

Brief Report of Workshop on “Sustainable Solutions For Plant Diversity Conservation: Bridging Policies And Innovations” Jointly Organized By Department Of Agriculture, IIAST, Integral University, Lucknow & CSIR- National Botanical Research Institute, Lucknow Sponsored By Uttar Pradesh State Biodiversity Board, Lucknow on 22 March, 2025

The Department of Agriculture, Integral Institute of Agricultural Science and Technology (IIAST), Integral University, Lucknow, in collaboration with the CSIR-National Botanical Research Institute (NBRI), successfully organized a one-day workshop on “Sustainable Solutions for Plant Diversity Conservation: Bridging Policies and Innovations.” Sponsored by the Uttar Pradesh State Biodiversity Board on 22 March 2025. The workshop served as a platform for policymakers, researchers, academicians and environmental experts to discuss innovative strategies for the conservation of plant biodiversity. The event, held at the Central Auditorium of Integral University, focused on harmonizing policy frameworks, gene editing and metabolite engineering, ecological modeling and community engagement to ensure the long-term preservation of plant diversity.



Inaugural session

The workshop commenced with flower presentation and lamp lighting ceremony, symbolizing knowledge and enlightenment. This was followed by **welcome address by Prof. Mohammad Haris Siddiqui, Director, IIAST and Registrar, Integral University, Lucknow**, who expressed gratitude to all the esteemed speakers and participants for their

presence and contribution to this significant event. He warmly welcomed everyone, emphasizing the importance of collective efforts in addressing plant biodiversity conservation challenges. He highlighted the significance of the workshop in addressing the growing challenges of plant biodiversity conservation. He emphasized that the event serves as a knowledge-sharing platform where academicians, researchers, policymakers, and environmentalists can collaborate to develop innovative solutions. The workshop aims to bridge the gap between conservation strategies and practical implementation. He emphasised that through interdisciplinary discussions, the workshop fosters a collective approach toward achieving global environmental sustainability goals.



Prof. Wahajul Haq, Dean, Research and Development, Integral University, Lucknow, emphasized the pressing need for biodiversity conservation, particularly in a country as ecologically rich as India. With its diverse ecosystems, ranging from the Himalayas to the Western Ghats and the Sundarbans, India harbors an incredible variety of flora and fauna. However, this biodiversity is under severe threat due to climate change, environmental pollution, deforestation, and habitat destruction. He highlighted that a collaborative approach between government agencies, research institutions, and conservation bodies is essential to mitigate these challenges. Strengthening biodiversity conservation through scientific research, policy integration, and community engagement is crucial to maintaining ecological balance and securing a sustainable future.



Shri Prabhakar Bura, IFS (PCCF, Monitoring and Working Plan, Uttar Pradesh State Biodiversity Board), graced the occasion as the esteemed chief guest and provided an insightful overview of the Biodiversity Act and related policies at both national and

international levels. He stressed that India has been proactive in implementing strong legislative frameworks such as the Biological Diversity Act, 2002, which ensures sustainable use and equitable sharing of biological resources. Furthermore, he discussed global biodiversity agreements like the Convention on Biological Diversity (CBD) and India's participation in initiatives such as the Green India Mission and Eco-Sensitive Zones. These policies play a crucial role in safeguarding biodiversity and promoting conservation-driven development. He highlighted the importance of strict policy enforcement, continuous monitoring, and international collaboration to combat the threats to biodiversity.



Prof. Javed Musarrat, Hon'ble Vice Chancellor, Integral University, delivered his address setting the tone for the event. He described the workshop as a collaborative endeavour essential for addressing biodiversity challenges. He elaborated on India's vast ecological wealth and the cultural heritage intertwined with its ecosystems, warning that this rich biodiversity faces an existential crisis due to factors like climate change, coral reef degradation, deforestation, habitat loss, and pollution. India loses approximately 1.5% of its forest cover annually and has already lost 35% of its wetlands due to pesticides and industrial pollution, causing significant habitat damage. He called for immediate action, advocating for biodiversity audits, expanding protected areas, establishing green corridors, urban biodiversity parks and promoting sustainable agricultural practices. He also emphasized the role of technological interventions such as AI-driven analytics, remote sensing, smart nurseries using IoT, and large-scale reforestation initiatives. He stressed the importance of community-led conservation efforts, particularly in agro forestry, seed banking, and incentivizing farmers to cultivate native and medicinal plants, ensuring long-term ecological sustainability.

As a token of appreciation, workshop mementos were presented to all the esteemed speakers for their valuable insights and contributions to biodiversity conservation and in recognition of their support and participation in this significant event..



The Biodiversity Visual Storytelling Contest, a university-level competition organized by the Photography Club of IIAST and supported by the Uttar Pradesh State Biodiversity Board (UPSBB), Lucknow, was conducted as part of the workshop, to promote awareness and creativity in biodiversity conservation. The results of the contest were announced during the event, where Mohd Abuzar Alam and Syed Abdul Ahad emerged as joint winners and were awarded with cash prize of Rs 5000. The runner up were Shivam Singh and Zaid Ansari who were awarded with cash prize of Rs. 2000. The contest served as a platform for students to showcase their visual storytelling skills while emphasizing the importance of biodiversity conservation through photography.

The Vote of Thanks for the Inaugural Session was delivered by **Prof. Saba Siddiqui, Head, Department of Agriculture, IIAST, Integral University, Lucknow**, expressing deep gratitude to all the distinguished speakers, dignitaries, collaborators, and sponsors for their invaluable contributions to the workshop. She acknowledged the efforts of eminent experts who shared their insights on biodiversity conservation, emphasizing the importance of their discussions in shaping sustainable environmental policies. She extended her appreciation to the Uttar Pradesh State Biodiversity Board for sponsoring the event and enabling a platform for knowledge exchange. She also thanked CSIR-National Botanical Research Institute (NBRI) for their collaboration, which played a vital role in enriching the workshop. A special note of appreciation was given to Integral University's leadership for their unwavering support in promoting agricultural and environmental research. She highlighted the efforts of the organizing team in ensuring the seamless execution of the event. Concluding her address, she urged all participants to take forward the key takeaways from the workshop and work collectively toward sustainable biodiversity conservation.

Highlights of Technical Session

Shri B. Prabhakar, IFS, PCCF, Monitoring and Working Plan, Uttar Pradesh & Secretary, Uttar Pradesh State Biodiversity Board, Lucknow- The session on **"Mainstreaming Biodiversity in Sustainable Development Goals (SDGs) - Innovative**

Policy and Collaborative Approaches for Uttar Pradesh" by Shri B. Prabhakar focused on the integration of biodiversity conservation into the broader framework of sustainable development. The discussion highlighted the significance of biodiversity in achieving SDGs, the policy interventions required, and the collaborative efforts needed at various levels for effective implementation. Shri Prabhakar emphasized the role of government, communities, and stakeholders in ensuring that biodiversity conservation aligns with economic and social development goals. Shri B. Prabhakar concluded by highlighting that mainstreaming biodiversity into SDG frameworks requires a multi-pronged approach involving policy innovation, strong governance, technological interventions, and active community participation. He emphasized that Uttar Pradesh, with its rich biodiversity and diverse ecosystems, has a crucial role to play in achieving sustainable development goals. The session provided valuable insights into how a coordinated effort between policymakers, scientists, and local communities can lead to effective biodiversity conservation while promoting sustainable development in the state.



Dr. Ashubodh Kumar Pant (I.F.S.) Conservator of Forests(Retd.) U.P. Forest Department, Lucknow. The session on **Integrating Ecological Modeling and Community Engagement for Effective Biodiversity Conservation** focused on policy frameworks and innovative approaches to biodiversity conservation. Dr. Ashubodh Kumar Pant, a distinguished forestry expert, provided insights into integrating ecological modeling with community participation to enhance conservation efforts. Dr. Pant emphasized the synergy between scientific models and community-driven conservation efforts. He called for integrating technological advancements with local participation to create a holistic approach to biodiversity conservation. The session concluded with discussions on policy

recommendations and action plans for improving biodiversity management at regional and national levels.



Prof. Monowar Alam Khalid, Department of Environmental Science, Integral University, Lucknow- The session on "**Harnessing Policy Frameworks for Biodiversity and Livelihoods**" by Prof. M. A. Khalid provided an in-depth analysis of how policy interventions can effectively balance ecological conservation and socioeconomic well-being. The discussion emphasized the need for integrating biodiversity conservation strategies with sustainable livelihood opportunities, particularly in rural and marginalized communities. Prof. Khalid highlighted the role of regulatory frameworks, international conventions, and national policies in promoting biodiversity while ensuring equitable resource distribution. Prof. Khalid concluded by reiterating the need for a holistic and inclusive approach to biodiversity conservation. He emphasized that policy frameworks should be dynamic, adaptive, and participatory, ensuring that they cater to both environmental sustainability and human livelihoods. Strengthening governance mechanisms, fostering local engagement, and leveraging technological advancements were identified as key steps in achieving these objectives. The session provided valuable insights into bridging the gap between conservation policies and their practical implementation, ultimately fostering a sustainable and resilient future for both biodiversity and livelihoods



Dr. Sudhanshu Sekhar Dash, Additional Director, Botanical Survey of India, Ministry of Environment, Forest and Climate Change, Kolkata The session on "**Taxonomic Perspective and Its Role in Plant Diversity Conservation**" by Dr. Sudhanshu Sekhar Dash provided valuable insights into the significance of taxonomy in preserving plant biodiversity. Dr. Dash emphasized the crucial role of taxonomic studies in identifying, classifying and conserving plant species, particularly in the context of environmental changes and habitat loss. The discussion also covered the contributions of modern taxonomic tools and the integration of traditional and molecular techniques for effective biodiversity conservation. Dr. Dash concluded by stressing that taxonomy serves as the backbone of biodiversity conservation. He advocated for increased research in plant taxonomy, enhanced collaboration between taxonomists and conservationists, and the use of cutting-edge technologies to support conservation initiatives. He emphasized the importance of policy support and public awareness in ensuring the sustainability of plant diversity conservation efforts. The session provided a comprehensive understanding of how taxonomic perspectives play a pivotal role in safeguarding plant biodiversity for future generations.



Prof. H.B.Singh, Chairman, U.P. Environmental Protection Authority, Uttar Pradesh- The Session on “**Role Of Biotechnological Innovations in Biodiversity Conservation and Environmental Sustainability**” emphasized on how modern biotechnological tools, including genetic engineering, bioinformatics, and microbial applications, can help in restoring degraded ecosystems, conserving endangered plant species, and enhancing agricultural sustainability. Prof. Singh discussed the significance of bio-remediation techniques for mitigating environmental pollution and the use of eco-friendly biotechnologies such as biofertilizers and biopesticides to reduce dependency on harmful chemicals. He stressed that integrating biotechnology with traditional conservation practices can create a synergistic approach to preserving plant diversity. Highlighting the need for strong policy frameworks and interdisciplinary collaboration, he urged researchers, policymakers, and communities to adopt innovative biotechnological solutions for long-term environmental sustainability and biodiversity protection.



The **Concluding Remark** was given by **Prof. Saba Siddiqui, Head, Department of Agriculture, IAST, Integral University, Lucknow**. She emphasized that the technical sessions provided deep insights into biodiversity conservation, integrating policy frameworks, ecological modeling, community engagement, and scientific innovations to address the challenges of plant diversity preservation. She highlighted the importance of mainstreaming biodiversity into sustainable development goals (SDGs), fostering policy innovation, and leveraging technological advancements to ensure effective conservation. Prof. Siddiqui reiterated that collaborative efforts among policymakers, researchers, and local communities are essential to bridge the gap between conservation strategies and practical implementation. She stressed the urgent need for biodiversity audits, habitat restoration, and sustainable agricultural practices, urging participants to actively contribute towards a greener and more resilient future. Concluding the workshop, she called for continued research, policy support, and collective action to protect and sustain plant biodiversity for future generations.



The workshop was orchestrated with great success, bearing testament to the exemplary guidance provided by our esteemed leader and Chief Patrons of the event Prof. Syed Waseem Akhtar, Hon'ble Chancellor of Integral University. The initiative benefited from the guidance and leadership of Dr. Syed Nadeem Akhtar (Hon'ble Pro-Chancellor, Integral University), Dr. Ajit Kumar Shasany (Director, CSIR-NBRI), Prof. Javed Mussarat (Hon'ble Vice-Chancellor, Integral University) and Shri Prabhakar Bura, IFS, PCCF, Monitoring and Working Plan, Uttar Pradesh State Biodiversity Board who served as Patrons. The event was further strengthened by the contributions of the Co-Patrons Mr. Syed Fauzan Akhtar (Executive Director, IIMSR), Mr. Syed Adnan Akhtar (Executive Director, Integral Business School), Dr. Nida Fatima (Executive Director, Integral Startup Foundations), Prof. Mohammed Haris Siddiqui (Registrar & Dean, Faculty of Agricultural Science & Technology, Integral University), Prof. Furqan Qamar Chief Advisor To Hon'ble Chancellor Integral University, Mr. Ahmad Raza Treasurer Integral University, Prof. Abdul Rahman Khan Controller Of Examination & Dean, Faculty Of Science Integral University And Prof. Syed Aqeel Ahmad Director (HRDC) Integral University. The Organizing Committee, comprising Dr. Malik Mobeen Ahmad, Dr. Deepti Srivastava, Dr. Usman Sayeed, Dr. Khalid Habib, Dr. Mustfa Hussain, Dr. P. Smriti Rao, Dr. Ambreesh Singh Yadav, Dr. Suhail Ahmad Khan played a crucial role in ensuring the success of the event. The workshop was meticulously coordinated by Convenors Prof. Saba Siddiqui (Integral University), Dr. Soumit K. Behera (CSIR-NBRI) and Dr. Somesh Gupta (UPSBB), with the support of Co-Convenors Dr. Salman Ahmad, Dr. Faria Fatima and Dr. Dibyendu Adhikari. The workshop was attended by 522 participants including scientists, academicians, Research scholars and

students. This workshop was successfully hosted by Dr P.Smriti Rao, Dr Srishti Thakur and Dr. Pallavi Srivastava and report compilation was done by P.Smriti Rao and Dr Akanksha Singh.

