



Biodiversity Matters Newsletter

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National Meet of State Biodiversity Boards
Union Territory Biodiversity Council



Milestone

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Photo by Vivek Sarkar

Message from the **Chairperson's Desk**



It gives me great satisfaction to present this issue of the NBA Newsletter, which chronicles a period of sustained progress in India's biodiversity governance and in the National Biodiversity Authority's own institutional journey. The past few months have been especially productive for the Authority, both in terms of the milestones we have achieved and the engagements that have allowed us to represent India's biodiversity priorities on national and international platforms.

Foremost among our achievements has been the continued strengthening of the Access and Benefit Sharing mechanism, which now stands at a cumulative disbursement exceeding 200 crore, with nearly ₹39.4 crore released in the months of July and August alone. This is not merely a financial milestone; it represents thousands of Biodiversity Management Committees, State Biodiversity Boards, Union Territory Biodiversity Councils, research institutions and individual conservers receiving fair recognition for their stewardship of India's biological wealth. The rising number of Form-8 applications for Intellectual Property Rights based on our biological resources is equally heartening, as it demonstrates growing confidence among researchers and industry in the compliance framework we have built.

On the international stage, I had the privilege of participating in the Workshop on the Convention on Biological Diversity for Negotiators at ICIMOD, Nepal, where we deliberated on strengthening the technical capacity of Hindu Kush Himalaya region negotiators ahead of COP17. This followed closely on the National Workshop on Digital Sequence Information and Synthetic Biology in Hyderabad, where we worked towards firming up India's negotiating position on some of the most consequential agenda items before the Convention. I also had the honour of participating in the pre-COP31 Science-Policy Dialogue at IISc, Bengaluru, and in commemorative occasions such as the Dr M. S. Swaminathan Award Ceremony and the Convocation of State Forest Service Officers at Dehradun, each of which reaffirmed the vital linkages between science, governance and biodiversity conservation.

A particular highlight of this quarter was the 16th National Meet of State Biodiversity Boards and Union Territory Biodiversity Councils, held at Chandigarh, which brought together Chairpersons and Member Secretaries from across the country under the guidance of the Hon'ble Governor of Punjab and the Hon'ble Union Minister for Environment, Forest and Climate Change. The deliberations there, together with the 79th Authority Meeting held at our Chennai headquarters, have set a clear agenda for strengthening Biodiversity Management Committees, updating People's Biodiversity Registers and preparing India's positions ahead of COP17.

I take this opportunity to thank the Ministry of Environment, Forest and Climate Change, our State and Union Territory partners, the Expert Committees, and every member of the NBA family whose dedication continues to advance the cause of biodiversity conservation, sustainable use and equitable benefit sharing in our country. As we look ahead to COP17 and the continued implementation of the Kunming-Montreal Global Biodiversity Framework, I am confident that this collective effort will carry India's biodiversity mission forward with renewed vigour.

Shri Virendra R. Tiwari, IFS (Retd.)
Chairman, National Biodiversity Authority



Photo by Vivek Sarkar

Message from
Member Secretary's Desk



It is my pleasure to bring to you this edition of the NBA Newsletter, which reflects both our institutional achievements and the wider biodiversity concerns that continue to shape our work at the National Biodiversity Authority. As Member Secretary, I am particularly encouraged by the depth of scientific and policy engagement captured in the pages that follow, ranging from Access and Benefit Sharing outcomes to grassroots biodiversity governance.

This quarter's Articles section brings together some of the most pressing biodiversity issues facing the country today. The piece on the Sacred Groves of Tamil Nadu is a timely reminder that biodiversity conservation in India is deeply intertwined with cultural heritage; the GPS-based mapping of over 1,274 sacred groves across the State demonstrates how traditional community-led conservation continues to safeguard rare and endemic species even as modernisation advances. Equally important is the study on microplastics in Coimbatore's lakes, which flags an emerging and often invisible threat to our freshwater ecosystems, underscoring the need for continued monitoring and responsible waste management at the community level.

The article on the invasive Giant African Snail in Eastern Uttar Pradesh is a stark illustration of how invasive alien species can silently undermine agro-horticultural livelihoods and native biodiversity alike, and it calls for coordinated action among agriculture, horticulture and forestry departments. I would also draw your attention to the article on Biodiversity Compliance, which makes an important case for viewing regulatory compliance under the Biological Diversity Act not as a hurdle but as a catalyst for responsible innovation, linking India's scientific and entrepreneurial ambitions with our obligations under the Convention on Biological Diversity and the Nagoya Protocol.

On the institutional front, this quarter saw the reconstitution and continued work of several Expert Committees, including those on Biodiversity Heritage Sites, on biological resources Normally Traded as Commodities, and on Agrobiodiversity, each of which is helping to refine the regulatory and scientific frameworks that underpin our mandate. The updating of People's Biodiversity Registers, the strengthening of Biodiversity Management Committees, and the progress made at the 16th National Meet of State Biodiversity Boards and Union Territory Biodiversity Councils at Chandigarh all point to the steady deepening of biodiversity governance at the grassroots.

I would also like to place on record our appreciation for the Supreme Court's landmark verdict in the Vanashakti case, which has significant implications for how environmental clearances intersect with biodiversity protection going forward, as explained in this issue.

I extend my sincere thanks to all our contributors, State Biodiversity Boards, Union Territory Biodiversity Councils, researchers and partner institutions for their continued collaboration. As India prepares for COP17 and the ongoing implementation of the Kunming-Montreal Global Biodiversity Framework, I look forward to our shared efforts translating into tangible outcomes for biodiversity conservation, sustainable use and equitable benefit sharing.

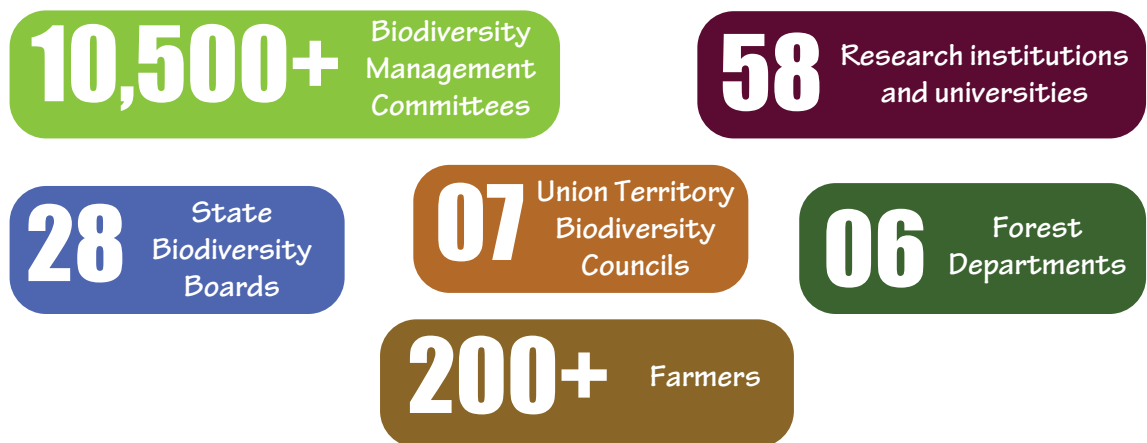
Dr. B. Balaji, IFS
Member Secretary, National Biodiversity Authority

NBA's Milestone: ₹200 Crore Disbursed Under ABS Framework

The National Biodiversity Authority (NBA) has crossed a significant milestone in implementing India's Access and Benefit-Sharing (ABS) framework under the Biological Diversity Act, 2002, with cumulative ABS disbursements to beneficiaries now exceeding ₹200 crore.

This achievement reflects the sustained operationalisation of India's benefit-sharing mechanism, ensuring that monetary benefits arising from the commercial use of biological resources and associated traditional knowledge reach the communities and institutions that conserve and steward them.

The disbursements have been channelled to a wide and diverse base of beneficiaries, including:



This wide-ranging disbursement underscores the reach of India's ABS mechanism across grassroots conservation bodies, sub-national governance institutions, the scientific community, and local livelihoods marking a key step forward in translating biodiversity conservation into tangible, fair, and equitable benefit-sharing outcomes.

NBA's Access and Benefit Sharing Releases Cross ₹39 Crore in Two Months

Between July and August 2026, the National Biodiversity Authority (NBA) disbursed nearly ₹39.4 crore under Access and Benefit Sharing (ABS), reaching State Biodiversity Boards and Union Territory Biodiversity Councils across the country, as well as Indian Council of Agricultural Research (ICAR) research institutes, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and individual conservers. The releases covered a wide range of India's agrobiodiversity, including rice (₹9.41 crore), cotton (₹7.62 crore), mustard (₹15.52 crore), a mixed basket of tomato, chilli, brinjal, cauliflower, watermelon and gourd varieties along with cattle semen (₹3.78 crore), vegetable seeds and microbial strains (₹2.82 crore), and a further release covering buffalo germplasm, pearl millet, maize

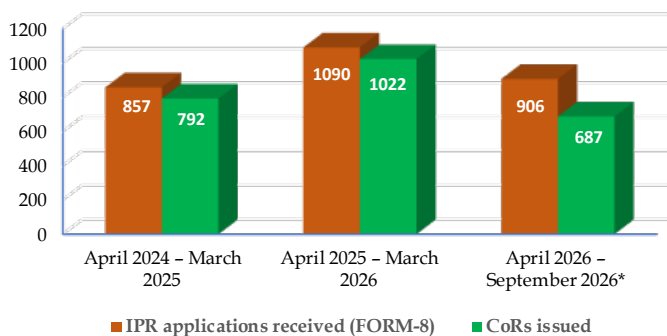
and fish genetic resources (₹25.12 lakh). The funds were realised from companies including Pioneer Overseas Corporation, Bayer Science and Innovation, HM Clause India, Advanta Enterprises and Sumitomo Chemical India, as well as from an international application by the Department of Animal Production & Health, Sri Lanka, for access to Sahiwal cattle germplasm.

Where the original conservers, benefit claimers or the community or geographic source could be identified, benefits were directed to the concerned source. Examples include the Khasa Murrah Buffalo Farm in Hisar, Haryana, and ICAR institutes such as the Indian Institute of Rice Research, Indian Institute of Horticultural Research (IIHR), National Bureau of Plant Genetic Resources (NBPGR) and National Bureau of Fish Genetic Resources (NBFGR) that supplied the germplasm to industries. Where biological resources had passed through traders, markets or corporate acquisitions and no single source could be traced, NBA-constituted Expert Committees developed modalities for allocating benefits proportionately among States and Union Territories, using cultivation-area statistics from ICAR and the Ministry of Agriculture and Farmers Welfare's Unified Portal for Agricultural Statistics. This approach enabled States such as Rajasthan, Uttar Pradesh, Maharashtra, Gujarat and West Bengal to receive shares based on their contribution to the cultivation of the concerned crops. The recipients are required to utilise the funds for conservation-linked activities, including updating People's Biodiversity Registers, *in-situ* and *ex-situ* conservation, restoration of degraded ecosystems, strengthening Biodiversity Heritage Sites and supporting community livelihoods.

Form-8 Application: Facilitating IPR Applications under the Biodiversity Framework

The National Biodiversity Authority (NBA) has witnessed a significant increase in Intellectual Property Rights (IPR) applications involving India's biological resources, reflecting the growing interface between biodiversity, research and innovation. Under the Biological Diversity (Amendment) Act, 2023, entities covered under Section 7 are required to obtain a Certificate of Registration (CoR) from the NBA before seeking any IPR, including patents, that is based on Indian biological resources. The Form-8 application facilitates this registration process, strengthening compliance, transparency and accountability while supporting fair and equitable benefit sharing. The streamlined framework has enabled the timely processing of IPR applications across diverse sectors, including biotechnology, pharmaceuticals, agriculture, food, chemicals, textiles and traditional knowledge-based innovations, while contributing to the conservation and sustainable use of India's biological resources.

CERTIFICATE OF REGISTRATION ISSUED TO OBTAIN IPR



* - Up to 15th September, 2026

India at SBSTTA-28 and SBI-7: Shaping the Path to COP-17

The 28th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-28) and the 7th meeting of the Subsidiary Body on Implementation (SBI-7) was held in Nairobi, Kenya, during July–August 2026. Together, the meetings provided important scientific, technical and implementation-oriented input for the 17th meeting of the Conference of the Parties (COP-17) to the Convention on Biological Diversity, and for advancing implementation of the Kunming–Montreal Global Biodiversity Framework (KMGBF) towards 2030.

SBSTTA-28 strengthened the scientific and technical basis for implementation, addressing biodiversity monitoring, marine and coastal biodiversity, sustainable wildlife management, protected areas, synthetic biology, and other emerging issues.

SBI-7 focused on the practical aspects of implementation, including national planning, monitoring and reporting, resource mobilisation, capacity-building, Digital Sequence Information (DSI), the Cali Fund, and the Cartagena and Nagoya Protocols.

India took an active part in both meetings, consistently advocating a science-based, nationally driven and non-prescriptive approach that respects national circumstances, sovereignty and legislation. India highlighted its progress in implementing KMGBF targets and showcased Biodiversity Management Committees and Panchayati Raj Institutions as models of community-based, decentralised biodiversity governance.

India also emphasised the importance of adequate finance, capacity-building, technology transfer and scientific cooperation, particularly for developing and megadiverse countries. In discussions on monitoring and reporting, India stressed that gaps in data or reporting should not automatically be treated as implementation failures, and cautioned against placing additional reporting burdens on developing countries.

Together, the outcomes of SBSTTA-28 and SBI-7 strengthened the link between scientific knowledge, national implementation and global decision-making setting the stage for COP-17 and further action towards the 2030 biodiversity goals.

NBA Organises Mass Singing of “Vande Mataram” to Mark Independence Day 2026

As part of the Har Ghar Tiranga campaign and the Independence Day 2026 celebrations, the National Biodiversity Authority (NBA) organised a mass singing of “Vande Mataram” on 11 August 2026 at its premises. The programme brought together NBA officials and staff in a collective expression of patriotism and national pride, reaffirming the spirit of unity and shared responsibility towards the nation. The event also reflected the broader spirit of the Independence Day celebrations, honouring India’s heritage and strengthening collective participation among the NBA family.



NBA Celebrates India’s 80th Independence Day with Patriotic Spirit

On the occasion of India’s 80th Independence Day on 15 August 2026, the National Biodiversity Authority joined the nation in celebrating the spirit of freedom, unity and patriotism. Shri Virendra R. Tiwari, IFS (Retd.), Chairman, NBA, hoisted the National Flag and delivered the Chief Guest address at TICEL Bio Park, Chennai. Dr. B. Balaji, IFS, Member Secretary, NBA, also graced the occasion. The celebrations reflected





the spirit of Har Ghar Tiranga, with enthusiastic participation in various competitions organised to mark the occasion. Prizes were presented to the winners in recognition of their participation and creativity, adding to the festive spirit of the Independence Day celebrations. The programme provided an opportunity for the NBA fraternity to reaffirm its commitment to the nation and to the values of unity, responsibility and collective service.

16th National Meet of SBBs and UTBCs Strengthens Biodiversity Governance

The National Biodiversity Authority (NBA) organised the 16th National Meet of State Biodiversity Boards (SBBs) and Union Territory Biodiversity Councils (UTBCs) on 6-7 September 2026 at Chandigarh. The two-day National Meet brought together Chairpersons and Member Secretaries of SBBs and UTBCs from across the country, along with senior officials, experts and scientists, to deliberate on strengthening biodiversity conservation and governance at the State, and Union Territory levels.

The meeting was inaugurated by Shri Gulab Chand Kataria, Hon'ble Governor of Punjab and Administrator, UT Chandigarh. The programme was presided over by Shri Bhupender Yadav, Hon'ble Union Minister for Environment, Forest and Climate Change, with Shri Rao Narbir Singh, Hon'ble Minister for Environment, Forest and Wildlife, Government of Haryana, as Guest of Honour. Other dignitaries present included Shri Tanmay Kumar, Secretary, MoEFCC; Shri Sushil Kumar Awasthi, Director General of Forests and Special Secretary, MoEFCC; Shri Ashutosh Agnihotri, Additional Secretary, MoEFCC; Shri Virendra R Tiwari, Chairperson, NBA. Further, Dr. B. Balaji, Member Secretary, NBA; and senior officials of MoEFCC, State Governments of Punjab,



Haryana and Chandigarh Union Territories, Former chairpersons and member secretaries of NBA, Chairpersons and member Secretaries of Various States/UTs, scientists, subject experts participated in the meeting.

Addressing the gathering, Shri Gulab Chand Kataria, Hon'ble Governor of Punjab and Chandigarh UT Administration, highlighted India's rich biological heritage and traditional environmental ethos.

He emphasised that ecological security is closely linked with food and water security, livelihoods and sustainable development, and underlined the importance of integrating traditional knowledge and community participation with contemporary approaches. He also drew attention to the ecological significance of wetlands, riverine ecosystems highlighted the ecological significance of wetlands, riverine ecosystems, and agricultural biodiversity, and stressed the need



to strengthen Biodiversity Management Committees (BMCs) and People's Biodiversity Registers (PBRs), along with greater coordination among biodiversity institutions and local communities.

In his address, Shri Bhupender Yadav, highlighted India's long-standing environmental ethos and referred to initiatives under the vision of Prime Minister Shri Narendra Modi, including Mission LiFE (Life Style for Environment), Ek Ped Maa Ke Naam, Amrit Sarovar and the Green Credit Programme. He emphasised that India's biodiversity conservation efforts draw strength from both scientific advancement and traditional community wisdom. Referring to the Biological Diversity Act, 2002, he noted that the Biological Diversity (Amendment) Act, 2023 and the Biological Diversity

Rules, 2024 have further strengthened and streamlined the biodiversity governance framework, and urged States and Union Territories to align their rules, institutional mechanisms and implementation processes with the amended framework.

The Minister appreciated India's progress in fulfilling its international biodiversity commitments, including the submission of the Seventh National Report to the Convention on Biological Diversity and the First National Report on the implementation of the Nagoya Protocol on Access and Benefit Sharing. Emphasising effective implementation at the grassroots level, he called for making the more than 2.76 lakh BMCs functional and effective. He also emphasised that PBRs should evolve as dynamic planning instruments for local bodies, enabling information on local biodiversity and associated traditional knowledge to contribute to local planning, conservation and sustainable development.

On Access and Benefit Sharing (ABS), the Minister noted that the NBA has shared over ₹200 crore of ABS funds with farmers, local communities, BMCs, SBBs, UTBCs and research institutions. He emphasised that ABS should translate into tangible benefits for local communities while contributing to biodiversity conservation and sustainable livelihoods.

Speaking on the occasion, Shri Rao Narbir Singh, highlighted Haryana's efforts towards biodiversity conservation and restoration and emphasised the importance of strengthening biodiversity governance at the State and local levels. He highlighted the role of BMCs in conserving local biodiversity and called for enhanced training and capacity building of BMCs and

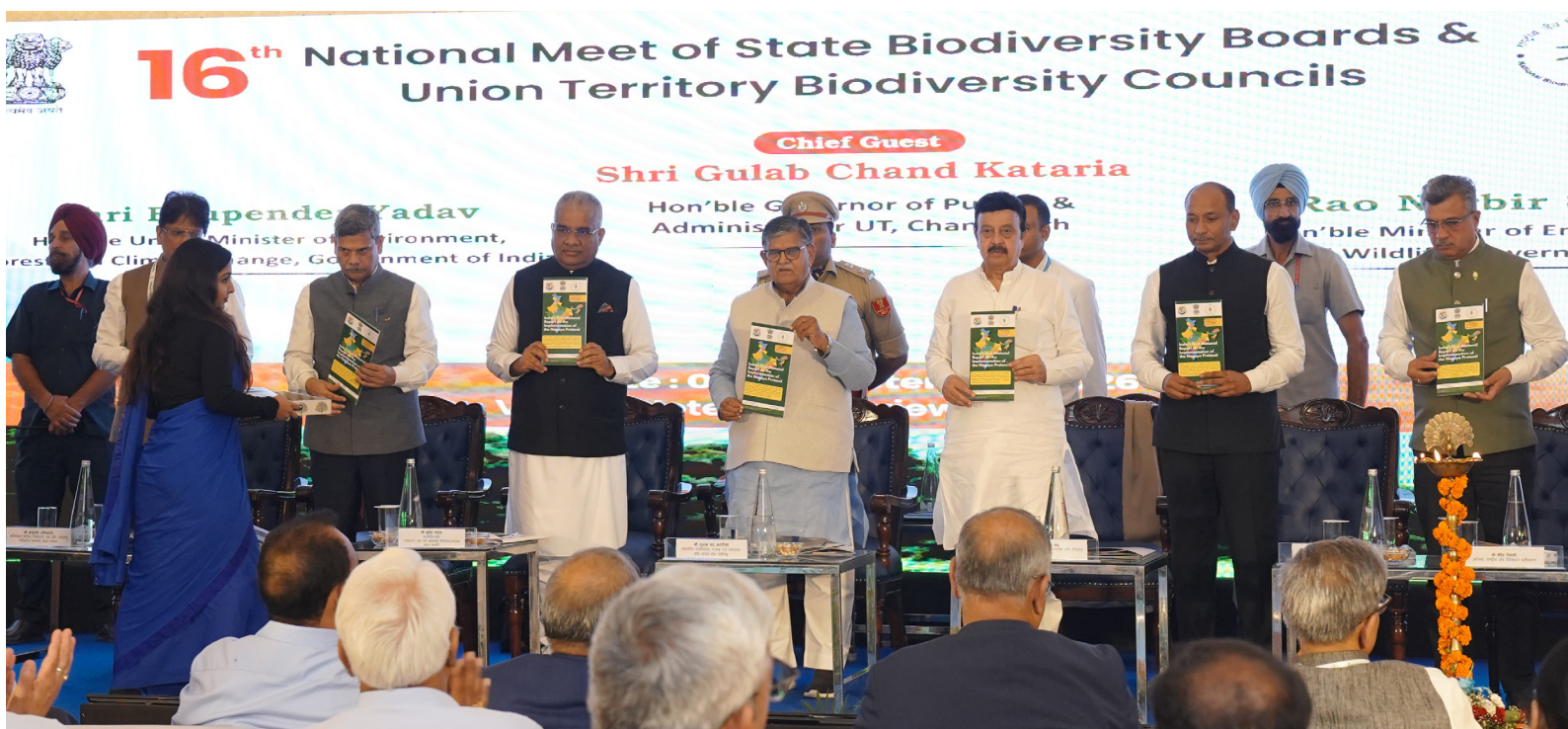
local communities.

The National Meet also witnessed the release of three important publications by the NBA: One-Year Achievements of the National Biodiversity Authority; India's Seventh National Report on Biodiversity – 2026: At a Glance; and India's First National Report on the Implementation of the



Nagoya Protocol. The publications provide insights into India's progress in biodiversity conservation, implementation of the biodiversity governance framework and Access and Benefit Sharing.

The two-day National Meet provided an important platform for States and Union Territories to exchange experiences and identify practical approaches to implementation challenges. The deliberations reaffirmed the importance of stronger institutions, empowered local communities, science-based decision-making and effective implementation of biodiversity conservation measures at the grassroots level.





Authority and Expert Committee Meetings, Workshops, Policy Dialogues, Court Orders and Other Official Engagements



79th Authority Meeting

The 79th Authority Meeting of the National Biodiversity Authority (NBA) was held on 1st September 2026 at NBA, Chennai, to deliberate on key matters relating to biodiversity governance and implementation of the Biological Diversity Act, 2002. The meeting reviewed important initiatives on Access and Benefit Sharing (ABS), strengthening Biodiversity Management Committees (BMCs) and State Biodiversity Boards/UT Biodiversity Councils, updating People's Biodiversity Registers (PBRs), e-PBR digitisation, biodiversity credits, capacity building and outreach activities. The Authority also acknowledged the completion of the tenure of Dr. Joykumar Laishram and Dr. Alka Rao, Members, NBA, on 5th September 2026, and placed on record its appreciation for their valuable contributions to the work of the Authority and to biodiversity governance in the country.



Expert Committee on Biodiversity Heritage Sites

The Expert Committee (EC) constituted to develop model guidelines for the conservation and management of Biodiversity Heritage Sites (BHS) has made significant progress since its reconstitution earlier this year. In the course of five meetings held between May and July 2026, the Committee reviewed the existing legal framework governing BHS and examined key elements of the proposed guidelines, including eligibility criteria, governance structures, ownership, funding, monitoring, and the rights of local communities. Inputs were also received from State Biodiversity Boards (SBBs) and Union Territory Biodiversity Councils (UTBCs), covering existing notified BHS, their legal status, and management practices. Based on these deliberations, a draft framework was prepared and taken up for wider consultation. On 27th July 2026, the NBA convened a dedicated consultation with SBBs and UTBCs to discuss the draft guidelines, following which States and UTs were invited to submit their comments and suggestions in writing. The responses received were compiled by the Secretariat, and the guidelines are now at the finalisation stage.



Expert Committee on Normally Traded as Commodities

The Ministry of Environment, Forest and Climate Change, through notifications dated 07.11.2014 and 07.04.2016 issued under Section 40 of the Biological Diversity Act, 2002, notified the list of biological resources and items treated as Normally Traded as Commodities. Following the enactment of the Biological Diversity (Amendment) Act, 2023, significant changes were introduced to Section 40 of the Act, necessitating a revision of the notification to reflect the amended provisions. To take this forward, the NBA reconstituted an Expert Committee on Normally Traded as Commodities under the Chairmanship of Shri A.K. Goyal, IFS (Retd.), with Dr. R.S.C. Jayaraj, IFS (Retd.), as Co-Chair, to review the existing notification in light of the amended Section 40. The Committee held its 6th meeting on 23 July 2026 through video conference, during which members agreed to seek detailed data on medicinal plants, including their areas of occurrence and yield, from the National Medicinal Plants Board (NMPB), to inform the Committee's continuing deliberations on the classification of commodities.



Expert Committee on Agrobiodiversity

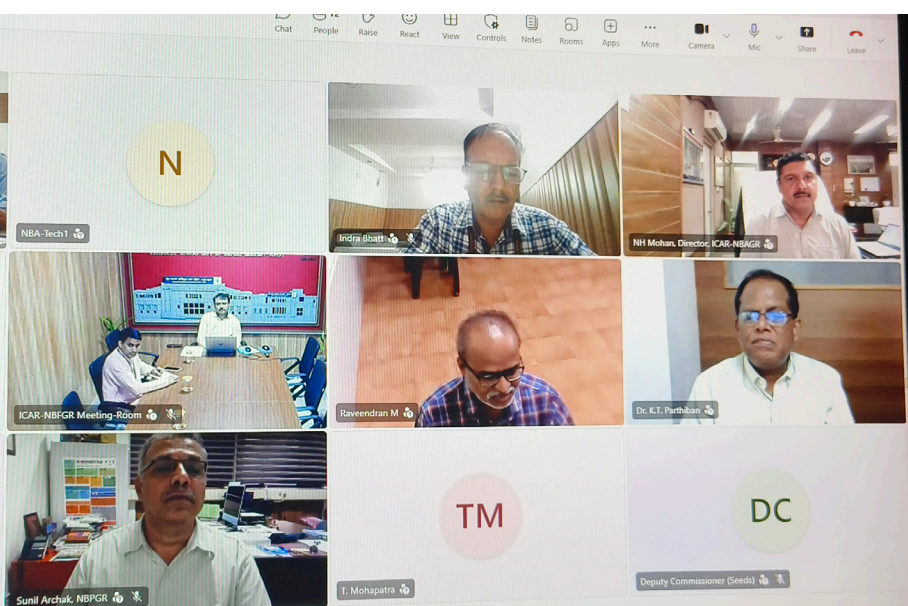
The National Biodiversity Authority has reconstituted its Expert Committee on Agrobiodiversity under Section 13(1) of the Biological Diversity Act, 2002, for a period of one year. The Committee advises the Authority on matters relating to the conservation, sustainable use, and access and benefit-sharing (ABS) of agricultural biodiversity, among other related issues. The Committee has served as one of the NBA's key advisory bodies since 2005 and has been periodically reconstituted to address



emerging concerns relating to agricultural genetic resources. Its work has drawn on the expertise of eminent scientists and institutional experts from across the country.

The reconstituted Committee is chaired by Dr. P.L. Gautam, a distinguished agri-

cultural scientist and former Chairperson of both the NBA and the Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA), who was recently conferred the Padma Shri in recognition of his contributions to agricultural science. Dr. T. Mohapatra, Chairman of PPV&FRA, serves as Co-Chair. The Committee includes senior representatives from the Ministry of Agriculture and Farmers Welfare, the Indian Council of Agricultural Research, the National Bureaus of Plant, Animal and Fish Genetic Resources, Tamil Nadu Agricultural University, the National Innovation Foundation, NALSAR University of Law, and other leading research and academic institutions.



At its 14th meeting, held on 6 August 2026, the Committee was briefed on the status of its earlier recommendations and the action taken by the NBA. Looking ahead, the Committee resolved to consolidate its earlier work, including the proposed joint NBA-PPV&FRA publication on agrobiodiversity hotspots, and to explore the use of plant breeding registration data to support the updating of People's Biodiversity Registers (PBRs).

e-PBR Orientation Workshop strengthens the pathway for digitizing biological resources and traditional knowledge

The Ministry of Environment, Forest and Climate Change (MoEFCC) and the National Biodiversity Authority (NBA), in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the National Informatics Centre (NIC), Tamil Nadu, with support from the International Climate Initiative (IKI), convened a one-day orientation workshop on electronic People's Biodiversity Registers (e-PBRs) for the 14 project States on 27 August 2026 in Chennai.

The workshop brought together representatives from State Biodiversity Boards (SBBs), Technical Support Groups and other stakeholders engaged in the digitisation of People's Biodiversity Registers



(PBRs). It provided a platform to strengthen participants' understanding of the digital workflow for transitioning from physical PBR records to structured digital information.

The workshop included hands-on training on the use of different modules of the Biodiversity Information Management System (BIOMIS) 2.0 Portal. Participants also brought hard copies of PBRs from their respective States for reference during the training sessions, facilitating knowledge exchange and sharing of best practices. The interactive sessions enabled stakeholders to identify operational challenges and provide feedback on portal functionality and field-level requirements, which would support further refinement and development of the digital platform.

National Workshop on Digital Sequence Information and Synthetic Biology: India's Priorities and Preparations for COP17

The National Workshop on “Digital Sequence Information and Synthetic Biology: India's Priorities and Preparations for COP17”, organised by the National Biodiversity Authority (NBA) under the guidance of the Ministry of Environment, Forest and Climate Change, Government of India, commenced on 10 September 2026 at Hyderabad. The workshop brings together senior officials, experts, scientists, researchers and stakeholders to deliberate on emerging issues relating to DSI and Synthetic Biology under the Convention on Biological Diversity (CBD).



The Chief Guest Shri Ashutosh Agnihotri, Additional Secretary, MoEFCC, in his remarks emphasised the need to firm up India's position on critical COP17 agenda items, with clear negotiating priorities based on national legislation, policies, scientific evidence, developmental priorities and international commitments. Smt. Uma Devi, Former Additional Secretary, MoEFCC, highlighted the growing importance of Digital Sequence Information in the evolving biodiversity and

scientific landscape and the need for greater understanding of its implications.

Shri Virendra R Tiwari, Chairman, NBA, emphasised the need to develop a balanced national understanding of DSI, grounded in practical realities and informed by the perspectives of science, industry and biodiversity governance. He highlighted the importance of finding the right balance between facilitating legitimate scientific use and ensuring fair and equitable benefit-sharing, without creating unnecessary barriers to research and innovation. Dr. B. Balaji, Member Secretary, NBA, and Shri Tarun Kumar Kathula, Advisor, MoEFCC, were also present.

The inaugural session was followed by technical discussions on CBD COP17 and India's priorities, covering the international DSI context, outcomes of the 7th meeting of the Subsidiary Body on Implementation (SBI-7), DSI use in research and commercial applications, AI and bioinformatics, DSI-enabled products and services, and database transparency and open access.





The workshop also facilitated detailed deliberations towards preparing and strengthening India's position on Synthetic Biology under the CBD, including consideration of the draft CBD text and key issues for COP17.

Advancing Hindu Kush Himalaya Priorities in Global Biodiversity Discussions

Shri Virendra R. Tiwari, IFS (Retd.), Chairman, National Biodiversity Authority, participated in the Workshop on the Convention on Biological Diversity (CBD) for Negotiators, organised by the JSW School of Law, International Centre for Integrated Mountain Development (ICIMOD), UNEP and the CBD Secretariat on 16–17 September 2026 at ICIMOD, Nepal.



NBA Chairman and Member Secretary with Shri Ashutosh Agnihotri, Additional Secretary to the Government of India, MoEFCC, Shri Tarun Kumar Kathula, Scientist 'G' and Advisor, MoEFCC and CBD Focal Point for India, and Dr. Achuta Nand Shukla, MoEFCC, at the workshop venue in Nepal.

The workshop aimed to strengthen the understanding and technical capacity of negotiators from the Hindu Kush Himalaya (HKH) region on the CBD, the Kunming-Montreal Global Biodiversity Framework (KMGBF), and key agenda items for the upcoming CBD COP17. Discussions covered the biodiversity agenda of the HKH region, National Biodiversity Strategies and Action Plans, outcomes of recent CBD subsidiary body meetings, resource mobilisation, mountain biodiversity, and negotiation skills.

The workshop offered a valuable platform for regional exchange and cooperation on the biodiversity priorities of the Hindu Kush Himalaya a region of exceptional ecological significance that sustains major ecosystems and underpins the livelihoods of nearly two billion people. It aimed to ensure that the distinct challenges and priorities of mountain regions, including mountain biodiversity, indigenous peoples and local communities, and biodiversity finance, are more effectively reflected in CBD processes and COP17 deliberations. The workshop also enhanced participants' readiness for key COP17 agenda items, including resource mobilisation and the global review of collective progress on KMGBF implementation.

Dr. M. S. Swaminathan Award Ceremony

Shri Virendra R. Tiwari, IFS (Retd.), Chairman, National Biodiversity Authority, attended the Dr. M. S. Swaminathan Award Ceremony, organised by the Rotary Club of Madras East (RCME), as Chief Guest on 5 August 2026 at ITC Hotel, Chennai. The award, instituted to honour outstanding contributions in agriculture, food security and rural development, was presented this year to Ms. Pechiyammal for her work protecting coastal communities and ecosystems, and to Ms. Govindhammal for her contributions to women's empowerment, resilience building and sustainable agriculture. The event underscored the importance of sustainable development, biodiversity conservation, agricultural progress and farmer welfare.

International Conference on Building Gender-Just Food, Land and Water Systems

The International Conference on Building Gender-Just Food, Land and Water Systems was held on 7-8 August 2026 at the M.S. Swaminathan Research Foundation (MSSRF), Chennai. Dr B. Balaji, IFS, Member Secretary, National Biodiversity Authority, co-chaired Session 1, "Women as Custodians of Agrobiodiversity, Forgotten Foods and Climate-Resilient Farming Systems," with Dr Prem Lal Gautam, Chancellor, Dr Rajendra Prasad Central Agricultural University, Bihar. The session highlighted women's role in conserving agrobiodiversity, traditional knowledge and local food systems, and discussed community seed systems, neglected and underutilised species, and nutrition-sensitive agriculture. It stressed the need to recognise and strengthen women's knowledge and leadership in biodiversity conservation, food and nutrition security, and climate resilience.

Convocation Ceremony of State Forest Service Officers at Dehradun

The Directorate of Forest Education and the Central Academy for State Forest Service (CASFOS), Dehradun, organised the Convocation Ceremony of the 38th State Forest Service Induction Course (2024–26) on 20 August 2026 at the Forest Research Institute, Dehradun. Shri Virendra R. Tiwari, IFS (Retd.), Chairman, National Biodiversity Authority, was invited as the Chief Guest for the programme., by A total of 28 Officer Trainees, including 12 Lady Officer Trainees from Chhattisgarh,



Karnataka, Madhya Pradesh and Uttar Pradesh, successfully completed their two-year professional induction training and were awarded Diploma Certificates. The Chairman addressed the graduating officers and participated in the conferment of diploma and prize certificates, encouraging them as they embark on their professional responsibilities in forest and wildlife conservation.



Pre-COP 31 Science Policy Dialogue at IISc

Shri Virendra R. Tiwari, IFS (Retd.), Chairman, National Biodiversity Authority, participated in the pre-COP 31 Workshop organised by the Divecha Centre for Climate Change, Indian Institute of Science (IISc), Bengaluru, in collaboration with the Karnataka Forest Department, the Institute of Wood Science and Technology and other partner institutions. Held on 24–25 August 2026 at the J. N. Tata Auditorium, IISc, the workshop brought together scientists, policymakers, government agencies, research institutions, industry and civil society to deliberate on key climate change issues and develop evidence-based recommendations for India's preparations for COP 31. A key thematic session focused on forests, biodiversity and climate change, covering biodiversity conservation, climate resilience, ecological restoration and sustainable development.

Informal Negotiators' Dialogue on DSI and the Cali Fund, Leuven, Belgium

Dr. B Balaji, IFS, Member Secretary, National Biodiversity Authority (NBA), participated in the Informal Negotiators' Dialogue on the DSI Multilateral Mechanism (MLM) and the Cali Fund, held from 23–25 September 2026 at Leuven, Belgium, hosted by the European Commission and the Government of Norway. The Dialogue brought together negotiators and experts to review the status of discussions following the 7th meeting of the CBD Subsidiary Body on Implementation and identify key issues requiring attention ahead of CBD COP17. Discussions focused on the operationalising the DSI MLM and Cali Fund, including contribution thresholds and rates, interaction with national ABS measures, allocation and disbursement of the Fund, non-monetary benefit-sharing, database transparency and open access, and the methodology for the effectiveness review. The meeting also considered possible solution pathways, areas of convergence and remaining divergences, and potential landing zones for COP17.

Case note on the maintainability of appeal under Section 16 (j) of the NGT Act, 2010 before the Hon'ble Supreme Court

The Hon'ble Supreme Court, in the case of Dabur India Limited vs. National Biodiversity Authority, passed an order in Civil Appeal No. 4852 of 2024 on 13.08.2026, on the issue of determination of access and benefit sharing (ABS) under the Biological Diversity Act, 2002. The Appellant (Dabur) challenged the order dt. 20.12.2023, under Section 22 of the NGT Act, passed by the National Green Tribunal (NGT), Southern Zone at Chennai in Appeal No. 54 of 2022. The Hon'ble Supreme Court accepted the preliminary objections raised by the National Biodiversity Authority (NBA) on the maintainability of the Civil Appeal, as the NGT has not passed any final order; instead, it had only remanded the matter back to the NBA for fresh consideration on the determination of access and benefit sharing. Hence, the determination order of ABS by the NBA has to be appealed before the NGT. The Hon'ble Supreme Court granted liberty to Dabur India Ltd. to challenge the order of the NBA dated 18th April, 2024, in a fresh appeal under Section 16 (j) of the NGT Act. The Hon'ble Court disposed of the appeal with the directions that the NGT, while proceeding to decide the appeal, if filed, shall do so without being influenced by any observations made earlier in the impugned order.

2nd National Project Steering Committee (NPSC) Meeting of the GoI-UNDP Biodiversity Programme

The 2nd Meeting of the National Project Steering Committee (NPSC) for the GoI-UNDP Biodiversity Programme was held on 30 June 2026 at Teesta Hall, Indira Paryavaran Bhawan, New Delhi, under the chairmanship of Shri Ashutosh Agnihotri, Additional Secretary, MoEFCC, with Shri Virendra R Tiwari, Chairman, NBA, as Co-Chair. Dr B. Balaji, Member Secretary, NBA, along with senior officials from MoEFCC, UNDP, and other stakeholder organisations, participated in the meeting.

The Committee reviewed the progress and the way forward for four key projects; namely the GEF-7 Biodiversity Project, the GEF-8 OECM Project, the GBFF-CONSERVE Project, and the BIOFIN Project. Key decisions included approval of the Annual Work Plans for the GEF-7 Biodiversity and BIOFIN projects; designation of NBA as the Nodal Agency for implementation of the GEF-8 OECM and GBFF-CONSERVE projects; approval for NBA to enter into MoUs with ICFRE-IFGTB and ICFRE-RFRI under the GEF-7 Biodiversity Project; extension of the BIOFIN Project to Phase 3 (2026-30); and constitution of a Technical Advisory Committee to develop a roadmap for achieving Target 3 of the Kunming-Montreal Global Biodiversity Framework. The NPSC also decided to convene its meetings twice a year to facilitate closer monitoring of project implementation.



Visit of UNDP Deputy Resident Representative to NBA, Chennai

On 22 July 2026, the National Biodiversity Authority (NBA) welcomed Ms. Isabelle Tschan Harada, Deputy Resident Representative (DRR), UNDP, to its headquarters. The visit provided an opportunity for NBA and UNDP to review progress and discuss the way forward on ongoing collaborative initiatives.

Discussions centred on the implementation of projects under the GoI-UNDP Biodiversity Programme, including the GEF-7 Biodiversity Project, the GEF-8 OECM Project, the GBFF-CONSERVE Project, and the BIOFIN Project. Both sides deliberated on strengthening implementation modalities across these projects and on deepening institutional collaboration between NBA and UNDP.

The interaction reaffirmed the shared commitment of NBA and UNDP to advancing India's biodiversity conservation goals and set the tone for continued close partnership in the coming quarter.

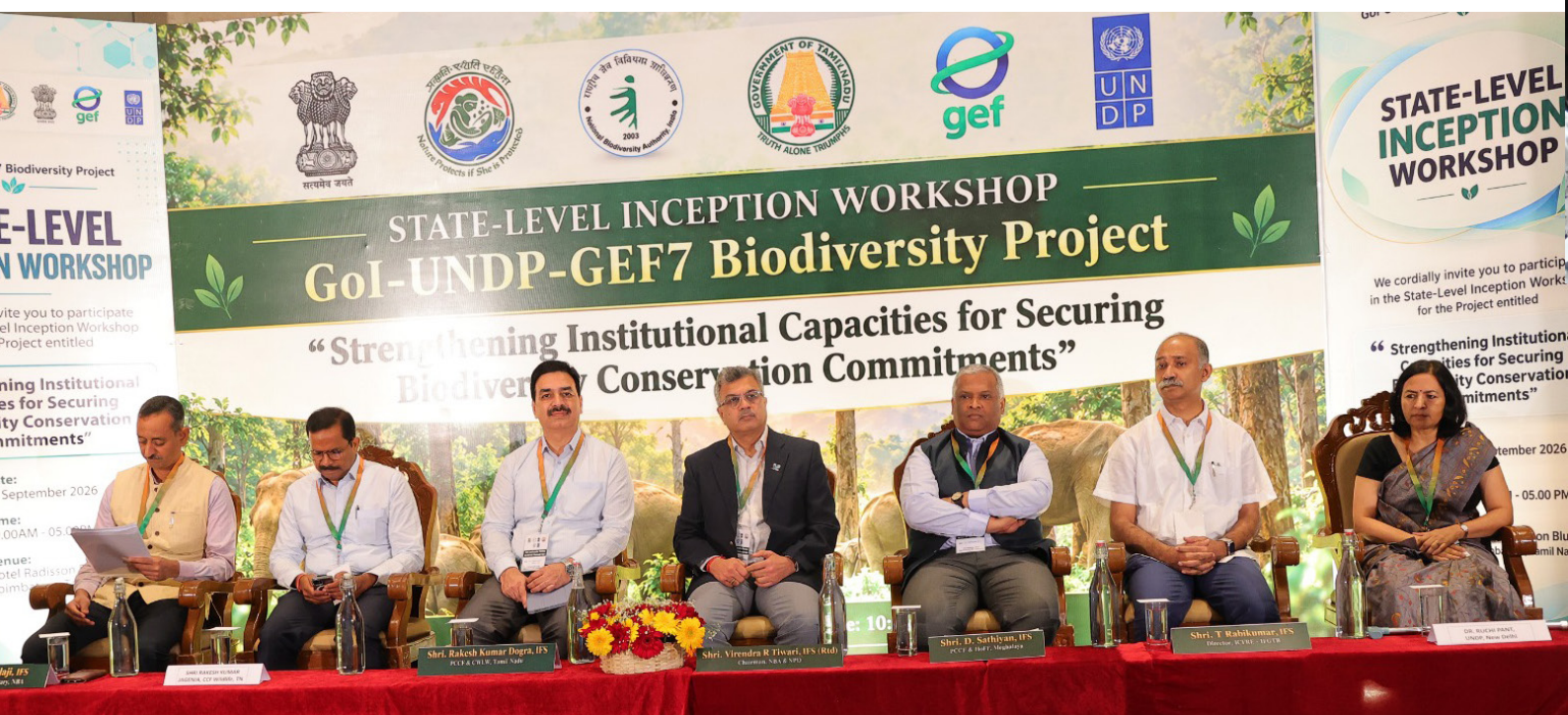


State-Level Inception Workshop - GoI-UNDP-GEF-7 Biodiversity Project “Strengthening Institutional Capacities for Securing Biodiversity Conservation Commitments”

The State-Level Inception Workshop for the Government of India (GoI)-United Nations Development Programme (UNDP) Global Environment Facility, 7th Replenishment (GEF7) Biodiversity Project themed “Strengthening Institutional Capacities for Securing Biodiversity Conservation Commitments” was held on 21 September 2026 at Hotel Radisson Blu, Coimbatore, Tamil Nadu, bringing together senior officials, technical experts, and stakeholders from partner states.

Inaugural Session: Opened with welcome remarks by Tmt. C. Vidya, IFS, Conservator of Forests & Field Director, Sathyamangalam Tiger Reserve, followed by lighting of lamp. Dr. B. Balaji, IFS, Member Secretary of the National Biodiversity Authority (NBA), introduced the project’s scope and objectives. Remarks followed from Shri D. Sathiyar, IFS, PCCF & HoFF, Meghalaya Forest Department, Shri T. Rabi Kumar, IFS, Director, Indian Council of Forestry Research and Education-Institute of Forest Genetics and Tree Breeding (ICFRE-IFGTB), and Shri Rakesh Kumar Dogra, IFS, PCCF & Chief Wildlife Warden (CWLW), Tamil Nadu Forest Department. Shri Virendra R. Tiwari, IFS (Retd.), Chairperson, NBA, and National Project Director, delivered the keynote, stressing the project’s national significance for biodiversity conservation.

Technical Sessions: Mr. Tashi Dorji, Regional Technical Advisor (RTA), UNDP Regional Bureau for Asia and the Pacific (RBAP), covered UNDP’s assurance role and the GEF Monitoring and Evaluation (M&E) framework. Tamil Nadu (with ICFRE-IFGTB) and Meghalaya (with ICFRE – Rain Forest Research Institute (ICFRE-RFRI)) each presented their institutional arrangements,



committee formation, and 2026–27 Annual Work Plans. The session concluded with a stakeholder mapping exercise across three breakout groups Ministry of Environment, Forest and Climate Change (MoEFCC) & NBA, Tamil Nadu, and Meghalaya followed by group presentations and a vote of thanks by Shri S. Nikhil, Project Officer, MoEFCC.

Outcome: The workshop laid a strong foundation for coordinated implementation across states, setting the stage for the Project Planning Meeting on 22 September at ICFRE-IFGTB, Coimbatore.



Project Planning Meeting of the GoI-UNDP-GEF7 Biodiversity Project

The Project Planning Meeting of the GoI-UNDP-GEF7 Biodiversity Project - “Strengthening Institutional Capacities for Securing Biodiversity Conservation Commitments” was held on 22 September 2026 at ICFRE-IFGTB, Coimbatore, Tamil Nadu, under the theme of Project Updating with components, activities, sub activities and Stakeholder Engagement focusing on updating project components, activities, and sub-activities, alongside continued stakeholder engagement.

The meeting opened with welcome remarks by Dr A. Rajasekaran, Head, FECC Division, ICFRE-IFGTB, setting the tone for a day focused on deepening technical coordination among project



partners. Shri T. Rabi Kumar, IFS, Director, ICFRE-IFGTB, delivered special remarks, reaffirming the institute’s role in supporting the project’s implementation. Dr. Ruchi Pant, Head of NRM & Biodiversity at UNDP, presented an overview of GEF projects, highlighting the innovation angle, expectations from participating states, and the results framework guiding the initiative. The technical session turned to on-ground progress, with ICFRE-IFGTB presenting project activities for the Sathyamangalam-Nilgiri Landscape in Tamil Nadu, offering participants a closer look at landscape-level implementation. The meeting concluded with a vote of thanks delivered by Shri T. Rabi Kumar, IFS, Director, ICFRE-IFGTB, marking the close of two productive days of inception and planning activities for the project.

Capacity Building and Training Programme for Biodiversity Management Committees (Phase II)

The National Biodiversity Authority (NBA), in collaboration with the National Institute of Rural Development and Panchayati Raj (NIRDPR), Hyderabad, is implementing a capacity-building and training programme for Biodiversity Management Committee (BMC) members across six States Chhattisgarh, Maharashtra, Madhya Pradesh, Odisha, Rajasthan and Uttar Pradesh with a sanctioned amount of ₹37.5 lakh. The programme aims to strengthen the institutional and technical capacities of BMC members in biodiversity conservation, sustainable use of biological resources, documentation of local biodiversity and traditional knowledge, preparation of People's Biodiversity Registers (PBRs), and effective implementation of the Biological Diversity Act and related provisions. So far, nine training programmes have been conducted in Maharashtra, Madhya Pradesh and Uttar Pradesh, benefiting 350 BMC members. The initiative seeks to strengthen grassroots-level biodiversity governance and promote greater community participation in the conservation and sustainable management of biological resources.



Legality of Ex-Post Facto Environmental Clearances – Supreme Court’s Verdict on Vanashakti Case

Dr. M.Sundar Rajan, Consultant ‘C’ – Legal Affairs, NBA.

Environmental Clearance - Overview

Environmental Clearance (EC) is a mandatory regulatory process in India to assess the likely environmental impacts of proposed industries, infrastructure projects and developmental activities. It plays a crucial role in balancing economic growth with sustainable development. Environmental Impact Assessment (EIA) is a systematic analysis of all environmental impacts arising from a developmental activity. Based on the EIA, these activities need to obtain prior EC. Depending on the type and magnitude of impacts, mitigation measures are suggested to keep the overall environmental quality intact. It ensures that the project plan/design includes adequate mitigation measures to prevent, reduce or offset negative impacts on the environment.

The EIA procedure determines whether a proposed venture is situated close to fragile ecosystems, protected forests or vital wetlands. Conservation of biodiversity relies heavily on EC, as it thoroughly assesses the risks a project poses to local flora, fauna, and ecosystems prior to the start of any construction work. EC is a formal approval issued by the Ministry of Environment, Forest and Climate Change (MoEFCC) or the State Level Environment Impact Assessment Authority (SEIAA). It signifies that a planned project has undergone a thorough environmental evaluation and is cleared to move forward under specific conditions. Securing this EC is compulsory for all new ventures as well as any scaling up of current operations that fall under the designated classifications outlined in the EIA notification.

Emergence of EIA in India

The first notification on EIA of developmental projects was issued on 27.01.1994, and amended in 2004 under the provisions of the Environment (Protection) Act, 1986. It made EC mandatory for 29 categories of projects. The latest EIA notification dated 14th Sep, 2006 makes EIA compulsory for all 32 categories of projects. Projects that begin without EC face demolition orders, criminal liability, and operational shutdown under the Environment Protection Act, 1986. In simple terms, no new project or expansion of an existing project listed in the EIA Notification Schedule can begin without prior EC approval from the Competent Authority.

Ex-post facto EC

Ex-post facto EC is the granting of retrospective approval to industrial or infrastructure projects that have already commenced construction or operation without getting prior environmental clearances. Such clearances seem to undermine the ‘precautionary principle’,



a cornerstone of environmental jurisprudence. Nevertheless, Indian courts are increasingly addressing practical scenarios where projects began in good faith, often driven by administrative clearances, evolving regulatory frameworks, or genuine lapses. This raises a critical question: Should such projects be routinely demolished, or is it better to regulate them, levy penalties, and guarantee environmental restoration via a retrospective EC mechanism?

Ex-post facto EC - Judicial review

On November 18 last year, a three-judge Bench of the Supreme Court (SC) headed by the then Chief Justice of India, B. R. Gavai, reversed, by a majority of 2:1, its own verdict by an interim order in the Vanashakti II case 2025 INSC 1326. This paved the way for retrospective EC to projects found violating environmental norms, saying that stakes were considerable and otherwise “thousands of crores of rupees would go in waste”.

The MoEFCC issued two executive instruments, the 2017 Notification and the 2021 Office Memorandum (OM), which dealt with projects that had commenced activities without obtaining EC as mandated under the 2006 EIA Notification. According to the petitioners, these measures effectively introduced a regime of ex post facto environmental clearances by permitting projects that had already violated the statutory requirement of prior clearance to seek subsequent regularisation. The challenge therefore centred upon whether such a mechanism was compatible with the Environment Protection Act, the 2006 EIA Notification, and settled principles of environmental jurisprudence.

However, on 29 July, 2026, in a landmark ruling, the Hon'ble SC in Vanashakti v. Union of India, 2026 INSC 761 (Vanashakti III), held that the prior EC regime under the 2006 EIA Notification is mandatory and does not accommodate post-facto clearances without formal statutory amendments. The Bench comprising Chief Justice Surya Kant and Justice Joymalya Bagchi invalidated the 2021 Office Memorandum (OM) issued by the MoEFCC permitting ex-post-facto environmental clearances, while upholding the Central Government's power to issue tailored amnesty schemes under Section 3 of the Environment (Protection) Act, 1986 (EP Act). Thus, the Hon'ble Court upheld the 2017 Notification as a valid, narrowly tailored, and time-bound delegated legislation issued under Section 3 of the EP Act read with Section 21 of the General Clauses Act, 1897 and declared the 2021 OM invalid as it sought to create a perpetual post facto EC regime through an administrative instruction, thereby impermissibly overriding the 2006 EIA Notification.

The Apex Court observed that environmental adjudication requires reconciling two competing constitutional aspirations, the existential right of all living beings, both present and future generations, to live in a pollution-free environment and the developmental aspirations of a nation comprising nearly one-sixth of humanity. It emphasised that neither unrestricted development nor absolute environmental preservation could provide an acceptable solution. It further held that “A valid amnesty measure is thus exceptional in character, finite in duration and confined to its class”.

Way forward – Prevention is better than cure

In India, obtaining an EC goes far beyond being a mere bureaucratic formality; it serves as a vital instrument for driving sustainable growth. Given the nation's rich natural heritage and its status as home to several internationally recognized biodiversity hotspots, the Environmental Impact Assessment (EIA) procedure must thoroughly and precisely account for this unique ecological significance.

The Supreme Court's judgment re-establishes a balanced framework that aligns legal principles with practical realities. Besides acknowledging that prior clearance remains vital, it also recognizes that exceptional circumstances demand a degree of flexibility, backed by rigorous safeguards and measures for environmental remedial action.

The core of the EIA framework relies on thorough ecological and biodiversity evaluations to guarantee that progress never comes at the cost of harming nature. Under Section 36(4) (i) of the BD Act, the Central Government is empowered to take measures wherever necessary for the assessment of the environmental impact of any project that is likely to have an adverse effect on biological diversity.

Sacred Groves of Tamil Nadu: Integrating Cultural Heritage with Biodiversity Conservation

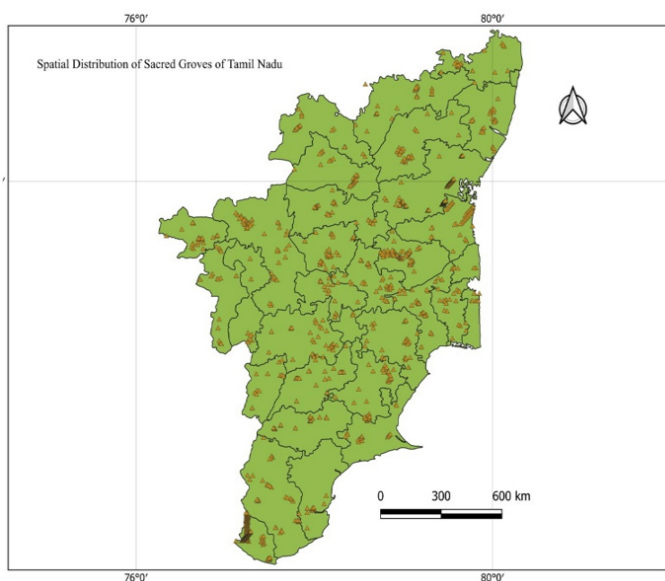
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Cultural landscapes are ecologically diverse and represent the complex relationship between nature and humanity, reflecting a region's unique cultural heritage. Technology-driven modernization and urbanization increasingly disrupt this relationship. The effects of climate change, along with changing social and cultural practices, further contribute to their deterioration. Since ancient times, humans have revered and protected their surrounding natural environment in various ways. These cultural landscapes often include sacred groves (Ogisi & Okumagba, 2022), which hold rich spiritual (Trehan & Trehan, 2024) and cultural significance (Janani et al., 2026) passed down through generations. These rich cultural heritages provide insights into the relationship between human beliefs, traditions, artistic practices, and the natural environment. These ancient natural sanctuaries also serve as valuable storehouses of biodiversity and repositories for several rare and endemic species (Raja et al., 2019; Soosairaj et al., 2026).

The C.P. Ramaswamy Environmental Education Centre (CPREEC) reports that there are around 100,000–150,000 sacred groves across India (Henry, 2008). Earlier studies on sacred groves provided baseline information on their religious beliefs, deities, taboos, biodiversity, ethnobotanical knowledge, and their importance for conservation. Geographical Information System (GIS)-based mapping of these groves provides information on their spatial distribution and proximity to human settlements. It also helps monitor habitat changes caused by modernization, assess threats, and identify priority areas for protection and restoration.



Based on the above background, the present study focuses on mapping these valuable ecological treasures in Tamil Nadu. In this study, GPS coordinates of around 1,274 sacred groves were meticulously collected through ground surveys and available literature. The study identifies a large number of sacred groves in the coastal districts such as Cuddalore, Pudukkottai and Kanyakumari, followed by Sivaganga, Ariyalur, Nagapattinam, Tirunelveli and Salem in Tamil Nadu. Some of the unique plant species identified in these

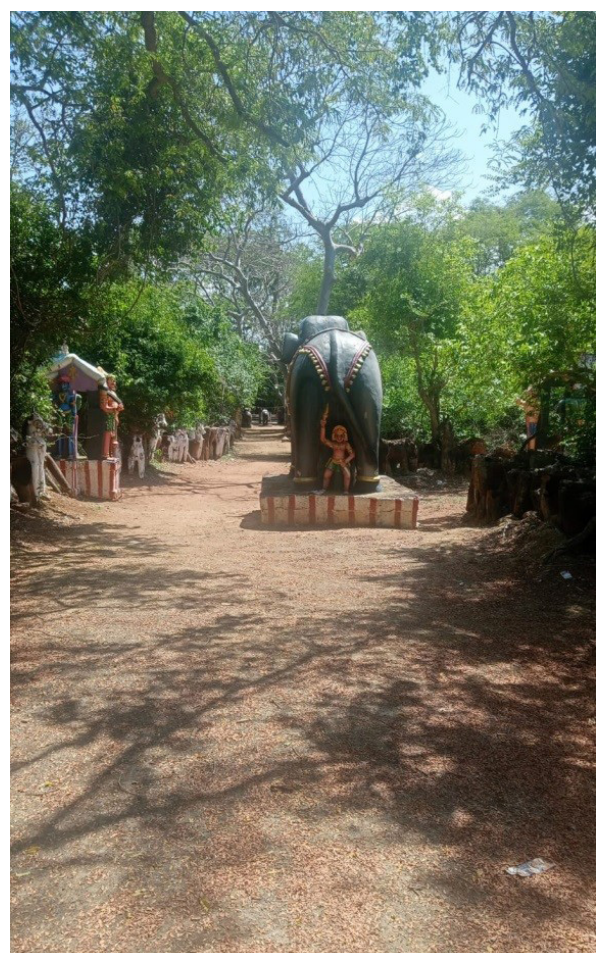
sacred groves were given in table 1. The study highlights the role of GIS as a reliable scientific tool for understanding the spatial distribution, extent and ecological significance of these natural landscapes with high conservation value.

This shows that the sacred groves are ecologically significant for several plant species. Furthermore, this spatial documentation will support integrating sacred groves into regional conservation planning and biodiversity management programmes. It will also help policymakers and conservationists prioritize areas for effective protection under environmental laws and community-based conservation initiatives.

Table 1: Glimpses of unique plant species identified in the Sacred Groves of Tamil Nadu

S.No	Name of the plant species
1	<i>Atalantia ceylanica</i>
2	<i>Atalantia monophylla</i>
3	<i>Chloroxylon swietenia</i>
4	<i>Dalbergia coromandeliana</i>
5	<i>Derris gamblei</i>
6	<i>Derris scanden</i>
7	<i>Drypetes sepiaria</i>
8	<i>Glycosmis mauritiana</i>
9	<i>Jatropha tanjorensis</i>
10	<i>Justicia beddomei</i>
11	<i>Justicia tamilnadensis</i>
12	<i>Memecylon umbellatum</i>
13	<i>Naregamia alata</i>
14	<i>Osbeckia aspera</i> var. <i>wightiana</i>
15	<i>Psydrax cudalorensis</i>
16	<i>Sabdariffa pudukkottaiensis</i>
17	<i>Strychnos nux-vomica</i>
18	<i>Theriophonum blumei</i>





Photos: View of Sacred Grove at, Pudukkottai District of Tamil Nadu

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Microplastics in Coimbatore's Lakes: A Growing Threat to Aquatic Life

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An Invisible Threat

When we think about plastic pollution, we often imagine plastic bottles, bags, and other visible waste floating on the surface of rivers and lakes. But beneath the water surface lies a much less visible problem microplastics. Microplastics are tiny plastic particles, generally less than 5 mm in size. They can enter aquatic ecosystems through domestic wastewater, urban runoff, improper disposal of plastic waste, fishing activities, and even through wind and rainfall. Once they enter a waterbody, they can persist in the environment and interact with aquatic organisms.

Microplastic Pollution in Coimbatore's Lakes: A Cause for Concern

A study on the seasonal variation and distribution of microplastics in the surface water and sediments of Coimbatore's lakes, Tamil Nadu, published in *Gondwana Research*, examined five important waterbodies Kumaraswamy Tank, Ukkadam Big Tank, Kuruchi Tank, Singanallur Tank, and Sular Tank. The study revealed the presence of microplastics in both surface water and sediments, with higher concentrations particularly observed in areas closer to the terrestrial zones of all the lakes studied (Figure 1, and the biodiversity wealth of the studied lakes is presented in Table 1).

Microplastics can enter these waterbodies through multiple pathways and do not originate only from direct dumping. Plastic waste from surrounding terrestrial areas can be transported into lakes by strong winds, while rainfall can carry plastic particles and fragments through surface runoff. Urban runoff, domestic wastewater, and activities associated with fishing and recreation may further contribute to the entry and accumulation of microplastics in these aquatic ecosystems. The seasonal variation observed in microplastic concentrations also indicates that environmental conditions and human activities influence their distribution and accumulation.

The study identified several polymer types, including polyethylene (PE), polyethylene terephthalate (PET), polypropylene (PP), linear low-density polyethylene (LLDPE), and high-density polyethylene (HDPE), with LLDPE microplastics being particularly abundant in both water and sediment samples. The presence of microplastics in sediments is of particular concern because sediments can act as a temporary reservoir, from which particles may become available to aquatic organisms when environmental conditions change. The study's Pollution Load Index (PLI), an index used to assess the overall level of microplastic pollution based on the abundance of microplastics, classified the lakes under Risk Level 1, indicating a relatively low level of pollution according to the index used. However, this relatively low level should not be interpreted as an absence of ecological concern. The

detection of microplastics in both water and sediments, their seasonal variation, and their association with human activities highlight the need for continued monitoring, effective waste management, and preventive measures. Early intervention is particularly important because preventing plastic from entering aquatic ecosystems is far more effective than attempting to remove microscopic particles after they have dispersed throughout the water column and sediments. Thus, the findings provide an important early warning that continued accumulation, even from a currently low pollution level, could pose a growing threat to freshwater biodiversity and ecosystem health if preventive action is not taken.

A threat to aquatic life

The real concern is not simply the presence of tiny plastic particles, but what happens when aquatic organisms encounter them. Fish and other aquatic animals may ingest microplastics directly or encounter them indirectly through their food. Once introduced into the food web, microplastics have the potential to move between different trophic levels. Previous research by the researchers on *Catla* (*Catla catla*) reported adverse effects associated with exposure to virgin LLDPE microplastics, including effects on fish growth, behaviour, antioxidant defence mechanisms, and haematological health. These findings raise an important question: if microplastics can affect individual fish, what could prolonged contamination mean for the health of an entire aquatic ecosystem?

Aquatic ecosystems are interconnected, with plankton, invertebrates, fish, and other organisms forming complex food webs. If microplastics enter one part of this system, they may potentially interact with organisms at several trophic levels. In waterbodies where fishing takes place, the issue becomes even more important, as fish living in contaminated environments may encounter microplastics, creating a possible pathway for their movement through the aquatic food web. Thus, microplastic pollution should not be viewed only as a waste-management problem; it is increasingly becoming a biodiversity and ecosystem-health issue. A waterbody that appears clean to the eye may not necessarily be free from pollution, as microplastics can remain invisible while becoming part of the aquatic environment.

The solution therefore begins with preventing plastic from reaching our waterbodies in the first place. Proper solid-waste management, improved wastewater treatment, control of urban runoff, responsible fishing practices, and prevention of direct dumping can significantly reduce the entry of plastic into aquatic ecosystems. Regular monitoring of microplastics in water, sediments, and aquatic organisms is also essential to understand the long-term consequences of this emerging pollutant.

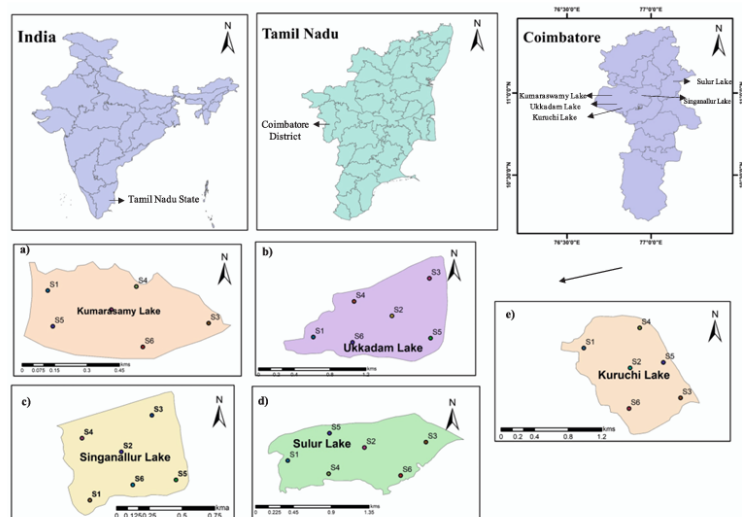


Fig. 1. Geographic position and water sampling point location of Coimbatore Lakes a) Kumaraswamy Lake b) Ukkadam Lake c) Singanallur Lake d) Sular Lake e) Kuruchi Lake

Protecting lakes and tanks requires the collective participation of local communities, students, researchers, fishermen, government agencies, and the general public. The study of Coimbatore's waterbodies provides an important reminder that protecting aquatic biodiversity is not only about conserving fish, birds, plants, and other visible organisms, but also about protecting the quality of the water and sediments that sustain them.

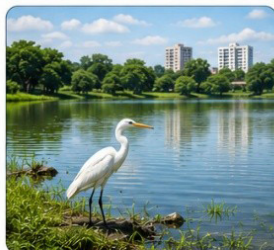
Way Forward:

Preventing plastic pollution at its source should remain the priority. Strengthening waste management, reducing plastic leakage into drainage and waterways, improving wastewater and runoff management, and promoting responsible community practices can help minimise the entry of microplastics into freshwater ecosystems. At the same time, regular monitoring of microplastics in water, sediments, and aquatic organisms should be encouraged to detect changes over time and support timely management interventions. Every piece of plastic prevented from entering a waterbody is one less potential threat to aquatic life. **Protect the water. Protect biodiversity. Prevent plastic at its source.**

Table 1: The biodiversity wealth of the studied lakes

Flora and Fauna of Coimbatore District Lakes											
S. No	Name of the Lake	Plants (Species)	Other Arthropods	Odonata	Lepidoptera	Arachnida	Fishes	Amphibians	Reptiles	Birds	Mammals
1	Kovaipudur Lake	59 (11)	4	5	9	2	13	0	2	41	5
2	Sulur Lake	81 (14)	12	4	36	2	14	0	3	49	4
3	Singanallur Lake	49 (11)	10	7	31	2	15	0	3	40	4
4	Perur Lake	55 (10)	2	4	3	1	13	0	1	18	4
5	Kurichi Lake	52 (9)	9	9	16	0	10	0	2	39	6
6	Ukkadam Lake	71 (12)	9	8	15	0	12	0	2	38	4
Total		167	19	10	44	2	17	0	3	73	7

Note: Figures in parentheses in the 'Plants' column indicate the number of aquatic plant species.



Key Takeaways

- ✓ Coimbatore lakes support rich plant and animal diversity.
- ✓ Sulur, Singanallur and Kovaipudur lakes show high biodiversity.
- ✓ These lakes are important for ecological balance and wildlife conservation.

Biodiversity Highlights

- Fish: 17 species
- Birds: 73 species
- Lepidoptera: 44 species
- Amphibians: 0 species
- Mammals: 7 species



Healthy Lakes – Rich Biodiversity – A Greener Tomorrow

Source: Quadros et al. (2019), SACON, Coimbatore.

Microplastics can enter aquatic ecosystems through wastewater, urban runoff, plastic litter and degradation of larger plastic materials. They may be ingested by plankton, invertebrates and fish and subsequently move through the aquatic food web. Fish consumption represents one potential pathway through which microplastics can reach humans, although the extent to which they accumulate and transfer across trophic levels varies among species and environmental conditions.

For humans, exposure to microplastics may occur through food, drinking water and air. Research has raised concerns about possible effects related to oxidative stress, inflammation, cellular damage and the chemicals or microorganisms associated with plastic particles. However, the long-term health consequences of microplastic exposure in humans remain incompletely understood, and current evidence should therefore be interpreted cautiously.

Overall, the movement of microplastics from aquatic ecosystems to fish and potentially to humans demonstrates that plastic pollution is not only an environmental issue but also a potential food-safety and public-health concern. Protecting aquatic ecosystems from plastic pollution is therefore essential for safeguarding biodiversity, fisheries and human well-being.

Suggested Reading

Ephsy, D. K., & Raja, S. (2025). Comparative toxicity of virgin and biodegraded LLDPE microplastics on growth, behavior, antioxidant, and hematological health of *Catla catla*. *Journal of Hazardous Materials*, 140860.

Ephsy, D. K., & Raja, S. (2026). Linear low-density polyethylene plastic degradation by *Bacillus cereus*, *Achromobacter insolitus*, and *Bacillus stercoris* isolated from Kumaraswamy Lake, India. *Process Safety and Environmental Protection*, 108781.

Ephsy, D. K., & Raja, S. (2026). Seasonal variation and distribution of microplastics in surface water and sediments of Coimbatore Lakes, India. *Gondwana Research*, 154, 310–322.



Invasive Giant African Snail *Achatina fulica* (Bowdich): A Big Threat to Agro-horticulture and Biodiversity in Eastern Uttar Pradesh

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Invasive alien species represent one of the most significant threats to global biodiversity, agriculture, livelihoods, human and animal health, and agroforestry. Their impacts extend beyond the environment and ecology to local economies and livelihoods. The rapid development of transportation and increased movement of people and goods have facilitated the spread of invasive alien species across regions and countries. The Giant African Snail (GAS), *Achatina fulica* (Bowdich), is ranked among the world's most damaging invasive species because of the severe threat it poses to local biodiversity, agriculture, and horticulture. The species is native to East Africa but has now spread to numerous parts of the world, where it is becoming increasingly difficult to manage. The GAS was introduced to India in 1847 by the British malacologist William Henry Benson, who brought a pair of snails from Mauritius to Kolkata (then Calcutta). Since then, it has spread to several parts of the country, feeding on more than 50 native plant and crop species and successfully competing with local snail populations. Given that eastern Uttar Pradesh is largely self-sufficient in vegetable production, the



Giant African Snail has emerged as a major threat to vegetable farmers. It also damages ornamental plants and has become an important agro-horticultural pest.

Because of its polyphagous and voracious feeding behaviour, GAS is considered a serious invasive pest of several vegetable and agro-horticultural crops in many parts of eastern Uttar Pradesh. It feeds on the leaves, stems, fruits, and flowers of host plants, causing severe damage, particularly to young saplings in nurseries. It can also contaminate leafy vegetables with its excreta, creating additional concerns for agricultural production and public health. In tropical agriculture, the impacts of this invasive snail are fourfold. First, it causes crop-yield losses through herbivory, either directly by damaging crops or indirectly by affecting plants that contribute to soil fertility. Second, it may contribute to the spread of plant pathogens. Third, considerable costs are associated with controlling the pest. Finally, its presence may force changes in agricultural practices, including restricting the cultivation of crops that are highly susceptible to snail infestation. Due to its high reproductive capacity, GAS is expanding and becoming established in villages, forests, and agricultural fields in the region. It has also increasingly invaded urban areas, where it damages local gardens and kitchen gardens, resulting in economic losses for residents. The species can rapidly damage horticultural and agricultural crops, forest vegetation, and plants on which rural communities depend for food and income.

The increasing abundance of GAS is therefore a particular concern in tribal and rural areas, where agriculture and forest resources are closely linked to local livelihoods. If its population is not controlled at an early stage, the species could pose a serious long-term threat to native plants, agricultural and horticultural crops, forest vegetation, and the livelihoods of farming and indigenous



communities. Hence, the relevant departments, particularly agriculture, horticulture, and forestry, should work collaboratively to implement effective management measures and develop coordinated action plans to control, and where feasible, eradicate GAS populations in affected areas. Given its high invasiveness and capacity to cause ecological and economic damage, effective management of the GAS is essential for biodiversity conservation, protection of agricultural and horticultural production, and reduction of economic losses to farmers and local communities.



Biodiversity Compliance: A Catalyst for Responsible Innovation

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We often celebrate when a new invention gets a patent, but we may not think about where the invention actually began. Many inventions in biotechnology, medicine, agriculture, cosmetics, and health products begin with biodiversity. For example, they may come from a plant collected from a forest, a microorganism found in soil, a marine organism, or traditional knowledge passed down by Indigenous peoples and local communities over many generations. In many cases, the journey of an invention begins with nature and its biological resources long before it reaches the Patent Office.

For innovations based on Indian biological resources, this journey follows two complementary pathways. The first is the scientific pathway – from discovery to invention. The second is the legal pathway – from lawful access to biological resources to the protection of intellectual property. India is among the countries that have consciously sought to integrate these two pathways through a legal framework that balances innovation with biodiversity conservation, sustainable use, and fair and equitable benefit sharing.

The Convention on Biological Diversity (CBD) transformed the global approach to biodiversity by recognising the sovereign rights of States over their genetic resources and establishing three interconnected objectives: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the utilization of genetic resources. Building on these principles, the Nagoya Protocol established an international framework to promote legal certainty, transparency, and mutually supportive access and benefit-sharing arrangements. Together, these frameworks seek to create an enabling environment in which scientific innovation can advance while ensuring that biodiversity is conserved, used sustainably, and that benefits arising from its use are shared fairly and equitably.

India has given effect to these international commitments through the Biological Diversity Act, 2002, as strengthened by the Biological Diversity (Amendment) Act, 2023. The amended framework aims to promote research, innovation, and ease of doing business while ensuring that access to



India's biological resources is lawful and that the benefits arising from their use are shared fairly and equitably with benefit claimers.

This framework works alongside the Patents Act, 1970. While the Patents Act protects inventions that meet the requirements of novelty, inventive step, and industrial applicability, the Biological Diversity Act ensures that India's biological resources are accessed and used responsibly and in accordance with the law.

In this context, Access and Benefit Sharing (ABS) is more than a legal requirement. It reflects the basic principle of the CBD and the Nagoya Protocol that communities and others who conserve biodiversity and contribute traditional knowledge should receive a fair share of the benefits arising from their use. ABS therefore creates a link between innovation and equity, helping ensure that scientific progress also supports biodiversity conservation and sustainable development.

The National Biodiversity Authority (NBA) plays an important role in putting these principles into practice by facilitating compliance with the Biological Diversity Act and implementing the Access and Benefit Sharing (ABS) mechanism. Through a transparent and supportive regulatory framework, the NBA helps researchers, startups, academic institutions, and industries use India's biological resources responsibly and turn biodiversity-based research into innovation. At the same time, it supports the national goals of biodiversity conservation, sustainable use, and fair and equitable benefit sharing.

Biodiversity compliance should therefore not be seen as a regulatory hurdle. It is an important part of responsible innovation. By ensuring lawful access and fair benefit sharing, compliance provides greater legal certainty, supports the development of strong intellectual property portfolios, and strengthens the credibility of research and innovations based on biodiversity, both nationally and globally.



CBD COP17: Advancing Action for Nature and Biodiversity

19–30 October 2026 | Yerevan, Armenia

The Seventeenth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP17) will be held in Yerevan, Armenia, from 19 to 30 October 2026, under the theme “Taking Action for Nature.” The meeting will bring together Parties to the Convention, Indigenous Peoples and local communities, scientific and technical experts, international organisations, civil society, youth, businesses and other stakeholders to advance collective action for biodiversity. COP17 will be held concurrently with the twelfth meeting of the Parties to the Cartagena Protocol on Biosafety and the sixth meeting of the Parties to the Nagoya Protocol on Access and Benefit-sharing. Armenia is also planning a Leaders’ Summit in Yerevan on 16 October, just ahead of the opening, and will convene a Ministerial High-Level Segment on 27–28 October 2026 to provide political momentum for implementation.

COP17 is the second biodiversity COP since the adoption of the Kunming–Montreal Global Biodiversity Framework (KMGBF) at CBD COP15 in 2022, and the first to include a global review of collective progress in implementing it. The review will draw substantially on the Seventh National Reports submitted by Parties, together with information from other stakeholders, and will assess progress towards the Framework’s 23 global targets and four long-term goals.

The outcomes of this review are expected to provide an important basis for identifying progress, implementation gaps and areas requiring enhanced action in the remaining period to 2030. Discussions will therefore focus not only on commitments but increasingly on their translation into effective national implementation, monitoring, financing and measurable outcomes.

Key areas expected to receive attention include implementation of the KMGBF and National Biodiversity Strategies and Action Plans (NBSAPs), biodiversity finance and resource mobilisation, monitoring and indicators, capacity-building and technology transfer, access and benefit-sharing, Digital Sequence Information (DSI) on genetic resources, invasive alien species, conservation and restoration, marine and coastal biodiversity, and the participation of Indigenous Peoples and local communities. The Conference will also provide opportunities to strengthen cooperation and share practical experiences for accelerating implementation of the Framework.

For India, COP17 provides an important international platform to highlight national progress and priorities in biodiversity conservation, sustainable use and equitable benefit-sharing. India’s updated National Biodiversity Strategy and Action Plan (2024–2030), its Seventh National Report to the CBD (submitted in February 2026), and its



experience in implementing the Biological Diversity Act, 2002 and the national Access and Benefit-sharing framework are important elements of its engagement with KMGBF implementation. India is also expected to contribute to discussions on issues of particular relevance to developing countries, including resource mobilisation, capacity-building, technology transfer, ABS and DSI, while emphasising the importance of national circumstances and national legislation.

UN BIODIVERSITY CONFERENCE

TAKING ACTION FOR NATURE



COP17 / CP-MOP 12 / NP-MOP 6
YEREVAN ARMENIA
19-30 OCTOBER 2026



The Upside-Down World!

*In a world turned upside down, where animals rule the land,
Humans are the pets now, under strict command.
Lions in the boardroom, tigers in the court,
Elephants as presidents, giving their report.*

*Cows are the chefs, serving grass and hay,
While humans in the fields work hard all day.
Chickens run the schools, teaching cluck and peck,
Humans learn to scratch, with collars on their neck,*

*Dogs are the police, barking out the law,
Cats are the judges, with a mighty paw.
Humans fetch the paper, and roll over too,
For a treat or a pat, they know what to do.*

*Pigs in the spa, getting mud baths so fine,
While humans clean the pens, making sure they shine.
Monkeys in the circus, swinging high and low,
Humans in the cages, putting on a show.*

*Birds in the sky, flying free and grand,
Humans in the kennels, at the animals' command.
Fish in the sea, swimming with delight,
Humans in the tanks, under watchful sight.*

*In this topsy-turvy world, where animals have their say,
Humans learn the lesson, in a funny, twisted way.
Treat all creatures kindly, with respect and care,
For you never know when the roles might switch, beware!*

*Femina S.R.
Young Professional -III (Legal)*

Notes.....



Biodiversity Matters

