creating crops with enhanced tolerance to heat, drought, and pests. These contribute to global food security by ensuring reliable yield sustaining productivity in diverse environmental conditions. Community engagement and participatory approaches: Community engagement is fundamental to the success of climate-resilient agriculture by empowering local communities to implement context-specific adaptation measures, incorporating traditional knowledge, and fostering collaborative networks contribute to the **resilience** of entire agricultural landscapes. Water-efficient irrigation practices : These play a pivotal role in climate adaptation, particularly in water-stressed regions by adopting drip irrigation and rainwater harvesting conserve water, enhance distribution efficiency, and contribute to overall water resilience in agriculture. The amalgamation of these approaches constitutes a **multifaceted** approach to build climate **resilience** in agriculture. This underscores the importance of innovative practices in safeguarding global food security amid the challenges presented by a rapidly changing climate.

Keywords*: Resilience, Paradigm, Multifaceted*

Sustainable Development and Literature: A review

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Abstract

This paper explores the intricate relationship between sustainable development and literature, focusing on the role of literature in promoting the Sustainable Development Goals. By examining various literary works, this study aims to elucidate how literature serves as a catalyst for raising awareness, fostering empathy, and inspiring action towards sustainable development. It delves into the ways in which literature represents environmental and social issues, advocates for sustainable practices, and envisions sustainable futures, thereby contributing to the global discourse on sustainability. Furthermore, the paper examines the potential of literature to incite critical reflection, provoke dialogue, and ignite change in attitudes and behaviours concerning development and environmental stewardship. From examining classic works to contemporary writings, this review seeks to demonstrate the enduring and evolving influence of literature in advancing the principles and objectives of sustainable development. Through this exploration, the paper aims to offer insights into the profound connection between literature and sustainable development, emphasising the transformative power of storytelling and imagination in shaping a more sustainable world.

Keywords: *Literature, Sustainable development and developmental goals*

Effects of Environmental Pollution on Living beings- a study

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Abstract

Environmental pollution is a broad searching issue and it is probable to effect the health of human population is great. The present study furnish the insight view about its influence of environment pollution in the outlook of air pollution, water and soil pollution on human by disease of animals and plants. Study finds that these sorts of pollution are not only greatly affecting the human by disease and problems but also the animals and plants. Still these issues left in the hands of global institution, government and local bodies to use the advance resources to stability the environment for living and start off the breathed cognitive to live genial with environment.

Keywords: *Disease, Air Pollution, Hand Pollution, Soil Pollution, Water Pollution, Plants, Animals*

Role of Azolla Pinnata Biofcrtilizer Extract in Producing Healthy Tomatoes

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Abstract

Well-known commercial Tomato seeds (Alisa) were obtained from a famous local store. All seeds were grouped into 7 groups (5%, 10%, 20%, 30%, 40%, 50% and Control). which were equivalent to different Azolla biofertilizers extract. Seeds of each group were left immersed in the equivalent concentration 24 hours before sown in pots with growing media of I peat 1 Vermecu1ite at the beginning of summer season (First week of May). At the time of transplantation to the field, three pots of each group were used for seed germination test; Seeds were transplanted into the field after 6 weeks. After three days of transplantation, Control solution (without Azolla biofertilizers) and different Azolla infantilizes were foliar applied, the process was repeated every 15 days till 45 days after transplanting. Randomized Complete Block Design with three replicates was adapted. Each block consisted of two rows of 1.5 m in wide and 5 m long (15 m2/plot), plant spacing was 50 cm, and each replicate has 20 plants. The suggested development approaches for the summer season were conducted all through the developing season. Vegetative growth of the tomatoes was expressed as plant height. plant length, branch flower clusters and fruits were estimated in five plants/plot after 50 days from the date of transplanting. Tomatoes of control group and Tomatoes that showed a strong vegetative growth were used for feeding Winstar rats. All Biochemical parameters showed a highly significant difference compared to the control group.

Keywords: *Azolla pinnata, Azolla biofertilizer extract, Foliar application*

Environmental Ethics in contemporary scenario: Missing goalposts and upgraded responses

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Abstract

The biggest concern for the mankind in contemporary age is the indifferent, under rated and understated environmental concerns. Our globe has started to witness freak but starling effects of the environmental degradation. Many of the concerns raised at various platforms with well defined timeline are oftenly missed or at the best their attainment remains perfunctory. Therefore, the ethics for the environmental concerns needs to restated and are to be made realistically achievable ,and a strong will to attain them. In this study the author have enlisted many of the UNSDG timelines and goalposts in the redressal of environmental issues.

Keywords: *Environment, Ethics, UNSDG*

जलवायु परिवर्तन एवं पर्यावरण

प्रियंका

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सारांश

विश्वभर में जलवायु परिवर्तन का विषय सर्वविदित है। इस बात से इन्कार नहीं किया जा सकता कि आधुनिक काल में जलवायु परिवर्तन वैश्विक समाज के समक्ष मौजूद सबसे बड़ी चुनौती है। अब प्रश्न यह है कि जलवायु परिवर्तन है क्या? वास्तव में जब किसी क्षेत्र विशेष के औसत मौसम में परिवर्तन आता है तो उसे जलवायु परिवर्तन कहते हैं। जलवायु परिवर्तन को किसी एक स्थान विशेष में भी महसूस किया जा सकता है एवं सम्पूर्ण विश्व में भी। वाणिज्य अथवा निजी प्रयोग हेतु वनों की कटाई भी जलवायु परिवर्तन का बहुत बड़ा कारक है। पेड़ न सिर्फ हमें फल एवं छाया देते हैं बल्कि ये वातावरण से कार्बन डाइऑक्साइड़ जैसी महत्वपूर्ण ग्रीनहाउस गैस को अवशोषित भी करते हैं। वर्तमान समय में जिस तरह वृक्षों की कटाई की जा रही है, वह काफी चिन्तनीय है क्योंकि पेड़ वातावरण में कार्बन डाइऑक्साइड़ को अवशोषित करने वाले प्राकृतिक यंत्र के रूप में कार्य करते हैं और उनकी समाप्ति के साथ हम वह प्राकृतिक यंत्र भी खो देगें।

शहरीकरण और औद्योगिकीकरण के कारण लोगों के जीवन जीने के तौर तरीकों में भी काफी परिवर्तन आया है। विश्व भर की सड़कों पर वाहनों की संख्या काफी अधिक हो गई है। जीवन शैली में परिवर्तन ने खतरनाक गैसों के उत्सर्जन में काफी अधिक योगदान दिया है। अब इस जलवायु परिवर्तन के कारण हमारे पर्यावरण पर भी बड़ा गहरा प्रभाव पड़ रहा है। पावर प्लांट ऑटोमोबाइल, वनों की अंधाधुँध कटाई और अन्य स्त्रोतों से होने वाला ग्रीन गैसों का उत्सर्जन पृथ्वी को अपेक्षाकृत काफी तेजी से गर्म कर रहा है। गर्मी से संबंधित मौतों और बीमारियों, बढ़ते समुद्र स्तर, तूफान की तीव्रता में वृद्धि एवं जलवायु परिवर्तन के कई अन्य खतरनाक परिणामों में वृद्धि के लिए बढ़े हुए तापमान को भी एक कारण माना जा सकता है। इसके साथ-साथ पिछले कुछ दशकों में बाढ़, सूखा और बारिश आदि की अनियमितता काफी बढ़ गई है। यह सभी जलवायु परिवर्तन के परिणामस्वरूप ही हो रहा है। इससे कुछ स्थानों पर बहुत अधिक वर्षा हो रही है तो कुछ स्थानों पर पानी की कमी के कारण सूखे की सम्भावना बढ़ रही है। वैश्विक स्तर पर ग्लोबल वार्मिंग के दौरान ग्लेशियर पिघल जाते हैं और समुद्र का जल स्तर ऊपर उठ जाता है जिसके प्रभाव से समुद्र के आस-पास के द्वीपों के डूबने का खतरा भी बढ़ जाता है। तापमान में वृद्धि और वनस्पति पैटर्न में बदलाव ने कुछ पक्षी प्रजातियों को विलुप्त होने के लिए मज़बूर कर दिया है। विशेषज्ञों के अनुसार पृथ्वी की एक चौथाई प्रजातियाँ वर्ष 2050 तक विलुप्त हो सकती हैं। इसके साथ-साथ भविष्य में जलवायु परिवर्तन के परिणामस्वरूप मलेरिया और डेंगू जैसी बीमारियां और अधिक बढ़ेंगी तथा इन्हें नियंत्रित करना बेहद मुश्किल हो जाएगा। सम्भवतः जलवायु परिवर्तन से हमारे पर्यावरण पर बहुत गहरा प्रभाव पड़ रहा है जिससे समस्त प्रकृति संकट की स्थिति में पहुँच गई है यदि वक्त रहते इस पर नियंत्रण न रखा गया तो भविष्य में समस्त मानव जाति का अस्तित्व संकट ग्रस्त हो जाएगा।

समकालीन हिंदी साहित्य में पर्यावरणीय चेतना

सुकन्या जरयाल

हिंदी विभाग (स्नातकोत्तर), के एल बी डी ए वी कन्या महाविद्यालय, पालमपुर, जिला काँगड़ा, हिमाचल प्रदेश (इंडिया)
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सारांश

आज के युग में पर्यावरण इंसान का केंद्र बिंदु बन बैठा है और पर्यावरण को लेकर उठ रहे विभिन्न मुद्दों से मनुष्य भाग नहीं सकता। वर्तमान समय में मानव द्वारा जो पर्यावरण का दोहन किया जा रहा है, उसका सीधा प्रभाव प्रकृति पर पड़ रहा है। जल, वायु, वन , पृथ्वी , आकाश जैसी प्रकृति प्रदत्त चीजों का हमने इतना दुरुपयोग किया है कि आज हम — अत्याधिक बाढ़, बादल फटना, आसमानी बिजली गिरना, भूस्खलन इत्यादि संकटों से घिर गए हैं। सच्चाई और सौंदर्य की सामजस्य पूर्ण प्रतिष्ठा ही साहित्य की सफलता की पराकाष्ठा है ! पर्यावरण सभी जीवों को प्राकृतिक घर का आश्रय प्रदान करता है। हिंदी साहित्य में आदि काल से लेकर आधुनिक काल तक प्रकृति को विशेष स्थान मिला है ! पर्यावरण चेतना की समृद्ध परम्परा हमारे साहित्य में रही है और यह आज भी उतनी ही प्रासंगिक है। प्राचीन काल में मानव पर्यावरण को स्वामी और स्वयं को सेवक मानता था किन्तु कालांतर में मानव की स्वार्थपरकता और महत्वाकांक्षी दृष्टिकोण ने उसकी सोच को परवर्तित कर दिया। आज प्रकृति की भयावह स्थिति किसी कवि की इन पंक्तियों में व्यक्त की जा सकती है :-

"विश्व जन भयभीत, दूषित सृष्टि से
जल, थल, नभ बदरंग मानव वृष्टि से "

आज पर्यावरण के प्रति नागरिक सजगता का अभाव है। प्रकृति से अलग होकर मानव जीवन की परिकल्पना नहीं की जा सकती। समकालीन रचनाकार व कवि हिंदी साहित्य के माध्यम से प्रकृति से तादातम्य स्थापित कर प्राकृतिक विध्वंस को रोकने और प्राकृतिक संसाधनों का सदुपयोग करने की प्रेरणा देते आ रहे हैं। वर्त्तमान आवश्यकताओं को देखते हुए हिंदी साहित्य और पर्यावरण के रिश्ते-नातों को नए संदर्भों में समझने व् अपनाने की आवश्यकता है।

संकेतशब्द: *पर्यावरण, हिंदी साहित्य, चेतना*

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"Earth provides enough to satisfy every man's needs, but not every man's greed."
— Mahatma Gandhi

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