



PRAKRITI SANRAKSHAN

Newsletter

Volume 5, Issue 3, July-September, 2024



ABOUT US

Save the Environment (STE)

SAVE THE ENVIRONMENT (STE) is the organization that aims to spread awareness to the society about environment, health and water. It was founded and registered on 19th November 1990. STE has collaborated with various organizations in the past 33 years such as All India Institute of Hygiene & Public Health, AIIH&PH and India Canada Environment Facility, DRDO, Ministry of Defence, Department of Science and Technology (DST),

Indian Institute of Management (IIM), Ahmedabad to mitigate the effects of arsenic and provide arsenic-free drinking water.

The vision of the society is to protect present and future generations from various Environmental Hazards. The NGO has been actively organizing various interactive sessions such as conferences (National and International), workshops, seminars and awareness programs including poster competitions, quiz competitions, science exhibitions and webinars among the future generations.

HUMBLE APPEAL for CSR FUNDS

To continue your Kind support for clean water supply and sanitation facility project at the STE adopted village Bankanali, Block Puncha, Distt. Purulia

Save The Environment (STE) extends its gratitude and thankfulness for your benevolent support which has made possible the installation of a drinking-cum-wash water unit at the cost of about Rs four and a half lakh (Rs. 4.5 Lakh only) in the first phase of the subject project at STE adopted village Bankanali, Puncha Block, Distt. Purulia, West Bengal. Many households, in dire need of proper water facilities, are somewhat benefitting from the same.



However, a long path remains ahead of us in order to complete the pursuit undertaken. In this endeavour, we plan to provide various water supply units in adjoining areas, rejuvenate and restore the available ponds, create the rain water harvesting systems, reuse of waste water, plantation, Electrification in the village using Solar energy and also to install toilets in the school and other places to be used by people. Looking forward for your kind support to complete the above project.

In this regard, we at STE, earnestly request all the citizens, corporates, life members of STE and patrons to kindly come forward and support for this noble cause. Your generous donation will be a pillar for us and will certainly enable us to bring a smile to several underprivileged persons.

Details of the proposed project are :

ACTIVITIES

- Restoration of ponds
- Installation of Rain Water Harvesting Systems
- Solar Electrification in the Houses and roads
- Distribution of drinking water by pipe line in the village
- Constructions of toilets in school, houses and other public places and plantation etc.

Looking forward to receiving your generous support.

Contact details:

Phone: 9871372350; 9830779260 Email: info@stenvironment.org

Account details for donating funds:

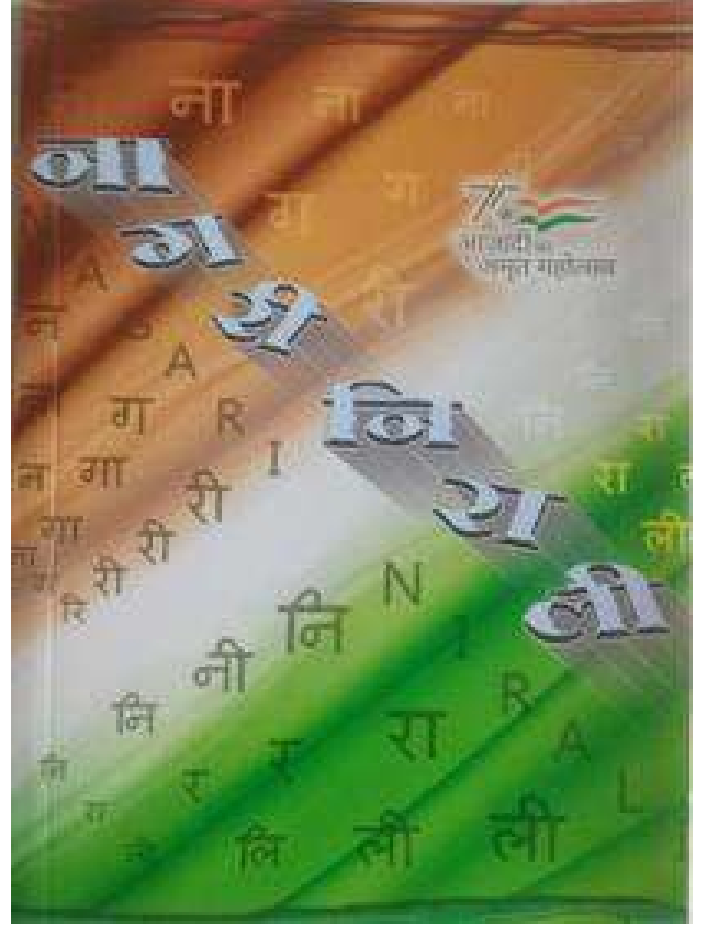
ONLINE PAYMENT:

Name of the Account: **SAVE THE ENVIRONMENT**
 Account Number: **38041963371**
 Bank and Branch: **State Bank of India, Lake Town, Kolkata**
 IFSC Code: **SBIN0001506** OR
 GOOGLE PAY to: **Mrs. Chhanda Basu; Mobile 9830779260**

'पुस्तक— नागरी निराली'

जैसा कि हम सब जानते हैं कि देशभर में आजादी के अमृत महोत्सव को लेकर विभिन्न क्षेत्रों में अनेक कार्य किए गए। इसी से संबंधित एक पुस्तक 'नागरी निराली' जिसका प्रकाशन स्वयं में एक अभिनव प्रयोग था उसे सफलतापूर्वक पाठकों के समक्ष रखने का प्रयास किया गया। जैसा कि इसके संपादकीय में कहा गया है 'नागरी निराली है, नागरी वास्तव में निराली है'। इस पुस्तक में देश के एक प्रतिष्ठित संस्थान से जुड़े हिंदी प्रेमियों की भावनाएं हैं, जिन्हें शब्दों का रूप देकर इस पुस्तक में संकलित किया गया है। इस पुस्तक की सभी कविताएं अपनी शैली और भावनाओं से मन मोह लेती हैं। ये कविताएं सीधे-साधे गद्य की सीमाओं को पार करती हुई, शब्दों, लय और कल्पना को एक साथ बुनकर भावनाओं, अनुभवों और दृष्टिकोण पर एक ताना-बाना बुनती हैं। इस पुस्तक के माध्यम से हिंदी भाषा का प्रचार-प्रसार इसका प्रमुख उद्देश्य है। बहुत सरल, सहज और सुगम भाषा होने के साथ हिंदी विश्व की संभवतः सबसे वैज्ञानिक भाषा है।

हिन्दी मात्र अनुवाद की नहीं बल्कि संवाद की भाषा है। किसी भी भाषा की तरह हिंदी भी मौलिक सोच की भाषा है और इसी मौलिकता का परिचय इस पुस्तक की प्रत्येक कविता में देखा जा सकता है। हिंदी भारत की संविधान सम्मत राजभाषा है। सरिता के सुंदर और मजबूत तटबंधों और उस पर बसे नगरों की भांति ही वर्तमान समाज का दायित्व राजभाषा हिंदी की शब्द सम्पदा और इसके शब्दानुशासन को सुन्दर और मजबूत बनाना है, जिससे यह भारत की सामासिक



संस्कृति के सभी तत्वों की अभिव्यक्ति सहजता और दृढ़ता से कर सके। यह वर्तमान समाज का कर्तव्य और उत्तरदायित्व दोनों है और यही भविष्य का आधार भी बनेगा। हम अपनी भाषा से जितना दूर रहेंगे अपनी धरोहर, अपनी विरासत और अपनी संस्कृति से उतने ही दूर होते जाएंगे। यह समय है हिंदी भाषा को सहज रूप में आत्मसात करने का। इस पुस्तक के माध्यम से हिंदी भाषा के प्रचार-प्रसार से पूरे देश में एकता की भावना और मजबूत होगी ऐसा हमारा विश्वास है।

आशा 'क्षमा'
संपादक 'नागरी निराली'

With every little drop, a day less to live on Earth.

Join the Blue Revolution to stop water pollution.

AGRO-TECHNOLOGY: THE FUTURE OF MODERN SUSTAINABLE AGRICULTURE UNDER THE LOOMING THREATS OF CLIMATE CHANGE

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Agro-technology, or agricultural technology, refers to the application of advanced techniques, tools, and innovations in farming to increase the efficiency, productivity, and sustainability of agricultural practices. It encompasses a wide range of technologies, including machinery, biotechnology, information technology, and data-driven approaches that help farmers optimize their yields, reduce resource usage, and enhance the overall quality of agricultural products.

Key aspects of agro-technology include:

Precision Agriculture: Using GPS, sensors, drones, and satellite imagery to monitor crop conditions, soil health, and weather patterns, allowing farmers to apply water, fertilizers, and pesticides more accurately and efficiently.

Biotechnology: Genetic modification and breeding techniques to produce crops that are more resistant to pests, diseases, droughts, and other environmental stressors.

Smart Farming Equipment: Autonomous tractors, irrigation systems, and harvesting machines that reduce labor and improve productivity.

Data Analytics and AI: Using big data and artificial intelligence to make informed decisions on planting times, crop selection, and market trends.

Vertical and Urban Farming: Growing crops in controlled environments within cities or indoor vertical farms to maximize space, reduce water usage, and grow food year-round.

Importance of Agro-Technology:

Increased Efficiency: By automating and optimizing farming practices, agro-technology helps farmers produce more food with fewer inputs like water, fertilizers, and labor.

Sustainability: Many agro-technologies promote eco-friendly practices by minimizing waste, reducing

greenhouse gas emissions, and conserving natural resources.

Food Security: As the global population grows, agro-technology is crucial for ensuring that food production can keep pace with demand, especially in regions facing challenges like climate change and limited arable land.

Climate Resilience: Advanced techniques help farmers adapt to changing climate conditions, mitigating the impact of droughts, floods, and unpredictable weather.

Economic Benefits: By improving crop yields and reducing costs, agro-technology increases profitability for farmers, leading to stronger agricultural economies.

Agro-technology, food security, and food safety are interlinked areas that are crucial in addressing the challenges posed by climate variability. As climate change continues to affect agricultural production, these fields become essential to ensure a sustainable, safe, and adequate food supply. Here's why each of these aspects is important under climate variables:

1. Agro-technology

Agro-technology refers to the application of modern technology in agriculture to enhance productivity, sustainability, and efficiency. Under climate change, agro-technology plays a critical role in adapting farming systems to new environmental conditions.

Innovation for resilience: Technologies like precision agriculture, drought-resistant seeds, and improved irrigation systems help farmers adapt to erratic rainfall patterns, heatwaves, and other climate-induced stresses.

Sustainable practices: Agro-tech promotes sustainable farming by reducing the use of resources like water and energy, minimizing greenhouse gas emissions, and supporting soil health. For example, technologies like sensor-based irrigation systems optimize water use.





Climate-smart agriculture: By integrating advanced technologies, farmers can adopt climate-smart agriculture practices, such as better forecasting, automated monitoring, and data-driven decisions, to boost yields and reduce the risk of crop failure.

2. Food Security

Food security, defined as having consistent access to sufficient, safe, and nutritious food, is heavily threatened by climate change. Changes in temperature, precipitation patterns, and the frequency of extreme weather events can disrupt agricultural production, leading to food shortages and price spikes.

Adaptation strategies: Agro-technologies provide critical adaptation strategies for maintaining food production despite changing climate conditions. This includes crop diversification, early-warning systems for climate events, and improved supply chains.

Increased productivity: To ensure food security for a growing global population, productivity needs to be maintained or even increased under challenging climate conditions. Agro-tech innovations like vertical farming, genetically modified crops, and mechanization are key to achieving this.

Resilience to disruptions: Climate-induced shocks (e.g., floods, droughts) can destabilize food systems. By incorporating resilient technologies and practices, farmers and food producers can withstand these shocks, ensuring a stable food supply.

3. Food Safety

Climate change also influences food safety by altering the environmental conditions that affect foodborne pathogens, pesticide residues, and other contaminants. It can lead to increased risks of contamination during food production, processing, and distribution.

Impact on pathogens and toxins: Warmer temperatures and humidity favor the growth of harmful pathogens like bacteria and fungi, which can contaminate crops,

livestock, and stored food. Agro-technology can help monitor and mitigate these risks through enhanced detection systems and improved storage technologies.

Chemical safety: The changing climate may increase the use of pesticides, herbicides, and fertilizers, which could lead to higher chemical residues in food. Technologies that enable more precise application of these inputs can reduce contamination risks.

Supply chain traceability: Climate variability can disrupt food supply chains, making it harder to maintain food safety standards. Advanced tracking technologies (e.g., blockchain, RFID) ensure the traceability of food products, reducing the risk of contamination across the supply chain.

Conclusion

Agro-technology is critical for safeguarding food security and safety in the face of climate change. Through innovation, adaptation, and sustainable practices, modern agriculture can mitigate the risks associated with climate variability, ensuring the availability, accessibility, and safety of food for future generations. Agro-technology plays a vital role in modern agriculture by improving productivity, sustainability, and resilience, making it essential for addressing global food security challenges and environmental concerns.



भारतीय परिस्थितियों में शुतुरमुर्ग पालन लाभदायक है

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ग्रेंड सदरन ट्रंक (जीएसटी) सड़क की हलचल अचानक जादू की तरह गायब हो जाती है और हरियाली का अंतहीन विस्तार शुरू हो जाता है। इधर-उधर भागते शुतुरमुर्गों का झुंड आपको दूसरी दुनिया में ले जाता है।

कट्टपक्कम में तमिलनाडु पशु चिकित्सा और पशु विज्ञान विश्वविद्यालय के पशु विज्ञान में स्नातकोत्तर अनुसंधान संस्थान में शुतुरमुर्ग पालन प्रयोग राज्य में एमू पालन की विफलता के कई अनुत्तरित प्रश्नों के स्पष्ट उत्तर प्रदान करता है।

शोध संस्थान के सहायक प्रोफेसर सी. पांडियन, जिन्होंने पक्षी पर अपना डॉक्टरेट थीसिस किया है, ने कहा, "जब शुतुरमुर्ग और एमू की बात आती है, तो आप उन्हें केवल मांस और अंडे के लिए नहीं पाल सकते। उनके पास बाजार की क्षमता है और इन पक्षियों के हर हिस्से को व्यावसायिक मूल्य वर्धित उत्पाद में परिवर्तित किया जा सकता है।"

शोध केंद्र ने 2000 में मलेशिया से 100 दक्षिण अफ्रीकी पक्षियों का आयात किया और उन्होंने खुद को भारतीय परिस्थितियों के अनुकूल बना लिया है। इसमें एक आधुनिक हैचरी है। केंद्र के वैज्ञानिकों ने शुतुरमुर्ग पालन में कई उपलब्धियां हासिल की हैं, जिसमें वीर्य संग्रह और कृत्रिम गर्भाधान शामिल



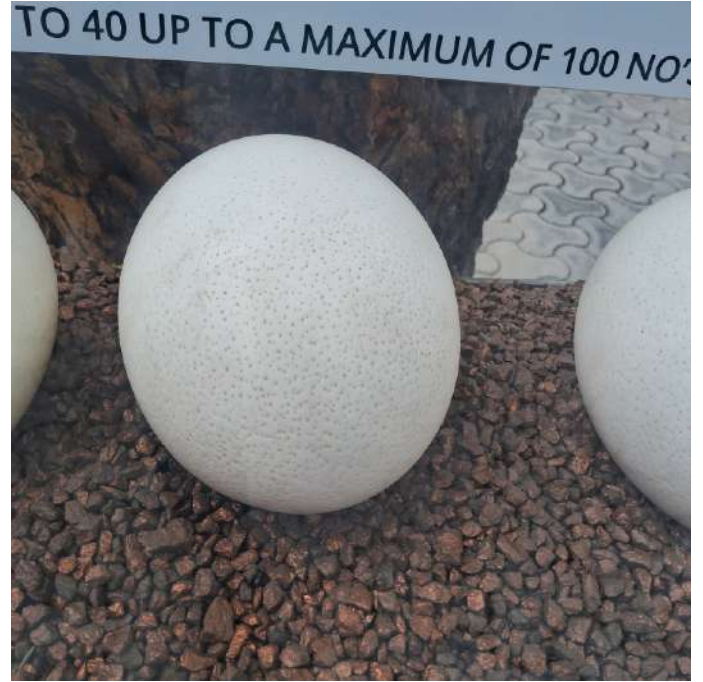
"हम देश भर के चिड़ियाघरों में पक्षियों को बेच रहे हैं। पक्षी उच्च गुणवत्ता वाले चमड़े प्रदान करते हैं। हाल ही में, हमने पक्षी की त्वचा का उपयोग करके चमड़े के सामान का उत्पादन शुरू किया है और प्रसंस्करण केंद्रीय चमड़ा अनुसंधान संस्थान (सीएलआरआई) द्वारा किया जाता है। सिलाई बाहर की जाती है," संस्थान के निदेशक वी. रमेश सरवनकुमार ने कहा।

संस्थान महीने में एक बार एक पक्षी का वध करता है और मांस 200 रुपये प्रति किलोग्राम में बेचा जाता है। यह खाना पकाने के लिए बिना निषेचित अंडे भी बेचता है और एक अंडे की कीमत 150 रुपये है। खाली अंडे के छिलकों का उपयोग सजावट के उद्देश्यों के लिए किया जाता है और पंखों का उपयोग गुड़िया बनाने और कंप्यूटर बाह्य उपकरणों की सफाई के लिए ब्रश बनाने के लिए किया जाता है।

श्री पांडियन ने कहा, "पक्षी की चर्बी से निकाले गए तेल में मौजूद अणुओं में सूजन-रोधी एनाल्जेसिक गुण पाए जाते हैं और इसका उपयोग जोड़ों के दर्द, गठिया और त्वचा विकारों के इलाज के लिए किया जाता है।"

मांस के अलावा, शुतुरमुर्ग उच्च प्रीमियम पंख, तेल और अन्य उप-उत्पादों का उत्पादन करने में सक्षम है। शुतुरमुर्ग की त्वचा को लकजरी चमड़े में परिवर्तित करके विभिन्न प्रकार की वस्तुओं को बनाने के लिए उपयोग किया जाता है। प्रक्षालित रंगे पंखों का उपयोग फैशन के सामान, शो बिजनेस, ब्रश उद्योग और ऑटोमोबाइल सामान के लिए कच्चे माल के रूप में किया जाता है।





तालिका 2 में प्रस्तुत शतुरमुर्ग बनाम गोमांस मवेशियों के तुलनात्मक अर्थशास्त्र से संकेत मिलता है कि निवेश पर उच्च रिटर्न के मामले में शतुरमुर्ग पालन में मवेशी पालन की तुलना में बढ़त है। उच्च रिटर्न के अलावा परिचालन लाभ भी पाए गए हैं:

1. पक्षी को भेड़, बकरी और मवेशियों के साथ चरागाह में पाला जा सकता है।
2. पक्षियों को डुबाने, भिगोने, दूध निकालने और कतरने की आवश्यकता नहीं होती है।
3. पक्षी की अनुकूलन क्षमता वार्षिक और बारहमासी चरागाहों या झाड़ियों पर समान रूप से अधिक है।
4. पक्षी को गर्म और ठंडे तापमान दोनों में पाला जा सकता है।
5. पक्षी ने सिंचित और वर्षा आधारित खेती के वातावरण में उच्च स्थिरता दिखाई है।

6. पक्षी में वस्तुतः कोई अपशिष्ट उत्पाद नहीं होता।
7. फार्म का आकार कोई सीमित कारक नहीं है।
8. उत्पादों के साथ-साथ जोड़ा गया मूल्य खंड बहुत अधिक है।
9. सीमित कारक जिन्हें विवेकपूर्ण तरीके से प्रबंधित किया जा सकता है वे हैं:

फार्मों की स्थापना के लिए उच्च पूंजी निवेश।

1. मांस और उसके उपोत्पादों के लिए बाजार आसानी से सुलभ नहीं हैं।
2. यूरोपीय देशों में पुराने पक्षियों (20 महीने और उससे अधिक) को मारने पर उच्च दंड।
- 3^ण पक्षी एवियन विकारों के लिए संभावित और संवेदनशील हैं, विशेष रूप से न्यूकैसल रोग के लिए।

फोटो: सैकत कुमार बसु



SAVE WATER

SAVE ENVIRONMENT

SAVE LIFE



Report of SHASWAT SHRISTI SANRAKSHAN 23-24 August, 2024

Inaugural session

National conference on **SHASWAT SHRISTI SANRAKSHAN: A pledge for protecting world against natural hazards – Biotechnological approach** commenced with a warm welcome of gathering by **Dr. Kshipra Mishra**, President of Save The Environment (STE) and the Director of ICAR-CAFRI, **Dr. A. Arunachalam**, who highlighted present threats in form of natural hazards to the environment and how scientific collaborative efforts can mitigate the losses followed by the

welcome of chief guest, **Dr. Arvind Kumar Shukla**, the Vice-Chancellor of Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior, the guest of honour **Dr. W. Selvamurthy**, President, ASTIF and **Dr. Madhu Vats**, Chairperson, Sarvhit Kalyan Seva Samiti, Meerut. During the inaugural session, the chief guest appreciated the activities of STE and ICAR-CAFRI, Jhansi and its role in ensuring the sustainability of the environment. The chief guest and other dignitaries released the conference souvenir and CAFRI publications. While releasing the document on the spiritual plantations, the guest of honour appreciated the initiatives of ICAR-CAFRI. The organising secretary of the conference **Dr. R.P. Dwivedi**, Principal Scientist, ICAR-CAFRI, Jhansi formally thanked the dignitaries, and the technical session began subsequently.



Day I Summary and Highlights

There were two technical sessions preceded by a keynote address by the Dr. W. Selvamurthy, President, ASTIF. In the first technical session, three invited talks were delivered, and their detailed outcomes are mentioned, Dr. Vijay Kumar Bharti, a Scientist from DRDO-Defence Institute of High-Altitude Research (DIHAR) delivered the lecture on Addressing High-Altitude North-Western Himalayan Water Quality Challenges: Collaborative Solutions and Future Prospect. He said their study observed the gradual decline of water quality in terms of heavy metals, coliform

bacteria, and physicochemical characteristics. Besides this, they found seasonal variations in different water resources and the interrelationship in the bioavailability of minerals in plants and livestock. He gave emphasis on immediate need for joint and collaborative efforts for high-altitude water research, development of high-altitude based water technology, preventive community, and public health measures, management of the Himalayan water ecosystem, and environmental protection. Among these Himalayan state government departments, water science researchers, engineers, academic and research institutions, NGOs, local

communities, and national and global bodies, which will help in protecting these water resources and improving water quality.



Dr. Dina Nath Pandit delivered the lecture on the Length-Weight Relationship and Condition Factor of a Threatened Climbing Perch (*Anabas testudineus*) from Arrah (Bihar), India during the Non-Breeding Season. He emphasized that fish consumption should not be done during fish's breeding season. He said that the study will be useful in providing pertinent information for understanding fish biology, estimating fish conditions in its environment, and assessing the population dynamic parameters. Dr. Madhu Vats, Chairperson Sarvhit Kalyan Seva Samiti Meerut UP, delivered the lecture on "Eco physiological Impact of SPM on flora and fauna. She said more focus should be given to scientific plantations with good design. She said that their study found that Kaner and Bougainvillea are to prominent species that can be planted near the roadside She also discussed scientific solid waste management strategies.

At the end of the session, the distinguished speakers were facilitated for their excellent presentation followed by the facilitation of the Chairperson, Co-Chairperson, and Session Coordinator. In the second technical sessions 5 oral presentations and 10 poster presentations were delivered.





Day II Summary and Highlights

There were three technical sessions on day two. The first technical session was chaired by Dr. Manish Srivastav, Dean, College of Horticulture & Forestry, RLBCAU, Jhansi and co-chaired by Sh. Suresh Ramanan, S., Scientist, ICAR-CAFRI, Jhansi and coordinator and rapporteur was Mr. Bijoy Chanda, Scientist, ICAR-CAFRI, Jhansi. Two invited talks and four oral presentations were delivered in this session. Dr. S.K. Dwivedi, Scientist G, Director DoP, DRDO delivered the lecture on “General Issues and Water Treatment Gadgets”. He discussed how DRDO works as a research wing. He also discussed about water purification technologies and water testing kit for northeastern India. Prof. Deepa Dwivedi, Professor, Ambedkar University, Lucknow delivered the lecture on “Wetland Horticulture”. She emphasized the benefits of wetlands in agriculture and horticulture. Dr. Ashok Yadav delivered lecture on “Neglected and Underutilized Horticultural Crops of Bundelkhand Region: Status, Importance, Conservation, and their Traditional Knowledge” and discussed about different underutilized fruit crops. Mr. Ankit Verdiya delivered lecture on “Choices of Tree Species for Deregulation: A Case Study”. Dr. Sovan Debnath delivered lecture on “Conservation agroforestry exaggerates the benefits of agroforestry on soil fertility enhancement in Bundelkhand region”. Ms. Akanksha Jain delivered lecture on “Perspective of Jainism on the Socio-Cultural and Environmental Values of Sacred Trees”.



The second technical session was chaired by Dr. Ram Kewal Singh, Dean, College of Agriculture, RLBCAU, Jhansi, co-chaired by Dr. Priyanka Singh, Scientist, ICAR-CAFRI, Jhansi and coordinated by Ms. Syamili M.S., Scientist, ICAR-CAFRI, Jhansi. One invited talk and two oral presentations were delivered in this session. Dr. Sushil Kumar Singh, Solid State Physics Lab, DRDO, Delhi delivered the invited talk on “Technology Innovations behind the Sericulture”. He talked about developing synthetic structure such as self-sustainable zero emission

house inspired from the functional properties of asymmetric structure of silkworm cocoon membrane. Dr. K. Rajarajan, Senior Scientist, ICAR-CAFRI, Jhansi discussed the potential of marker-assisted selection in identifying candidate genes for tree breeding purposes in Agroforestry. Dr. Badre Alam, Principal Scientist, ICAR-CAFRI, Jhansi created awareness about the ecosystem services provided by *Pongamia pinnata* with special mention on the microclimate regulation potential in the rapidly changing climate scenario.



The third technical session was chaired by the Dr. S. K. Dwivedi, Scientist G, Director, Directorate of Personnel, DRDO, New Delhi and co-chaired by the Dr. Venkatesh YN, Scientist, ICAR-CAFRI, Jhansi. Prof. N.P. Melkania delivered an invited talk and provided various recommendations for sustainable environmental action

plan. Total 5 oral presentations were delivered on various topics of plant protection, biodiversity and geospatial approaches. At the end, distinguished speakers, Chairperson, Co-Chairperson, and Session Coordinator were facilitated for the smooth conduct of the technical sessions.



Valedictory Session

The programme was Chaired by Dr. A.K. Singh, Vice Chancellor, RLBCAU, Jhansi who also affirmed the

importance of the conference and took note of the conference proceedings.



Key Recommendations

Based on the deliberations in various sessions of the conference, the following recommendations are drawn as key action points:

Recommendation

- ❖ The Miyawaki plantation should be adopted in the industrial premises to meet carbon neutrality and, choices of the tree species can be made as per the pollution loads of the established industry.
- ❖ Tree-crop interactions depend on many factors such as tree species, age of trees, direction, tree canopy etc. *Melia dubia* is a fast-growing tree species and in the initial years, crops can be successfully grown with melia spaced at 5m*4m spacing.
- ❖ Shade tolerant lines can be developed by exploiting positive and negative regulators of shade avoidance traits of the crops.
- ❖ Equal emphasis to be given on all components of agroforestry such as fruit trees, fodder, livestock in addition to timber trees to harness the full potential of agroforestry
- ❖ To work on the restoration potential of agroforestry and strengthening and streamlining the agroforestry extension framework for more technological and input support to upscale the agroforestry area in the country.

- ❖ There is need for an institutional arrangement for quality management and public private partnership for enabling accelerated quality input and output delivery for enhance the overall tree-based farming in the country.
- ❖ Western Uttar Pradesh suitability for Agro-eco-tourism spot
- ❖ More focus on lakes in cities to create conducive micro hydrological climate to curb the air pollution
- Self-sustainable economic dependency for overall development of the country in waste management and resource utilization

The program ended with formal vote of thanks.

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- ❖ Indian Council of Agricultural Research, New Delhi for the Permission, Technical Guidance and support for holding this National Symposium.
- ❖ Defence Research and Development Organisation for the sponsorship

EMBRACING ZERO WASTE: A SUSTAINABLE LIFESTYLE REVOLUTION

Bindu

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Introduction:

In our modern world, where consumption often seems unchecked and waste piles up relentlessly, the concept of zero waste emerges as a beacon of hope for sustainability. It challenges the status quo of throwaway culture and offers a pathway toward a more mindful and responsible way of living. Zero waste lifestyle practices advocate for minimizing waste generation, reusing materials, recycling diligently, and embracing composting. This essay explores the profound implications of adopting zero waste lifestyle

practices for sustainability, examining its potential to mitigate environmental degradation, conserve resources, and inspire systemic change.

Environmental Impact of Zero Waste:

One of the most immediate and tangible implications of adopting a zero-waste lifestyle is the reduction of environmental impact.

By reducing the amount of waste sent to landfills or incinerators, individuals directly contribute to mitigating pollution and preserving natural ecosystems. Landfills emit greenhouse gases and leach harmful substances into soil and water, while incinerators release pollutants into the air. By diverting waste from these disposal methods, zero waste practitioners help mitigate climate change and protect air and water quality.

Moreover, embracing zero waste practices encourages a shift toward more sustainable consumption patterns. By choosing reusable alternatives over disposable products, individuals reduce the demand for resources and energy-intensive manufacturing processes. This reduction in consumption contributes to the preservation of natural habitats and biodiversity, as well as the conservation of finite resources such as water and minerals.



Resource Conservation and Circular Economy:

At the heart of the zero-waste philosophy lies the principle of resource conservation and the promotion of a circular economy. Instead of following the linear "take-make-dispose" model of production and consumption, zero waste advocates envision a closed-loop system where resources are reused, recycled, or repurposed indefinitely.

Embracing a circular economy not only reduces the extraction of raw materials but also minimizes the generation of waste. Products are designed with durability and recyclability in mind, and materials are recovered and reintegrated into the production process whenever possible. By embracing this approach, zero waste practitioners help conserve natural resources, reduce energy consumption, and minimize environmental degradation associated with resource extraction and waste disposal.

Social Implications and Equity:

The pursuit of zero waste extends beyond environmental considerations to encompass broader social implications and equity concerns. In many communities, waste facilities and landfills are disproportionately located in low-income neighbourhoods and communities of colour,

leading to environmental injustice and health disparities. By reducing waste generation and advocating for more equitable waste management practices, zero waste initiatives can help address these inequities and promote environmental justice.

Moreover, zero waste practices can empower individuals and communities to take control of their environmental impact and reduce their reliance on external systems. By composting organic waste and growing food locally, for example, individuals can increase food security and resilience while reducing their carbon footprint. Additionally, embracing zero waste principles can foster a sense of community and solidarity as individuals come together to share resources, skills, and knowledge.

Cultural Shifts and Behavioural Change:

Embracing a zero-waste lifestyle requires a fundamental

shift in mindset and behaviour. It challenges the prevailing culture of consumerism and disposability and encourages individuals to question their consumption habits and make more conscious choices. By prioritizing quality over quantity and embracing the concept of "enough," zero waste practitioners reject the notion that happiness and fulfilment are derived from material possessions.

Furthermore, zero waste living fosters a deeper connection with the natural world and promotes a sense of stewardship and responsibility for the environment. By composting organic waste and tending to community gardens, individuals can reconnect with the cycles of nature and experience firsthand the interconnectedness of all living things.

Challenges and Opportunities:

While the zero-waste movement offers immense potential for sustainability, it also faces significant challenges and barriers to widespread adoption. Cultural norms, economic constraints, and lack of infrastructure can pose

obstacles to individuals seeking to embrace zero waste practices. Additionally, systemic issues such as overproduction, planned obsolescence, and inadequate waste management systems must be addressed at the policy level to create an enabling environment for zero

waste initiatives.

However, despite these challenges, the zero-waste movement presents numerous opportunities for innovation, collaboration, and systemic change. By harnessing the power of technology, education, and advocacy, zero waste practitioners can drive meaningful progress toward a more sustainable and regenerative future. From community-based initiatives to corporate sustainability efforts, there is a growing recognition of the need to embrace zero waste principles and transition toward a more circular economy.

Conclusion:

In conclusion, adopting zero waste lifestyle practices holds immense potential for promoting sustainability, mitigating environmental degradation, and fostering social equity. By reducing waste generation, conserving resources, and

embracing a circular economy, individuals can make meaningful contributions to building a more resilient and regenerative society. While the transition to a zero-waste lifestyle may require effort and sacrifice, the benefits far outweigh the



challenges. As we confront the pressing environmental challenges of our time, embracing the principles of zero waste offers a pathway toward a more sustainable and harmonious coexistence with the planet.

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

“Environment is no one’s property to destroy; it’s everyone’s responsibility to protect.”
 — Mohith Agadi

“A nation that destroys its soils destroys itself.”
 – Franklin D. Roosevelt

SPARROWS IN PERIL

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Sparrows are small, passerine birds belonging to the family Passeridae. They are known for their small size, typically measuring about 4 to 8 inches (10 to 20 centimeters) in length. Sparrows are characterized by their brownish-gray plumage, conical bills, and a distinctive chirping or twittering song.

These birds are often found in urban, suburban, and rural environments around the world, and they have adapted well to human presence. They feed primarily on seeds and insects, making them common visitors to bird feeders and gardens. Sparrows are social birds and often form flocks, especially during the non-breeding season. Sparrows are an important part of the avian ecosystem and serve as both pollinators and prey for various predators.



Sparrows, once common in many urban and rural areas, have faced population declines in some regions, but it's essential to note that they are not generally considered globally extinct. However, there are localized declines in some places, and several factors contribute to these declines due to habitat loss, loss of foraging, breeding and nesting sites, extensive pollution, Climate Change, indiscriminate application of pesticides, severe competition from other species

Conservation efforts are being made to address these issues and protect sparrow populations. This includes creating bird-friendly habitats, reducing pesticide use, and raising awareness about the importance of preserving native bird species. While sparrows may face challenges in some areas, they are not globally extinct, and concerted efforts can help support their populations.

To help save sparrows from declining populations and potential extinction, several actions can be taken such as establishing Sparrow-Friendly Habitats, Reduce Pesticide Use, Support Conservation Organizations, Community Engagement for appreciating the role played by sparrows in our ecosystem, Proper Urban Planning, Research and Monitoring Sparrow Populations, Restricting Invasive Species, Climate Action, and Personal and Collective Responsibility to protect these birds and their habitats.

From the Editor's Desk

Dear Readers

I welcome you to **Volume 5, Issue 3**, of the **PRAKRITI SANRAKSHAN** quarterly newsletter of STE.

The important days observed from July-September 2024 are also included in this issue.

I express my sincere thanks to all the people who have contributed informative and inspirational articles to make this newsletter successful. I want to express my profound gratitude to the President of STE, Dr. Kshipra Misra, the editorial team, and Mr. Gian Kashyap for designing this issue of **PRAKRITI SANRAKSHAN** and giving it the desired shape.

Dr. Vaishali Mishra

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We are pleased to announce that the DOI prefix for International Journal of Environment and Health Sciences is now available from Crossref, the official Digital Object Identifier (DOI). **The journal is now indexed in International Scientific Indexing (ISI).**

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The cover image contains several scientific diagrams and charts:

- Pesticide Cycle Diagram:** Shows the process from Pesticide Application (Rain, Falling leaves) to Adorbed Soil, Bioavailable, and Plant uptake. It also includes Volatilization, Leaching, and Biodegradation leading to Groundwater.
- Health Risks Associated with Synthetic Pesticides:** Lists various health issues such as Skin, Eye, and Lung Irritation; Hormone Disruption; Brain and Nervous System Toxicity; Cancer; Blood Disorders; Bone Diseases; Birth Defects; and Reproductive Effects.
- Effect of pesticide on Samba Rice:** A chart showing the impact of pesticides on rice yield and quality.
- Health Impacts:** A flowchart showing the relationship between Pesticide Application, Bioavailable, and Plant uptake, leading to various health impacts.
- Maps:** Includes a map of India and a map of the state of Odisha.

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STE Annual Awards 2024

(NOMINATION AND APPLICATIONS ARE INVITED)

LAST DATE 30th September, 2024

Annual Awards of STE are the tangible symbol to signify eminence of contributions made by a person or institution. This boosts the enthusiasm of the contributors who have contributed in different fields of science and social service with their excellence, expertise and approach towards achieving certain goals for the society. Recognition of such extraordinary activities is eventually very important to boost their confidence and to honour them for what they have done for the science and society. STE confers following categories of awards and honours to such eminent personalities.:

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STE Women Excellence Award

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- Silver Medal for Innovative Technology in Anveshan Competition on 29th June, 2003 at IIM, Ahmedabad
- WATI (Women and Technology Innovation) National Award by Bhartiya Stree Shakti for innovative Technology -2004
- DRDO Spin-off Technology Award- 2007
- NRDC, GOI –Social Innovation Award-2012

Our Collaborators

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- ◆ Vidyasagar Park MWA
- ◆ Milan Samity-Hrishikesh Park
- ◆ Swami Rama Himalayan University (SRHU), Dehradun, Uttarakhand

STE is pleased to announce that the STE State chapter of Uttarakhand has been opened and is ready to start activities there. It is requested that those who want to do any programme/ seminar / conference / symposia or any other related activity under the mandate of STE are welcome to come forward and take off for the new journey of STE in the mountains.



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