



ANNUAL REPORT 2024-25

एक पेड़ माँ के नाम

#Plant4Mother



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



Annual Report 2024-25

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MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



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ABBREVIATIONS

AICOPTAX	: All India Coordinated Project on Capacity Building in Taxonomy	GBPNihe	: G.B. Pant National Institute of Himalayan Environment
A.W	: Animal Welfare	GEAC	: Genetic Engineering Approval Committee
BSI	: Botanical Survey of India	GEF	: Global Environment Facility
BUR	: Biennial Update Report	GIM	: Green India Mission
CAMPA	: Compensatory Afforestation Fund Management and Planning Authority	GLOBE	: Global Learning & Observation to Benefit the Environment
CBD	: Convention on Biological Diversity	GOI	: Government of India
CDM	: Clean Development Mechanism	GSDP	: Green Skill Development Programme
CES	: Centre for Ecological Science	HSMD	: Hazardous Substance Management Division
CMW	: Conservation and Management of Wetlands	ICIMOD	: International Centre for Integrated Mountain Development
COP	: Conference of the Parties	IFS	: Indian Forest Service
CPA	: Control of Pollution Air	IGPP	: Indira Gandhi Paryavaran Puraskar
CPB	: Cartagena Protocol on Biosafety	INCCA	: Indian Network for Climate Change Assessment
CPCB	: Central Pollution Control Board	IPCC	: International Panel on Climate Change
CPW	: Control of Pollution Water	MBP	: Man and Biosphere Programme
CRZ	: Coastal Regulation Zone	MoEF&CC	: Ministry of Environment, Forest and Climate Change
CSD	: Commission on Sustainable Development	NATCOM	: National Communication
CT	: Clean Technology	NBA	: National Biodiversity Authority
DSS	: Decision Support System	NBAP	: National Biodiversity Action Plan
DTEPA	: Dehanu Teluka Environment Protection Authority	NCZMA	: National Coastal Zone Management Authority
EIVR	: Entities of Incomparable Value Regulations	NEPTRI	: National Environmental Protection Training and Research Institute
ENVIS	: Environmental Information System	NESFP	: National Environmental Science Fellows Programme
EPTRI	: Environment Protection Training & Research Institute	NFA	: National Fellowship Awards
ESA	: Ecologically Sensitive Areas		



NFAP	: National Forestry Action Programme
NFC	: National Forest Commission
NGO	: Non Governmental Organisation
NGRBA	: National Ganga River Basin Authority
NGT	: National Green Tribunal
NLCP	: National Lake Conservation Plan
NMCG	: National Mission on Clean Ganga
NMNH	: National Museum for Natural History
NNRMS	: National Natural Resources Management Systems
NTCA	: National Tiger Conservation Authority
NZP	: National Zoological Park
OC	: Ozone Cell
OL	: Official Language
PE	: Project Elephant
PG	: Public Grievances
PT	: Project Tiger
RE	: Research in Environment
RFD	: Results Framework Document
RO	: Regional Office
ROHQ	: Regional Office Head Quarter

RT	: Research & Training
RTI	: Right to Information
SACON	: Salim Ali Centre for Ornithology & Natural History
SBA	: Swachh Bharat Abhiyan
SD	: Sustainable Development
SDG	: Sustainable Development Goals
SICOM	: Society for Integrated Coastal Management
SOER	: State of Environment Report
STP	: Sewage Treatment Plants
TOF	: Trees Outside Forest
UNCCD	: United Nations Convention to Combat Desertification
UNDP	: United Nations Development Programme
UNEP	: United Nations Environment Programme
WCCB	: Wildlife Crime Control Bureau
WGEEP	: Western Ghat Ecology Expert Panel
WHC	: World Heritage Conservation
WII	: Wildlife Institute of India
ZSI	: Zoological Survey of India



LiFE

Lifestyle for
Environment



ROLE AND MANDATE OF THE MINISTRY



ROLE AND MANDATE OF THE MINISTRY

The Ministry of Environment, Forest and Climate Change (MoEF&CC) is the nodal agency in the Central Government for overseeing the implementation of India's environment and forest policies and programmes relating to conservation of the country's natural resources including lakes and rivers, its biodiversity, forests and wildlife and prevention and abatement of pollution as well as for designing strategies for climate change adaptation and resilience. While implementing these policies and programmes, the Ministry is guided by the principle of sustainable development. The Ministry is also the nodal agency for the United Nations Environment Programme (UNEP), South Asia Co-operative Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD) and the United Nations Conference on Environment and Development (UNCED). The Ministry also coordinates with multilateral bodies such as the Commission on Sustainable Development (CSD), Global Environment Facility (GEF) and regional bodies such as Economic and Social Council for Asia and Pacific (ESCAP) and South Asian Association for Regional Cooperation (SAARC) on matters pertaining to environment. A national Compensatory Afforestation Fund Management and Planning Authority (CAMPA) has been

constituted to lay down guidelines for State CAMPA, monitor/assist/ and provide recommendations to State CAMPA and resolve issues.

2. The broad objectives of the Ministry are:

- Conservation and survey of flora, fauna, forests and wildlife
- Afforestation and regeneration of degraded areas
- Protection of environment and wildlife
- Coordination for Country's action plan to combat Climate Change
- Prevention and control of pollution
- Facilitate activities related to India's commitments and obligations with three Rio Conventions i.e. United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention to Combat Desertification (UNCCD) and Convention on Biological Diversity (CBD) and related reporting process.
- Facilitate activities related to Basel, Rotterdam, Stockholm Conventions and enable India to meet its commitments as per Montreal Protocol under the Vienna Convention

3. These objectives are well supported by a set of legislative and regulatory measures, aimed at the preservation, conservation and protection of the



environment, forests and wildlife. Besides the legislative measures, a National Conservation Strategy and Policy Statement on Environment and Development, 1992; National Forest Policy, 1988; a Policy Statement on Abatement of Pollution, 1992; National Environment Policy, 2006 and National Action Plan on Climate Change (NAPCC) also guide the Ministry's work.

4. **Subject under the Ministry of Environment, Forest and Climate Change**

The following items of work have been allocated to the Ministry of Environment, Forest and Climate Change as per the (Allocation of Business) Rules, 1961 available on the website of Cabinet Secretariat (last amended on 27.9.2024).

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE (PARYAVARAN, VAN AUR JALVAAYU PARIVARTAN MANTRALAYA)¹

1. Environment and Ecology, including environment in coastal waters, in mangroves and coral reefs but excluding marine environment on the high seas.
2. Environment Research and Development, education, training, information and awareness.
3. Environmental Health.
4. Environmental Impact Assessment.
5. Forest Development Agency and Joint Forest Management Programme
6. Survey and Exploration of Natural Resources particularly of Forest, Flora, Fauna, Ecosystems etc.
7. Bio-diversity Conservation including that of lakes and Wetlands.
8. **Omitted.**²
- 8A **Omitted.**³
9. Wildlife conservation, preservation, protection planning, research, education, training and awareness including Project Tiger and Project Elephant.
10. International co-operation on Issues concerning Environment, Forestry and Wildlife.
11. Botanical Survey of India and Botanical Gardens.
12. Zoological Survey of India.
13. National Museum of Natural History.
14. Biosphere Reserve Programme.
15. National Forest Policy and Forestry Development in the country, including Social Forestry.
16. All matters relating to Forest and Forest Administration in the Union territories.⁴
17. Indian Forest Service.
18. Wild Life Preservation and protection of wild birds and animals.
19. Fundamental and applied research and



- training including higher education in forestry.
20. Padmaja Naidu Himalayan Zoological Park.
 21. National Assistance to Forestry Development Schemes.
 22. Indian Plywood Industries Research and Training Institute, Bangalore.
 23. Afforestation and Eco-Development which shall include National Afforestation and Eco Development Board.
 - 23 A. Bio-fuel plantations in forest, wastelands and environmental issues concerning bio-fuels.⁵
 24. Desert and Desertification.
 25. Forest Survey of India.
 26. Indian Institute of Bio-diversity, Itanagar.
- » ¹ Modified vide Amendment series no. 306 dated 31.07.2014
- » ² Omitted vide Amendment series no. 350 dated 14.06.2019 (Earlier substituted vide Amendment series no.306 dated 31.07.2014).
- » ³ Omitted vide Amendment series no. 350 dated 14.06.2019 (Earlier inserted vide Amendment series no.306 dated 31.07.2014).
- » ⁴ Modified vide Amendment series no. 300 dated 26.02.2012
- » ⁵ Inserted vide Amendment series no. 287 dated 12.07.2006
27. Central Pollution Control Board.
 28. G.B.Pant Institute of Himalayan Environment & Development.
 29. Wildlife Institute of India and Indian Board for Wildlife.
 30. Indian Institute of Forest Management.
 31. Central Zoo Authority including National Zoo Park.
 32. Indian Council of Forestry Research & Education.
 33. Andaman and Nicobar Islands Forest and Plantation Development Corporation Limited.
 34. **Omitted.**¹
 35. **Omitted.**²
 36. **Omitted.**³
 - 36 A. Climate change and all other matters related thereto.⁴
 37. **Omitted.**⁵
 38. **Omitted.**⁶
 39. **Omitted.**⁷
 40. The Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974).
 41. The Water (Prevention and Control of Pollution) Cess Act, 1977 (36 of 1977).
 42. The Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981).
 43. The Indian Forest Act, 1927 (16 of 1927).
 44. The Wild Life (Protection) Act, 1972 (53 of 1972)



45. The Forest (Conservation) Act, 1980 (69 of 1980). » D/o Animal Husbandry and Dairying).
46. The Environment (Protection) Act, 1986 (29 of 1986). » ³Omitted vide Amendment Series no. 349 dated 04.04.2019 (transferred to D/o Animal Husbandry and Dairying).
47. The Public Liability Insurance Act, 1991 (6 of 1991). » ⁴ Inserted vide Amendment series no. 306 dated 31.07.2014.
48. The National Green Tribunal Act, 2010 (19 of 2010).⁸ » ⁵Omitted vide Amendment Series no. 349 dated 04.04.2019 (transferred to D/o Animal Husbandry and Dairying).

NOTE :-

The Ministry of Environment, Forest and Climate Change will be responsible for overall policy inrelation to forests, except all matters, including legislation, relating to the rights of forest dwelling Schedule Tribes on forest lands.⁹

- » ¹Omitted vide Amendment Series no. 349 dated 04.04.2019 (transferred to D/o Animal Husbandry and Dairying).
- » ²Omitted vide Amendment Series no. 349 dated 04.04.2019 (transferred to D/o Animal Husbandry and Dairying).
- » ⁶Omitted vide Amendment Series no. 334 dated 06.07.2017.
- » ⁷Omitted vide Amendment Series no. 334 dated 06.07.2017.
- » ⁸Inserted vide Amendment series no. 334 dated 06.07.2017.
- » ⁹Inserted vide Amendment series no. 285 dated 17.03.2006.



LiFE
Lifestyle for
Environment



CHAPTER : 1

Mission LiFE



CHAPTER - 1

MISSION LIFE

1.1 Lifestyle for Environment

a. Introduction

LiFE was envisioned as an India-led global mass movement to nudge individual and community behaviour towards sustainable actions for the environment. Introduced by the Hon'ble Prime Minister at COP26 in Glasgow, LiFE—Lifestyle for Environment—calls for lifestyle changes to address climate change.

At COP26, Hon'ble PM's announcement of L.I.F.E was as follows:

“This One-Word, in the context of climate, can become the foundation of One World. This is a word - LIFE...L, I, F, E, i.e. Lifestyle For Environment. Today there is a need for come together, with collective participation, to take Lifestyle For Environment (LiFE) forward as a campaign. This can become a mass movement of Environmentally Conscious Lifestyle. What is needed today is Mindful and Deliberate Utilization, instead of Mindless and Destructive Consumption. These movements together can set goals that can revolutionize many sectors and diverse areas such as fishing, agriculture, wellness, dietary choices, packaging, housing, hospitality, tourism, clothing, fashion, water management and energy.”

To reflect India's commitment to LiFE, it was included in India's updated Nationally Determined Contributions to the UNFCCC. The text reads;

“To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation

and moderation, including through a mass movement for 'LiFE'– 'Lifestyle for Environment' as a key to combating climate change.”

The concept of LiFE only grew larger and larger, and on the occasion of World Environment Day, 5th June 2022, the Hon'ble Prime Minister announced Mission LiFE. NITI Aayog launched the LiFE Global Call for Ideas on the occasion. Building on the same, on 20th October 2022, Hon'ble Prime Minister launched Mission LiFE in the presence of the UN Secretary General, António Guterres at Kevadia, Gujarat. The LiFE logo and Mission Document were released at this event.

b. Important activities undertaken

i. International Platforms

- i.) The United Nations Environment Assembly (UNEA), at its Sixth Session held in Nairobi, Kenya, on 1st March, 2024, unanimously adopted the resolution on promoting sustainable lifestyles (UNEP/EA.6/Res.8) submitted by India and co-sponsored by Sri Lanka and Bolivia which is a significant move forward on globalisation of the concept of Lifestyle for Environment (LiFE).
- ii) A side event was organized at Summit of the Future conference at New York from 19-21 Sept, 2024. The delegation was led by Secretary, EF&CC. Apart from the side event, the delegation also attended various meetings with the heads of several UN agencies based in New York.



High Level Delegation at the Summit of the Future

- iii) India has been taken on board of 10 years Framework of Programme on Sustainable Consumption and Productions India securing a position as Board Member on the Board of 10-Year Framework of Programmes for sustainable consumption and production patterns is a global acknowledgement of India's leadership and efforts towards promoting sustainable lifestyles.
- iv) Mission LiFE kits have been distributed at the 16th meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) during 21 October–1 November 2024 at Cali, Columbia.

II. National Platforms

i. Co-branding of Mission LiFE

Mission LiFE was co-branded at International Coastal Clean-up Day organized by MoEFCC with Government of Maharashtra at Juhu Beach, Mumbai on 21 Sept, 2024 through standees, etc.



Mission LiFE co-branded at International Coastal Clean-up Day on 21 Sept, 2024 at Juhu Beach, Mumbai

- ii. To catalyse pan-India advocacy and awareness about LiFE, a mass mobilisation drive was undertaken from 26th May 2024 to 5th June 2024 in the run-up to World Environment Day programme on 5th June, 2024 requesting Central Ministries/ Departments to align their activities with the theme of WED 2024.
- iii. Two dedicated portals for LiFE, for dissemination of resource materials and to create a structured reporting format that can track the progress made on propagation of LiFE concepts are in place.
- iv. Every month, the Ministry focuses on one of the 7 themes of LiFE and creatives are shared on the Social Media Platforms.
- v. **Pavilions on LiFE**
LiFE Pavilions were set up at Bharat Parv at Red Fort (23-31 Jan, 2024), Swachh Vayu Diwas at Jaipur (7 Sept, 2024), at 8th India Water Week, Bharat



Mandapam, New Delhi (17-19 Sept, 2024) and Manakumbh Prayagraj, 2025. These pavilions increased awareness about LiFE and increased its outreach.



LiFE Pavilion at 8th India Water Week, Bharat Mandapam, New Delhi (17-19 Sept, 2024)



LiFE Pavilion on the eve of Swachh Vayu Diwas 2024 at Jaipur

vi. Ideas4LiFE

Ideas4LiFE initiative was launched by Hon'ble Minister EF&CC Shri Bhupender Yadav, on 29th July, 2024 at IIT Delhi inviting Students/ Faculty Members/ Research Scholars to submit their ideas on the dedicated portal <https://ideas4life.in> in order to generate practical and impactful

solutions that support the Mission's vision of promoting citizen centric environment friendly lifestyle to combat climate change. A total of 1384 ideas were received under this initiative. Three Phase evaluation process of ideas with the third phase under the aegis of National level Jury is currently under progress.



Ideas4LiFE Launch Event at IIT Delhi



Ideas4LIFE Event at IIT Bombay



c. Progress/ Achievements both cumulative:

- i. Two portals developed-** The Mission LiFE Portal offers open access to resources and stores Action Plans of Ministries/Departments, while the Meri LiFE Portal enables Ministries, Departments, and Institutions to upload reports on actions, events, and track the progress of the mass mobilization drive.
- ii. Mass Mobilisation Campaign-** Meetings held with Line Ministries seeking their Action plans for the World Environment Day, 2024. On the Global call from Hon'ble Prime Minister on 5th June, 2024, #Plant4Mother campaign was launched with the target to plant 80 crore plants by Sept, 2024 and 140 crore by March, 2025. As on 25.01.2025 total of 108.33 crore plants have been planted across the Nation.
- iii. CoP 16 on Biodiversity:** Promotional material of LiFE were distributed at 16th meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) during 21 October–1 November 2024 at Cali, Columbia
- iv. Social Media Outreach-** Social media outreach has been ongoing since the launch of LiFE on 20th October 2022, on all MoEF&CC's social media platforms. The key hashtags, MissionLife and ProPlanetPeople, have reached a global audience.

1.2 Meri LiFE Portal

The Meri LiFE Portal is a digital platform launched as part of the Government of India's Mission LiFE (Lifestyle for Environment) initiative by MoEFCC. The portal enables Ministries, Departments, and Institutions to upload reports on actions, events, and see the progress of the mass mobilization drive focused on seven themes of Mission LiFE.

So far, more than 4.71 crores people have participated in 27.96 Lakhs Mission LiFE action events. Meri LiFE has exemplified the convergence of public, private, and youth partners in advancing climate action, involving collaboration across 78+ ministries and departments across the Government of India, private sector, civil society organisations.



Snippet of data analysis of action, awareness, pledge events across different Line Ministries.





Snippets of LiFE events of different Ministries from different states

1.3 एक पेड़ माँ के नाम (Plant4Mother)

a. About the Campaign The tree plantation campaign “एक पेड़ माँ के नाम” (#Plant4Mother) was launched by Hon’ble Prime Minister Narendra Modi on June 5, 2024, on World Environment Day, with the planting of a Peepal sapling at Buddha Jayanti Park, New Delhi. The campaign draws a symbolic connection between the nurturing of nature by Mother Earth and the care provided by human mothers. The Prime Minister urged individuals worldwide to plant a tree in honour of their mothers, signifying love, respect, and commitment to protecting trees and the planet. Led by the Ministry of Environment, Forest, and Climate Change (MoEFCC), the campaign has both national and global dimensions, promoting tree plantations across India and internationally.

Objectives:

1. Environmental Sustainability: Increase green cover to combat climate change and foster ecological restoration.
2. Community Engagement: Inspire individuals to connect emotionally with tree plantations, ensuring long-term care and survival.
3. Global Outreach: Expand the campaign’s reach by involving Indian Missions abroad and international platforms.
4. Capacity Building: Equip stakeholders with tools, knowledge, and resources for sustainable plantation efforts.



5. **Land Restoration:** Address land degradation, drought resistance, and desertification through afforestation.

Components:

1. Species Selection:

The campaign prioritises planting indigenous tree species to enhance survival rates, strengthen local ecosystems, and ensure ecological balance. Coastal regions are focusing on mangrove plantations under the Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI). Species guidelines are available on the MeriLiFE and BSI ENVIS portals.

2. National Component:

Plantation activities follow the “Whole of Government” and “Whole of Society” approach, engaging state governments, local bodies, schools, and community-based organizations. The Department of School Education and Literacy (DoSEL) mobilized over 7.5 lakh Eco-Clubs to plant trees as part of their environmental interventions. Designated nodal officers at state and district levels oversee coordination with stakeholders.

3. Global Component:

Indian Missions and Embassies have been tasked with promoting the campaign abroad. Platforms like the MeriLiFE portal allow global participants to log their plantation activities. The campaign has been featured at prominent international

events, including COP 29 (Biodiversity), UNCCD COP 16, and UNEP forums, amplifying its reach and recognition.

4. Monitoring and Review:

The MeriLiFE portal tracks plantation activities through crowdsourced data, with dedicated training sessions and an SOP ensuring effective data collection. Over 102 crore plantations have been recorded on the portal as of November 28, 2024.

Targets:

The campaign set ambitious plantation goals:

1. 80 crore saplings by September 2024 (achieved on 25 September 2024).
2. 140 crore saplings by March 2025.

These targets encompass efforts by individuals, organizations, and government agencies nationwide, with the Department of Forests playing a pivotal role in implementation.

b. Progress and Achievements:

Plantation Milestones: 80 crore saplings were planted by September 2024, and over 108 crore plantation activities have been recorded on the MeriLiFE portal.

Participation of all Ministries: All Ministries of Government of India has participated in the campaign.

Community Participation: Extensive collaboration with schools, NGOs, and Eco-Clubs.

Global Engagement: International



recognition through participation in key global forums and promotion by Indian Missions abroad.

Awareness and Training: Regular training sessions for stakeholders and detailed guidelines for data uploading have streamlined campaign activities.

Biodiversity Restoration: Focus on indigenous species and mangrove plantations has revitalized ecosystems, combating climate change and promoting resilience.

1.4 Green Credit Program

The Central Government has notified Green Credit Rules, 2023 on 12th October 2023 under the Environment Protection Act, 1986. These rules put in place a mechanism to encourage voluntary environmental positive actions resulting in issuance of Green Credits. To begin with, voluntary tree plantation is envisaged on degraded land, waste land, watershed areas, etc under the control and management of Forest Departments.

The Ministry published notification for 'Methodology for calculation of green credit in respect of tree plantation' on 22nd February 2024.

Salient Features of Tree Plantation under GCP

- The focus of work for plantation on degraded forest areas under the GCP is on eco-restoration of degraded forests.

- Forest Departments will register degraded forest land on the portal. These land parcels will be offered for taking up plantation.
- Entities such as Industries/institutions, State Governments, Philanthropies may take up plantation activity. Initially, Public Sector Undertakings (PSUs) are being involved for afforestation/eco-restoration under GCP.
- Entities/Private Sector shall provide fund to Forest Department to undertake plantation activity on their behalf. Entities will get Green Credits (GCs) corresponding to the funds provided. GCs will be issued based on methodology and guidelines.
- GCP Portal (<https://moefcc-gcp.in/>) has been developed to enable registration of Forest Department (implementing agency)/plantation land blocks/entity, selection of land parcels by entity, demand note generation, payment of fund, issuance of green credits and monitoring.



CHAPTER : 2

ENVIRONMENT - ABATEMENT OF POLLUTION, POLICY AND LAW



CHAPTER - 2

ENVIRONMENT - ABATEMENT OF POLLUTION, POLICY AND LAW

2.1 Control of Pollution Scheme

The Ministry of Environment, Forest & Climate Change administers the Central Sector Scheme - "Control of Pollution" to curb environmental pollution. For the FY 2024-25, the total budget (under RE) of the scheme is ₹ 858 Crore. The CP Division releases a major part of the funds to CPCB and some parts to other agencies as per the EFC/guidelines of the scheme. The CPCB further releases the funds to SPCBs and other implementing agencies according to the approved proposals. The main objective of the Control of Pollution scheme is to monitor air quality across the country and take appropriate air pollution mitigation measures, besides monitoring water quality and noise levels in the country. The Control of Pollution scheme has been operational since 2018; the component under the scheme is as mentioned below:

2.1.1 National Clean Air Programme (NCAP):

In order to address the air pollution in a comprehensive and holistic manner, as envisioned by the Hon'ble Prime Minister, the Central Government launched National Clean Air Programme (NCAP) in 2019. The programme follows an integrated, collaborative, multi-scale and cross sectoral approach with an objective to reduce PM10 levels by up to 40% or achievement of national

standards (60 microgram/cubic meter) by 2025-26 in identified 130 cities including non-attainment cities and cities with million plus population.

Action Plans under NCAP

- ▶ NCAP focuses on preparation and implementation of national level action plan, state level action plans and city-specific plans of the targeted 130 cities.
- ▶ The national level plan includes the action plans, schemes/programmes of 07 line ministries (MoP, MoRTH, MoHUA, MNRE, MHI, MoAFW & MoPNG).
- ▶ All 24 States/UTs covered under NCAP have prepared their State Action Plans.
- ▶ All 130 cities have also prepared their City action plans to address air pollution in various sectors viz. vehicular emissions, road dust, construction, solid waste management and industrial pollution. Further, Annual Action Plans and Hotspot Action Plans have also been prepared by the Cities.

Financial Support

- ▶ Funding for implementation of city Action Plans (CAPs) is mobilized through the convergence of resources from various Central Government schemes such as Swachh Bharat Mission, Urban (SBM-U), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart City Mission (SCM), Sustainable



Alternative Towards Affordable Transportation (SATAT), Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME-II), and Nagar Van Yojana (NVY), as well as resources from State/UT Governments and agencies like Municipal Corporations and Urban Development authorities.

- ▶ In addition, an allocation of Rs. 19,611 crore has been made for 130 cities. It includes Rs.16,539 crore allocation to 48 million plus cities through 15th Finance

Million Plus City Challenge Fund (MPCCF) for the period FY 2021-22 to 2025-26, and Rs.3072 crore to remaining 82 cities through Control of Pollution Scheme of MoEFCC for the period FY 2019-20 till 2025-26. These are performance linked grants for critical gap funding to implement air pollution mitigation measures, and release of funds is linked to with air quality improvement performance and achievement of annual targets (PM10 reductions) in respective cities.

**Allocation, release and utilization of funds
Financial Status under NCAP & XVFC Funds in 130 Cities**

Rs. in Crores

	Year	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	Total
NCAP (82 cities)	Allocation	224.92	150.52	96.62	596.60	700.00	750.00	750.00	3,268.66
	Total Fund Released	224.92	150.52	96.62	476.27	667.14			1,615.47
	Total Fund Utilized	25.65	58.02	146.88	157.23	455.58	261.64		1,105.00
	Utilization Percentage	11.40	38.55	152.01	33.01	68.29	261.64		68.40
XV-FC (42+6 MPCs)	Allocation	-	4,400.00	2,217.00	2,299.00	2,431.00	2,571.00	2,621.00	16,539.00
	Total Fund Released	-	4,400.00	2,025.00	1,932.63	1,238.03			9,595.66
	Total fund Utilized	-	370.64	1,562.06	2,237.02	2,130.93	741.75		7,042.39
	Utilization Percentage	-	8.42	77.14	115.75	172.12	741.75		73.39
Overall (130 cities)	Total Allocation	224.92	4,550.52	2,313.62	2,895.60	3,131.00	3,321.00	3,371.00	19,807.66
	Total Fund Released	224.92	4,550.52	2,121.62	2,408.90	1,905.17	-	-	11,211.13
	Total Fund Utilized	25.65	428.65	1,708.94	2,394.25	2,586.51	1,003.39	-	8,147.39
	Utilization Percentage	11.40	9.42	80.55	99.39	135.76	1,003.39	-	72.67



- ▶ An amount of Rs.11,211 crore has been released so far, and utilization of Rs 8,150 Cr (about 73%) has been reported.
- ▶ Low fund utilization has been a cause of concern in some of the States such as Karnataka and Punjab. It has been decided to engage with cities of these States for expeditious and effective utilization of the remaining funds and improving overall project performance. Review meetings have already been conducted with Punjab on October 23rd and Karnataka on November 12th, 2024.

Technical Support

- » A National Knowledge Network comprising Institutes of Repute including IITs has been established as a technical advisory group to CPCB/ MoEF&CC for building local technical capacities and to provide technical support to activities under NCAP.
- » Institutes of Repute (IoRs) have been identified for all non-attainment and million plus cities as a local technical partner for improving air quality.
- » One dedicated technical person has been deployed at each Urban Local Body (ULB) and State Pollution Control Board to support Project Management Units (PMUs) for effective implementation of the programme. PMUs have been set up at MoEFCC, CPCB, 24 SPCB/PCCs and 130 cities to assist and accelerate implementation of NCAP.
- » Nodal officers from CPCB have also been designated for each city to provide necessary technical guidance and to

monitor implementation of NCAP at ground level.

- » Training and capacity building programmes have been organized for technical personnel engaged in NCAP implementation.
- » Regional workshops under NCAP have been organized by MoEFCC and CPCB to sensitize various stakeholders involved in air quality management programme. These workshops are aimed to create a momentum towards clean air actions at the local levels by discussing and sharing knowledge, experiences, and best practices about clean air.
- » Source Apportionment (SA) studies have also been taken up for assessment of contributions of different sources and accordingly prioritizing the actions. So far, such studies have been completed in 72 cities.

Monitoring, Evaluation and Reporting

- » A web-based portal "PRANA – Portal for Regulation of Air-pollution in Non-Attainment cities" has been developed and made operational for paperless monitoring of NCAP implementation. It supports tracking of physical as well as financial status of the implementation of city's air action plan and disseminate to the public information on air quality management efforts under NCAP.
- » Various Committees have been set up at National, State and City level to guide, oversee, coordinate and monitor implementation of the programme and



action plans by various stakeholder agencies/ Departments/ Ministries, which are as follow: -

a. National Level

- i. Apex Committee under Chairmanship of Hon'ble Minister, EFCC
- ii. Steering Committee under the Chairmanship of Secretary, EFCC
- iii. Monitoring Committee under the Chairmanship of Additional Secretary, MoEFCC
- iv. Implementation Committee under the Chairmanship of Chairman, CPCB

b. State Level

- i. Steering Committee under the Chairmanship of Chief Secretary
- ii. Implementation Committee under the Chairmanship of Additional Chief Secretary/Principal Secretary, Environment

c. City Level

- i. City level Implementation and Monitoring Committee under the Chairmanship of District Collector/ Municipal Commissioner.
- ii. CPCB Regional Directorates have been conducting field verifications of the implementation of city action plans on quarterly basis.
- iii. Framework for conducting third party audit of activities implemented by cities under NCAP has also been developed.

Swachh Vayu Sarvekshan

- » Swachh Vayu Sarvekshan is a significant initiative undertaken by the MoEF&CC to rank cities based on their performance by taking measures to abate emissions from biomass/ municipal solid waste, road dust and construction and demolition waste, industries, vehicles and improvement in air quality.
- » To encourage cities to improve air quality in respective cities and provide healthy competition, better performing cities are ranked and awarded under "Swachh Vayu Sarvekshan". This is being given since the year 2022.
- » Three cash awards are given in each of the three categories based on population criteria: (Category 1: > 10 lakh; Category 2: 3 to 10 lakh; and Category 3: < 3 lakh population). Total 09 awards are given. The award money ranges from 12.5 lakh to 1.5 Cr which is given to the ULBs for undertaking air quality improvement measures.
- » This year, the following cities were awarded on Swachh Vayu Diwas i.e. 7th September, 2024 (International Day of Clean Air for Blue Skies);
 - i. Category 1: 1. Surat 2. Jabalpur and 3. Agra received Rs 1.5 Cr, 1 Cr. and 50 lakhs respectively;
 - ii. Category 2: 1. Firozabad 2. Amrawati and 3. Jhansi received Rs 75 lakh, 50 lakh and 25 lakhs respectively;
 - iii. Category 3: 1. Raebareli 2. Nalgonda



and 3. Nalagarh received Rs 37.5 lakh, 25 lakh and 12.50 lakh respectively

Other Interventions by Central Government

- i. Emission standards for more than 80 industries have been notified under Environmental (Protection) Rules, 1986
- ii. Some of the emission standards recently notified/ revised:
 - Thermal power plants
 - Diesel/ petrol/ CNG generator sets
 - Industrial boilers
 - Lime Kilns
 - Brick kilns and conversion of zig-zag technology
 - Calcinated petcoke industry
 - Hot mix plants
- iii. Leapfrogging to Bharat Stage-VI (BS-VI) emissions norms from 1st April, 2020
- iv. Vehicle Scrapping Policy, i.e. Voluntary-Vehicle Fleet Modernization Program as part of which State Governments are required to set up Registered Vehicle Scrapping Facilities (RVSF) and Automated Testing Stations (ATS) for scrapping and recycling of old vehicles and provide incentives for vehicle owners. More than 72 vehicle scrapping centres have come up so far.
- v. Waste management rules for solid waste, plastic waste, hazardous waste, e-waste, battery waste, biomedical waste, and fly ash from TPPs
- vi. Market-based Extended Producer Responsibility (EPR) regulations introduced for waste categories, viz. plastic packaging, e-waste, battery waste, waste tyres & used oil.
- vii. EPR framework for End-of-life vehicles, metal scrap and C&D waste - draft published
- viii. Mandate for utilisation of minimum 5% of crop residue along with coal (pellets/ briquettes) in thermal power plants in NCR and adjoining areas
- ix. Based on airshed approach, a framework for air quality management in IGP airshed has been developed for focussed actions in this region
- x. Hon'ble Prime Minister launched the एक_पेड़_माँ_के_नाम Plant4Mother global campaign on World Environment Day, 5th June 2024, by planting a Peepal tree sapling at Buddha Jayanti Park, New Delhi. In response to the Hon'ble Prime Minister's call, 130 cities under NCAP carried out a major plantation drive and planted about 64.66 lakhs saplings. Total 102 crore saplings were planted by November 2024 in the country.

1. Work Progress

Progress of Works completed so far in 130 cities under NCAP in respect of some of the action points is as mentioned below:

- End-to-end Pavement of Roads – 33,826



Km added

- Mechanical Road Sweeper (MRS) – 762 Nos. deployed (22,860 Km/Day)
- C&D waste processing capacity – 19,780 TPD added
- Green Area Developed – 33,671 Ha
- No. of Industries shifted to clean fuel – 11,870
- Clean fuel-based crematorium – 293
- No. of EV Charging Stations – 6352

2. Air Quality Improvement

NCAP's focused actions have yielded positive results. As per the annual performance assessment carried out for 2023-24, 97 cities out of 130 cities have shown improvement in air quality in terms of PM₁₀ concentrations in FY 2023-24 as compared to base levels of 2017-18.

55 cities have achieved reduction of 20% and above and 23 cities have achieved reduction of 40% and above in PM₁₀ levels in 2023-24 with respect to the levels of 2017-18.

In comparison to 06 cities in 2017-18, 18 cities conform to national ambient air quality standards in terms of Particular Matter concentrations (PM₁₀: 60 microgram/cubic meter) during FY 2023-24.

3. Assistance for Abatement of Pollution to weaker SPCBs/PCCs and to CPCB:

Under the component, the Ministry

supports identified 22 SPCBs/PCCs in meeting expenditure for their day to day functioning in prevention and abatement of pollution. The funds are provided to strengthen statutory mandate, with 50% earmarked for carrying statutory functions for prevention and control of pollution, and up to 50% used for SPCBs/PCCs establishment and office operations. A minimum of 5% is used for e-governance, IT application, and data management. The list of activities for pollution prevention and control includes pollution assessment, technical studies, waste management, waste inventorization, compliance assistance, training, education, lab upgradation, and IT applications development for weaker SPCBs/PCCs and CPCBs.

- **Environmental Monitoring Programme (EMP):** The National Air Quality Monitoring Programme (NAMP) monitors air pollutants namely, PM₁₀, PM_{2.5}, SO₂, NO₂, and other parameters as per the National Ambient Air Quality Standards (NAAQS).
- **National Water Quality Monitoring Network (NWMP)** has been established to assess status of water quality of all major rivers, surface water bodies and ground water. 645 Rivers, 770 Stagnant Water bodies & 1233 Ground water are being covered **under the water quality monitoring network. At present samples are being collected from 4736**



locations (28 States & 7 UTs). Overall 64 parameters are being monitored on monthly basis. 12 Parameters **are being monitored on real-time network basis in** 40 locations on River Ganga & tributaries. **Expansion Plan for manual stations under NWMP is** 5,000 locations by 2025. The water quality data is **disseminated** through CPCB website, INDIA-WRIS.

Under the National Ambient Noise Monitoring Network (NANMN), noise levels network across millions plus cities is being established. The project includes establishing stations, monitoring noise levels for taking noise mitigation measures. Presently, the program supports 70 real-time monitoring stations in 7 metro cities which is proposed to be increased to 226 by 2025-26.

Research and Public Outreach:

Research and developmental projects are sanctioned under this component of the Control of Pollution scheme. At present, following studies are being carried out in the field of air pollution mitigation and control technologies, development of retrofitting of pollution control equipment, environmental standards and development of indigenous facilities for certification, calibration and testing of environmental monitoring equipment and environmental health studies.

i. NPL facility for Online Certification

of CAAQMS and OCEMS.

- ii. Facility for Certification, Testing & Calibration to promote Indigenous "Online Continuous Emissions Monitoring System" (OCEMS) & "Continuous Ambient Air Quality Monitoring System" (CAAQMS).
- iii. Project 'Using Machine Learning to Study Air Quality Data Collected by Pollution Control Boards Across India' aims to study the extensive air quality data from central/state pollution control boards across India with the aid of machine learning.
- iv. **R&D pilot project of Pariyantra filtration/Bus rooftop filtration system**
- v. **Retrofitting Emission Control Technologies in older Diesel Generator (DG) sets**
- vi. **R&D project on Satellite-Based Monitoring of Ambient PM2.5 at the National Level**
- vii. **R&D Projects on Cloud Seeding**

Development of Environmental Standards:

The Ministry of Environment, Forest and Climate Change (MoEF&CC) formulates and notifies standards for emissions or discharge of environmental pollutants viz. air pollutants, water pollutants and noise limits, from industries, operations or processes with an aim to protect and



Grant-in-Aid released to institutions/ organizations including NGOs:

S. No.	Name of Organization	Purpose	Total amount released	Status of third party evaluation	Remarks	
1.	The Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM, a Statutory Body)	Recurring Grant in Aid under 'General', 'Salary' and 'Capital' head as per the approved Detailed Demand for Grant of MoEF&CC.	₹ 13,20,30,000/- (as on 15.12.2024)		General	₹ 7,86,50,000/-
					Salary	₹ 5,33,80,000/-
2.	Central Pollution Control Board (CPCB, a Statutory Body)	Detailed Demand for Grant of MoEF&CC.	₹ 83,50,00,000/- (as on 15.12.2024)		General	₹ 11,00,00,000/-
					Salary	₹ 70,50,00,000/-
					Capital	₹ 2,00,00,000/-

improve the quality of the environment and abate environmental pollution. The standards are framed in consultation with the concerned stakeholders. The process is based on the best practices and techno-economic viability. The notification of standards also involves formulation of load based standards i.e. emissions/discharge limits of pollutants per unit of product obtained/ processes performed to encourage resource utilization efficiency and conservation aspects. The standards for any industrial process/ operation recommended by Central Pollution Control Board (CPCB) are subjected to stakeholder consultation including general public. The comments are compiled and technically examined by CPCB and change, if any, incorporated. In sustained efforts towards control of air/ water pollution caused by various sectors of industries, the Ministry embarked upon developing new standards/ revision of existing standards for various

industrial categories.

Achievements and Progress are as follows:

- Standards across various industrial sectors have been notified/ revised so far. The major sectors include: Thermal Power Plants, Common Effluent Treatment Plants, Sugar Industry, Cement Plants, Textile Industry, Slaughter House, Sewage Treatment Plants, Fertilizer Industry, Airport Noise Standards, Diesel/Petrol/LPG/CNG Gensets, Dust Mitigation Measures for Construction and Demolition Activities, Boilers using industries, Man-made Fibre Industry, Paint Industry, Coffee Processing Industry, Tannery Industry, Kerosene, and Emissions Standards for SO₂ and NO_x for five industrial sectors – Lime Kiln, Ceramic, Glass, Foundry and Reheating Furnaces, Pharmaceutical Industry, PVC Pipes and Fittings, and Membrane based



water purification system etc. The final notifications published in year 2024 on Emission and Discharge Standards under Environment (Protection) Act 1986 are as follows:

1. Amendment on Environmental Standards for Man-made Fibre Industry vide Gazette Notification G.S.R. 75 (E) dated 29.01.2024
2. Amendment of laboratories notification vide Gazette Notification S.O. 2409(E) dated 19.06.2024
3. Amendment to Standards for discharge norms of CETP vide Gazette Notification S.O. 3864(E) dated 09.09.2024

The draft notification published in year 2024 for stakeholders' consultation on Emission and Discharge Standards under Environment (Protection) Act 1986 are as follows:

Environmental Standards for Aluminium Plants vide G.S.R. 680(E) dated 01.11.2024

Commission for Air Quality Management in National Capital Region and Adjoining Areas (CAQM)

- i. The Commission has been constituted under the Commission for Air Quality Management in NCR and Adjoining Areas Act, 2021 up in accordance with the notification dated 23rd April, 2021 towards better coordination, research, identification and resolution of

problems surrounding the air quality index in NCR and adjoining areas and for matters connected therewith or incidental thereto.

- ii. As per the Act, three statutory Sub-Committees (i). Monitoring and Identification, (ii). Safeguarding and Enforcement and (iii). Research and Development have been constituted towards prevention, control and mitigation of air pollution. The Commission has also constituted other Sub-Committees on Graded Response Action Plan (GRAP) for specific purposes besides constitution of Expert Groups for certain tasks towards abatement of air pollution in the region.
- iii. Since its inception, the Commission has been rigorously taking up the issue of air pollution in NCR and adjoining areas and has identified various sectors contributing to air pollution with core focus Industrial Pollution, Pollution from Diesel Generator (DG) sets, Vehicles and Transport sector, Agricultural Stubble Burning, Municipal Solid Waste/ Biomass Burning, Fires in Sanitary Landfills sites, Dust from Construction and Demolition Project activities, Road and Open Areas dust and pollution from dispersed sources etc.
- iv. To guide and direct various actions towards abatement of air pollution



in the region, the Commission in the year 2024 has issued 6 Statutory Directions, 4 Advisories and executive orders to Govt. of NCR States/GNCTD and various agencies concerned in the region for improving of air quality in the region.

- v. A brief of the measures that were initiated / progressed by the Commission in the intervening period, towards abatement of air pollution in the region across various contributory sectors, are as detailed under:

1) INDUSTRIAL POLLUTION

Running of industrial operations on approved/ cleaner fuels has been an area of priority for the Commission since its inception. The Commission is working in close coordination with various stakeholders (NCR States, GNCT of Delhi, CPCB, SPCBs of NCR States and Delhi Pollution Control Committee, etc) to ensure regular audit and inspection of the Industries operating in NCR districts to shift to PNG/cleaner fuels.

A standard list of approved fuels has been issued by the Commission through statutory directions for its implementation in the NCR, targeting transition of all industries in the NCR to the approved fuels.

2) ABATING AIR POLLUTION CAUSED BY DIESEL GENERATOR SETS

Owing to not so reliable power

supply arrangements, particularly in the industrial areas, rampant use of highly polluting Diesel Generator sets was observed by the Commission. Accordingly, to improve upon the power availability and reliability, particularly to abate air pollution in the winter months, review meetings were held with all the DISCOMs operating in Delhi-NCR to ensure uninterrupted reliable power supply in Delhi-NCR to minimize use of DG Sets.

Further, to ensure and facilitate compliance the Commission's Statutory Direction No. 76 dated 29.09.2023 for retro-fitment of various emission control system / devices in existing DG sets for regulated operations of DG sets across all sectors in the NCR including Industrial, Commercial, Residential and Office establishments etc., availability of certified Retrofitted Emission Control Devices (RECDs) as well as laying of gas infrastructure reviewed periodically with manufacturers/providers. Certified RECDs are now available for capacity range of 61 kW to less than 800 kW.

3) POLLUTION CAUSED BY VEHICULAR SECTOR

Towards controlling vehicular pollution caused by older vehicles and to strictly ensure that Petrol/Diesel vehicles more than 10/15 years old do not ply in NCR, in consonance with the Hon'ble NGT directions, also upheld by the Hon'ble



Supreme Court, the Commission has pursued with the States concerned and GNCTD to conduct drive against such vehicles. States have also been pursued to ensure regular certification of vehicles and compliance of emission standards under new "Pollution under Control" (PUC) Certificate regime.

Towards an effective long-term strategy of controlling vehicular emissions, transition to e-mobility has been identified as an important tool by the Commission. With all the NCR States and GNCTD coming up with their respective medium / long term targeted EV Policies, the Commission has also issued an advisory for "Mandating procurement of zero emission and e-vehicles" in identified sectors like Govt. procurements, e-commerce platforms etc.

Nos. of electric vehicles currently registered in NCR upto September 30, 2024, as reported by the State Govts. / GNCT of Delhi are as under:

Delhi – 3,24,109	Haryana – 98,408
UP – 1,19,846	Rajasthan – 21,589

As per the available data (up to September 30, 2024), total 3,497 battery charging stations and 5612 charging points are already in place in the territory of Delhi.

As part of the air pollution control efforts arising from transport sector parking policy needs to be prioritized

as a demand management measure in the NCR. The Commission, accordingly issued an Advisory on 24.04.2024 followed by Statutory Direction No. 82 dated 20.08.2024 to the urban local bodies in Delhi i.e., MCD, NDMC and DCB to comprehensively review and rationalize the parking charges for private vehicles in their respective jurisdictions and complete the exercise latest by 30.09.2024, based on the review of local area - specific integrated parking management plans and associated pricing strategies.

Towards efficient and cleaner public transport services particularly inter-city bus services from adjoining States of Punjab, Himachal Pradesh, Uttarakhand, Madhya Pradesh and UT of J&K, the Commission took up the matter with the adjoining States to endeavor running of bus services between any city / town from these states and Delhi only through EV/CNG/BS-VI Diesel buses. To this effect, in due consultation with and in agreement by the adjoining States, the Commission through Statutory Direction No. 81 dated 14.06.2024 directed that all inter-city bus services to Delhi-NCR from these adjoining States to be switched on cleaner modes only through EV/CNG/BS-VI Diesel buses by 31.12.2024.

4) Dust from Construction and Demolition Project activities

Commission is ensuring compliances



related to various rules and guidelines related to effective dust mitigation measures at C&D sites through inspections. Besides monitoring by the Commission, the State PCBs in NCR and DPCC have also been directed to conduct regular physical inspections of different construction and demolition projects (for plot area ≥ 500 sq.m. & < 500 sq.m.) in their respective jurisdiction.

5) Dust from Roads and Open areas

Pursuant to the directions of the Commission, NCR states and GNCTD have set-up 63 number "Dust Control and Management Cells" for monitoring and implementation of various dust control measures in various road projects/activities with focus on proper maintenance of roads and regular monitoring to keep the roads pot hole free, laying and repairing of roads in a manner which fully supports mechanized sweeping, conversion of non-paved road sides into paved one or into green areas, greening of central verges, cemented roads over the bituminous roads especially in industrial areas and identification of hotspots of road dust and implement in the target specific road dust control measures.

6) Agricultural Stubble Burning

Based on the framework advised by the Commission through direction dated 10.06.2021 to the concerned State

Governments of Punjab, Haryana, Uttar Pradesh, Rajasthan and Government of NCT of Delhi to prepare state specific detailed, monitorable action plans and learnings from the years 2021, 2022 and 2023, action Plans were reviewed, updated and finalised by the State Governments of Punjab, Haryana and Uttar Pradesh for the year 2024. Accordingly, a statutory direction for strict implementation of the framework and revised action plan for prevention and control of paddy stubble burning during the year 2024, targeting to eliminate the practice through strict enforcement was issued to the respective States on 12.04.2024. The Action Plans, *inter-alia*, comprises of following components:-

In-situ Crop Residue Management:

- a. Availability and allocation of CRM machinery
- b. High yield and short duration paddy varieties, as substitute of PUSA- 44.
- c. Harvesting schedule staggered to improve machine utilization
- d. Super SMS mandated with Combine harvester
- e. Extensive use of Bio-decomposer developed by IARI

Ex-situ Crop Residue Management

The Commission from time to time has appropriately communicated and issued directives & advisories to various



stakeholders including the 11 thermal power plants located within 300 km of Delhi, State Governments of Punjab, Haryana and Uttar Pradesh on “Ex-Situ Stubble Management” and to establish an ecosystem and robust supply chain mechanism to boost ex-situ utilisation of straw for tackling the problem of stubble burning. The Commission has also involved coal based Captive Thermal Power Plants in the NCR. The exercise mandated at least 5% co-firing of biomass pellets/torrefied pellets (with focus on paddy straw).

Major alternate usage of paddy straw as economic resource are:

- i. Biomass Power Projects
- ii. Co-firing in Thermal Power plants
- iii. Feed stock for 2G Ethanol plants
- iv. Feed stock in Compressed Biogas

plants

- v. Fuel in Industrial Boilers, WTE plants, Brick Kilns etc.
- vi. Packaging materials, Agri-panels etc.

The paddy residue burning events, through ISRO developed standard protocol for estimation of Crop Residue Burning Events using Satellite Data, in the NCR recorded during 2021, 2022 and 2023 are as under:

IEC Activities

Extensive IEC activities /Awareness programs have been undertaken by the concerned state governments/GNCTD through electronic media, social media, print media, fixing of hoardings, audio-visual clips on TV, broadcast of radio jingles, PA system mounted vans, District and State level ‘kharifgosthi’, ‘Nyay panchayat level kharifgosthi’, demonstration camps etc.

Paddy Residue Burning events (Period: 15th September- 30th November)

Punjab			Haryana			Uttar Pradesh (NCR)			Total (including Delhi and NCR Districts of Rajasthan)		
2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
29999	19463	5041	2576	1579	888	37	53	143	32622	21100	6092

Cumulative Paddy Residue Burning events for the Period: 15th September –6th November during the current year and in previous years

Punjab			Haryana			Uttar Pradesh (NCR)			Total (including Delhi and NCR Districts of Rajasthan)		
2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
71,304	49,922	36,663	6,987	3,661	2,303	252	198	212	78,550	53,792	39,186



7) Graded Response Action Plan

The Commission has comprehensively revisited the contours of the GRAP in vogue, towards an effective implementation mechanism and control on the adverse air quality scenario that generally persists in the entire NCR during the peak winter months. The schedule for GRAP was further reviewed and revised by the Commission in 2024 and Direction No. 83 was issued on 17.09.2024.

The Sub - Committee for Operationalization of GRAP has been reconstituted with Member (Technical), CAQM as its Chairman; and Member Secretary, CAQM; Member, CAQM; and Senior representatives from CPCB; DPCC; HSPCB; RSPCB; UPPCB; IMD; IITM Pune; and Maulana Azad Medical College as its members. Regular review meetings are being conducted by the Sub-Committee to monitor the GRAP.

8) Greening & Plantation

Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) has been interacting on regular basis with the State Governments of Haryana, Rajasthan and Uttar Pradesh, Government of N.C.T of Delhi as well as Central Government agencies and higher education institutions, for increasing green cover in the Delhi NCR region. The Commission sought comprehensive action plans from them for greening/ plantation to abate air pollution. Major

components of the action plans are greening of central verges, greening of open areas along the road side/ right of ways, greening of hotspot areas and other high polluted areas. The plantation targets in the NCR States and GNCTD and the achievement are given below:

Targets and achievement for Greening/ Plantation (No. of saplings) (including trees, shrubs, bamboo, etc.)

States	Target for 2024-25	Plantation till 30.09.2024
Delhi	56,40,593	45,88,659
Uttar Pradesh (NCR)	1,97,56,196	1,86,97,404
Rajasthan (NCR)	55,80,558	60,33,781
Haryana (NCR)	1,32,50,000	1,37,71,216
Total	4,42,27,347	4,30,91,060

To effectively use increased green cover as a dust mitigation and air pollution control measure the following has been envisaged:

- State Governments and other institutions have been advised to lay emphasis on creation of urban forest (dense plantation) using various techniques including Miyawaki technique, keeping in view small areas available in NCR Delhi.
- While interacting with the State Governments concerned and major institutions of higher education, academic and research institutions in the NCR Region, they have been advised to lay special emphasis on involving students, faculty members, staff and residents in the plantation drives.



- Monitoring, post plantation care, survival rate and plantation of native species are key elements of the plantation programme. Regular follow up and review with the State Governments are being conducted in order to effectively implement the greening and plantation programme in the NCR region.
- Involvement of NGOs and RWAs in plantation drive needs to be encouraged and in this regard various IEC activities may be taken up by State governments.
- Expanding the net of "Nagar Van" and "Nagar Vatika", wherever feasible, in urban agglomerations and cities in NCR, including adoption of Miyawaki Technique for dense plantation in limited urban spaces.
- The Commission circulated a list of air pollution tolerant species to all agencies of Govt. of N.C.T of Delhi, State Govts. of Haryana, Rajasthan and Uttar Pradesh, Central Govt. agencies and Higher Education & Research Institutes.
- The Commission has recommended that monitoring/ audit of the plantations shall be undertaken by agencies as it is necessary for verification of the numbers and area covered under the plantation.
- The Commission has advised all the road owning agencies in GNCTD and NCR districts of U.P, Haryana and Rajasthan that they should separately account for greening/ paving of non-paved roads, greening of all central verges and also identification of roads for executing

dense plantation.

9) Abatement of Non-point Dispersed Pollution

For the abatement of Air Pollution from "Non – Point" dispersed sources, public complaints, dispersed / local sources causing air pollution are flagged to the concerned agency electronically through a mobile application (311 App of MCD) as per the Standard Operating Procedure (SoP). Issues are categorized as short term / long term with focus on expeditious resolution of short-term issues and planning for the long-term issues. A total of 2,66,372 issues have been flagged so far, of which 2,15,502 issues (approx. 80.9%) have since been resolved fruitfully as on 24.10.2024.

10 Intensified actions for deteriorated air quality during winter

The Commission has been continually and closely studying the Air Quality parameters and associated meteorological conditions and necessary directions / orders are being issued by the Commission from time to time taking due cognizance of the prevailing adverse climatic and meteorological conditions projected by IMD. In exercise of the powers conferred under section 11(5) of the CAQM Act, 2021 and in exercise of the enabling provisions made thereunder, the Commission re-constituted earlier "Enforcement Task Force" (ETF), with seven-members on 25.09.2024, which meets frequently to



review and take stock of the ground situation to closely monitor the field level implementation and compliances of the various directions and orders issued by the Commission. Non-conformities / non-compliance in respect of various directions and orders identified by the Flying Squads are presented before the Enforcement Task Force for detailed deliberations and deciding action against serious violations.

A total of 40 Inspection Teams/ Flying Squads have been constituted for incognito inspections/surprise checks in various sites across different sectors viz. industry, construction & demolition sites, DG Set operations in commercial/residential complexes, open waste burning and miscellaneous sources across all the NCR districts of Haryana, Uttar Pradesh, Rajasthan and the NCT of Delhi.

The status of Closure Directions approved by the Commission across different sectors and geographical jurisdictions in the NCR, till 06.11.2024 since inception is as under:

Such units / activities were later permitted to resume operations by the Commission following due corrective and preventive measures by such units and the details of

resumptions as on 06.11.2024 are as under:

Sector-wise Resumption Cases			Total	State-wise Resumption Cases			
Industry	C&D Sites	D G Sets		Delhi	Har	UP	Raj
501	323	37	861	123	245	397	96

In addition to above, **94** cases has been transferred to the concerned SPCBs/ DPCC for appropriate actions. Further, compliance status of the **167** units are either under examination and/ or will be examined as on when compliance/ response will be submitted by the entities for resumption.

11 R&D Projects:

The Commission had granted financial assistance for 07 projects under Research and Development scheme of the Commission during 2022-23. Among these, 01 project entitled "Trial of Ambient Air Purification System at Anand Vihar, ISBT, Delhi" executed under the supervision of Principal Investigator, Dr. K.S. Rajan, Professor, Dept. of Chemical Engg. SASTRA Deemed University, Thanjavur has been completed during the year. The conclusions of the study are:

- An average of 30 % reduction in PM2.5 and 25% reduction in PM10 was achieved but limitedly in a zone of influence of

Total sites inspected	No. of closures directions issued				State-wise closure cases			
	Industry	C&D Sites	DG Sets	Total	Delhi	Har	UP	Raj
19,316	619	462	41	1122	159	364	497	102



about 20 meter areas in platform A of the Anand Vihar ISBT, Delhi during the study period September, 2023 to March, 2024.

12 Quarterly reporting:

The Commission has developed a reporting mechanism for quarterly monitoring, to ensure effective enforcement of the air pollution control measures by GNCTD and concerned states in the NCR.

13 Grievance redressal and facilitation

The Commission has set up a grievance redressal mechanism for dealing with the complaints/ grievances received. These are examined for expeditious redressal. Regarding, grievances related to the closure directions issued by the Commission and also for facilitating the resumption of operations, affected entity or general public can meet the officers of the Commission during the designated hours. In addition, public may also meet these officers on any working day as well.

14 Budget Allocation for the Financial Year 2024-25

Budget Allocation approved by the MoEF&CC for the Financial Year 2024-25 under Revised Estimates as on 07.11.2024 is Rs.16.23 crore.

2.2 Central Pollution Control Board

1 Introduction

Under the provisions of the Water (Prevention & Control of Pollution)

Act, 1974, the Central Government constituted the 'Central Board for the Prevention and Control of Water Pollution' on September 23, 1974. The name of the Board was amended to Central Pollution Control Board (CPCB) under the Water (Prevention & Control of Pollution) Amendment Act, 1988 (No. 53 of 1988). The CPCB has been entrusted with the added responsibilities of Air Pollution Control since May, 1981 under the provisions of the Air (Prevention and Control of Pollution) Act, 1981. The enactment of the Environment (Protection) Act, 1986, which is the umbrella legislation for enforcement of measures for protection of environment, and several notifications of Rules under the Act widened the scope of activities of the CPCB.

CPCB is a statutory body and receives 100 % Grant in Aid from the MoEF&CC for executing its functions and responsibilities, with a total budget allocation of Rs. 113.00 Crores as Grant-in-Aid in the Budget Estimate (BE) for FY 2024-25.

1. Important Activities of Central Pollution Control Board

a) Air Quality Monitoring Network

The following steps have been taken to monitor and improvement of air quality:

- » Under Sub-section 2 (h) of Section 16 of the Air (Prevention and Control of Pollution) Act, 1981 National Ambient



Air Quality Standard (NAAQS) has been notified on November 18, 2009 as a policy guideline that regulates the effect of human activity on the environment.

- » CPCB has started National Ambient Air Quality Monitoring Programme (NAMP) in 1984. At present, Ambient air quality monitoring network has 1510 stations, covering 543 cities in 28 States and 7 UTs. Out of these total 1510 stations, 965 stations are manual monitoring stations and 545 stations Continuous Ambient Air Quality Monitoring Stations (CAAQMS).
- » Continuous Ambient Air Quality Monitoring System is a specialized system that is housed in a temperature controlled container/room and is equipped for monitoring of ambient air pollutants using different analyzers. The real time data generated through this system is transferred to Central Server and also to digital display board for public viewing. The data of these CAAQMS are being used for generating the daily National Air Quality Index (NAQI) of the cities.
- » Under CAAQMS the Particulate Matter (PM_{10} & $PM_{2.5}$), Sulphur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Ammonia (NH_3), Carbon Monoxide (CO), Ozone (O_3) and Benzene (C_6H_6) are being monitored at all locations. The CAAQM stations are also equipped with sensors to measure meteorological parameters such as Wind Speed, Wind Direction, Ambient Temperature, Relative Humidity, Solar

Radiation and Rainfall.

- » Air Quality Index (AQI) is being generated on hourly basis through continuous monitoring stations and displayed on CPCB website. Daily AQI bulletin is released where AQI of 289 cities is available as on date. Out of 131 Non-attainment Cities, AQI is generated for 98 cities with the data generated through CAAQMS.
- » National Clean Air Programme (NCAP) was launched in 2019 by the Ministry of Environment, Forest and Climate Change (MoEF&CC) to achieve 20 to 30% reduction in Particulate Matter concentrations by 2024 across the country. Target has been revised to achieve reduction in PM_{10} level up to 40% or achievement of national ambient air quality standards ($60 \mu g/m^3$) by 2025-26.
- » Non-attainment cities (NACs) based on air quality levels exceeding NAAQS were identified based on air quality data during 2015-19 and Urban Agglomerations with more than million plus population in States were identified for recommending special air quality management grants. Clean Air City Action Plans have been prepared and are being implemented in 131 identified NACs and million plus cities.
- » "PRANA" – Portal for Regulation of Air-pollution in Non-Attainment cities, has been developed for monitoring implementation of National Clean Air



Programme (NCAP) and is available on www.prana.cpcb.gov.in. PRANA endeavors to support tracking of physical as well as financial status of city air action plan implementation and disseminate information on air quality management efforts under NCAP to public.

b) Water Quality Monitoring Network

The following steps have been taken to monitor and improvement of water quality:

- » CPCB in association with State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs) has established water quality monitoring network under National Water Quality Monitoring Programme (NWMP). Network strength has been enhanced to 4736 locations. Water quality monitoring at these locations is carried as per the Guidelines for Water Quality Monitoring, 2017 circulated by MoEF & CC.
- » The network comprises of monitoring locations in 28 States and 7 Union Territories (UTs). Monitoring network covers 46% locations on rivers (2155 locations), 19% locations on Stagnant water bodies (909 locations), 26% locations on Ground Water (1233 locations) and 5% locations on Coastal (227 locations) & 4% locations on Others water bodies (212 locations).
- » Real Time Water Quality Monitoring of River Ganga is carried out at 40 stations (Main stem -17; Tributaries-23) for 12 parameters including pH, BOD, DO, Temperature, EC, Chloride, COD, Turbidity, Nitrate, TOC, water level and water depth.
- » Water Quality of river Ganga is monitored manually at 112 locations and it is observed that:
 1. No incidence of coloured water discharge and fish mortality since 2017 in river Ganga.
 2. Entire stretch of river Ganga was meeting bathing criteria for pH (6.5 - 8.5), Dissolved Oxygen (DO) (≥ 5 mg/l) and Bio-chemical Oxygen Demand (BOD) (≤ 3 mg/l) except marginal exceedance in terms of BOD (3.2 to 4.4 mg/L) in stretches / locations namely from (i) (upstream Kannauj to Purana Rajapur, Kanpur (ii), Dalmau, Raibareilly (iii) Dheemi, Pratapgarh & (iv) Mirzapur downstream to Tarighat, Ghazipur (except upstream Varanasi) in Uttar Pradesh.
 3. Stretch from Gangotri (Uttarakhand) to Farrukhabad in Uttar Pradesh was meeting the bathing water quality criteria.
 4. River Ganga not meeting bathing criteria in terms of Faecal Coliform (≤ 2500 MPN/100 ml) in stretches namely from (i) Nanamau Ganga Bridge to Purana Rajapur, Kanpur (except Bithoor) and (ii) Mirzapur downstream to Tarighat, Ghazipur (except upstream Varanasi) in Uttar Pradesh and entire stretch of Bihar (except Chapra, upstream Doriganj)



and West Bengal (except Farrakha, Murshidabad; Khagra, Behrampore; Nabadip Ghoshpara near Monipurghat and Tribeni near Burning Ghat).

c) Polluted River Stretches

- » River Location not complying to BOD criteria (> 3 mg/L) is identified as Polluted Location. Two or more polluted locations in a continuous sequence is called Polluted River Stretch (PRS). Accordingly, PRS are categorized under five Priority Classes based on maximum BOD level observed. Priority I: exceeding 30 mg/L; Priority II: between 20-30 mg/L; Priority III: between 10-20 mg/L; Priority IV: between 6-10 mg/L; and Priority V: between 3-6 mg/L
- » During 2018, 351 PRS on 323 Rivers were identified in 31 States/ UTs based on water quality data of 521 rivers (2016 & 2017). Comprehensive Action Plans were formulated by States/ UTs and Action plans are under implementation & are reviewed at State & Central Level. At State level, action plans are reviewed by four membered River Rejuvenation Committee (RRC) of concerned State/ UT comprising Director (Environment), Director (Urban Development), Director, (Industries) and Member Secretary, SPCB/ PCC under supervision & coordination of Principal Secretary, (Environment). Overall responsibility lies with Chief Secretaries of the States/UTs.
- » During 2022, 311 PRS on 279 rivers in 30 States/UTs were identified, based on

water quality data of 603 rivers in 2019 & 2021. They are categorized under five Priority Classes: I (> 30 mg/L) – 46; II (20-30 mg/L) – 16, III (10-20 mg/L) – 39, IV (6-10 mg/L) – 65, V (3-6 mg/L) – 145.

- » Comparative assessment of PRS during 2018 vs 2022 revealed that total number of PRS have been reduced from 351 (year 2018) to 311 (year 2022) despite increase in number of river monitoring locations. The number of PRS has reduced in 13 States and number of PRS in 5 States/ UTs has remained same.
- » Water quality of 180 PRS out of 351 identified in 2018 has improved. 106 river stretches have come out of the list (BOD < 3 mg/L) and 74 have shifted to lower priority class. Priority class of 108 PRS has remained same in both years 2018 and 2022, indicating that there was no further impact of pollution despite increased activities in the catchment area.

d) National Mission for Clean Ganga (NMCG) – Namami Gange Programme

- » Three Projects were sanctioned to CPCB under Namami Gange Programme, with a primary emphasis on enhancing the water quality of the Ganga River and improving overall public health. The details are:
 1. Pollution Inventorization, Assessment and Surveillance (PIAS) sanctioned in year 2011 and subsequently extended till 2023. The project sanctioned on 24.05.2023 with an amount of Rs



113.85 Crore for three years w.e.f. 01.04.2023.

2. Water Quality Monitoring (WQM) Project for River Ganga was sanctioned in year 2013 and extended on 20.06.2020 for six years till 19.06.2026 with an amount of Rs 126.17 Crore.
 3. Strengthening of Environmental Regulators (SER) was first sanctioned on 19.06.2013 with an amount of Rs 69.26 Crore and next phase of SER project was sanctioned on 18.02.2022 for 3 years with an amount of Rs 66.21 Crore.
- » CPCB has undertaken various sector specific initiatives to enhance compliance. This includes implementation of sector specific charters by involving State Govt. departments and expert institutes like CPPRI, VSI, NSI and Industry Association.
 - » Charters have been developed with the objective to facilitate industries to adopt cleaner technology waste minimization practices as well as upgradation of effluent treatment facility in the five major industrial sectors like Pulp & paper, Distillery, Sugar, Textile and Tannery which together contribute effluent discharge of about 70% and BOD load of 90% of total Industrial pollution discharge by GPIs in Ganga Basin.
 - » The exercise of annual inspection of Grossly Polluted Industries (GPIs) and implementation of Charter in major water intensive industrial sectors has resulted

in an increase of 82% GPI compliance in 2023, compared to just 39% in 2017. Also, 47.2% reduction of BOD load was observed from 26 TPD in 2017 to 13.73 TPD in 2023 from industrial effluent.

- » Charter implementation has yielded remarkable reductions in specific freshwater consumption and effluent discharge across various sectors in the Ganga Basin:

1. Pulp & Paper sector: The specific freshwater consumption decreased from 16.91 KL/MT in 2017 to 9.84 KL/MT in 2023, marking a 41.81% reduction.
2. Sugar sector: The specific freshwater consumption decreased from 299 KL/MT in 2017 to 79.58 KL/MT in 2023, marking a 73.39% reduction.
3. Textile sector: The specific freshwater consumption decreased from 141 KL/MT in 2019 to 33.47 KL/MT in 2023, marking a 76.26% reduction.
4. Distillery sector: The specific freshwater consumption decreased from 15 KL/KL in 2017 to 5.14 KL/KL in 2023, marking a 65.73 % reduction.

e) National Ambient Noise Monitoring Network

The following steps have been taken to monitor and improvement of noise pollution:

- » The National Ambient Air Quality in



respect of Noise for day & night has been notified in Schedule III under Rule 3 of The Environment (Protection) Rules, 1986.

- » The CPCB in association with State Pollution Control Boards (SPCBs) has established National Ambient Noise Monitoring Network (NANMN) in 10 Metro-Cities (Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow, Bhopal, Vishakhapatnam, Vijayawada and Mumbai) having 82 Noise Monitoring Stations.

2. Important steps taken for industrial pollution control

- » CPCB has initiated Online Continuous Emission & Effluent Monitoring System (OCEMS) to promote self-regulation among highly polluting industries (17 categories), Grossly Polluting Industries (GPIs) and Common facilities i.e. Incinerators of Common Hazardous Waste Treatment Storage and Disposal Facilities (TSDFs), Incinerators of Common Bio-medical Waste Treatment and Disposal Facilities (CBWTFs), Common Effluent Treatment Plants (ETPs) and Sewage Treatment Plants (STPs). Currently, about 6,700 Industries have installed OCEMS & providing online data through about 44,000 devices on 15-minute basis to CPCB, SPCBs & PCCs
- » Based on the Pollution Index (PI), industries have been categorized into Red, Orange, Green & White Category. PI is a function of water pollution, air pollution, hazardous waste generation, fuel consumption and amount of waste water generation. So far, 257 industrial / non-industrial sectors (Red: 63, Orange: 91, Green: 65 & White: 38) have been categorized based on revised criteria of Pollution Index. Further, CPCB has revised the methodology during 2023-2024 and draft was placed for public comments same was examined by a Committee of CPCB and finalized & submitted to MoEF&CC for concurrence.
- » Environmental Standards have been notified under Schedule-I: PM emission for Industrial Boilers, Environmental standards for Hot Mix Plants & Emission standards for Petroleum Coke Calciners and Discharge Standards and Regulations for Common Effluent Treatment Plants. Draft Standards notified for Pesticide Industries, Chlor-Alkali Industries and Pulp & Paper Industries by MoEF&CC. So far, environmental standards have been notified under Schedule-I of EPA, 1986 for 79 sectors. For remaining sectors, general standards notified under Schedule-VI of EPA are applicable.
- » Based on Polluter pay Principle, CPCB, SPCBs and PCCs started imposing Environmental Compensation (EC) against the industries, common facilities which are violating the environmental norms / standards for strict compliances.



3. Amendment of the Air Act and Water Act:

Amendment of certain enactments w.r.t. Section 21A of the Air (Prevention and Control of Pollution) Act, 1981 and Section 27A of the Water (Prevention and Control of Pollution) Act, 1974 were made to exempt certain categories of industrial plant from consent mechanism, issue guidelines on the matter relating to grant, refusal of consent to establish or operate any industrial plant in air pollution control area, including the mechanism for time bound disposal of the application, as per the Jan Vishwas (Amendment of Provisions) Act, 2023.

In view of above, CPCB has prepared a Guidelines relating to uniform consent fee and grant, refusal or cancellation of consent to establish or operate, uniform timeline in processing of applications, and exemption of certain categories of industries from consent mechanism across the SPCBs / PCCs and submitted to MoEF&CC. Accordingly, MoEF&CC has issued draft notifications for comments.

4. Recruitment Rules for appointment of Chairman / Member Secretary of SPCBs / PCCs:

CPCB has prepared draft Recruitment Rules (RR) as per the Water (Prevention and Control of Pollution) Amendment Act, 2024 for appointment of Chairman/ Member Secretary of the State Pollution Control Board of the States and Pollution

Control Committee of Union Territories and submitted to MoEF&CC for notification.

In view of above, MoEF&CC has issued draft notification for comments.

5. Re-constitution of Pollution Control Committees:

As per the Section 4 (4) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 6 of Air (Prevention and Control of Pollution) Act, 1981 as *"No State Board shall be constituted for a Union Territory and in relation to a Union Territory, the Central Board shall exercise the powers and perform the functions of a State Board under this Act for that Union Territory: Provided that in relation to any Union Territory the Central Board may delegate all or any of its powers and functions under this section to such person or body of persons as the Central Government may specify"*.

In view of above, the following four Pollution Control Committees were re-constituted as per the model composition approved by the MoEF&CC:

1. Lakshadweep Pollution Control Committee, vide notification dated July 18, 2024
2. Ladakh Pollution Control Committee, vide notification dated August 6, 2024

6. Environmental Quality Monitoring of Polluted Industrial Areas (PIAs) for Evaluation of Comprehensive Environmental Pollution Index (CEPI):



Comprehensive Environmental Pollution Index (CEPI) is used to characterize quality of environment at a given location following the algorithm of source, pathway and receptor. CEPI relates to evaluation of environmental quality in industrial area based on air, surface water and groundwater pollution as well as based on industries and health statistics. The industrial areas have been categorised as given below:

- » CEPI scores 70 and above are considered as Critically Polluted Area (CPA)
- » CEPI scores between 60 and 70 are considered as Severely Polluted Area (SPA)
- » CEPI scores less than 60 are considered as Other Polluted Area (OPA)

CPCB revised CEPI criteria in 2016 in concurrence with MoEF&CC, eliminating the subjective factors but retaining the factors which can be monitored, in order to ensure greater transparency and objectivity in evaluating the environmental quality scenario in the industrial clusters. Following the revised CEPI-2016 methodology, an assessment of 100 Industrial Areas was carried out during 2018 and based on the assessment, 38 Industrial Areas were identified as Critically Polluted Areas (CPAs) and 31 Industrial Areas as severely polluted areas SPAs.

The concerned SPCBs / PCCs have prepared the Action Plans for

improvement of environmental quality in these 69 identified areas to bring down CEPI scores and the same are at different stages of implementation. The CEPI Action Plan Review portal has been developed by CPCB to facilitate SPCBs / PCCs to upload the data regarding the status of implementation of action plan, monitoring carried out, state review meetings of concerned CPAs / SPAs.

CPCB has carried out monitoring in the SPAs viz. Singrauli (M.P.) and Sonbhadra (U.P.) and the CEPI score was 67.86 and 60.49 respectively.

7. Status of Court / Tribunal Cases:

The cases filed by the individuals, entity, organizations, etc. before all courts of India where CPCB is a party Respondent has been increasing over a period of time for protection of the Environmental Pollution. The number of cases handled during Financial Year 2023-24 are as under:

Particulars	Supreme Court	High Courts	NGT Principal Bench	NGT Zonal Benches
As on March, 2024	186	387	296	340
New cases till 31.10.2024	33	49	192	176
Disposed of till 31.10.2024	11	14	72	81
As on October, 2024	208	422	416	435



8. Waste Management:

a) Hazardous Waste Management:

As per the inventory, about 15.66 Million MT of hazardous waste is generated during 2022-23, out of which about 8.61 Million MT i.e. 54.98% of overall hazardous waste generated was either recycled or utilized. Out of 8.61 Million MT, about 2.35 Million MT of hazardous waste was recycled, 2.31 Million MT of HW was Co-processed and about 3.95 Million MT of hazardous waste was utilized.

During the year 2023-24, CPCB has issued 105 number of Standard Operating Procedure (SOP) for utilization of about 74 types of Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 and CPCB has also prepared 09 new SoPs for wastes namely Spent Sodium Sulphite / Spent Sodium bisulphite, Process distillation residue, Spent Sulphuric Acid, ETP Sludge, Waste Filter Cake, Ethanol Containing Process residue and revised 04 existing SoPs.

Further, amendment to the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 to introduce the Extended Producer Responsibility for Used Oil notified vide dated 18th September, 2023 and its implementation is effective from 01.04.2024. Accordingly, CPCB has developed portal for registration of Producers and Recyclers of Used Oil.

About 43 Producers/Recyclers have been on-boarded and about 08 Producers have been granted registration till date.

b) Bio-Medical Waste Management:

There are 218 no. of Common Bio Medical Waste Treatment Facilities (CBWTFs) used for treatment and disposal of biomedical waste, and 34 CBWTFs are under construction. At present, cumulative treatment and disposal capacity of 1,590 MT/day that includes Incineration capacity of 858 MT/day and autoclave capacity of 732 MT/day that shows that available capacity is more than the generation of biomedical waste that is 705 MT/day.

c) Fly Ash Management:

Fly ash generated by Thermal Power Plants (TPPs) is mainly utilized in cement plants, brick manufacturing units, road and flyover embankments, reclamation of low lying areas and back filling of abandoned mines. Accordingly, the percentage of fly ash utilization has increased from 59.81% in 2015-16 to 94.84% in 2023-24, against the total generation of 340 Million Tons from a total installed capacity of 2,28,089.23 Mega Watts of coal and lignite based TPPs.

CPCB has developed Ash Portal for registration of coal/lignite based TPPs for uploading ash generation, ash utilization and ash availability data. Also, prepared "Guidelines on Design, Construction, O&M and Annual Certification of coal



ash ponds / dykes”.

d) Plastic Waste Management:

CPCB has framed the Standard Operating Procedure (SOP) and developed the online portal for certification of compostable Manufacturers/Sellers. There are 1,605 Brand-Owners, 2,580 Producers and 8,417 Importers have been issued registration having Extended Producer's Responsibility (EPR) target of 28.50 Lakh Tons for FY 2022-23. As per provision 4 (h) of PWM Rules, 2016, certificates have been issued to 325 compostable Manufacturers / Sellers. The certified capacity has increased substantially, from nil in 2016 to approx. 3.65 Lacs.

e) E-Waste Management:

E-Waste (Management) Rules, 2022 has been notified on 02nd November, 2022 and implemented since 01st April, 2023 and have superseded E-Waste (Management) Rules 2016. CPCB has developed an online EPR Portal for the management of E-Waste with the provisions of registration of stakeholders, transection of EPR credits between Producers, Recycler & Refurbishes for the fulfilment of EPR obligations.

As on date, there are 6,685 Producers and 276 Recyclers were restarted at E-Waste EPR portal. The annual processing capacity of 276 registered recyclers is 19,06,570.414 TPA. In FY 2023-24, registered recyclers transferred a total of 2,54,607 MT of EPR certificates

to registered producers, against the EPR obligation of 2,76,771 MT.

f) Battery Waste Management:

Battery Waste Management (Amendment) Rules, 2023 has been notified on 25th Oct., 2023. Accordingly, 3,590 Producers and 550 recyclers were registered on the Battery Waste Portal till date.

g) Waste Tyre Management:

CPCB has developed Registration Modules for Producers & Recyclers of waste tyres. Accordingly, 173 Producers and 405 recyclers were registered on the Waste Tyre EPR Portal till date.

9. Industrial CAAQMS Portal:

Industrial Air Quality Management Portal has been developed to collect, store, and analyze data from Continuous Ambient Air Quality Monitoring System installed in industrial premises. The portal supports visualization of ambient air quality data in graphical as well as tabular formats. At present, there are 524 stations integrated to the network.

10. Sameer App:

Sameer App was created by CPCB to create public awareness about air quality and provide a platform for grievances redressal. This App provides hourly updated information on AQI for more than 289 cities using real time data. It can be readily accessed using the interactive map format. It provides real-time AQI, pollutant-wise sub-index and monthly



calendar depicting overview of AQI for each monitoring location. Daily AQI bulletin published by CPCB is uploaded on the App at 4 PM. The App also issues advisories through push notifications to the public as per prevailing air quality levels. This CAAQMS data is made available to public and various agencies through the CPCB CCR Portal (<https://airquality.cpcb.gov.in>). Since its launch, it has been downloaded by 2.5 lakhs users on Android and iOS platforms.

Also, Sameer App provides a facility for lodging grievances related to air pollution. The complainant can upload photographs along with complaint, and geo-coordinates are automatically captured for pinpointing exact location of source of air pollution for facilitating prompt action by concerned agencies. The complaints are automatically forwarded to implementing agencies depending on the location of the complaint. For Delhi-NCR, more than 40 agencies responsible for mitigation of air pollution are configured on the App which is well integrated with complaint management system of implementing agencies. Between October 2023 - November 2024, more than 2800 complaints are received on Sameer App. Out of these around 1330 complaints were resolved through coordination with more than 40 implementing agencies.

11. Social Media Platform:

CPCB has created Social Media Platforms to use them for dissemination

of information on pollution related issues, creating awareness on functions, schemes and activities of CPCB and giving citizens the facility to reach out to CPCB for raising air pollution related queries. Presently, CPCB is reachable at Twitter, Facebook, Instagram and YouTube. In current year, more than 300 creatives have been posted on Social Media Platforms by CPCB.

Social Media Accounts are also being used to redress public complaints on air pollution in Delhi NCR, wherein public grievances received on CPCB account are being forwarded to the handles of concerned local agencies. The out-come of redressal is also monitored.

12. e-Office Upgradation:

CPCB has successfully upgraded e-Office application from version 5.6 to 7.0 and also organised virtual training sessions for all DHs/RFs users to make aware and use of new features of the latest version.

13. Swachhata 4.0:

Swachhata 4.0 was carried out by CPCB to dispose all the identified parameters in two phases: the preparatory phase from 16th September, 2024 to 30th September, 2024 and the implementation (Campaign) phase from 2nd October, 2024 to 31st October, 2024, covering various parameters for the successful execution of the cleanliness campaign by conducting Special Campaigns at all its offices, sensitizing nodal officers, identifying pendency, discarding scrap /



e-waste, and managing records, in all its departments in a time-bound manner, CPCB has taken up a special campaign to demonstrate a model task to clean-up office premises at CPCB Head Quarter, Nine Regional Directorates and One Project Office situated across the country, which has helped in creating 2,711 Sq. ft of space by reviewing old records/ files etc., and identified unwanted records as per record retention schedule in respect of records common to Ministries/Departments issued by Department of Administrative Reforms and Public Grievances (DARPG) and generated revenue of Rs.4,66,185.

14. International Trainings / Workshop / Convention:

CPCB Officials have attended the following International Trainings / Workshop / Convention during Year 2024 -25, as on date:

1. Air Quality Management in the Indo-Gangetic Plain & Himalayan Foothills at Thimphu, Bhutan organised by ICIMOD and World Bank.
2. Reducing air pollution by creative use of crop residue palletization at Nepal organised by ICIMOD
3. Global workshop on evaluation of effectiveness of the Minamata Convention on Mercury in Cape Town, South Africa
4. 46th meeting of the Open Ended Working Group of the Parties to the Montreal Protocol at Montreal,

Canada.

5. Combined Meeting of the CoP of the Vienna Convention and the Montreal Protocol at Bangkok, Thailand
6. Workshop on Hazardous Wastes and Chemicals Emergencies in Jakarta, Indonesia.

2.3 Hazardous Substances Management

Hazardous Substances Management (HSM) Division is the nodal point in the Ministry for management and safe use of chemicals and wastes. The HSM Division is involved in formulation and administration of rules pertaining to wastes and chemicals. The Division is also the nodal point for multilateral conventions related to wastes and chemicals representing Government of India.

Major programmes/activities are as follows:

Solid Waste Management Rules, 2016:

Solid Waste Management Rules, 2016 were notified on 8th April, 2016 and its applicability has been extended beyond municipal areas to urban agglomerations, census towns, notified industrial townships, etc. The source segregation, door to door collection of waste has been mandated to channelize the waste for useful purposes such as recovery, reuse and recycle.

E-Waste (Management) Rules, 2022:

E-Waste (Management) Rules, 2022 notified on 2nd November, 2022 and is in force since 1st April, 2023. New rules covers 106 Electrical and Electronic Equipment



(EEE) including Solar PV waste. These Rules are a transformative step towards implementation of the announcement made by Hon'ble Prime Minister to promote Circular Economy. New rules provide Extended Producer Responsibility (EPR) regime for e-waste recycling according to the needs of the current scenario.

Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:

The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 were notified on 4th April, 2016 incorporating waste management hierarchy in the sequence of priority i.e. prevention, minimization, reuse, recycling, recovery, co-processing and safe disposal. These rules shall apply to every occupier of the facility who is engaged in handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, utilization, offering for sale, transfer or disposal of hazardous and other wastes.

Bio-Medical Waste Management Rules, 2016:

Bio-Medical Waste Management Rules, 2016 were notified with the objectives to improve segregation, collection, processing, treatment and disposal of infectious bio-medical waste in an environmentally sound and safe manner. These rules are applicable to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any

form including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks, AYUSH hospitals, clinical establishments, research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, first aid rooms of schools, forensic laboratories and research labs.

Plastic Waste Management Rules, 2016:

Plastic Waste Management Rules, 2016 were notified on 18th March, 2016. These rules apply to the manufacture, import stocking, distribution, sale and use of carry bags, plastic sheets or multi-layered packaging etc. The jurisdiction of applicability of the rules have been expanded from municipal area to rural areas as well. For the first time, responsibility of waste generators has been prescribed. Individual and bulk generators like offices, commercial establishments, industries are to segregate the plastic waste at source, handover segregated waste, pay user fee as per bye-laws of the local bodies.

Construction & Demolition (C&D) Waste Management Rules, 2016:

For the first time the Government notified Construction & Demolition Waste Management Rules, 2016. The rules apply to everyone who generates construction and demolition waste such as building materials, debris, and rubble waste resulting from construction, re-modelling, repair and demolition of any civil structure of individual or organization or authority. The rules mandate for collection, transportation, storage and re-



processing of C&D waste. Emphasis was given on recycling/ recovery of valuable materials and C&D waste as 'RESOURCE'. Scope of the rules includes construction & demolition/ renovation of buildings, excavation, road/ flyover/ underpass/ bridge construction, laying utility pipelines etc. Timeline were prescribed for creation of physical reprocessing facility at all places for recycling C&D waste.

Battery Waste Management Rules, 2022:

Ministry of Environment, Forest and Climate Change, Government of India published the Battery Waste Management Rules, 2022 on 24th August, 2022 to ensure environmentally sound management of waste batteries. New rules replace Batteries (Management and Handling) Rules, 2001. The rules cover all types of batteries, viz. Electric Vehicle batteries, portable batteries, automotive batteries and industrial batteries. The rules function based on the concept of Extended Producer Responsibility (EPR) where the producers (including importers) of batteries are responsible for collection and recycling/ refurbishment of waste batteries and use of recycled materials from wastes into new batteries.

Ash utilisation notification, 2021:

The Ministry of Environment, Forest and Climate Change has reviewed the existing fly ash notification, 1999 and issued new notification on 31st December, 2021 with an aim to achieve 100% ash utilisation generated from coal and lignite based thermal power plants. The notification mandates thermal power plants to achieve

100% utilisation of current generation of ash in 3-5 year cycle and legacy ash in 10 years. The eco-friendly purposes for utilisation of ash have been prescribed. Environmental compensation is to be imposed on thermal power plants and other user agencies for non-compliance of provisions. Users agencies involved in road construction, roads and flyover embankments laying, construction of dams, mining, manufacture of ash based products, building construction have been mandated to use ash or ash based products located within 300 km radius of thermal power plants.

Chemical Safety: The Ministry of Environment, Forest and Climate Change notified the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response)(CAEPPR) Rules, 1996 for ensuring chemical safety in the country. Objective of these rules is to prevent chemical accidents from industrial activities and mitigate impacts of chemical accidents. Occupier of the hazardous chemicals is required to declare major hazards of industrial activity to public and prepare on-site emergency plan & safety reports, conduct regular safety audits and mock-drills, etc. Further, crisis management framework for chemical emergencies has been formulated. Crisis Alert System i.e. Red Book is prepared and updated annually to facilitate quick information exchange during chemical emergencies.



Public Liability Insurance Act, 1991: The Public Liability Insurance Act, 1991 enacted with a purpose to provide immediate relief to the persons affected by accident occurring while handling hazardous substance and for matters connected therewith or incidental thereto. PLI Act, 1991 covers death or injury to any person other than workman (General Public) or damage to property resulting from an accident while handling hazardous substance. The Act covers 179 chemicals and flammable substances. As per Section 7A of the Amended Act, 1992, the Major Accident Hazard (MAH) units shall contribute an amount equal to the amount of premium of the insurance policy to the Environment Relief Fund (ERF) created by the Central Government.

Environment Protection (End-of-Life Vehicles) Rules, 2025:

Ministry of Environment, Forest and Climate Change, Government of India published the Environment Protection (End-of-Life Vehicles) Rules, 2025 on 06.01.2025 to ensure environmentally sound management of end-of-life vehicles. The rules cover all types of vehicles, viz. transport and non-transport vehicles. The rules are based on the concept of EPR where the producers of vehicles are responsible for recycling of the vehicles introduced/ placed in the domestic market once the vehicles reach the end of life, as per the recycling targets specified in the rules.

Resource Efficiency and Circular Economy:

Mission Circular Economy

- » Hon'ble Prime Minister, Shri Narendra Modi, in his address to the nation on the occasion of 75th Independence Day on 15th August, 2021 had highlighted India's action on 'Mission Circular Economy'.
- » Circular Economy Action Plans for 10 waste categories (Lithium ion batteries; E-waste; Toxic and hazardous industrial waste; Scrap metal (ferrous and non-ferrous); Tyre and Rubber; End of Life Vehicles; Gypsum, Used Oil, Solar Panels and Municipal Solid Waste have been finalized, and are under implementation.
- » Ministry of Environment, Forest and Climate Change is the Nodal Ministry for Circular Economy Action Plan for Tyre and Rubber and stakeholder ministry in other CE Action Plans.
- » Ministry of Environment, Forest and Climate Change to give thrust to Circular Economy, has notified Regulations on market based Extended Producer Responsibility (EPR) framework in respect of following categories of wastes:
 - plastic packaging waste in Feb, 2022
 - battery waste in Aug, 2022
 - e-waste in Nov, 2022
 - waste tyres in July, 2022
 - used oil in Sept, 2023
- » EPR regulation is a tool for operationalization of "Waste to Wealth" and Circular Economy and to create a sustainable ecosystem for the environmentally sound management of wastes which provides additional revenues and promotes integration of informal recycling sector along with



recovery of resources from the wastes.

- » Through the EPR regulations, the producer, importer or brand owner (PIBOs)/OEMs who introduces the product in the market are obligated under law for its environmentally sound management after end-of-life of such products. EPR regulations mandate Producers/OEMs to meet the targets for recycling/ refurbishing of end-of-life products.
- » Producers/OEMs can meet the EPR targets by setting up of recycling facilities themselves. They may may develop collection and segregation infrastructure through different modalities such as Buy-back scheme, Deposit-refund scheme, etc in order to collect the waste from the market.
- » Alternatively, Producers/OEMs may purchase the EPR certificates generated by the recyclers to meet the EPR obligations.
- » EPR regulations recognize the registered recyclers through which EPR certificates are generated and used for fulfillment of obligations of PIBOs which encourages formalization of informal waste management sector. Recyclers may develop their own mechanism for sourcing the waste from agencies involved in waste collection including informal waste collectors.
- » Recyclers may independently sell EPR certificates to producers, enabling them to fulfil EPR targets.
- » Sale of EPR certificates provides resources to the recyclers resulting in additional revenue sharing with the informal sector as well as for carrying out environmentally sound recycling/refurbishing. Revenue earned by registered recyclers from sale of EPR certificates is revenue earned over and above the revenue generated from the sale of recycled product.
- » Price of EPR certificate is determined through supply-demand generated in the market. To avoid exorbitant prices due to low supply of EPR certificates and to prevent generation of certificates without proper recycling, MoEFCC has capped the minimum and maximum price of EPR certificate which has been linked to Environmental Compensation.
- » Due to growth in the recycling sector, there will be generation of jobs and informal waste workers will get integrated with the formal sector.
- » Further, EPR regulations of battery waste and plastic packaging waste have mandated the producers to use minimum percentage of recycled content in the new products.
- » Draft EPR rules issued by MoEFCC for public consultation: End-of-Life vehicles on Jan, 2024
 - Scrap Metals (Non-Ferrous) on Aug, 2024
 - Construction & Demolition Waste on July.2024
 - Liquid Waste Management Rules on Sept, 2024
- » Introduction of market based EPR



regulation by MoEFCC since 2022 in different waste streams has given impetus to the growth of recycling sector as well as led to environmental protection and resource conservation through environmentally sound management of wastes and reduction in use of virgin material.

- » Across all EPR regulations, Producers/OEMs are registered with CPCB and recyclers/refurbishers are registered with concerned SPCB/PCCs. CPCB has developed EPR portals for respective waste categories to register producers and recyclers and enable generation and exchange of EPR certificates
- » Verification of EPR certificates of recyclers is done by CPCB/SPCB through periodic audits.
- » The status of implementation of market based EPR regulations is given below:

Wasterecyclers/processor will be generating more than Rs. 1200 crore through the sale of EPR certificates generated from recycling of different categories of waste.

- Recycling ecosystem created under EPR regime will generate employment of more than 25 lakh jobs.

4th National Conference of Chief Secretaries & Discussion on Next Steps

- The 4th National Conference of Chief Secretaries' was held in December 2024, focusing on the theme "Promoting Entrepreneurship, Employment & Skilling – Leveraging the Demographic Dividend".
- One of the sub-themes is 'Circular Economy', for which MoEFCC is the nodal Ministry.

Ecomark:

MoEFCC has notified Ecomark Rules, 2024 on 26.09.2024 (replacing Ecomark 1991) which aim to strengthen the institutional structure and implementation of the Ecomark to enable consumers to make informed purchase decision as well as encourage manufacturers to transition to production of environment friendly

S. No.	Waste Type	Registered PIBOs	Registered Recyclers	EPR Certificate generation (in tonnes)	EPR certificate traded (in tonnes)
1.	Plastic Packaging	44,963	2629	103.83 lakh	85.08 lakh
2.	E-Waste	7226 (producers)	295	4.91 lakh	4.26 lakh
3.	Battery Waste	2975 (producers)	295	5.51 lakh	3.03 lakh
4.	Waste Tyre	191 (producers)	422	54.58 lakh	35.92 lakh
5.	Used Oil Wef 1.4.2024	09 (producers)	07 (applied)	---	----



products leading to promotion of green industries. Ecomark intends to encourage the demand for environmentally friendly products that causes lesser adverse impacts on the environment, promote lower energy consumption, resources efficiency and conservation, circular economy and prevent misleading information on environmental aspects of products.

Carbon Markets

Carbon markets are a crucial tool in the global effort to combat climate change, providing both regulatory and voluntary pathways to reduce greenhouse gas emissions effectively. The Paris Agreement's Article 6 has further solidified the role of carbon markets by allowing countries to trade emission reductions to meet their Nationally Determined Contributions (NDCs). The Article 6.2 focuses on bilateral or multilateral agreements for transferring mitigation outcomes, allowing India to engage in carbon trading with other nations to meet its Nationally Determined Contributions (NDCs). Under Article 6.2, this Ministry is in advanced stages of signing bilateral agreement with Japan and also under discussion with different countries i.e. Singapore, South Korea and Sweden in similar line.

India has notified the National Designated Authority for the Implementation of Article 6 of the Paris Agreement (NDAIAPA) vide Gazette Notification dated 30th May 2022 with Secretary, MoEFCC as the chairperson.

NDAIAPA committee has updated and finalised the list of 14 activities under GHG

mitigation activities, alternate materials and removal activities which are to be considered for trading of international carbon credits under bilateral/ cooperative approaches under the Article 6.2 mechanism and 6.4 mechanism respectively.

NDAIAPA has also given in-principle approval for the draft Sustainable Development Evaluation Framework (SDEF) which will help meet the requirement of projects/Programme of Activities as per CMA decisions and promote activities with high contribution to sustainable development.

The draft Authorization and Approval Criteria which defines the institutional mechanism and processes to meet the requirements of approval and authorization under Article 6 mechanisms was also approved in-principle.

Promotion of Sustainable Waste Management

HSM Division promotes environmentally sound management of wastes and chemicals through innovative solutions and pilot projects, capacity building, awareness and training for sustainable management of wastes and Hazardous Substances. Various projects were sanctioned by HSM Division under the earlier central sector scheme.

The following projects were supported to promote sustainable waste management:

Multilateral Agreements: The Division is the nodal point for the following multilateral agreements



Basel Convention

The Convention regulates transboundary movement of hazardous wastes and disposal (import and export) and prescribes environmentally sound management of wastes domestically. The Convention also restricts trade on plastic waste. India ratified the Convention in June, 1992. To implement the provisions of transboundary movement of hazardous waste, the Ministry has established a Prior Informed Consent (PIC) mechanism for regulating import and export of hazardous waste under Hazardous and Other Wastes (Management and

Transboundary Movement) Rules, 2016.

The Indian delegation Participated in the fourteenth meeting of the Open-ended Working Group of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal held at the International Conference Centre Geneva from 25 to 28 June 2024. The Indian delegation participated in the Sixteenth meeting of the Basel Convention Implementation and Compliance Committee (ICC-16) held at Geneva, Switzerland from 23-24 June and 29 June-2 July 2024.

S. No.	Organisation	Purpose
1.	M/s Climate Collective Foundation	India Plastic Challenge-Hackathon, creating awareness on plastic pollution and its solutions.
2.	M/s Kerala Enviro Infrastructure Ltd.	Setting up of Common Bio-Medical Waste Treatment And Disposal Facility (CBWTF), District Kochi, Kerala.
3.	Bamdev Smart Solutions Pvt. Ltd.	Setting up of CBWTF in Banda, Uttar Pradesh
4.	Manipur Pollution Control Board	Setting up of TSDF and CBWTF, West Imphal District, manipur
5.	Mizoram Pollution Control Board	Setting up of CBWTF, Aizwal, Mizoram
6.	Goa State Pollution Control Board	Setting up of TSDF of Hazardous waste
	IIT Goa	Organizing a 2-day Workshop on 'Environmental Regulations: Facilitating ESG & Sustainability for Businesses' in Goa on 4th-5th October, 2024.
8.	M/s Pt. Deen Dayal Upadhyay Smriti Sansthan	Plastic waste management awareness campaign in Jaipur and Dausa, Rajasthan
9.	M/s Sri Venkateshwara University	Awareness programmes on solid waste management in rural areas (10 villages) of Tirupati, AP



Stockholm Convention

Stockholm Convention is a global treaty to protect human health and the environment from Persistent Organic Pollutants (POPs). The Convention obligates all parties to eliminate production and use of intentionally produced POPs, eliminate unintentionally produced POPs where feasible, and manage and dispose of POPs wastes in an environmentally-sound manner. India banned 12 chemicals (dirty dozen) during its ratification of the Convention in January, 2006. Subsequently, 7 more chemicals have been ratified in October, 2020. These chemicals include pesticides, industrial chemicals and unintentionally produced POPs.

To implement the obligations, the Ministry notified the Regulation of Polychlorinated Biphenyls Order, 2016; and Regulation of Persistent Organic Pollutants Rules, 2018 to prohibit production, import and use of hazardous chemicals. The Ministry has prepared National Implementation Plan for 12 POPs.

Rotterdam Convention

The objective of the Rotterdam Convention is to promote shared responsibility and cooperative efforts among parties in the international trade of chemicals to protect human health and the environment, and contribute to the environmentally sound use of chemicals. The Prior Informed Consent (PIC) procedure is a mechanism for formally obtaining and disseminating the decisions of importing Parties as to whether

they wish to receive future shipments of those chemicals listed in Annex III of the Convention and for ensuring compliance with these decisions by exporting Parties.

India ratified the convention in May, 2005. A total of 52 chemicals are listed in Annex III includes pesticides and industrial chemicals. India has established the mechanism for Prior Informed Consent for import and export of hazardous chemicals. Designated National Authorities (DNA) viz. Ministry of Chemical Fertilizers and Ministry of Agriculture and Family Welfare have been nominated for grant of PIC for industrial chemical and pesticides, respectively.

Minamata Convention

The Minamata Convention is a global legally binding instrument with the objective to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. The Convention addresses the life cycle of mercury, including supply, trade, mercury-added products, industrial processes using mercury, artisanal and small-scale gold mining, emissions to air, releases to land and water, interim storage, waste and contaminated sites. India ratified the Convention in June, 2018.

The Convention provides timelines to phase out certain mercury added products and manufacturing processes involving mercury. India has registered extension of 5 years for meeting the timelines for phasing out mercury added products and one manufacturing process. India's interests of use of mercury in Ayurveda, Siddha and



Unani (ASU) medicines and traditional/religious practices have been protected under the Convention. India has established a mechanism for Prior Informed Consent for import and export of mercury to meet its obligations.

Strategic Approach to International Chemicals Management (SAICM):

The Strategic Approach to International Chemicals Management (SAICM) was succeeded by the Global Framework on Chemicals (GFC) in September 2023. SAICM is a global policy framework to promote sound management (production and use) of chemicals throughout their life-cycle to minimise significant adverse effects on human health and environment. The newly adopted Global Framework on Chemicals is a comprehensive initiative designed to cover the entire chemical lifecycle, including products and waste, emphasizing a "life cycle approach," advocating for responsible management, and allowing flexibility for future instruments. It encompasses various objectives and targets related to transparency and sustainability, particularly those relevant to the Plastic Treaty.

Global Framework on Chemicals (GFC)

The GFC was adopted by the fifth ICCM, the ICCM5. It's a voluntary global framework that aims to protect human health and the planet from chemicals and waste. The GFC has five strategic objectives and 28 targets to be achieved by 2030 or 2035.

The GFC is a multi-stakeholder agreement that includes representatives from

governments, the private sector, non-governmental and intergovernmental organizations, youth, and academia to promote safe use of chemicals.

Ministry has notified a Regulation on lead content in Household and Decorative Paints Rules in November, 2016 to prohibit manufacture/ trade/ import/ export household and decorative paints with Lead or Lead compounds in excess of 90 parts per billion.

Meeting of Intergovernmental Negotiations Committee (INC) for development of International legally binding instrument on plastic pollution, including in the marine environment:

Fourth and fifth session of the Intergovernmental Negotiating Committee (INC)

INC-4 took place from 23 to 29 April 2024 at the Shaw Center in Ottawa, Canada and INC -5 took place from 25th November to 01st December 2024 in Busan, Republic of Korea.

The Indian delegation pushed for having decision-making at INC by consensus. The Indian delegation put forth the following major points during negotiations: (i) There should be no targets with respect to plastic production and focus should be on reduction of plastic pollution, (ii) Country driven approach needs to be followed for national action plans, (iii) Scope of international legally binding instrument should as per United Nations



Environment Assembly resolution 5/14, (iv) Rio principles including Common but Differentiated Responsibility as well as national circumstances and capabilities need to be followed.

The Indian delegation during the 5th session of the Intergovernmental Negotiating Committee (INC-5), called upon member States to develop clear scope and principle for the new International legally-binding instrument on plastic pollution and emphasized that this would allow the new treaty to be effective and workable at the international level. The Indian delegation presented a proposal at INC-5, to set up a dedicated multilateral fund modelled on the Multilateral Fund set up for implementation of the Montreal Protocol. The Indian proposal on Financial Mechanism for the new instrument mandates provision with provision to provide incremental cost for compliance to developing countries to meet compliance obligations agreed in the instrument, including the transfer of technologies .

During the final plenary of INC 5, the Indian delegation highlighted the enormity of the global challenge of plastic pollution during the fifth session of the Intergovernmental Negotiating Committee (INC), emphasizing that no single nation can address it alone. The proactive measures taken by the Ministry, including banning identified single use plastic products and implementing an ambitious Extended Producer Responsibility (EPR) regime for plastic packaging were highlighted. It

was stressed the critical need to balance preventing environmental plastic leakage with ensuring sustainable development, particularly for developing economies, through a consensus-driven approach based on mutual trust and cooperation. The need for for the instrument to have a clearly defined scope, limited to addressing plastic pollution without overlapping with other multilateral agreements and international bodies like World Trade Organization was highlighted. Any measure to regulate primary plastic production including putting any cap on production or including phase-out lists at this stage was opposed by the Indian delegation. The need for national implementation was emphasized.

It was highlighted that India has always been committed to the principle of consensus in decision making in respect of substantive matters under multilateral environmental agreements. This principle reiterates collective decision-making and reflects shared responsibilities and commitment. INC 5 could not reach agreement on all elements of new treaty to end plastic pollution. Finally, INC agreed to suspend the fifth session and reconvene again in 2025.

Externally funded projects:

HSM Division implements the following externally funded projects in collaboration with respective agencies in the field of chemicals and wastes:

- i. GEF-UNIDO: Environmentally Sound Management of Poly Chlorinated



- Biphenyls (PCBs) in India;
 - ii. GEF-UNIDO: Development and promotion of non-POP alternatives to DDT;
 - iii. GEF-UNEP: Phasing out mercury measuring devices in healthcare;
 - iv. UNEP: India-Norway Marine Pollution Initiative;
 - v. UNEP: Partnership for Action on Green Economy (PAGE);
 - vi. GIZ: Circular Economy Solutions (CES) preventing Marine Litter in Ecosystems;
 - vii. EU: EU-Resource Efficiency Initiative (EU-REI), and SWITCH-Asia Programme;
 - viii. Development of Institutional and Regulatory Framework for Implementation of Minamata Convention in India
 - ix. USAID: Innovations for Reducing Plastics Pollution for Cleaner Environment in India (inREPPLACE)
 - x. GIZ: Waste Solutions for a Circular Economy in India
- b. Plastic Waste Management (Second Amendment) Rules, 2023 notified on 30.10.2023
 - ii. Fifth meeting of National Taskforce on elimination of single use plastic items and effective plastic waste management was held on 22nd August 2023.
 - iii. Plastic packaging waste, which is not covered under the phase out of identified single use plastic items, is covered under Guidelines for Extended Producer Responsibility notified on 16th February 2022.
 - iv. The following IT based tools have been put in place for effective monitoring:
 - a. National Dashboard on Elimination of SUP and PWM,
 - b. EPR Portal for Plastic Packaging,
 - c. Mobile App for SUP Grievance Redressal,
 - d. Compliance Monitoring module for banned SUP items.
 - v. All modules of Centralized online portal for Extended Producer Responsibility for plastic packaging are operational. As on 13th January 2025 the number of registered obligated entities is given below (i) Registered PIBOs: 45848 (ii) Registered Plastic Waste Processors: 2651
 - vi. The quantum of plastic packaging waste covered under EPR is a significant proportion of plastic packaging waste

Activities undertaken:

- i. The following amendments to Plastic Waste Management Rules, 2016 were notified during 2023-2024:
 - a. Notified Plastic Waste Management Amendment Rules, 2023 for effective implementation of EPR Guidelines and removal of difficulties, on 27.04.2023.



being generated in the country. As on date, EPR certificates equivalent to 104.64 lakh tonnes of plastic packaging waste have been generated by registered Plastic Waste Processors, of which 86.96 lakh tonnes of EPR certificates have been transferred online to the registered PIBOs.

- vii. Plastic Waste Management Amendment Rules, 2024 were notified on 14th March 2024 vice GSR No. 201 (E) in Gazette of India. These rules have been comprehensively revised in order to effectively undertake plastic waste management in both urban and rural areas. Online reporting of annual reports from obligated entities has been mandated shifting away from multi step physical reporting for enhancing transparency and effective monitoring. A regime has been envisaged for having electronic platforms for price discovery of EPR certificates. The reporting formats have been comprehensively revised to cover various stages of plastic waste management. Manufacturers and importers of plastic raw materials have been made as obligated entities to fulfill EPR obligation of micro and small producers of plastic packaging. Extended producer responsibility has been mandated for permitted commodities and packaging has been mandated for compostable plastics and biodegradable plastics to ensure their environmentally sound management.
- viii. Sixth and Seventh meeting of the National Task Force (NTF) on elimination of identified single-use plastics and effective implementation of Plastic Waste Management Rules, 2016 were held, on 15th February 2024 and 31st July 2024 respectively.
- ix. Draft Liquid Waste Management Rules, 2024 was notified in the Official Gazette on 8th October for obtaining suggestions/objections from the public.
- x. The draft Environment Protection (Extended Producer Responsibility for Packaging made from paper, glass and metal as well as sanitary products) Rules, 2024 was notified on 6th December 2024 for obtaining suggestions/objections from the public
- xi. Draft Solid Waste Management Rules, 2024 was notified in the Official Gazette on 9th December 2024 for obtaining suggestions/objections from the public.
- v. The Ministry has constituted technical committees for preparing draft proposals for incorporation in rules for Solid Waste Management, and liquid waste management for effective implementation, strengthen circularity in solid and liquid wastes, and strengthen monitoring through IT based tools.
- vi. Battery Waste Management (Amendment) Rules, 2024 was notified



- on 14th March, 2024. The amendment enables CPCB to fix the highest and lowest price for EPR certificates equal to 100% and 30%, respectively, of the EC leviable on the obligated entities for non-fulfilment of EPR obligations as determined by CPCB.
- vii. Battery Waste Management (Second Amendment) Rules, 2024 was notified on 20th June, 2024. Starting year for use of minimum percentage of domestically recycled materials as been shifted from FY 2024-25 to FY 2027-28 in automotive and industrial batteries.
 - viii. Battery Waste Management (Third Amendment) Rules, 2024 was notified on 3rd December, 2024 to link the applicability of section 15 of the Environment (Protection) Act, 1986 to non-compliance of the rules.
 - ix. Second amendment to Ash Utilization Notification was notified on 1st January, 2024. The amendment mandates the TPPs to reserve a certain percentage of ash for supply to micro and small enterprises involved in manufacturing of ash-based products.
 - x. Draft EPR framework for End-of-Life Vehicles was published in the Official Gazette on 30.01.2024 for seeking comments from public and stakeholders within 60 days.
 - xi. Environment Protection (End-of-Life Vehicles) Rules, 2024 was notified on 06.01.2024 for environmentally sound management of end-of-life vehicles and mandatory EPR obligations on producers for vehicles placed in the domestic market once the vehicles reach the end of life.
 - xii. Draft Remediation of Contaminated Sites Rules notified in the Official Gazette on 21.08.2024 for seeking comments from public and stakeholders within 60 days. The rules define clear responsibilities of the stakeholders and the financial mechanism for remediation of contaminates sites.
 - xiii. 10 Prior Informed Consents (PICs) issued for import of 95.7 tonnes (~2774 flasks) of mercury for allowable activities under Minamata Convention, i.e. manufacture of mercury salts, thermometers, BP apparatus and Ayurveda medicines
 - xiv. 03 meetings of 'Fly Ash Management and Utilization Mission' were convened to review ash utilization, air pollution issue Singrauli (M.P) and Sonbadra (U.P.) region. Action plans of 11 Thermal Power Plants, 13 coal mines (200 million tonnes), 8 railway siding, 3 industries, more than 350 stone crushers reviewed.
 - xv. Under GEF funded project 'Development of alternatives to DDT': Manufacturing facility for second stream of Long Lasting Insecticidal Nets (LLINs) (5 million / year) constructed and commissioned at HIL facility, Maharashtra; 5 neem



based pesticide formulations were developed, tested and requisite process technology standardized and scaled up to pilot plant level by IPFT; Bt based bio-pesticides technology transferred to HIL by ICMR-VCRC.

xvi. Under GEF funded project 'Environmentally sound management of PCBs in the country', 798 MT of PCB contaminated oil has been dechlorinated in the mobile facility by CPRI, static facilities of Pure PCB destruction by PLASCON, and decontamination of equipment/porous material and PCB contaminated oil have been established.

xvii. Project Steering Committee (PSC) has been constituted for the Specific International Programme (SIP) project under Minamata Convention on Mercury for Development of Institutional and Regulatory Framework for Implementation of Minamata Convention in India. First meeting of the PSC was held on 16th December, 2024.

xviii. 15 MoUs signed between 7 CSIR laboratories and 8 recyclers for technology transfer and technical support by CSIR institute to the recycler for innovative technologies in waste management and recycling sector to promote circular economy. MoU signed between CSIR and Industries and Commerce Department, Govt. of Telangana to create skilled and trained

manpower in Telangana State in collaboration with CSIR institution which will cater to the entities in recycling and waste management sector.

xix. MoEF&CC submitted the second short national report for Minamata Convention on Mercury on 03.07.2024.

xv. Ministry has notified amendment in HOWM Rules, 2016 on 12 July, 2023 to retain 5% of unrepairable used electrical and electronic assemblies (Base No. B 1110), by weight in the country and the same shall be sent to authorised recyclers only in accordance with these rules and the E-Waste (Management) Rules, 2022

xx. Extended Producer Responsibility (EPR) for Used Oil notified on 18.09.2023 through amendment in Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016 to ensure environmentally sound management of used oil.

xxi. Amendment notified in Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016 on 12.03.2024 to insert provisions of (i) trading platform for sale and purchase of EPR certificates between obligated entities and (ii) relaxation in timelines for filing of returns by Central Govt for w.r.t. waste Tyre EPR and Used Oil EPR rules.

xxii. Extended Producer Responsibility



- (EPR) for Scrap of Non-Ferrous Metals notified on 14.08.2024 through amendment in Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016 to ensure environmentally sound management of scrap of non-ferrous metal.
- xxiii. Amendment in Hazardous and Other Wastes (Management and Transboundary Movement) (HOWM) Rules, 2016 notified on 12.11.2024 to substitute paras relating to 'Prosecution' prescribed in Waste Tyre EPR rules (paragraph 11 of Schedule IX) and Used Oil EPR rules (rule 40) with 'Action for Contravention' in line with amended Environment (Protection) Act, 1986.
- xvi. E-Waste (Management) Rules, 2022 vide notification dated 30th January, 2023 to exempt solar photo-voltaic modules or panels or cells and medical equipment from requirement of provisions of Rule 16 (1) being uses of cadmium & lead and lead respectively beyond prescribed limit.
- xvii. Amendment in E-Waste (Management) Rules, 2022 notified on 24.07.2023 to ensure secure, accountable and sustainable management of refrigerant generated during the manufacture and end-of-life of refrigeration and air-conditioning equipment and also exempt provisions of Rule 16 (1) to newly added 85 EEE placed in the market on or before the 01.04.2025 and components or consumables or parts or spares required for those EEE till the 01.04.2028, provided reduction of hazardous substances compliant parts and spares are not available.
- xviii. Amendment notified in E-Waste (Management) Rules, 2022 on 08.03.2024 to insert provisions of (i) trading platform for sale and purchase of EPR certificates between obligated entities and (ii) relaxation in timelines for filing of returns by Central Govt.
- xix. Amendment in E-Waste (Management) Rules, 2022 notified on 12.11.2024 to substitute rule 23 relating to 'Prosecution' with 'Action for Contravention' in line with amended Environment (Protection) Act, 1986.
- xx. Amendment in Public Liability Insurance Act, 1991 through Jan Vishwas (Amendment of Provision) Act, 2003 notified on 11.08.2023.
- xxi. Notification regarding the date of enforcement of the amendment made under the Public Liability Insurance Act, 1991 through Jan Vishwas (Amendment of Provision) Act, 2023, notified on 18.10.2023.
- xxii. Draft Public Liability Insurance (Amendment) Rules, 2024 in accordance with amendment made under the PLI Act, 1991 through Jan Vishwas (Amendment of Provision) Act,



2023, notified on 19.07.2024 seeking public and other stakeholder views/comments.

xxiii. Draft Environment Relief Fund (Amendment) Scheme, 2024 notified on 23.07.2024 seeking public and other stakeholder views/comments.

xviii. The Public Liability Insurance (Amendment) Rules, 2024 have been notified in the official gazette vide GSR 772 (E) dated 17.12.2024.

xix. Environment Relief Fund (Amendment) Scheme, 2024 have been notified in the official gazette vide SO 5453(E) dated 17.12.2024.

xx. Integration of IWMS portal with National Single Window System (NSWS) of Department for Promotion of Industry and Internal Trade (DPIIT) for accepting applications under the provisions of HOWM Rules, 2016. From February, 2024 onwards, applications for import/export of hazardous and other wastes are being accepted only through NSWS (www.nsws.gov.in) portal.

xxi. To take ahead the 'LiFE' - 'Lifestyle for Environment' movement announced by the Hon'ble Prime Minister in 2021:

- Throughout the month of May 2023, over 2000 LiFE-related events focusing on action and awareness on have been organized across India including offices and Companies.

- HSM Division had actively participated in Mission Life events focusing on plantation, awareness as a build up to June 5- World Environment Day, Ministry launched Portal/ mobile application called "Meri LiFE" to catalyze action for climate.

- The Government of India announced the Carbon Credit Trading Scheme (CCTS) on June 28, 2023, under the Energy Conservation Act 2001 (Amendment, 2022), with the aim of establishing India's carbon market.

- National Steering Committee for Indian Carbon Market (NSC-ICM) has been formed under CCTS to oversee the Indian Carbon Market (ICM). The Secretary, MoEFCC and Secretary, MoP are chairing the NSC-ICM.

- The NSC-ICM has finalized 9 sectors under compliance mechanism under CCTS that is Aluminium, Chlor Alkali, Cement, Fertiliser, Iron & Steel, Pulp & Paper, Petrochemicals, Petroleum refinery, and textile.

- Under the offset mechanism the NSC-ICM has currently approved ten sectors which include energy, industries, waste handling & disposal, agriculture, forestry, transport, construction, fugitive emissions, solvent use and CCUS.

xxi. Under the Green Credit Rules 2023 (notified on 12.10.2023), to begin with,



- voluntary tree plantation is envisaged on degraded land under the control and management of Forest Departments. The Ministry has published notification for 'Methodology for calculation of green credit in respect of tree plantation' on 22nd February 2024.
- xxii. GCP Portal (<https://moefcc-gcp.in/>) has been developed to enable registration of Forest Department (implementing agency)/plantation land blocks/entity, selection of land parcels by entity, demand note generation, payment of fund, issuance of green credits and monitoring.
- xxiii. MoEFCC has notified Ecomark Rules, 2024 on 26.09.2024 (replacing Ecomark 1991) which aim to strengthen the institutional structure and implementation of the Ecomark to enable consumers to make informed purchase decision as well as encourage manufacturers to transition to production of environment friendly products leading to promotion of green industries.
- xxiv. The 4th National Conference of Chief Secretaries' was held in December 2024, focusing on the theme "Promoting Entrepreneurship, Employment & Skilling – Leveraging the Demographic Dividend". One of the sub-themes is 'Circular Economy', for which MoEFCC is the nodal Ministry.
- xxv. A preparatory workshop of the 4th National Conference of Chief Secretaries was held on 29th August 2024 at Vishakhapatnam.
- xxvi. Under the G20 India Presidency 2023, 'Resource Efficiency and Circular Economy Industry Coalition (RECEIC)' was launched at the 4th ECSWG and Ministerial Meeting held on 26th - 28th July, 2023. RECEIC is an industry-led coalition that aims to foster greater company-to-company collaboration, build advanced capabilities across sectors and value chains to enhance resource efficiency (RE) and accelerate circular economy (CE) transition.
- i. Federation of Indian Chambers of Commerce and Industry (FICCI) has been chosen by its members to act as the Secretariat of the coalition.
 - ii. Founding members have developed the institutional architecture of the coalition and constituted a Steering Committee from among its industry members that develop the Roadmap/workplan of RECEIC and undertake its implementation. Mr. Manish Sharma, Chairman Panasonic Life Solutions, India is the Chair of the RECEIC Steering Committee.
 - iii. Currently, there are 48 members of RECEIC from 10 countries including Japan, US, Singapore, UAE, Denmark, UK, Germany, Switzerland, Finland and India.



iv. Technical deliberations/exchanges are ongoing through different RECEIC Working groups: (a) Packaging Reimagined: Alternate and Sustainable Solutions, (b) Material Transition in Chemical Sector, and (c) Resource Efficiency and Circular Economy in Used Oil.

2.4 Policy and Law

Name of the Scheme/ Programme-

No scheme is run by the Division. However, establishment and administrative issues of the National Green Tribunal are dealt in this Division.

Brief Introduction and Objective-

The Policy and Law (P&L) Division deals with the administration/ establishment matters of the NGT; framing of NGT Recruitment Rules/ Amendments in the NGT Act and NGT Recruitment Rules; coordination with the Ministry of Law & Justice and handling of court cases in the Supreme Court of India, various High Courts and NGT (all its Benches).

The P&L Division handles the administrative issues of NGT while the ESZ and CP Divisions are administrative-in-charge of Dahanu Taluka Environment Protection Authority and Loss of Ecology Authority, respectively. The Division is allocated funds under the Budget Head "National Green Tribunal" and the budget under this is further allocated to –

- National Green Tribunal;
- Grants-in-Aid to Loss of Ecology Authority, Chennai, and
- Grants-in-Aid to Dahanu Taluka Environment Protection Authority, Ahmedabad.

2.5 National Green Tribunal (NGT)

The National Green Tribunal (NGT) was set up on 18th October, 2010 under the NGT Act, 2010 for the purpose of effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.

The Tribunal has five places of sitting i.e., the Principal Bench at New Delhi and Zonal Benches at Pune, Kolkata, Bhopal and Chennai. As per Section 4(1) of NGT Act, 2010 the Tribunal shall consist of (a) one full time Chairperson, (b) not less than ten but subject to maximum of twenty full time Judicial Members as the Central Government may, from time to time, notify and (c) not less than ten but subject to maximum of twenty full time Expert Members, as the Central Government may, from time to time, notify. Hon'ble Mr. Justice Prakash Shrivastava, former Chief Justice, Calcutta High Court was



appointed as Chairperson, NGT w.e.f. 21.8.2023.

Legal Monitoring Cell (LMC)

A Legal Monitoring Cell set up in the Policy & Law Division monitors the progress of court cases and also acts as an effective coordinator with various Divisions of the Ministry regarding court cases. The total no. of court cases in which the Ministry is a Party, as on 28.11.2024, are 3104 in matters pending before the Supreme Court of India, High Courts, National Green Tribunal (all Benches), Central Administrative Tribunal, etc.

2.6 Eco-labelling

MoEFCC has notified Ecomark Rules, 2024 on 26.09.2024 (replacing Ecomark 1991) which aim to strengthen the institutional structure and

implementation of the Ecomark to enable consumers to make informed purchase decision as well as encourage manufacturers to transition to production of environment friendly products leading to promotion of green industries. Ecomark intends to encourage the demand for environmentally friendly products that causes lesser adverse impacts on the environment, promote lower energy consumption, resources efficiency and conservation, circular economy and prevent misleading information on environmental aspects of products.



CHAPTER : 3

**ENVIRONMENTAL IMPACT
ASSESSMENT AND CLEARANCE**



CHAPTER - 3

ENVIRONMENTAL IMPACT ASSESSMENT AND CLEARANCE

3.1 Environmental Impact Assessment (EIA)

EIA is a planning tool to integrate environmental concerns into the developmental process from the initial stage of planning. It was first used in India as early as 1978 for river valley projects, and later extended to large public sector projects requiring Public Investment Board (PIB) clearance. These practices were formally codified for the first time in the EIA Notification, 1994, which came into effect from 27th January 1994. The notification initially mandated environmental clearance for 29 categories of projects, later expanded to 32, based on investment criteria. In 2006, a revised EIA Notification emerged, aiming for a transparent, efficient, and decentralized approach. This revision introduced environmental safeguards from the planning stage and emphasized public participation. The updated policy shifted focus from investment to impact potential, making environmental clearance compulsory for 39 project categories.

EIA Notification, 2006 and CRZ Notification, 2011 have been amended from time to time to further streamline the clearance process. While according EC to development project(s), necessary conditions, environmental safeguards and measures are stipulated for their effective implementation during the construction and operation of the project. The safeguard measures are intended to minimize adverse impacts, inter alia, on (i) air quality, (ii) water quality, (iii) land degradation, (iv) bio-diversity, and (v) wildlife habitat. In addition, measures like rainwater harvesting, water

conservation, greenbelt and plantation; wildlife conservation plan, etc. are also required to be implemented in the project.

i. Environmental Clearance to Developmental Projects

As per the provisions of the EIA Notification 2006, meetings of various sectoral Expert Appraisal Committees (EAC) were convened during the year for appraisal of category "A" projects for sectors of Industry, Thermal, River valley and Hydroelectric Projects, Coal Mining, Non-Coal Mining, Infrastructure, Construction & CRZ and Nuclear, Defence & related Projects. As a part of appraisal process, wherever required, the Expert Appraisal Committees also visited project sites for obtaining first-hand information about the ground level realities and response of people / stakeholders living in the vicinity.

Environmental Clearance (EC) has been accorded to 519 projects (between 1st January 2024 to till 31st December, 2024). The sector-wise environmental clearances issued to projects by the Ministry during the year 2024 (up to December 31st, 2024) is given in the *Fig.1*. The average time taken for grant of EC, from all sectors, at the Central level was 88 working days against the stipulated timeline of 105 days.

II. Constitution of State Environment Impact Assessment Authorities (SEIAA)

Ministry has constituted thirty-four State/UT level Environment Impact Assessment Authorities (SEIAA) under

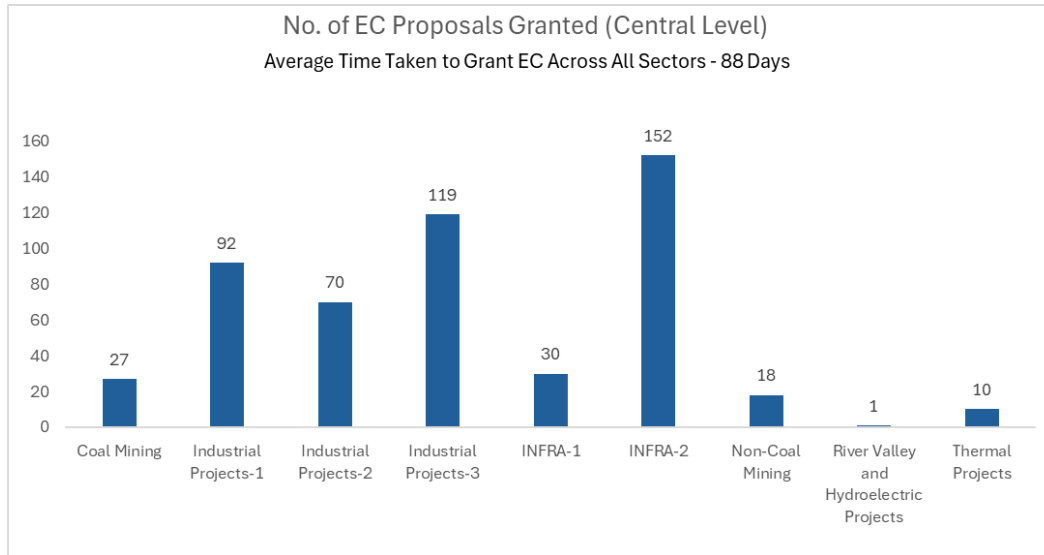


Fig 1: No. of EC Proposal Granted (Central level)

sub section (3) of section 3 of the Environment (Protection) Act 1986 for approval of EC of category B projects and activities which have been appraised by SEACs.

3.1.1 PARIVESH 2.0

Implementation of Single-Window Integrated Environmental Management System.

In the year 2018, as a step towards the vision of the Government in improving e-Governance and enhancing ease of doing business, the PARIVESH Portal was launched by The Hon'ble Prime Minister, with an emphasis and vision to provide a single-window portal for Environment, Forest, Wildlife and Coastal Regulation Zone Clearances. Subsequently, in the Year 2019, PARIVESH was rolled out across all States/UTs. The portal is being used across 36 States and UTs, 19 Regional Offices, and at MoEFCC.

Over the years, the existing system of 'PARIVESH' has undergone numerous

modifications and customization in alignment with statutory provisions and it has successfully met its objectives of achieving "single window solution" and facilitated uninterrupted services to the industries even during the COVID times.

To further enhance user's experience on PARIVESH with modern day web application, Ministry has expanded the scope of existing PARIVESH (2.0) leveraging on emerging technology such as GIS, Advance Data Analytics, etc. for providing faster decisions on Green Clearances and robust compliance monitoring by end-to-end online appraisal and grant of clearances.

To provide seamless experience and in alignment with the 'Digital India' initiative, PARIVESH 2.0, is supplemented with unique modules (Know Your Approval, Know Your Decision Support System etc.) which facilitates the following: -

End to End online processing: Entire



clearance management for all four major clearances in paperless mode in PARIVESH 2.0 not only ensures effective e-governance with ease of doing business but also helps in ensuring transparency, accountability and reduction of carbon footprint.

Prior Planning of Project: Know your Approval (KYA) module in PARIVESH 2.0 has been appreciated in different forums for facilitating the project proponent in assessing the environmental sensitivity of the project before its execution helping in better planning and ultimately helping in conservation of natural resources on one hand and reduction in time and cost of the project on the other

Informed Decision Making: Over the past one year, more than 500 Category A EC proposals were evaluated with the help of GIS enabled Decision Support System (DSS) in PARIVESH 2.0 and helped the technical committees and regulatory authorities in making an informed decision.

In 2024, PARIVESH 2.0 has achieved remarkable milestones in enhancing environmental governance and streamlining clearance processes, reflecting the Ministry's commitment to digital transformation and sustainability. Tangible outcome during 2024 are as below:

- (i) In the domain of Environmental Clearances (EC), significant advancements were made with the rollout of processing of Category

B projects at the state level, online submission of compliance reports by project proponents, and advanced data analytics and reporting at Central and State levels. These efforts have greatly improved the efficiency and transparency of the clearance process.

- (ii) In the Coastal Regulation Zone (CRZ) critical process flows for the transfer, validity extension, and amendment of CRZ clearances were developed and implemented, ensuring smooth and systematic handling of these sensitive areas.
- (iii) In the Forest Clearances (FC), the Accredited Compensatory Afforestation module was made live, enabling more efficient management of Compensatory Afforestation activities.
- (iv) The launch of the CAMPA Digital APO module in PARIVESH 2.0 marks a significant step forward in sustainable CAMPA fund planning.
- (v) Automated various clearance processes coupled with various systemic reforms in PARIVESH has resulted in reduction of average time for grant of EC at Central Level to ~ 88 working days (Stipulated timeline = 105 days).
- (vi) Augmentation in compliance monitoring of EC conditions by integration of module in PARIVESH 2.0 for online submission of six-monthly compliance reports by the Project Proponents.

IV. Compliance and Monitoring Division (C&MD)-Post Environment Clearance (EC) Monitoring of EC Conditions:



Clearances under EIA Notification, 2006 are granted by MoEFCC for Category 'A' projects and by State Level Impact Assessment Authorities (SEIAAs) / UTIAAs for Category 'B' projects. Similarly, clearances under CRZ Notification, 2011/2019 are also granted by MoEFCC or the respective SEIAAs as the case may be after the project has been recommended by the concerned Coastal Zone Management Authority. While granting clearances under both these Notifications, various conditions and environmental safeguards are stipulated which are required to be implemented by the project proponent during various stages of project cycle.

The objectives of Post EC Monitoring of the projects are:

- to ensure that actions have been taken to incorporate the environmental safeguards during the project cycle in accordance with the conditions stipulated in the Environmental Clearance.
- to take appropriate corrective measures to check adverse impact on environment during operation of the respective projects.

Monitoring of projects with respect to conditions stipulated in the environmental clearance issued under EIA Notification, 2006 and Coastal Regulation Zone (CRZ), 2011/2019 is carried out through the Eleven (11) Regional Offices (ROs) and Nine (9) Sub Regional Offices.

As a step towards strengthening the Environmental Compliance and Monitoring

for effective implementation of provisions of Environment (Protection) Act, 1986; the Ministry has created a dedicated and separate "Compliance and Monitoring Division" (C&MD) vide Office Order dated 13.07.2023. The major responsibilities of CMD are:

- Monitoring of EC granted under the EIA Notification, 2006,
- Functional auditing of SEIAA/CZMA and post EC monitoring in relation to Court cases.
- Parliament Matters, VIP references, PG, RTI etc.

C&M Division examines the monitoring reports submitted by Regional Offices. In cases of non-compliance, further follow up action is taken for effective compliance including issuance of show cause notice followed by directions under Environment (Protection) Act, 1986 on a case-to-case basis.

V. Accreditation of the EIA consultants with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET):

The environmental appraisal of development projects is undertaken as per the provisions of EIA Notification 2006 based on EIA/EMP reports prepared by the accredited consultants with the assistance of project proponents. Good quality EIA reports are a pre-requisite for appropriate decision making. As of now, only consultants accredited with QCI/ NABET are allowed to prepare EIA/EMP reports and present the cases before EACs/SEAC. As per the



NABET website as on 24.12.2024, there are 224 accredited EIA Consultant Organizations.

VI. Policy reforms: As part of systemic reforms, the IA Division has taken various policy reforms:

- Standalone pellet plants have categorized under item 2(c) of the EIA notification, 2006 and have been delegated to SEIAA.
- Metallurgical processes with low pollution load have been delegated to SEIAA .
- Standalone Rolling mills (except pickling and melting) have been exempted

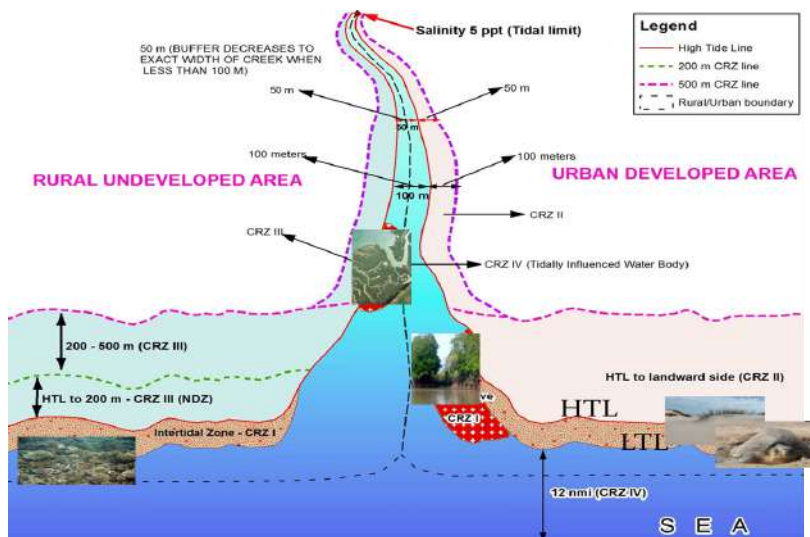
3.2 Coastal Regulation Zone (CRZ)

With the prime objective of ensuring livelihood security to fishing and other local communities living in coastal areas, and to conserve/protect coastal stretches while also promoting development based on scientific principles, the CRZ Notification was issued *vide* S.O. 114(E), dated 19/02/1991. This notification was superseded by the

CRZ Notification, 2011 and issued *vide* S.O. 19(E), dated 06/01/2011. The said notification covers categorization of CRZ areas, permissible and prohibited activities, regulation of permissible activities in CRZ areas, procedure for clearance, preparation of Coastal Zone Management Plans, mapping and areas requiring special consideration etc.

The notification was amended from time to time based on representations received from the coastal State Governments, Union Territory administrations and other stakeholders, and a need was felt overtime to undertake a comprehensive revision of the notification.

The Ministry of Environment, Forest and Climate Change had accordingly constituted a Committee in June 2014 under the Chairmanship of Dr. Shailesh Nayak (Secretary, Ministry of Earth Sciences) to examine the various issues and concerns of Coastal States/UTs and other stakeholders for recommending appropriate changes in the CRZ Notification, 2011. The Shailesh Nayak Committee held



CRZ Classification as per 2011 Notification



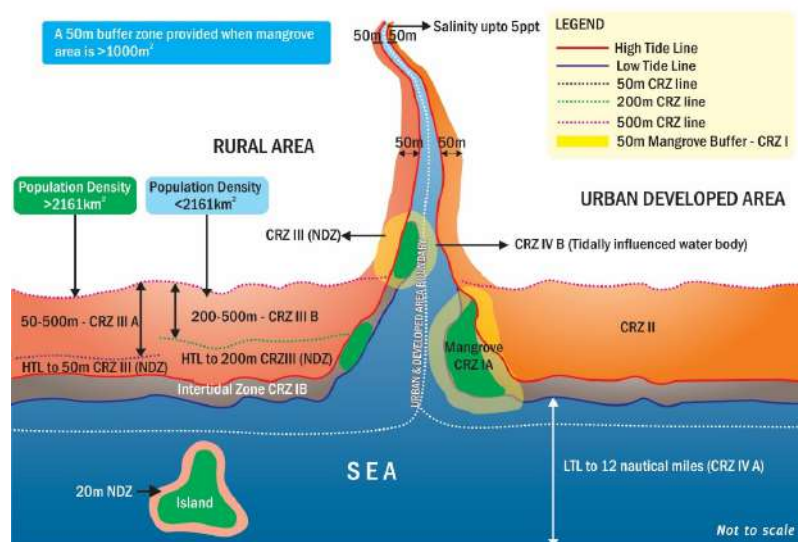
wide ranging consultations with State Governments and other stakeholders and submitted its recommendations in 2015. The recommendations were further examined in consultation with Members of Parliament of Coastal States and Union Territories besides other concerned Ministries of Government of India and a draft notification i.e. CRZ Notification, 2018 (in proposed supersession of CRZ Notification, 2011) was issued in April, 2018 for inviting comments from the public at large. A number of suggestions and comments were received by the Central Government and based on overall imperative of sustainable development of coastal areas and need for conserving the coastal environment, the Union Cabinet approved the new Coastal Regulation Zone Notification on 31/12/2018 and the same was finally issued *vide* G.S.R 37(E), dated 18/01/2019. This new CRZ Notification is expected to go a long way in conservation of the coastal areas on scientific principles, meeting the aspirations of coastal communities besides ensuring welfare of poor and vulnerable populations. Overall, this new CRZ Notification will result in greater economic growth while conserving the coastal eco-systems, thereby creating greater livelihood opportunities and better quality of life of coastal communities.

The new CRZ Notification, 2019 issued *vide* G.S.R 37(E), dated 18/01/2019, will however become effective only after the Coastal Zone Management Plans (CZMPs) of the

respective coastal states are aligned and updated based on the provisions of the new notification. To this effect the Ministry of Environment, Forest and Climate Change has issued 'Guidelines for updation of Coastal Zone Management Plan prepared as per CRZ Notification, 2011 to align it with CRZ Notification, 2019' to all coastal states for immediate action. The CZMPs, in accordance with provisions of CRZ Notification, 2019, have been approved for states of Odisha, Karnataka, Maharashtra and Kerala.

Island Regulations:

The islands located along the mainland (offshore and inshore within tidally influenced water bodies) are covered under the Coastal Zone Regulation (CRZ) regulations, whereas Andaman and Nicobar and Lakshadweep group of islands are covered under the Island Protection Zone (IPZ) Notification, 2011, issued on 6th January 2011 under the Environment (Protection) Act, 1986. Akin to CRZ Notification, the Island Coastal Regulation Zone (ICRZ) Notification, 2019 was issued in supersession of IPZ Notification, 2011 *vide* S.O.1242 (E), dated 08/03/2019. This new notification will however become effective only after the ICRZ/IIMPs of the islands are revised and updated as per the provisions of the new notification. The ICRZP as per ICRZ Notification, 2019 has been approved for Great Nicobar Island and Little Andaman Island.



CRZ Classification as per 2019 Notification (to be effective once revised/updated CZMPs are approved)

Progress / Achievements

1. Constitution of Authorities:

- The Tamil Nadu State Coastal Zone Management Authority has been reconstituted through a notification issued under S.O. 4994(E), dated 20/11/2024.
- The Lakshadweep Coastal Zone Management Authority has been reconstituted through a notification issued under S.O. 5209(E), dated 03/12/2024.
- The Andhra Pradesh Coastal Zone Management Authority has been reconstituted, and their final notification is currently in progress.

2. Implementation of CRZ Notification 2011/2019:

- Approval for the Coastal Zone Management Plan (CZMP) of Kerala, as per the Coastal Regulation Zone (CRZ) Notification, 2019, has been issued by the Ministry vide letter No. 12/7/2021-IA.III, dated 16/10/2024.

- Meeting of the National Coastal Zone Management Authority (NCZMA) was conducted on 23/09/2024, under the Chairmanship of the Secretary, Ministry of Environment, Forest, and Climate Change (MoEFCC), to deliberate on the key issues pertaining to coastal zone management.

3. EAC (CRZ) / CRZ Clearances

A total of 61 CRZ clearances have been granted by the Ministry from 01/01/2024 to 31/12/2024. These approvals pertain to various developmental and project activities and the checks and balances and conditions for conservation prescribed therein for permissible activities under the CRZ Regulations.



CHAPTER : 4

CONSERVATION-BIODIVERSITY



CHAPTER - 4

CONSERVATION – BIODIVERSITY

4.1 Biodiversity

a. Brief introduction and objectives and functions of the Division

- International Commitments:
 - Convention on Biological Diversity (CBD).
 - Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity
- National Legislation: Biological Diversity Act, 2002 and its amendments
- CBD is one of the key agreements adopted during the Earth Summit held in Rio de Janeiro in 1992. The three objectives of the CBD are: conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising out of the use of genetic resources. Pursuant to ratification of the CBD by India on 18 February 1994. Recently India submitted its 23 National Targets in line with the Kunming Montreal Global Biodiversity Framework (KMGBF) on 10th September 2024 to the CBD portal. Further India submitted its updated National Biodiversity Strategy and Action Plan on 31st October 2024 to the CBD portal.
- The Nagoya Protocol on Access to Genetic Resources (ABS) and the Fair and Equitable Sharing of Benefits arising from their Utilization to the Convention on Biological Diversity, adopted under the aegis of CBD in 2010. India signed the Protocol on 11 May 2011, and ratified it on 9 October 2012. The Nagoya Protocol on ABS entered into force on 12 October 2014.
- Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES) was established by the Governments of various countries in April 2012 as the biodiversity counterpart of Intergovernmental Panel on Climate Change, for strengthening the science-policy interface on biodiversity so as to provide policy makers with reliable, independent and credible information on biodiversity, thus promoting human well-being and sustainable development through sustainable use of biodiversity.
- In pursuance to CBD, India enacted the Biological Diversity Act in 2002, and notified the Biological Diversity Rules in 2004, which were superseded by the Biological Diversity Rules 2024, subsequent to the Biological Diversity (Amendment) Act, 2023.
- The Act provides for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto. It primarily aims at giving effect to the provisions of the CBD suiting to our national needs and requirements. The provisions of the Nagoya Protocol on Access and Benefit Sharing to which India is a Party, are also being implemented through the Biological Diversity Act.
- The Biological Diversity Act in 2002 is implemented through a three-



tier institutional mechanism: NBA, State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs). NBA is a statutory body that performs facilitative, regulatory and advisory functions for the Government on biodiversity related issues.

b. Important activities undertaken

- The Ministry celebrated the “International Day on Biological Diversity 2024” on 22 May 2024. The theme “Be Part of the Plan” echoed the call to action to halt and reverse the loss of biodiversity emphasizing the collective effort needed from various stakeholders. The event was well attended by Senior officials from the Central / State Government, college student, NGOs and Biodiversity Management Committees members and made commitments towards biodiversity conservation.
- During the event, NBA has launched 6th cycle of Biodiversity Samrakshan Internship Programme (BSIP) 2025.

c. Progress/Innovations for the reference period

Internationally Recognized Certificate of Compliance (IRCC) issued under Nagoya Protocol Nagoya Protocol on ABS requires Parties to issue a permit or its equivalent at the time of access as evidence that access to genetic resources was based on prior informed consent and that mutually agreed terms were established.

d. Important Cumulative achievements

- Shri Kirti Vardhan Singh, Hon’ble Minister of State for Environment, Forest and Climate Change released India’s updated NBSAP during a special side event called ‘Roadmap for achieving the Kunming-

Montreal Global Biodiversity Framework (KMGBF) targets and release of India’s updated NBSAP’, on 30th October, 2024 during the COP 16 meetings held in Cali, Colombia.

- The National Biodiversity Targets prepared in line with the KMGBF on 10th September 2024.
- 2.77 lakhs BMCs have been established in 28 States and 8 Union Territories across India.
- 2.68 lakhs PBRs have been documented by the BMCs with the support of SBBs and NBA.
- 47 Biodiversity Heritage sites have been declared in 17 States

e. Promulgation of new Acts/ Rules

- Biological Diversity Rules, 2024, was notified in the Gazette of India vide Notification G.S.R. 665(E) dated 22.10.2024.

f. Important Conferences organized in India or international conferences- nature of participation, subjects discussed, implementation-action taken.

Workshops organized in India:

- Regional Consultation meeting on National Biodiversity Strategy and Action Plan (NBSAP) from 06-07 February 2024 in Assam.
- Regional Consultation meeting on National Biodiversity Strategy and Action Plan (NBSAP) from 26-27 February 2024 in Bhopal.
- National Consultation meeting on National Biodiversity Strategy and Action Plan (NBSAP) from 05 April 2024 in New Delhi.
- National workshop on Digital Sequence



Information (DSI) and the Global Multilateral Benefit-Sharing Mechanism (GMBSM) from the use of DSI on Genetic Resources (GR) from 12-13th July, 2024, in Hyderabad.

International conferences:

- The twenty-sixth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice and the fourth meeting of the Subsidiary Body on Implementation held in Nairobi, Kenya from 13-29 May 2024.
- Second meeting of the Advisory Committee on Resource Mobilization, 18–22 March 2024 - Villa de Leyva, Boyacá, Colombia.
- The 10th Eurasia-Pacific Regional Dialogue on Biodiversity Finance held in Kakheti Region, Georgia from 11-13 June 2024.
- The Second Meeting of the Ad Hoc Open-ended Working Group on Benefit-sharing from the Use of Digital Sequence Information on Genetic Resources held in Montreal, Canada, from 12-16 August 2024.
- The Global capacity-building workshop on operationalizing access and benefit-sharing national frameworks under the Nagoya Protocol held from 30 September to 3 October 2024 in Bonn, Germany.
- An Indian delegation led by Shri Kirti Vardhan Singh, Hon'ble Minister of State for Environment, Forest and Climate Change, participated in the COP 16 meetings to the Convention on Biological Diversity held in Cali, Colombia from 16 October to 1 November 2024.

g. List of major publications brought out

- India's Updated NBSAP 2024-2030

has been released in the side event of the COP-16 on 30th Oct, 2024, in Cali, Colombia and uploaded on CBD portal on 31st October 2024.

3. Autonomous bodies- appraisal of the functioning of each of the autonomous bodies/institutions in relations to their objectives.

- The National Biodiversity Authority is a body corporate established in accordance with the provisions of Section 8 of the Biological Diversity Act, 2002, at Chennai w. e. f. 1st October 2003. It is an autonomous, statutory and regulatory organization which is intended to implement the provisions of Biological Diversity Act, 2002. The Biological Diversity Act 2002 came into force in 2003. The Act extends to the whole of India. The objectives of the Act are conservation, sustainable utilization and fair and equitable sharing of benefits arising out of the use of biological resources and associated knowledge. The Act is being implemented through a three-tiered institutional structures (NBA at National level, State Biodiversity Boards at State level and Biodiversity Management Committees at local level)

The main objectives of NBA are:

- To regulate access to biological resources of the country to conserve and sustainable use of biological diversity
- To respect and protect the knowledge of local communities related to biodiversity
- To secure sharing of benefits with the local people as conservers of biological resources and holders of knowledge and information relating to the use of biological resources
- Conservation and development of area



of importance from the view point of biological diversity by declaring them as biological diversity heritage sites.

- Protection and rehabilitation of threatened species; involvement of institutions of state government in the broad scheme of implementation of the Biological Diversity Act through constitution of committees.

Grant-in-aid released to Institutions/organisations including NGOs.

During the Financial year 2024-25 Rs. 15,00,00,000 were released to National Biodiversity Authority.

4.2 Biosafety

a. Brief introduction and objectives and functions of the Division

- The Division's scope includes activities related to the Cartagena Protocol on Biosafety (CPB) under the Convention on Biological Diversity (CBD), the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress (NKLSPLR), and the work of the Genetic Engineering Appraisal Committee (GEAC).
- The CPB to the CBD is an international agreement has been designed to ensure the safe handling, transport, and use of living modified organisms (LMOs) arising from modern biotechnology, particularly those that may pose risks to biodiversity and human health. It was adopted on January 29, 2000 and came into force on September 11, 2003.
- The NKLSPLR supports biodiversity conservation and sustainable use by establishing international rules and procedures for liability and redress concerning LMOs. This Supplementary Protocol was adopted on October 15,

2010 at the CoP-MoP-5 in Nagoya, Japan and entered into force on March 5, 2018 as an extension of the CPB.

- In accordance with the Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Micro Organisms/ Genetically Engineered Organisms or Cells notified in 1989 (Rules, 1989) under the Environmental (Protection) Act, 1986; the Genetic Engineering Appraisal Committee (GEAC) functions under the Ministry of Environment, Forest and Climate Change (MoEF&CC) for appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle. The Committee is responsible for approval of proposals relating to release of genetically engineered organisms and products into the environment including experimental field trials.

b. Progress/Innovations

Standard Risk Assessment and Risk Management Plan for Environmental Safety for Undertaking Commercial Production of Ethanol Using Genetically Modified Organisms at the Distilleries, and Standard Risk Assessment and Risk Management Plan for Import of Genetically engineered organism for the purpose of commercial production has been approved by the GEAC in its 153rd meeting.

c. Promulgation of new Acts/ Rules

- Amendments to the Rules for the Manufacture, Use, Import, Export, and Storage of Hazardous Microorganisms/ Genetically Engineered Organisms or Cells, 1989 (Rules 1989) to incorporate conflict of interest provisions have been notified by MoEF&CC vide S.O. 5647 (E) dated 31.12.2024 for public comments



[Gazette ID: CG-DL-E-02012025-259846].

- Draft amendments to the Rules 1989 for constituting a new committee under Rule 4 of Rules 1989 which may be housed in CDSCO and regulate environmental biosafety aspect of research & development activities related to r-DNA drugs (replacing current role of RCGM) are presently undergoing inter-ministerial consultation.

d. Important Conferences organized in India or international conferences- nature of participation, subjects discussed, implementation-action taken.

India participated in the 11th Conference of the Parties serving as Meeting of the Parties (CoP-MoP-11) of CPB convened concurrently with the 16th CoP-MoP to the CBD from 21.10.2024 - 01.11.2024 in Cali, Columbia

4.3 Zoological Survey of India (ZSI):

The Zoological Survey of India (ZSI) is a 109-year-old organization established in 1916 functioning under the Ministry of Environment, Forest and Climate Change (MoEF&CC) and dedicated for surveys, exploration and taxonomical studies of faunal communities. ZSI Headquartered in Kolkata, has 16 Regional Centers (RC) spread across the country. The primary and secondary objectives are as follows:

a) Primary Objectives

- Exploration, Survey, Inventorying and Monitoring of faunal diversity in various States, Ecosystems and Protected areas of India
- Maintenance & Development of National Zoological Collections
- Taxonomic and systematic studies on fauna of India

- Periodic review of the Status of Threatened and Endemic species
- Publication of Fauna of India, Fauna of States and Conservation areas
- Ecological and biological studies on species and communities
- Creation and maintenance of “Fauna of India database”
- Training and capacity building in animal taxonomy and conservation
- Wildlife forensics and Identification and Advisory services to academia, organizations/bodies
- Development and maintenance of Museum at Headquarters and Regional centres
- Genomic studies on fauna of India

Secondary objectives

- Environmental Impact and Biodiversity assessment for framing management action plans
- Creation and maintenance of EIACP website and CITES Cell
- Research Fellowship, Associateship and Emeritus Scientist Programmes
- Collaborative research programmes on biodiversity with national and international organizations
- Studies of Indian Fauna using GIS and other appropriate tools
- Digitization of National Zoological Collection
- DNA Barcoding of Indian Fauna
- Monitoring of the impact of climate change on faunal diversity

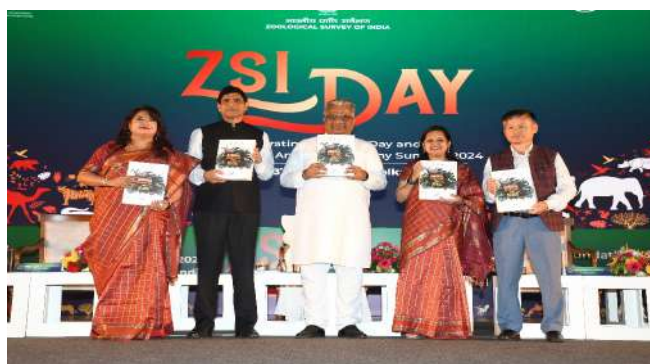
Functions/ Strength of ZSI:

- Maintenance of National Faunal



Repository: One of the largest faunal repositories of the world with 6.7 million faunal specimens.

- Scientific Expertise: Robust taxonomic expertise on different groups of fauna from Protozoa to Mammalia.
- Database: Holding up-to-date information on faunal Diversity of India.
- New Discoveries: Updating the data on new discoveries from different ecosystems of the country at the rate 500 - 600 species per annum.
- Museums at HQ & RCs: ZSI is exhibiting different faunal specimens of various ecosystems of the country.
- Taxonomy trainings and capacity building: Only organization in the country providing training on taxonomy of all groups of fauna.
- Maintain DNA, Forensic studies & GIS laboratories
- Library: Holding Asia's largest library dealing books and literature pertaining to Zoology.
- Digital Archives of Publication.
- Digitization of Types
- Outreach activities
- Inter-ministerial services
- International & National Collaborations
- Contribution of ZSI in the activities pertaining to Conservation of Biodiversity including CBD, ABS, W(P)A, BDA, CITES, IUCN, DGQI etc.



Animal Discoveries 2024 book was released by the Hon'ble Union Minister MoEF&CC Shri Bhupender Yadav along with other dignitaries

b) **Important Activities undertaken during the reference period**

- **Faunal Surveys, Collections and Identifications:** A total of 133 surveys covering an area of approximately 22000 sq. km. have been completed during the period of which 44 surveys were undertaken to different Protected Areas; 17 surveys conducted to States and Union Territories; 32 to different ecosystems including coastal, estuarine, freshwater, marine, Himalaya, forest agroecosystem, mangrove and Deccan Peninsular; 17 status surveys of endangered species; 19 surveys for Taxonomic studies and 8 surveys for miscellaneous studies. Altogether 1,69,522 specimens have been collected from the surveys undertaken and 6,353 species have been identified under different faunal groups which includes 1,049 species of Chordates and 5,304 species belonging to Non-chordates.
- **Augmentation of faunal species in National Zoological Collection:** A total of 760 species belonging to different faunal groups from Protista to Mammalia have been augmented .
- **New Discoveries:** ZSI has compiled the



new discoveries 2024 published by different scientists, students, faculties of India with 349 new discoveries of which 258 are new species whereas 91 are new record to Indian fauna.

- **Digital Sequence Information (DSI) on Indian Fauna:** A total of 1286 DNA barcodes of 506 species have been submitted on BOLD and Gene Bank which includes Mammals (240), Birds (44), Reptiles (63), Amphibia (138), Fishes (276), Echinodermata (2), Mollusca (81), Araneae (1), Annelida (1), Lepidoptera (115), Orthoptera (4), Coleoptera (2), Isoptera (29), Odonata (40), Hymenoptera (43), Hemiptera (28), Diptera (74), Thysanoptera (50), Insecta (43), Cnidaria (4) and Bacteria (8).
- **Publications:** Altogether 762 publications have been completed during the period and includes 39 Books, three books in Hindi, 141 papers published in SCI journals, 135 papers in NAAS rated journals, 45 papers in peer-reviewed National and International journals, 230 Book chapters, 121 Fauna of India Checklists, 39 popular articles in Hindi and 12 issues of E-Newsletter.
- **Capacity Building:** In order to disseminate the knowledge on biodiversity conservation, 68 Outreach activities have been conducted in both online mode as well as offline modes for the benefit of over 6500 students and researchers from across the country.
- **Identification and advisory services:** It is one of the significant services being rendered by ZSI to the different institutions upon request. During the period, 148 Institutes/colleges have availed the services for identification of 3587 specimens belonging to 1100 species.
- **Wildlife Forensics and Crime Control:** ZSI is an authorized department for wildlife forensic studies by Ministry of Home Affairs, and during the period 567 confiscated materials belonging to 51 species including many scheduled species received from 52 departments.
- **Patents:** One patent on Automated Surveillance System for Mosquitoes and other Insects have been granted.
- **Role in Policy interventions**
 - Twenty scientists of ZSI were trained for IUCN National Red Listing of Species during September 2024 to assess the threatened species of the country.
- **International cooperation**
 - Royal Government of Bhutan on « Population survey of red panda in Bhutan through faecal DNA analysis” funded by the Department of Forests and Park Services, Royal Government of Bhutan.
 - Government of Ghana on “ From South Asia to West Africa: A united effort to save the Pangolins”.
- **Mission LiFE Campaign**
 - Selfie points were created- 3000 selfies taken, 40 events organised in 16 states.
 - Meditation Camp organized for 100 employees of ZSI.
 - Painting Competition – 100 students took part.
 - Essay writing competition- 50 students took part.
 - Ek Ped Maa Ke Naam – 1000 saplings planted.
- **Swachhata Campaign 4.0.**
 - ZSI weeded out 258 files, disposed more than 200 obsolete office Furniture,



225sq. ft. space restored and Rs. 2,16,009 revenue generated.

- 50 events organized, reaching out to 2.5 Lakh people in 18 states across India.
- Swachh Sagar Surakshit Sagar- 4 Beaches were cleaned in Digha, Chennai, Gopalpur, Khozikode and 500kgs of trash collected.
- 'Swaachh Khana Swasth Rehena' - Millet Kichidi was cooked in ZSI canteen and served by Director, ZSI to about 600 employees of ZSI.
- Painting, debate, quiz competitions were held in all centres of ZSI – 100 students took part.
- A Business Plan competition to reduce waste was organised for MBA students at IQ city United world school of Business (IQCUSWB), Kolkata- 20 students took part.
- Mega Cleanliness Drive was organised at Hoogly river bank, Prinsep Ghat, Kolkata on 27.09.2024 - 360 participants including 200 students from IQ City UWSB, Kolkata. About 100kgs of trash collected were picked up by Hulladek Recycle, Kolkata.
- Smart Bin for plastic waste disposal and E-waste Bin for e-waste disposal were installed in ZSI, HQ, Kolkata by Director, ZSI in partnership with Hulladek Recycle, Kolkata.
- Health camp for 350 Safai Mitras and contractual staff.
- Ek Ped Maa ke Naam - ZSI has planted more than 500 saplings throughout the country through its 16 regional Centres.
- Sansthanon Swachhata - 16 Regional centres of ZSI took up cleaning of ZSI office and campus.



Asiatic Lion Panthera leo (Linnaeus, 1758)



Common cruiser, Vindula erota (Fabricius, 1793)

c) Progress/innovations for the reference period :-

- A total of 144 new discoveries made by the scientist of ZSI.
- Altogether 762 publications have been made including Books, peer-reviewed papers and book chapters.
- Translocation of coral colonies; Out of 16,591 colonies of corals fixed to 2000 frames at the temporary recipient sites, 1581 colonies in 300 frames are assessed quarterly for survival, growth and prevalence of disease and non-disease health compressors.
- Tagging and recapture of Olive Ridley Turtles: 11624 tagged and recapture of 224; two green turtles also tagged.
- Tagging and Ecology of Leatherback Turtles: 672 individuals tagged, hatchling measurements of 3414 individuals, 50,217 egg measured, 15 tagged turtles revisited during 2024
- Tagging of Horseshoe Crabs: 105



horseshoe crabs have been tagged at Balasore coast of Odisha.

d) Important Cumulative achievements :-

- **Species Identifications:** So far, about 1,04,561 species of animals have been documented. During the reference period a total of 6353 species have been identified by the scientists of ZSI .
- **Publications:** A total of 6222 scientific publications completed during the last five years. During the reference period, 762 publications have been made.
- **Digital Sequence Information (DSI) of important Taxa:** ZSI plays a major role in enriching the information on DNA barcodes and solving many taxonomic queries and generated 12,390 barcodes including 1286 barcodes generated during the reference period.
- **New Discoveries:** 5703 new species have been described by the scientists of ZSI since its inception, while 144 new discoveries including 79 new species and 65 new record to Indian fauna have been published during the reference period.
- **Training and Extension:** Outreach activities are being provided regularly and this year 68 workshops /trainings/ webinars were conducted to disseminate the knowledge on various topics.
- **Digital ZSI:** Achievements include Digital Archives of Publications of ZSI; ZSI Library Repository and ZSI Type Specimens Repository.
- **Identification and advisory services:** Identification and advisory services are provided to students, researchers and faculties from time to time. This year material received from 148 Institutes/ colleges and identified 3587 specimens

belonging to 1100 species.

- **Identification of Confiscated Wildlife Material:** Queries related to confiscated wildlife materials of different animals or parts of the body for the benefit of Court of Law to culminate wildlife crime are attended as and when received. This year, identification include 567 specimens belonging to 51 species including many scheduled species received from 52 departments.



Leatherback Turtle, Dermochelys coriacea (Vandelli, 1761)



Albulina omphisa (Moore, 1875) from Great Nicobar Biosphere Reserve



Landscapes at Kandha Site-Sangla Valley, Himachal Pradesh

e) Continuing committees/commissions-

**their work during the year and present position:**

- Research Advisory and Monitoring Committee (RAMC) is the functioning committee to evaluate the progress of ZSI twice a year.
- Scientific Consultative Committee Meeting on monthly basis.
- Half Yearly Scientific Progress Committee.
- Annual Scientific Progress Committee.

f) Important Conferences organized in India or international conferences Organized

- Animal Taxonomy Summit (ATS) 2024 from 01.07.2024 to 03.07.2024.
- Hands on training Workshop on “Collection, Preservation & Identification of Insects”.
- Hands on training programs on “Mosquito identification, DNA barcoding (Taxonomy), and Mosquito surveillance.
- Capacity Building Training Workshop on Methods in “Faunal Collection, Preservation and Identification on Fresh water fishes”.
- IUCN RED List Assessor Training Workshop.
- One-week compulsory training course for the Indian Forest Service Officers (IFS) on Coastal and Marine Biodiversity of Island Ecosystems.
- Two days training on “Protected Animals of India”.
- Capacity Building programme on Socio Economically important insects for improving livelihood.
- DST-SERB Karyashala on Corals and coral associated faunal communities: Taxonomy & Monitoring.
- Hands on training Collection, Preservation

and Identification of Zoological Specimens to Nagaland University PG student.

g) International Participation

- Three scientists deputed to participate in 8th Asian Conservation Forum (ACF), IUCN held during 03.09.2024 to 05.09.2024 at Bangkok, Thailand.
- One scientist deputed to attend “CITES Technical workshop on Aquatic species listed in the CITES Appendices “during 23.04.2024 to 26.04.2024 at Geneva, Switzerland.
- One scientist deputed to attend “CITES 33rd Animals Committee Meeting” from 12.07.2024 to 18.07.2024 at Geneva, Switzerland.
- One scientist deputed to attend “Appointing a new India Focal point for International Coral Reef Initiative (ICRI) “during 38th General Meeting on 09.09.2024 to 13.09.2024 in Jeddah, Saudi Arabia.
- ZSI in collaboration with University of Ghana organized a workshop on Strengthening Law enforcement and safeguarding Pangolins from 04.11.2024 - 05.11.2024 with deputation of two scientists.

h) MEAs, agreement with countries, international organizations, compliance:**International organizations**

- UNITED KINGDON: NHM, London: One scientist had visited for the study of Mollusca specimens, while two more scientists are on visit for the study of Insects and Reptiles.
- Bhutan: With Royal Government of Bhutan on “ Population survey of red panda in Bhutan through faecal DNA analysis” funded by the Department



of Forests and Park Services, Royal Government of Bhutan

- Ghana: With Government of Ghana on “From South Asia to West Africa: A united effort to save the Pangolins”

ZSI has signed MoU with eight National Universities/Institutes, namely,

- ICAR-Central Institute of Freshwater Aquaculture, Kausalyaganga, Bhubaneswar, Odisha
- Berhampur University, Bhanja Bihar, Berhampur, Odisha
- ICAR-National Bureau of Agricultural Insect Resources (NBAIR), Hebbal, Bengaluru
- Vidyasagar University, Midnapore
- Birla Institute of Technology and Science, Pilani
- Kongunadu Arts and Science College, Coimbatore, Tamil Nadu
- Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur, Chhattisgarh.
- Vivekanandha Educational Institutions, Tiruchengode, Tamil Nadu

i) List of major publications brought out-

- 129 Checklist of Fauna of India published, which is first of its kind in the world.
- Animal Discoveries 2023.
- Current Status of Faunal Diversity in Lakshadweep.
- Faunal Diversity of Dihang-Dibang Biosphere Reserve, Arunachal Pradesh.
- Faunal diversity of Tale Wildlife Sanctuary (TWS) in Arunachal Himalayas, India.
- Faunal Diversity of Sainj Wildlife Sanctuary, District Kullu, Himachal Pradesh.

- Faunal Diversity of Narayan Sarovar Wildlife Sanctuary, Gujarat.
- A Catalogue of Indian Hoverflies (Insecta: Diptera: Syrphidae).
- An Updated Catalogue of Indian Muscidae (Insecta: Diptera).
- Ichthyofaunal diversity of Poma-Boroj River in Arunachal

4.4 Botanical Survey of India (BSI)

a) Brief introduction, objectives and functions:

Introduction:

Botanical Survey of India (BSI) established in 1890 is an apex taxonomic research organization under the Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India engaged in exploring, identifying and documenting rich plant resources of the country. BSI is also the custodian of authentic collections in herbaria, works for the advancement of taxonomic research in the country and a stakeholder in different strategies of plant conservation and sustainable utilization. Besides, it is also actively devoted for *ex-situ* conservation of endemic, threatened and economic plant species. BSI, with headquarters at Kolkata, has country-wide presence with 11 regional centres, 5 units and 5 major botanic gardens spread throughout the country. BSI is actively engaged in inventorying the floral resources of a wide array of ecosystems from coastal to high mountain ranges of Himalayas.

Objectives and functions

- Exploration, inventorization and documentation of phytodiversity in India.
- Revisionary/Monographic/Systematic



studies of different plant groups using modern taxonomic/phylogenetic tools.

- Identification of threatened species and their conservation.
- Develop and maintain botanical gardens, museums and herbaria.
- Survey and documentation of traditional knowledge associated with plants.
- Publication of National, State and District Floras, Checklists and e-Floras.
- Develop national database of Indian Flora, and industrially important plants.
- Capacity building in plant taxonomy.
- Public outreach and extension activities on Indian floristic wealth.

b) Important activities undertaken

Floral Survey, collection and identification: BSI Scientists have been involved in 80 Annual Research Projects under various thematic areas of plant resources of the country. Under these projects, Scientists of BSI have undertaken 140 field exploration tours, and collected and identified about 8612 plant specimens, ranging from algae to angiosperms.

New Discoveries: BSI has published the Plant Discoveries, 2023 which enumerates a total of 186 taxa as new to Science from India. This includes 1 family, 14 new genera, 165 new species and 6 infraspecific taxa. Besides, it also includes 6 new genera, 161 new species and 4 infraspecific taxa as new records for Indian Flora. This year's discoveries also include wild relatives of potential horticultural, agricultural, medicinal, ornamental plants such as *Begonia*, *Impatiens* (Balsams), Zingibers, Orchids etc. 13 new taxa has been assessed as Critically Endangered (CR), 12 as Endangered (EN) and one as Vulnerable (VU) category following the IUCN category and criteria.



Cyrtandromoea sudhansui- a new species from Northeast India
Phlogacanthus sudhansusekharii- a new species from Arunachal Pradesh



Leccinellum bothii -a new species from Uttarakhand



Documentation of Phytodiversity: Based on the floral survey and exploration, BSI is regularly updating and documenting the floristic diversity of the country. Till date, BSI has documented 55,726 taxa of plants, belonging to 22,214 taxa of angiosperms; 83 taxa of Gymnosperms; 1,321 taxa of Pteridophytes; 15,812 taxa of Fungi; 9085 taxa of Algae; 2,835 taxa of Bryophytes, 3,088 taxa of Lichens and 1,288 taxa of Virus / Bacteria towards the complete inventory of floral resources of the country.

Research Publications: During the reference period, BSI published 226 research publications, 19 books and periodicals such as Plant Discoveries, Nelumbo, Vanaspati Vani Annual Reports and Annual Research Programmes.

Outreach activities: Under the various outreach activities, the following activities were taken up by BSI.

- **BSI, Central National Herbarium, Howrah organised Plant Identification and Nomenclature workshop for the Indian Forest Service (IFoS),** from 03.01.2024 - 05.01.2024 .
- BSI, APRC, Itanagar organized a two-day workshop titled **Taxonomy and Ecology of Floral Elements of the Eastern Himalayan Region and Hands-on Training on Systematics of different plant groups** on 19.03.2024 and 20.03.2024.
- A three-day **Workshop-cum hands-on training on Plant Molecular Systematics** was organized by BSI, Central National Herbarium, Howrah from 02.04.2024 to 04.04.2024 with 24 participants from various States across the country.
- Two batches of **Training for skill development in Para-taxonomy and Biodiversity Conservation** was organized by BSI, Kolkata in collaboration with the

Chhattisgarh State Biodiversity Board, New Raipur.

- Five days **Hands on training program on Taxonomy** was organized by BSI, NRC, Dehradun from 05.08.2024 to 09.08.2024 in collaboration with USERC, Dehradun.
- A 5-days **IUCN Red List Assessor Training workshop** was jointly conducted by BSI & ZSI for **30** Scientists at BSI, CNH, Howrah by the training experts from IUCN, India.
- BSI, ANRC, Port Blair organized a seven days **Training/workshop programme on Plant Taxonomy** for M.Sc. (Botany) students to impart technical skills on floristic study and conservation techniques on various groups of plants.
- BSI conducted **131 Mission LiFE** awareness campaign that sensitized about **13751** people belonging to different stature and sectors of the society across the country.
- A one day **Training programme on e-Office,** was held on 12.09.2024 at BSI- CNH, Howrah.
- BSI **observed important environmental events** by celebrating World Environment Day, International Biodiversity Day, World Ozone Day, World Wetland Day, International Mountain Day, International Yoga Day, Mountain Day, Swachchhata campaign, etc. by organizing plantation drives, quiz, drawing, and various other competitions.



IFS officers training at CNH, Howrah



c) Progress/innovations.

- **New Discoveries:** BSI Scientists, through survey and exploration, discovered 31 taxa as new to science and 22 taxa as new records for India.
- **Digitization:** BSI maintains the online digital platforms like “Indian Virtual Herbarium” (<https://ivh.bsi.gov.in/>) which provides digital herbarium images and serves as an important platform for information on plants. BSI also maintains other online digital platforms such as e-Plant Checklist of India and e-Flora of India (<https://efloraindia.bsi.gov.in/>), e-Archives (<https://archive.bsi.gov.in/>), Rare Books (<https://bsi.gov.in/page/en/rare-books>), Journal Nelumbo (<http://nelumbo-bsi.org>), Medicinal Plant Database (<https://bsi.gov.in/page/en/medicinal-plant-database>) etc. which serve as online resources for the Botanical fraternity and promoting taxonomic research in the country. About 4 lakhs visitors per month on average referred these digital platforms of BSI.
- About 72,005 metadata and digital images of the herbarium specimens have been added into the digital database.

d) Important Cumulative achievements:-

- **Ex-situ Conservation:** About 673 species of plants collected, introduced and multiplied in various Botanic Gardens of BSI.
- Medicinal plants garden, the Wild Edible Fruit Section at AJCB Indian Botanic Garden, laboratory on Geographical Information System (GIS) at the Central National Herbarium (CNH), Howrah and Mushroom lab was established. Further

a taxonomic garden and a sensory garden at Acharya Jagadish Chandra Bose Indian Botanic Garden are being established.

Awards and Honours:

1. Dr. A. A. Mao, Director, BSI received Fellow of the National Academy of Sciences, India (NASI), in recognition of his contributions to angiosperm taxonomy and floristic studies.
2. Dr. A. A. Mao, Director, BSI received *Prof. I.S. Grover Memorial Lectureship Award* on 13th November, 2024.
3. Dr. S.L. Meena, Scientist- E & HoO, BSI, AZRC, Jodhpur was honoured with *Late Pramod Puri Goswami Memorial Award 2024* by Veer Durgadash Rathaur Smriti Samiti for exceptional contribution towards environment and plant conservation on August 18, 2024.

Continuing Committees/Commissions

The Research Advisory & Monitoring Committee (RAMC) of Botanical Survey of India (BSI) convened the 13th meeting at BSI-ANRC, Port Blair w.e.f. 29.02.2024 to 02.03.2024.



RAMC meeting held at Port Blair.

Conferences organized in India or international conferences

- Dr. A. A. Mao, Director, BSI and Dr. Sandeep Chauhan, Scientist 'F', BGIR visited Singapore Botanical Garden to seek new ideas and knowledge on scientific and engineering aspects of Singapore Botanic Garden w.e.f., 19.03.2024 to 23.03.2024.



- Dr. A.A. Mao, Director, BSI and Dr. S.S. Dash, Scientist 'F', attended Intra-Ministerial Consultation Meeting on the updation of NBSAP and adoption NBT's in-line with Kunming-Montreal Global Biodiversity Framework held on 05.04.2024.
 - Dr. A.A. Mao, Director, BSI, Dr. Sandeep Chauhan, Sci. F, BGIR, Noida and Dr. Devendra Singh, Sci. E, AJCBIBG, Howrah, along with CCU team of MoEF&CC, New Delhi (Er. Gunsagar Jain, Chief Supdt and Er. Mukesh Kumar, Supdt.) visited Botanic Gardens of the UK *i.e.* Royal Botanic Garden, Kew; Royal Botanic Garden, Edinburgh, Eden Project Cornwall, National Botanic Garden, Wales during 01.06.2024 to 07.06.2024 to take new ideas and concepts w.r.t. Botanic Garden components /landscape/plantscape feature, ex situ plant conservations aspects, engineering models of plant conservatories, solar energy utilization, large botanic garden management and retrospectively need based utilization of such ideas while implementing the new landscape plan of Botanic Garden of Indian Republic, Noida U.P.
 - Dr. S.S. Dash, Scientist F & Incharge, Tech. Section attended the 2nd meeting of the Joint Committee constituted by the Hon'ble National Green Tribunal (NGT) at the MoEF&CC, New Delhi on 3rd June, 2024 .
 - Dr. Tapan Seal, Scientist 'E', attended a meeting from 14.05.2024 to 16.05.2024 at Kathmandu, Nepal, organized by the WHO Regional Office for South-East Asia on Nutrition and Climate Change and delivered a talk on "Millets as the Cereal of the Future for Combating Malnutrition and Climate Change in India".
 - Dr. Avishek Bhattacharjee, Scientist-E, BSI- CNH, Howrah, acted as a resource person in the bilateral meeting (India and Nepal) organized by South Asian Wildlife Enforcement Network (SAWEN), Wildlife Crime Control Bureau (WCCB), Govt. of India, TRAFFIC, India and WWF, Nepal at Siliguri on 26.06.2024.
 - Dr. Avishek Bhattacharjee, Scientist-E, BSI represented India as a member of the Indian delegation to the 27th Meeting of CITES Plants Committee, Geneva on 08.07.2024 to 13.07.2024.
 - BSI & ZSI jointly organized as 5-days IUCN Red List Assessor Training workshop for the Scientists of both the organizations from 26.08.2024 to 30.08.2024 at the Central National Herbarium, Howrah. The resource persons for conducting the training were training experts from IUCN, India.
 - BSI & ZSI jointly attended the 8th Asia Regional Conservation Forum at Bangkok, Thailand from 03.09.2024 to 05.09.2024. Dr. A. A. Mao, Director and Dr. D.K. Agrawala, Scientist E attended this program.
 - Dr. A. A. Mao, Director, BSI and Dr. C. Murugan, Scientist-F, BSI, Kolkata attended the "XLVII All India Botanical Conference on *Biotic Curiosities and functional diversity across Plant Kingdom in Climate Change Regime*" organized by Indian Botanical Society and Department of Microbiology CCS University, Meerut at, Meerut from 14.10.2024 to 16.10.2024.
- e) MEAs, Agreement with countries, international organizations, compliances.**
- As a part of collaborative research, BSI signed three (3) MoUs namely Berhampur University, Odisha; Green For Life



Foundation, Kolkata and Royal Botanic Garden, Edinburgh, UK towards collaborative research.

f) List of major publications brought out

BSI Scientists have published 226 research publications and 19 books and periodicals such as Plant Discoveries, Nelumbo, Vanaspati Vaani, Annual Reports and Annual Research Programmes.

4.5 Assistance to Botanical Gardens

a) Introduction and Objective of ABG Program :

India is a signatory to the Convention on Biological Diversity (CBD) and is committed to achieve the targets of ex-situ conservation under Articles 6, 7, 12 and 15 of the CBD in a well-structured manner. The Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India initiated a grant-in-aid programme "Assistance to Botanic Gardens (ABG)" in 1992. The programme was introduced to facilitate botanic gardens in different phyto-geographical regions for ex-situ conservation and multiplication of threatened and endemic plants, mass multiplication of threatened, economic and high value species. The other activities under this programme include demonstration and knowledge dissemination, exchange of live materials and seeds, making a linkage between different botanical gardens for conservation, and plant-based research for adaptability studies.

Under the programme, financial assistance is provided to organizations maintaining Botanical Gardens for strengthening their infrastructural facilities; facilitate conservation, propagation of threatened and endemic plant species, and undertaking capacity building programmes. The programme envisages building referral model centers for ex-situ conservation in the different

phyto-geographical regions through a network of lead botanic gardens and small botanic gardens. These botanic gardens are envisaged to serve as important nodal agencies and develop network among themselves in terms of exchanging knowledge, plant material of the identified species and to ensure maintenance of plant population. Till now, more than 350 Small Botanic Gardens and 18 Lead Botanic Gardens have been funded.

The objectives of the scheme include:

- Ex-situ conservation and multiplication of selected threatened and endemic plants of the region.
- Ex-situ conservation of selected wild-relatives of crop plants.
- Development of nurseries for mass multiplication and development of species-wise plant propagation techniques.
- Improvement of identified infrastructure facilities, equipment for conservation, and manpower for maintenance of gardens.
- Distribution/exchange of multiplied plant material to other Botanic Gardens/ Institutes.
- Promote education and public awareness on plant diversity, threatened and endemic species by organizing seasonal events and theme based activities.

Progress/Achievements both cumulative and for the reference period.

- Funds worth Rs.1,49,94,400/- were approved by Ministry for 13 new botanic gardens and 2 on-going projects from different phyto-geographic regions.
- Fresh advertisement "Call for Proposal" for setting up new Botanic Gardens has been issued.



Progress/Achievements made during 2024-25 along with photographs.

During the Financial Year 2024-25, ₹1,49,94,400/- was released by BSI in favour of 15 botanic gardens across India.

AJC Bose Indian Botanic Garden, Shibpur, Howrah has constructed a 500 sq. m. naturally ventilated polyhouse with irrigation facility, fogger system and chain linked nursery bed stands.



Different stage of development of construction of the Naturally ventilated poly house



*Recording date of *Garcinia indica* (Thouars) Choisy in different media*



Chain linked stands and fogger System inside the Naturally ventilated poly house and seedlings
 About 2000 seedlings of *Aponogeton satarensis*, *Pterocarpus santalinus*, *Syzygium stocksii* and *Garcinia indica* have been raised from the tubers and seeds and the development of the protocol is under progress.



As part of the outreach activities, Green Ahalia, Kerala conducted a one-day orientation programme for students named “Haritholsavam – 2024” on 24.07.2024 which focused mainly in creating awareness on the conservation of rare plants. The propagation trials are being carried out.



Adhatoda beddomei cuttings at Mist chamber



Syzygium palghatense cuttings at mist chamber

Grant in aid released to the institutions/ organizations including NGOs.

During the Financial Year 2024-25, ₹1,49,94,400/- were released by Botanical Survey of India in favor of 15 botanical gardens across India.

4.6 Biosphere Reserves

a. Brief Introduction, Objective and Functions of the Division

Biosphere Reserves are designated areas of terrestrial, coastal, and marine ecosystems, or a combination thereof, recognized internationally within the framework of UNESCO’s Man and the Biosphere (MAB) Programme. The concept of Biosphere Reserves was initiated by UNESCO as part of its MAB Programme, and was launched in 1971. The MAB Programme promotes interdisciplinary research and capacity-building with the aim of improving the global relationship between people and their

environment. Biosphere Reserves are intended to represent characteristic ecosystems from different biogeographic regions, while integrating human communities as essential components. Designation of a site

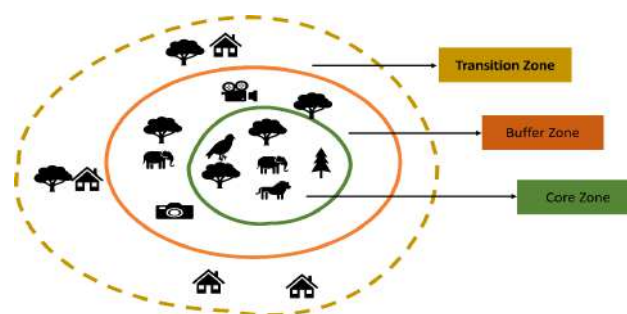
as a Biosphere Reserve is aimed at facilitating conservation of representative landscapes and their immense biological diversity and cultural heritage, foster economic and human development which is culturally and ecologically sustainable and to provide support for research, monitoring, education and information exchange.

The Biosphere Reserve Division of the Ministry of Environment, Forest, and Climate Change (MoEFCC) administers a Centrally Sponsored Scheme (CSS) viz. Biodiversity Conservation, which is a sub-scheme of the umbrella scheme titled ‘*Conservation of Natural Resources and Ecosystems* (CNRE)’. As part of its objective, the Ministry has made efforts to support Biosphere Reserve management by providing financial assistance under this said Centrally Sponsored Scheme to the States where the Biosphere Reserves are located, for specific conservation and development activities. The implementation of this CSS is generally undertaken by the State Forest Departments.



The primary beneficiaries of this scheme are the communities reliant on resources within the Biosphere Reserves. Under this CSS, the Ministry extends grant-in-aid to states based on a cost-sharing model of 60:40 (Central: State), with an enhanced ratio of 90:10 for the North Eastern and Himalayan states, to support the conservation and management of designated Biosphere Reserves. The Biosphere Reserve scheme is different from other conservation related schemes. It has the focus on the welfare of local inhabitants through provision of supplementary and alternate livelihood support to the people in the buffer and transition zones in order to reduce biotic pressure on biodiversity of the natural reserves

of core zone.



Schematic diagram of a Biosphere Reserve

The inclusion in the World Network of Biosphere Reserves facilitates international recognition. While the core area(s) and sometimes buffer zone(s) of these Biosphere Reserves (BRs) mostly comprise of Protected Areas, the outer

Biosphere Reserves in India

S. No.	Name of the BR	Year of Designation	Year of inclusion in the WNBR	States	Area (sq.km)
1	Nilgiri Biosphere Reserve*	1986	2000	Tamil Nadu, Kerala and Karnataka	5520
2	Nanda Devi*	1988	2004	Uttarakhand	6407.03
3	Nokrek*	1988	2009	Meghalaya	820
4	Gulf of Mannar'' Mannar*	1989	2001	Tamil Nadu	10500
5	Sunderbans*	1989	2001	West Bengal	9630
6	Manas	1989		Assam	2837
7	Great Nicobar*	1989	2013	Andaman and Nicobar Islands	1038.7
8	Simlipal*	1994	2009	Odisha	5569
9	Dibru-Saikhowa	1997		Assam	765
10	Dehang- Dibang	1998		Arunachal Pradesh	5111.50
11	Pachmarhi *	1999	2009	Madhya Pradesh	4981.72
12	Khangch endzonga*	2000	2018	Sikkim	2931.12
13	Agasthy amalai*	2001	2016	Kerala, Tamil Nadu	3500
14	Achanakmar Amarkantak_ Biosphere_ Reserve*	2005	2012	Madhya Pradesh, Chhattisgarh	3835.46



15	Great_Rann_of_Kutch	2008		Gujarat	12454
16	Cold Desert	2009		Himachal Pradesh	7770
17	Seshaschalam	2010		Andhra Pradesh	4755.58
18	Panna*	2011	2020	Madhya Pradesh	2998.98

***included in the World Network of Biosphere Reserves**

transition area, where most of the inhabitants live, are not parts of the Protected Areas.

b. Important activities undertaken

The Ministry has submitted a ten-year periodic review report for eight Biosphere Reserves—Nanda Devi, Simlipal, Pachmarhi, Nokrek, Nilgiri, Gulf of Mannar, Achanakmar-Amarkantak, and Sundarbans to the MAB Secretariat, UNESCO, Paris.

- Additionally, two proposals for the inclusion in the World Network of Biosphere Reserves viz. Dihang-Dibang and Cold Desert, have also been submitted to the MAB Secretariat, UNESCO for consideration.

c. Progress/Innovation

Three new proposals for designation as Biosphere Reserves received from the state of Madhya Pradesh, Viz. Kanha, Pench, and Bandhavgarh areas was submitted to the MAB Secretariat, UNESCO.

- **Restructuring of Biosphere Reserve Scheme:** Pursuant to the third party evaluation undertaken in 2020 by DMED, Niti Ayog in respect of Centrally Sponsored Schemes (CSS), including the ‘*Conservation of Natural Resources and Ecosystems (CNRE)*’, the Ministry of Environment, Forest and Climate Change has decided that each Biosphere Reserve shall formulate ‘Five Year Period Integrated Management Plan’ in place of yearly Management Action Plans (MAP). The new IMP envisages convergence of various schemes applicable in the jurisdiction of the Biosphere

Reserve, with the objective for better management and addressing duplication of funding. To this effect, the Ministry has formulated a ‘Guideline for preparation of a Five-Year Integrated Biosphere Reserve Management Plan’, with the assistance of G.B Pant National Institute of Himalayan Environment, Almora and National Centre of Sustainable Coastal Management, Chennai. To begin with, four pilot projects will be first executed for implementation of the restructured ‘Five Year Period Integrated Management Plan’, which will then be replicated in the remaining of the Biosphere Reserves on successful completion of the pilot projects. The four Biosphere Reserve where the pilot will be undertaken, and the nodal institutions are: (i) Dehang-Debang Biosphere Reserve, Arunachal Pradesh: Nodal Institute: ZSI; (ii) Nanda Devi Biosphere Reserve, Uttarakhand: Nodal Institute: WII; (iii) Pachmarhi Biosphere Reserve, Madhya Pradesh: Nodal Institute: IIFM; and (iv) Agasthyamala Biosphere Reserve, Tamil Nadu - Kerala: Nodal Institute: BSI.

The proposed Integrated Management Plan for this five-year period includes three core components: (i) Management Authority, (ii) Lead Institution, and (iii) Local Communities. This plan emphasizes effective monitoring, sustainable resource utilization, and conservation of biological resources, with an integrated approach as outlined in the accompanying flow diagram.

Based on the outcomes of these pilot projects,



the Integrated Management Plan will be refined and subsequently implemented across the remaining Biosphere Reserves.

Global recognition: Aligned with the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, the Biosphere Reserve Programme in India has actively implemented the UNESCO Man and the Biosphere (MAB) Programme, advancing long-term conservation and sustainable development goals. The increase in India's Biosphere Reserves listed in the World Network of Biosphere Reserves (WNBR), reflects effective multi-stakeholder engagement, enhanced collaboration between Biosphere Reserves, improved data sharing, and a strategic communication approach. Moving forward, the establishment of Transboundary Biosphere Reserves with neighboring countries is a priority, along with securing adequate resources to strengthen the MAB Programme in India.

4.7 Eco-Sensitive Zone

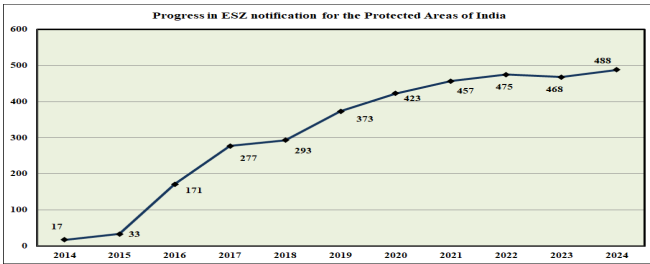
1. As part of Wildlife Conservation Strategy, in the year 2002, it was decided that an area around each Protected Area (National Park, Wildlife Sanctuary, Tiger Reserve etc.) requires to be notified as Eco-Sensitive Zone (ESZ) for creating a buffer as an added layer of protection around Protected Areas. The purpose of declaring ESZ is to create some kind of "Shock Absorber" for specialized ecosystems around the Protected Areas. The ESZ act as a transition zone from areas requiring high protection to areas where certain development may be permitted/regulated. There are a total of 683 National

Parks and Sanctuaries declared under the provisions of the Wildlife (Protection) Act, 1972, in the country.

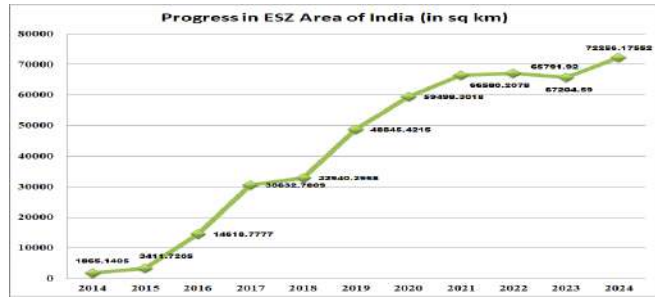
2. Notifying or declaration of an ESZ is an important objective of the Ministry of Environment, Forest and Climate Change for sustainable development and conservation of Wildlife and Biodiversity. The Ministry also notifies or declares an area as Eco-Sensitive Area (ESA) based on its need for special protection because of its landscape, wildlife, biodiversity and historical value, etc. The purpose is to regulate the developmental activities in order to maintain the carrying capacity of that area and to ensure sustainable development taking into consideration the needs and aspiration of the local people.
3. For declaration of an ESZ or ESA, proposals are received from the State Government as per the Guidelines formulated for the purpose by the Ministry. As of now, out of a total of 683 Protected Areas across the country, the Ministry has published 347 final ESZ notifications covering 488 Protected Areas covering an area of 72256.17 sq. km. In addition, 12 draft ESZ notifications covering 18 Protected Areas—have also been notified for seeking comments of the general public/stakeholders. The Ministry has also issued 6 ESA notifications namely Dahanu Taluka, Mahabaleshwar-Panchgani and Matheran in Maharashtra State, Mount Abu in Rajasthan, Bagirathi and Doon Valley in Uttarakhand. A draft notification has been issued on 31.07.2024 for declaration of Western Ghats ESA in the States of Kerala,

Tamil Nadu, Goa, Karnataka, Maharashtra and Gujarat.

4. A graphical representation on the progress of declaration of ESZ around Protected Areas since 2014 onwards and the area cover thereto are given below:

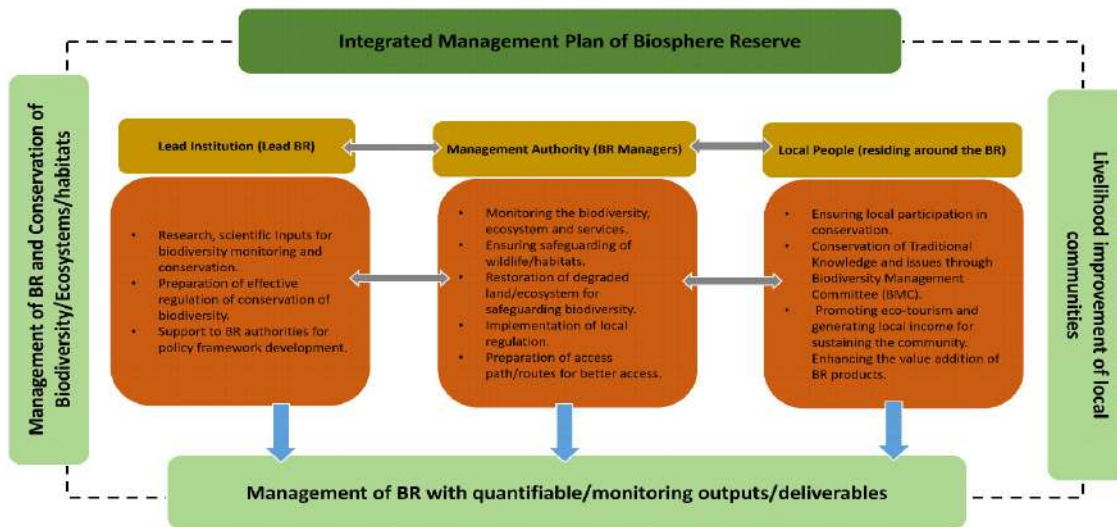


Progress of declaration of ESZ around Protected area



Progress of declaration of ESZ Area Cover

5. With the objective of decentralization of powers, the Ministry has also made amendments in a number of ESZ notifications empowering the concerned State Governments, who is the custodian of the land in the state and is responsible for



Proposed Integrated Management Plan of Biosphere Reserve



Location of four Biosphere Reserves

During the Financial Year 2024-25 Rs. 1,41,24200 were released to four Biosphere reserves across India



its management, for approval of the Zonal Master Plan/ Regional Plan /Development Plan etc. for effective enforcement and implementation of the ESZ/ESA notifications.

6. The ESZ Division in the Ministry also administers and handles matters related to Grants-in-Aid to Dahanu Taluka

Environment Protection Authority, constituted in compliance to an order of the Hon’ble Supreme Court for protection and conservation of Dahanu Taluka. The financial assistance extended in the year 2024 as on 26.11.2024 are as follows:

Table 1: Final ESZ Notifications published in the Year 2024

S. No	State	Name of Protected Area (s)	Date of Publication
1	Arunachal Pradesh	Sessa Orchid Sanctuary, Eagle Nest WLS, Pakke Tiger Reserve	06.05.2024
2	Jammu & Kashmir	Dachigham National Park	16.05.2024
3	Rajasthan	Phulwari ki Nal Wildlife Sanctuary	17.05.2024
4	Madhya Pradesh	Panna National Park and Gangau Sanctuary	05.06.2024
5	Arunachal Pradesh	Kamlang Tiger Reserve and Namdapha Tiger Reserve NP	09.08.2024
6	Rajasthan	Tal Chhappar Wildlife Sanctuary	27.09.2024
7	Haryana	Sukhna Wildlife Sanctuary	11.11.2024

S. No.	Name of Organization	Purpose	Total Amount Released as on 26.11.2024	Status of third party evaluation	Remark
1.	Dahanu Taluka Environment Protection Authority (DTEPA)	Functioning of Authority	Rs. 87,80,985.54/- (including carry forward of Rs. 7,30,985.54/- from last FY)	NIL	The funds was released from the scheme of Establishment Expenditure (EF&CC) (3493) Major Head ‘3435’ Ecology and Environment, Grant in-aid- General (3435.01.001.04.04.31), under Demand No.28, Ministry of Environment, Forests and Climate Change during the Financial Year 2024-2025 (Plan) from the budget head of PL-Division.



4.7.1 Western Ghats Eco-Sensitive Area (WG ESA)

The Ministry has re-published the draft Western Ghats Eco-Sensitive Area (WG ESA) notification on 31.07.2024 for an area of 56,825.7 sq.km. across six states viz. Kerala, Tamil Nadu, Goa, Karnataka, Maharashtra and Gujarat which are falling in the Western Ghats region. This new draft notification mentions the possibility of proceeding with finalization of WG ESA in a phased manner either State-wise or through a combined single notification. A Committee has also been constituted to address the various issues raised by these States and to examine the request/ suggestions of the States.



Western Ghats



CHAPTER : 5

WETLANDS & COASTAL ECOSYSTEM



CHAPTER 5

Wetlands & Coastal Ecosystem

5.1 National Plan for Conservation of Aquatic Eco-System (NPCA)

The Wetlands Division, MoEF&CC works towards sustainable management and conservation of wetlands in the country. The Division's objective of conservation and management of wetlands is divided into four broad categories i.e., Implementation of National Plan for Conservation of Aquatic Ecosystems (NPCA), Ramsar Convention Regulatory framework and Capacity building.

a. Important activities undertaken:

- (i) World Wetlands Day was celebrated on 2nd February 2024 at Sirpur Lake, Indore, a Ramsar Site in Madhya Pradesh. The event was inaugurated by Dr Mohan Yadav, Hon'ble Chief Minister of Madhya Pradesh, in the distinguished presence of special guest Dr Musonda Mumba, Hon'ble Secretary General of the Ramsar Convention on Wetlands. The event saw participation of 25 exhibitors and more than 2000 participants.
- (ii) Four regional workshops were organised i.e. in Bhubaneshwar (for Eastern states in the FY 2023-24), Hyderabad (for Southern states), Kolkata (for Eastern states) and Sikkim (for North Eastern states) under the *Sahbhagita Mission*.
- (iii) Two more regional workshops are likely to be held during the current financial year.

b. Important cumulative achievements:

- (i) The division facilitated the designation of 10 more Ramsar sites take the total number of Ramsar sites (Annexure-1) in the country to 85. Currently, India stands

first in Asia and third in the world in terms of the number of Ramsar Sites.

- (ii) In collaboration with Central Institute of Educational Technology (CIET), NCERT, MoEF&CC has developed a series of educational videos focusing on different level of school students on the importance of wetlands conservation and management. These videos are being circulated through the educational channels of NCERT and the Wetlands of India portal for nation-wide dissemination and sensitisation of school students. Jal Bhoomi video has jointly won the best entry in the preparatory /middle category from government organisations in All India Children's Educational eContent Competition (AICEeCC) (2023-24) held at NERIE Shillong on 15-16 March, 2024.
- (iii) MoEF&CC has collaborated with Ministry of Tourism for eco-tourism/high-value nature tourism development. Curriculum developed for training programs on nature tourism and wetlands livelihoods. Training programs on Alternate Livelihood Program (ALP) held at 5 Ramsar Sites and Paryavaran Naavik Certificate (PNC) at 2 Ramsar Sites. A total of 196 local community members were trained and certified as nature guides.

c. List of major publications:

National Plan for Conservation of Aquatic Ecosystems (NPCA) Guidelines 2024: In this revised version of NPCA Guidelines, a provision of a Framework Management Plan has been introduced. Under this plan, states can seek funds for developing management plans and initiating implementation through 'no-regret' actions. These guidelines will empower the SWAs and UTWAs to prepare Integrated



Management Plans for a greater number of wetlands.

METT for Indian Wetlands: Practitioner's Guide: The 'Management Effectiveness Tracking Tool (METT) for Indian Wetlands', addresses the gap by adapting the R-METT framework and corresponding evaluation process for the Indian context. The METT for Indian Wetlands has been developed as a self-appraisal tool to support adaptive wetland management and assess progress over time. It is not meant for comparison or ranking across wetlands. This practitioner's guide developed under the 'Wetlands Management for Biodiversity and Climate Protection' project implemented by the MoEF&CC (Wetlands Division), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) with technical contributions from Wetlands International South Asia, and as part of the International Climate Initiative (IKI) supported by BMUV.

Compendium on phytodiversity of Ramsar Sites in India (Vol I & II): Botanical Survey of India, mandated with the floristic research and documentation in the country, has completed the rapid assessment of plant diversity in and around all the 75 Ramsar Sites of India under the aegis of Amrit Dharohar initiative of MoEF&CC. The respective lists of plants for all 75 Ramsar Sites have been compiled in to two volumes of "Compendium on Phytodiversity of Ramsar Sites in India". A staggering 4126 species of plants were documented from these Ramsar Sites with more than 3226 taxa of flowering plants alone. This enormous plant diversity also includes many economically and medicinally important species along with some threatened and endemic species of flora. Conservation of these floristic elements is the key to the sustainable management of these vulnerable ecosystems.

People's Documentation of Biodiversity of 75 Ramsar Sites: Under the Amrit Dharohar initiative, the MoEF&CC had initiated documentation of the Peoples' Biodiversity Registers for all Ramsar Sites to take stock of the bio-resources and associated traditional knowledge available around the Ramsar Sites and engage the local communities through Biodiversity Management Committees (BMCs). Peoples' Biodiversity Register is a document which contains comprehensive information on locally available bio-resources including landscape and demography of a particular area or village. It is documented in consultation with the local resource persons and traditional knowledge holders involving the BMCs. This brochure gives an overview of the BMCs situated around Ramsar Sites.

Wetlands Conservation: Approach and initiatives: Wetland conservation draws strength from India's rich legacy of environmental conservation enshrined in various policies, legislations, and regulatory regimes. Building on this narrative, this brochure explores the story of the growth of wetlands conservation in India. This brochure further highlights the different policy, programmes, communication, education, participation and awareness initiatives taken by the Government of India including Mission LiFE, Amrit Dharohar, Save Wetlands Campaign as well as the international cooperations and implementation of Ramsar Convention to conserve and sustainably manage the wetlands in the country.

ANUP Newsletter: This half-yearly newsletter serves as a comprehensive report highlighting significant achievements and initiatives for the wise use of wetlands. The recently issued second edition serves as an update for wetland managers, wetland authorities, and stakeholders at various levels—providing a detailed account of initiatives carried out at the



Central, State, and Local levels from January to June 2024.

Wetland Wise Use: An Implementation Framework: The wetland wise use stands out as the longest-established example among intergovernmental processes of the application of the ecosystem approaches for the conservation and sustainable development of natural resources. The concept identifies the critical linkages between people and the sustainable development of natural resources and encourages community engagement and transparency in negotiating conservation development trade-offs between different sectors and stakeholders and determining equitable outcomes for conservation. This document aims to clarify the term and provides an implementation framework for achieving wetland wise use for wetlands in India.

Wetlands Word Map of India: Wetlands are known by various local names such as cheruvu, madugu, kayal, jheel, johad, sarovar, maun, chaur, beel, and backwater. These names reflect the rich cultural and linguistic diversity across different regions. Each name carries local heritage, history, culture, tradition, and an understanding of these unique ecosystems that have evolved over generations. The Word map showcases this rich diversity through regional terms, reflecting the country's interconnected natural and cultural heritage.

Standard Operating Procedure for Assessment of Carbon: Wetlands are estimated to hold between 20 and 30% of the world's soil carbon, surpassing the combined carbon storage of forests and grasslands. The SOP represents a significant step in our capacity to measure and comprehend carbon dynamics in Indian wetlands. Developed under the Government of India's Amrit Dharohar Initiative, the publication provides a rigorous and comprehensive

framework for assessing carbon stocks across various wetland types, including inland, coastal, marine, and high-altitude wetlands. It gives detailed methodologies to ensure accurate and consistent carbon assessments, which are critical for understanding and managing our wetlands' carbon storage capabilities.

Digital Launches:

- (i) **Video on India's journey towards Wetlands Conservation and Management:** The video provides a glimpse into India's journey in the conservation and sustainable management of the country's wetlands. It highlights significant accomplishments such as expanding the network of Ramsar Sites, introducing plans and programmes such as the Save Wetlands Campaign and Amrit Dharohar, and strengthening the research and capacities related to integrated wetlands management for wise use.
- (ii) **Video on Birdcall of flagship species of Ramsar sites of India:** The Ramsar sites are crucial habitats for a wide variety of bird species, contributing to the rich tapestry of biodiversity found within these wetlands of international importance. The diverse bird species are all unique in their calls and provide the most melodious sounds that identify their distinctiveness. The video explores the captivating world of bird calls from 82 Ramsar Sites, offering a unique auditory experience and a deeper appreciation for the incredible biodiversity.
- (iii) **Nature Conservator Cum Ecotourism Guide – GSDP Course:** Green Skill Development Programme (GSDP) was launched in June 2017 on a pilot basis to meet skill gaps



in the economy. Based on the success of the pilot, the programme was extended to pan India level in 2018-19 covering diverse fields. Under this skilling course on 'Nature Conservator Cum Ecotourism Guide', a candidate will undertake short term training that endeavours to develop green skilled workers having technical knowledge and commitment to sustainable development, which will help in the attainment of the Nationally Determined Contributions (NDCs), Sustainable Development Goals (SDGs), and National Biodiversity Targets (NBTs). Launch of this 2- month GSDP course on 'Nature Conservator Cum Ecotourism Guide' in eco-sensitive areas like wetlands, forests, mountains will enable gainful employment or self-employment as Nature guide, eco-tour guide, trekking guide, homestay management and other nature-tourism related entrepreneurship opportunities



Mission Sahbhagita Regional Workshop for Eastern States, Kolkata



Mission Sahbhagita Regional Workshop for Southern States, Hyderabad



World Wetlands Day 2024, Indore



World Wetlands Day 2024, Indore

Scheme under the Division:

Name of the Scheme: National Plan for Conservation of Aquatic Ecosystems

The Wetlands Division of MoEF&CC implements a centrally sponsored scheme namely, National Plan for Conservation of Aquatic Ecosystems (NPCA) for conservation and management of wetlands in the country on cost sharing basis between Central Government and respective State/UT Governments. The scheme aims at holistic conservation and restoration of wetlands for achieving the desired water quality enhancement, besides improvement in biodiversity and ecosystems. It aims to promote mainstreaming of wetlands in developmental programming with States by supporting formulation and implementation of integrated management plans, capacity development and research. Various activities covered are interception, diversion and treatment of wastewater, shoreline protection, lake front



development, in-situ cleaning i.e., de-silting & de-weeding, storm water management, bioremediation, catchment area treatment, lake beautification, survey & demarcation, bio-fencing, fisheries development, weed control, biodiversity conservation education and awareness creation and community participation.

Progress/Achievements:

During the period from 1/1/2024 to 31/03/2024, an amount of Rs. **3.43 cr** was released as central share to concerned State Governments/Organisations for conservation and management of Wetlands namely Doyang in Nagaland, Tamdil in Mizoram, Tamzey in Sikkim, Loktak in Manipur. During the FY 2024-25 (from 01/04/2024 to 30/11/2024), an amount of Rs. **17.98 cr** has been released to the concerned States/UTs for conservation and management of 13 wetlands (including Ramsar sites) namely Ansupa in Odisha, Gokul Jalashay in Bihar, Keetham (Soor Sarovar), Saman Bird Sanctuary and Patna Bird Sanctuary in Uttar Pradesh, Tamzey, Yangchen Tso, Gurudongmar, Waithou Pahunom Pat and Khecheopalri in Sikkim, Palak and Tamdil in Mizoram, , Doyang in Nagaland, Jeimeng in

Manipur. Overall, a total amount of **Rs. 21.41cr** has been during the reported period from 1/1/2024 to 30/11/2024.

5.2 Sustainable Coastal Management (SCM)

a. Introduction:

Sustainable Coastal Management Division was created by MoEFCC vide order dated 30th May 2022 with the following allocation of work:

- i. Implementation of National Coastal Mission
- ii. Matters related to National Centre for Sustainable Coastal Management (NCSCM)
- iii. Matters related to Blue Economy
- iv. Marine litter
- v. Externally Aided Projects assigned to Sustainable Coastal Management Division

The Division pursues the work related to sustainable development and environment management of coastal regions such as conservation of coastal and marine resources, adaptation strategies for climate resilience in coastal States/Union Territories of India.

Annexure-1

Ramsar Sites declared during 2024

S. No.	Name of wetland/Ramsar site	State
1.	Aghanashini Estuary	Karnataka
2.	Ankasamudra Bird Conservation Reserve	Karnataka
3.	Magadi Kere Conservation Reserve	Karnataka
4.	Karaivetti Bird Sanctuary	Tamil Nadu
5.	Longwood Shola Reserve Forest	Tamil Nadu
6.	Nagi Bird Sanctuary	Bihar
7.	Nakti Bird Sanctuary	Bihar
8.	Tawa Reservoir	Madhya Pradesh
9.	Kazhuveli Bird Sanctuary	Tamil Nadu
10.	Nanjarayan Bird Sanctuary	Tamil Nadu



The main roles and responsibilities are as follows:

1. To improve resilience of coastal and marine ecosystems and its services;
2. To undertake research and development activities for coastal ecosystem and communities
3. Development of Coastal Marine Spatial Planning and Integrated Coastal Zone Management works
4. To enable climate resilient development of blue economy activity with adequate safeguard for coastal ecology and marine environment with demonstrative and pilot scale projects;
5. To create awareness among stakeholders on conservation of coastal ecosystems and promote adaptation and acceptance of mitigative measures.
6. Co-ordinate with States for Blue Flag certification of the beaches

b. Important activities undertaken:

- ▶ On the occasion of International Coastal Clean-up, September 21st, 2024, MoEFCC under the ambit of Swachhta Hi Seva Campaign, carried out the mass beach cleaning drive across the country in 21 beaches with a mega event at Juhu Beach of Mumbai, Maharashtra with participation from students, coast guard, officials of different organization etc.
- ▶ Various meetings on the implementation of pre-Budget Announcement related to Blue Economy 2.0 including a webinar with all the line Ministries"
- ▶ Ministry sponsored the 9th International Nitrogen Conference (N2024) from Feb 5 to 8, 2024 at the Guru Gobind Singh

Indraprastha University (GGSIPU) in New Delhi

- ▶ Adaptive Management Plan for externally aided Enhancing Coastal Resilience of Indian Coastal Communities (ECRICC) project by Green Climate Fund prepared.

c. Progress/Innovations:

- ▶ 13 beaches across 6 states and 3 union territories have been certified with Blue Flag certification for the season 2024-2025
 - i. Ghoghla beach - Diu, (Dadra and Nagar Haveli and Daman and Diu)
 - ii. Eco beach - Kasarkod (Karnataka)
 - iii. Padubidiri beach, Padubidri (Karnataka)
 - iv. Kappad beach, Kazhikod (Kerala)
 - v. Eden beach, Puducherry (Puducherry)
 - vi. Kovalam beach, Kovalam (Tamil Nadu)
 - vii. Rushikonda beach, Visakhapatnam (Andhra Pradesh)
 - viii. Golden beach, Puri (Odisha)
 - ix. Sonapur beach, Sonapur (Odisha)
 - x. Radhanagar beach, Swaraj Dweep Island (Andaman)
 - xi. Tannirbhavi beach (Karnataka)
 - xii. Chal beach, Kannur (Kerala)
 - xiii. Shivrajpur (Gujarat)

d. MEAs, Agreement with countries, international organizations, compliance:

Three draft MoUs have been prepared.

e. Major publications:

- ▶ Digital copy of Mangrove Zonation atlas (2018-2021) 2024

f. Autonomous bodies- appraisal of the



functioning of each of the autonomous bodies/institutions in relations to their objectives:

National Centre for Sustainable Coastal Management (NCSCM) is an organization under SCMD, registered as Society with no financial support from MoEFCC. The work and outputs including its financial managements are governed under the provisions of its MoA and being reviewed by the General Body / Governing Council / Management Committees as per the mandate in the MoA.

5.3 National Centre for Sustainable Coastal Management (NCSCM)

a. Introduction:

NCSCM was established by the Ministry of Environment, Forest and Climate Change (MoEF&CC) in 2011 to enhance the protection, conservation, rehabilitation, and management of coastal areas in India. NCSCM provides vital knowledge support to government bodies and stakeholders regarding coastal management, including the preparation of Coastal Regulation Zones (CRZ) and Coastal Zone Management Plans (CZMP). The institution also engages in research and development activities focused on sustainable coastal management and the holistic conservation of wetlands.

The key objectives of the National Centre for Sustainable Coastal Management (NCSCM) include:

⇒ **Developing a National Framework:**

g. Grants-in-aid released to Institutions/organizations including NGOs (for FY 2024-25-till date):

S. No.	Name of Organization	Purpose	Total amount released
1.	National Centre for Sustainable Coastal Management (NCSCM)	Grants given	21,04,17,498
2.	Gujarat Ecology Commission	Grants given	3,54,96,297
3.	Indraprastha University through NCSCM	Sponsoring of International Nitrogen conference	18 lakhs
4.	Released to States through NCSCM	Beach cleaning activity on the International Coastal Clean-up day , 21 st September 2024	16.20 lakhs



Beach Cleaning Activity on International Coastal Clean-up Day, 21 September 2024



Establishing and implementing a comprehensive framework for sustainable coastal management to guide policies and strategies.

- ⇒ **Promoting Integrated Management:** Encouraging integrated and sustainable management of coastal and marine areas in India, benefiting traditional coastal and island communities.
- ⇒ **Providing Policy Advice:** Offering scientific and technical support to Union and State Governments on matters related to Integrated Coastal Zone Management (ICZM).
- ⇒ **Conducting Research:** Engaging in research and development activities focused on coastal ecosystems, resources, and environmental processes.
- ⇒ **Enhancing Knowledge and Capacity:** Building capacity at all levels through knowledge dissemination and partnerships to improve coastal management practices.

b. Important activities undertaken:

Coastal Zone Management Plan (CZMP) maps IIMP

- ⇒ The National Centre for Sustainable Coastal Management (NCSCM) has prepared over 2000 Coastal Zone Management Plan (CZMP) maps and Coastal Regulation Zone (CRZ) maps for various states and Union Territories, facilitating the implementation of the CRZ Notifications of 2011 and 2019.
- ⇒ NCSCM has prepared Integrated Island Management Plan (IIMP) for the Lakshadweep Islands, aligned with

the Island Coastal Regulation Zone Notification of 2019, encompassing several key initiatives aimed at sustainable development and management of the islands.

Holistic Conservation and Integrated Management Plan of Wetlands

- ⇒ As one of the primary knowledge partners, NCSCM developed knowledge networks and conducted assessments of wetlands across India under the project titled “Holistic Conservation and Integrated Management Plan of Wetlands.”
- ⇒ As a part of this project, a comprehensive assessment of Ramsar Wetlands in Northeast- Palak Wetland, Mizoram; Deepor Bheel, Assam; and Rudrasagar Wetland, Tripura is completed. Wetlands of Ladakh (Tso Kar and Tsomoriri) and Himachal Pradesh (Pong Dam, Renuka Lake and Chandra Taal) are currently being surveyed.
- ⇒ Conducted field sampling for the assessment of Sediment organic carbon stock of the 43 RAMSAR wetlands of India, including Mizoram, Assam, Manipur, and Tripura besides documentation of biodiversity and threats.

Maharashtra Wetland mapping & Brief Document

- ⇒ As part of this Maharashtra Wetland mapping & Brief Document preparation, significant efforts have been made in two key areas of Wetland Health Report Cards (WHRC) and Wetland Brief Document (BD) Preparation. This effort aligns with



the observance of International Wetlands Day on February 2, 2024, highlighting the ecological status and health of these vital ecosystems.

- ⇒ NCSCM has contributed to a comprehensive brief report that assesses wetland ecosystems in Maharashtra. This report includes data gathering and synthesis regarding ecological status, identification of key threats, conservation needs, and potential management strategies.

Enhancing Climate Resilience of India's Coastal Communities, Green Climate Fund (GCF)

- ⇒ NCSCM is actively involved in the "Enhancing Climate Resilience of India's Coastal Communities" – a GCF project, of the Ministry of Environment, Forest and Climate Change. This initiative aims to bolster the resilience of vulnerable coastal populations in India, particularly in the states of Andhra Pradesh, Odisha, and Maharashtra.
- ⇒ NCSCM has developed coastal vulnerability of three coastal landscapes of Odisha, Andhra Pradesh and Maharashtra, by integrating ecosystem-centered and community-based approaches into coastal management and planning. Given that India's coastline is among the most susceptible to climate change impacts, the physical, ecological and social vulnerabilities are assessed to derive Cumulative Coastal Vulnerabilities.

Andhra Pradesh and Lakshadweep State Action Plan on Climate Change (APSAPCC)

- ⇒ The draft Andhra Pradesh and Lakshadweep State Action Plan on Climate Change (APSAPCC) is prepared by focusing on sustainable development strategies under various climate scenarios. The draft SAPCC 2.0 of Andhra Pradesh has been submitted to the Government of Andhra Pradesh for approval. The Lakshadweep Action Plan for Climate Change is under development.

Seaweed Cultivation Potential and Ecological Safeguards in the Gulf of Mannar, Tamil Nadu

NCSCM conducted a joint study with CSIR-Central Marine Fisheries Research Institute (CMSCRI) and ICAR-Central Marine Fisheries Research Institute (CMFRI) on the "Seaweed Cultivation Potential and Ecological Safeguards in the Gulf of Mannar, Tamil Nadu." This initiative aims to enhance local livelihoods and is funded by the Department of Fisheries under the Pradhan Mantri Matsya Sampadana Yojana (PMMSY).

The South Asian Nitrogen Hub (SANH)

The South Asian Nitrogen Hub (SANH) project, funded by UKRI GCRF, has been completed successfully. It aimed to improve nitrogen management in agriculture and to develop policy conversation on nitrogen management in the region. Under this project, the impacts of nitrogen pollution on coral reefs and other coastal ecosystems in India were studied. The impact of macroalgae on coral health was examined in the Gulf of Mannar, Palk Bay in the mainland, and Kavaratti Island in Lakshadweep. Three deltaic estuarine systems, including the Ganges, Mahanadi, and Godavari, along India's east coast, have



been configured for the Coastal Estuarine Nutrient Model. Variability of nutrient fluxes in these estuaries was successfully simulated for two seasons. Additionally, the spatial variations and regulating factors of dissolved inorganic nutrients in the nearshore waters of the Eastern Arabian Sea were studied for the winter monsoon season.

First Coral Health Report Card for India

⇒ The first Coral Health Report Card for India, prepared by the National Centre for Sustainable Coastal Management (NCSCM), was released by the Honourable Minister of the Ministry of Environment, Forest and Climate Change (MoEFCC). This report card aims to provide a comprehensive assessment of the health of coral reefs in India, highlighting key indicators and trends that affect these vital ecosystems.

NCSCM celebrated the National Space Day

⇒ NCSCM celebrated the National Space Day, in recognition of India's historic achievement with the successful soft landing of Chandrayaan-3 on the Moon. Looking ahead, NCSCM plans to participate in the first official National Space Day celebrations on August 23, 2024, with the theme "Touching Lives while Touching the Moon: India's Space Saga."

NIRANTAR Vertical IV on Climate Change Support

⇒ The National Centre for Sustainable Coastal Management (NCSCM), Chennai is under the Vertical 4 "Climate Change Support"

along with the GB Pant National Institute of Himalayan Environment (GBPNIHE), Almora.

⇒ A joint project on High Altitude Wetlands funded under the National Mission on Himalayan Studies (NMHS) is currently ongoing. This project is implemented in the high-altitude wetlands of Sikkim, Uttarakhand and Himachal Pradesh. NCSCM is working on the carbon assessments in these wetlands and the results indicate the presence of peatlands, which is a major breakthrough in our scientific understanding of India's peatland ecosystems.

c. Progress/Innovations:

⇒ NCSCM prepared Ecosystem Health Report Cards and holistic wetland management reports for the three Ramsar Wetlands (Rudrasagar Lake in Tripura, Palak Lake in Mizoram and Dipor Bil in Assam) from three north east states of India.

⇒ Standard operating Procedure (SOP) for Assessment of Carbon Stock in Wetlands (<https://indianwetlands.in/wp-content/uploads/library/1725974636.pdf>). The SOP was officially released by the honourable Secretary of the Ministry of Environment, Forest and Climate Change (MoEFCC), at the Regional Workshop on conservation and wise use of wetlands under Mission Sahbhagita for southern states in Hyderabad.

⇒ Integrated Island Management Plans for ten inhabited Islands of Lakshadweep were prepared.



- ⇒ NCSCM prepared the Shoreline Management Plan for the coast of Karnataka
- ⇒ Detailed Project Reports (DPR) for five beaches of Tamil Nadu (including Marina Beach in Chennai, Ariyaman Beach in Ramanathapuram, Kameshwaram Beach in Nagapattinam, and Silver Beach in Cuddalore) for the development of internationally recognised Eco-labelled beaches (Blue Flag beaches) in the state.
- ⇒ Signed MoU with IIT Madras, on advanced research in the sector of Blue economy.
- ⇒ NCSCM and CMFRI jointly contributed in drafting the First Biennial Transparency report (BTR) of India for the section on coastal ecosystems

Capacity Building and Training Activities of NCSCM

NCSCM organized and participated in several training programs and workshops aimed at enhancing the knowledge and skills of Indian Forest Service (IFS) officers in various ecological and environmental management topics. Here are the details of the training sessions that have been held during 2024:

- 1) Five-day training on “Mangroves: Ecology, Conservation, and Management” at Bhitarkanika, Odisha Dates on March 2024. This training is given emphasis to the ecological significance of mangroves, conservation strategies, and management practices essential for preserving these vital ecosystems.
- 2) Three-day training workshop on the “Preparation of Ecosystem Health Cards” at Aizawl, Mizoram on May 2024. This workshop is organized by the Indian Council of Forestry Research and Education (ICFRE) – Eco Rehabilitation Centre (ERC), Prayagraj, in collaboration with the Indian Institute of Forest Management (IIFM), Bhopal.
- 3) Conducted IFS training program on High Altitude Wetland and Peatland Management held between 23rd and 27th September 2024 at Tawang, Arunachal Pradesh.
- 4) Three-day training workshop on “Preparation of Ecosystem Health Cards” at Prayagraj, Uttar Pradesh on November 2024. This workshop is also organized by ICFRE – ERC in collaboration with IIFM Bhopal.

d. Major publications:

Between April and December 2024, scientists from the NCSCM published 14 research articles and a book chapter in peer-reviewed journals, achieving a cumulative impact factor of 60. These publications stem from various scientific studies alongside regular project activity reports, contributing significantly to coastal management knowledge. Two brochures were developed for the Tamil Nadu Green Climate Company, Government of Tamil Nadu for promoting the conservation needs of sensitive mangrove and seagrass ecosystems of Tamil Nadu.

- (i) Mangroves of Tamil Nadu: Coastal Green Warriors
- (ii) Seagrasses Ecosystems of Tamil Nadu:



The 2nd General Body Meeting of NCSCM was held under the Chairpersonship of the Hon'ble Minister of Environment, Forest and Climate Change at IPB, MoEFCC, New Delhi on 04th September 2024. Three knowledge products were released by the Hon'ble Minister for Environment, Forest and Climate Change on this occasion.



The Hon'ble Minister released the First Coral Reef Report Card for Kadmat Island, Lakshadweep on this occasion. This pioneering report card represents India's first comprehensive assessment of coral reefs, focusing on Kadmat Island in Lakshadweep.



- ⇒ The Hon'ble Minister for Environment, Forest and Climate Change also releases the Atlas of Mangrove Zonation in India. The "Atlas of Mangrove Zonation in India" is a landmark publication that maps the species and community zonation patterns of mangrove forests for the first time across India's coastlines, including the Andaman-Nicobar and Lakshadweep Islands.
- ⇒ The Hon'ble MEFC, launched the newly developed Management Information System for the GCF Project on Enhancing Climate Resilience of India's Coastal Communities (ECRICC) is an advanced web portal designed to enhance the monitoring and implementation of climate resilience initiatives of coastal communities implemented in the states of Maharashtra, Andhra Pradesh and Odisha. This can be further improvised for aggregating the intervention taken by other coastal States under various central and State schemes.

e. Events participated/organized

NCSCM has been actively involved in several key initiatives and events that align with its commitment to environmental sustainability and coastal management. Here are some highlights of the recent activities:

Activities involved in Mission LIFE NCSCM Initiatives

Actively involved in organizing diverse outreach and awareness campaigns along India's coastal regions, encompassing islands. NCSCM scientists led 149 events, including awareness and clean-up drives across 47 coastal areas, sensitizing approximately 7537 coastal communities to Mission LIFE themes. Additionally, coordinated nearly 150 clean-up and sensitization activities for beaches, coastal

zones, and wetlands in collaboration with local communities and governments to advance the principles of the LIFE Mission, fostering environmental stewardship and sustainable practices.

International Coastal Clean-up Day 2024

NCSCM participated in Mega Beach Clean-Up event, took place at Juhu Beach in Mumbai on 21st September 2024, which aimed to combat marine pollution and promote clean coastal environments



Beach Clean-up at Juhu Beach, Mumbai on 21 September 2024

f. Important Cumulative achievements

- ▶ NCSCM prepared a Mangrove Zonation Atlas (in digital form) depicting dominant mangrove species/community distribution at 1:25000 scale. The mangrove atlases for different coastal states were officially released by the Honourable Minister of Environment, Forest and Climate Change (MoEFCC), highlighting the government's commitment to conserving mangrove ecosystems and promoting sustainable coastal development.
- ▶ NCSCM has actively participated in the Swachhata Hi Seva campaign, contributing to nationwide efforts aimed at promoting cleanliness and environmental sustainability. As part of the Swachhata Hi Seva campaign, one beach cleaning event



was organized 29th September 2024 at the Thiruvanmiyur Beach, Chennai, jointly by NCSCM, NBA, IRO, MoEFCC Chennai, MSSRF, and students of Anna University.

- ▶ NCSCM has achieved several important accreditations and certifications including ISO 9001:2015, ISO 45001, ISO/IEC 17025:2017 (NABL), NABET-QCI Functional Area Expert, Government Analyst for Environmental Laboratories that enhance its operational capabilities and credibility in environmental management and laboratory testing.

g. Continuing committees/commissions

- ▶ Acting Director, is Member of several National and International Committees and the Scientists of NCSCM represent the institute in several NGT as well as several state-level technical committees to provide inputs to the authority.
- ▶ Scientists from NCSCM contribute to the working groups of Bureau of Indian Standards (BIS) to ensure sustainable development of beaches along the Indian coast.



CHAPTER : 6

CONSERVATION-FOREST



CHAPTER - 6

CONSERVATION-FOREST

6.1 Forest Conservation

a. Brief introduction, objectives and functions of the Division:

Forest Conservation Division of the MoEF&CC implements the provisions of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980. The Adhiniyam came into force with effect from 25th October 1980 and subsequently amended in 1988. As per the provisions of the Adhiniyam, prior approval of the Central Government is mandatory for de-reservation of forest land, use of forest land for non-forest purpose, assignment of forest land on lease and clear felling of forest land for the purpose of reforestation. The provisions of the Adhiniyam are regulatory in nature promoting ecological security and sustainable development of the resources.

The Forest (Conservation) Amendment Act, 2023 has been notified on 4.08.2023 and enforced from 1.12.2023 with a view to enhance the scope of the Act to augment the management of forests besides their conservation, to bring clarity in the applicability of the Act in various lands, encourage private plantations, and to align with dynamic changes in the ecological, social and environmental regimes during the last four decades.

Proposals received from the States/UTs, are scrutinized by the Forest Conservation Division for its further examination by the

Advisory Committee, constituted under section -3 of the Adhiniyam. Proposals are analyzed with due diligence and only in unavoidable circumstance the barest minimum forest land is allowed for non-forestry purposes. Based on the recommendation of the Advisory Committee, the Central Government grants its prior approval subject to payment of Net Present Value, raising of Compensatory Afforestation over non-forest land/degraded forest. Need based additional mitigation measures in the form of Catchment Area Treatment (CAT) Plan, Wildlife Management Plan, Soil and Moisture Conservation works and maintenance of Safety Zone etc. are also stipulated in the approvals granted by the Central Government.

b. Important activities undertaken

- Notificaton of Van (Sanrakshan Evam Samvardhan) Amendment Rules, 2024
- **Record management:** 84 files identified and weeded out 52 files (Miscellaneous, Parliament). Further digitalization of old files are in progress.
- 18 number of guidelines/clarifications were issued to streamline process of approval under Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.
- Stabilization of FC module of PARIVESH 2.0"



c. Progress/Innovations

- Process of approval as envisaged under the Van (Sanrakshan Evam Samvardhan) Rules, 2023 has been streamlined by allowing the projects of Central PSUs and captive Coal Blocks of the State PSUs to raise CA over degraded forest land.

d. Important Cumulative achievements

- During the period from 01.01.2024 to 11.11.2024, the Ministry has accorded 'in-principal' in 90 proposals involving forest area of 7993.72 ha of forest land while 46 proposals were granted 'final' approval involving forest land of 9768.06 ha.
- Against the approval granted during the reference period, compensatory afforestation has been stipulated over an area of 14,895.94 ha of degraded forest land and 11526.62 ha of non-forest land.

e. Promulgation of new Acts/ Rules

- Van (Sanrakshan Evam Samvardhan) Rules, 2023 notified on 20.09.2024 allowing the projects of Central PSUs and captive Coal Blocks of the State PSUs to raise CA over degraded forest land

f. Continuing committees/commissions-their work during the year and present position :-

- Advisory Committee has been constituted under section 3 of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 read with Rule 3(1) of the Van (Sanrakshan Evam Samvardhan) Rules, 2023 to advise the Central

Government on the proposals and matters connected with the conservation of forests.

- A total of nine meetings of the Advisory Committee were held during the reference period wherein 209 proposals and about 36 policy matters were examined and advised by the Committee.

6.2 Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

a. Introduction

The Compensatory Afforestation Act, 2016 (CAF Act), was enacted on August 3, 2016, and its corresponding CAF Rules, 2018, were notified on August 10, 2018. These provisions came into effect on September 30, 2018, enabling the creation of the Compensatory Afforestation Fund as a special fund under the Public Account of India. The funds deposited in the National Compensatory Afforestation Fund are non-lapsable and interest-bearing. The Act also established State Compensatory Afforestation Funds under the Public Accounts of respective States and Union Territories (UTs), bringing about significant changes in forest and wildlife management across the country.

Under the Act, Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds are utilized by States and UTs for compensatory afforestation projects, improving forest quality, enhancing



wildlife habitats, and strengthening forest protection infrastructure in accordance with the CAF Act, 2016, and the CAF Rules, 2018. The compensatory afforestation and other CAMPA activities aim to mitigate the loss of forests and trees during land diversion, conserve biodiversity, protect wildlife, and support activities like soil and moisture conservation and forest fire control. Monitoring and evaluation of CAMPA activities are carried out by State Forest Departments, external third-party agencies, and through the e-Green Watch platform at the national level, managed by the Forest Survey of India (FSI).

The National CAMPA plays a crucial role in advancing forest and wildlife conservation and ecosystem service enhancement by supporting scientific research and pilot projects of national and regional importance. These include recovery programs for endangered species such as the Great Indian Bustard, River Dolphin, Dugong, and Manipur's Brow-Antlered Deer (Sangai), implemented by the Wildlife Institute of India (WII). Other notable initiatives include tiger conservation and cheetah reintroduction by the National Tiger Conservation Authority (NTCA), conservation of genetic forestry resources and forest fire damage assessment by the Indian Council for Forestry Research and Education (ICFRE), and satellite-based encroachment surveys and updates to e-Green Watch by the Forest Survey of India (FSI).

Additionally, the National Authority actively contributes to urban greening efforts through the Nagar Van Yojana, which aims to make cities greener, improve air quality, enhance climate resilience, and support the National Clean Air Action Plan (NCAP). It also works to improve the quality of life for urban residents by creating more liveable and green urban spaces. Furthermore, the Authority supports the School Nursery Yojana, a program designed to connect students with nature by encouraging them to grow plants, fostering environmental consciousness, and promoting greening of minds in their formative years. This will enable students and youth to be mindful in dealing with nature with due care and sensitivity.

b. Salient Features of Compensatory Afforestation Fund Act, 2016

- i. Compensatory levies are realized from user agencies in lieu of diversion of forest land in accordance with the provisions of the Forest (Conservation) Act, 1980.
- ii. Compensatory levies viz. the costs of Compensatory Afforestation, Catchment Area Treatment Plan, implementation of Integrated Wildlife Management Plan for mitigation of impact on wildlife and Net Present value are realised, wherever applicable for compensating the loss of forest land and ecosystem services.
- iii. These compensatory levies are apportioned in the National and State



- Fund in the ratio of 10:90. These funds are non-lapsable and interest-bearing. National Fund is maintained in Public Account of India, whereas State/ UT Funds are maintained in Public Account of the respective State or Union Territory.
- iv. National Compensatory Afforestation Fund Management & Planning Authority (National CAMPA) for management and utilization of Compensatory Afforestation Fund functions at National level. National CAMPA consists of Governing Body, an Executive committee and a Monitoring Group.
 - v. State and Union Territory CAMPA (Authorities) function at respective State and Union Territory levels for management and utilization of Compensatory Afforestation Fund.
 - vi. Fund received for Compensatory Afforestation, Catchment Area Treatment Plan, implementation of Integrated Wildlife Management Plan and for any other site-specific activity/ scheme are used as per approved plans/ schemes as per approval granted under the Forest (Conservation) Act, 1980.
 - vii. Net Present Value funds are used for enhancement of ecosystem services through the activities involving artificial regeneration (plantation), assisted natural regeneration, forest management, forest protection, forest and wildlife related infrastructure development, improvement of wildlife habitat, forest fire control and prevention etc.
 - viii. The Compensatory Afforestation Fund Act, 2016 and the Compensatory Afforestation Fund Rules, 2018 provide for the detailed procedure and mechanism for implementation of various activities and their monitoring and evaluation.
 - ix. The efforts of National CAMPA are directed towards ecological restoration of degraded forests by holistically addressing the drivers of forest degradation through assisted natural regeneration and afforestation of local species, soil and water conservation, protection of forests, fire prevention, removal and control of invasive species and improvement of wildlife habitats.



Fig 1: CA Activity in the State of Andaman and Nicobar Islands under CAMPA Fund



Fig 2 : Soil and moisture conservation works in Karnataka from the CAMPA funds



Fig 3 Capacity Building and awareness programme in Odisha State

c. Status of Compensatory Afforestation (CA) and Penal Compensatory Afforestation (PCA) taken up under CAMPA funds from 1980 to 2024.

States and Union Territories have informed that Compensatory Afforestation of **10.87 lakh ha.** against the target of **12.21 lakh ha** has been taken up till 2024. The details are given below:

(Area in ha)

S. No.	State/UT	CA to be done	CA carried out till 31.03.2024		CA proposed during 2024-25	Balance CA to be carried out	Date of Confirmation From State
		Ha.	Ha.	%	Ha.	Ha.	
1	Andaman & Nicobar Islands	2590.83	464.51	17.93	205.29	1921.02	12.12.2024
2	Andhra Pradesh	41959.43	34461.68	82.13	1466.84	6030.91	20.12.2024
3	Arunachal Pradesh	46342.06	41081.28	88.65	1799.84	2418.89	-
4	Assam	9737.57	8588.01	88.19	63.53	1074.29	28.11.24
5	Bihar	7387.61	6,312.48	85.45	939.81	135.32	
6	Chandigarh	109.96	109.96	100.00	Nil	Nil	11.12.24
7	Chhattisgarh	68407.16	57882.645	84.61	2913.07	7611.44	29.11.24
8	Delhi	287.03	311.36	108.48	41.27	Nil	26.11.24



9	Goa	3549.15	2862.17	80.64	217.23	686.99	28.11.24
10	Gujarat	99305.4	99050.64	99.74	1605.26	254.76	19.12.24
11	Haryana	15241.47	10542.97	69.17	748.84	3949.66	26.11.24
12	Himachal Pradesh	31425.96	28769.15	91.55	1014	1642.81	28.11.24
13	Jammu & Kashmir	31503	28348	89.99	1386	1769	21.12.24
14	Jharkhand	66497.605	44218.289	66.50	6501.975	15777.341	02.12.24
15	Karnataka	29319.51	28347.69	96.69	2446.09	400.72	26.11.24
16	Kerala	60997.5	60792.55	99.66	192.63	12.3	-
17	Ladakh	Nil	Nil	Nil	Nil	Nil	-
18	Madhya Pradesh	254243.29	236248.73	92.92	4910.96	17994.56	03.12.24
19	Maharashtra	110874.41	102967.84	92.87	790.7	7115.87	27.11.24
20	Manipur	8687.92	6712.47	77.26	219.35	1756.098	-
21	Meghalaya	1759.91	1060.745	60.27	66.54	632.627	13.12.24
22	Mizoram	11951.27	11059.21	92.54	Nil	892.06	09.12.24
23	Odisha	90213.46	76881.59	85.22	7174.2	6157.67	02.12.24
24	Punjab	21833.42	21037.43	96.35	375.01	420.98	26.11.24
25	Rajasthan	52309.47	41455.57	79.25	2567.12	8286.78	18.12.24
26	Sikkim	5761.14	5510.67	95.65	197.26	53.2	27.11.24
27	Tamil Nadu	4114.79	3616.42	87.89	213.86	284.51	27.11.24
28	Telangana	35912.53	30673.45	85.41	4284.57	954.51	-
29	Tripura	8630.8	8086	93.69	544.83	Nil*	29.11.24
30	Uttar Pradesh	38092.57	32933.57	86.46	1886.04	3272.56	27.11.24
31	Uttarakhand	58538.14	53688.88	91.72	1518	3331.26	02.12.24
32	West Bengal	3515.04	3086.56	87.81	131.48	297	27.11.24
Total		1221099.405	1087162.519	89.03	46421.595	95135.136	



d. Schemes supported under the CAMPA Fund for the year 2024-25

As per the provision under the Compensatory Afforestation Fund Act, 2016, under Section 5 (b)(iii), the expenditure incurred on specific schemes approved by Governing Body of National Authority are supported by the CAMPA Fund. Following is the update on the schemes:

- 9 projects have been completed
- 16 schemes have been approved by the Hon'ble Minister during the year 2024-25
- A total of 51 schemes/ projects are ongoing.
- The following table contains the list of 07 ongoing schemes/projects approved in the FY 2024-25.

(Rs. in crore, period in years)

Sl. No.	Scheme/Project Name	Project Period	Project Cost	Fund released	Implementing Agency	Programme Division	Starting Year
1	Commissioning of National Referral Centre- Wildlife (NRC-W)	2	76.50	5.00 to be released	CZA	Wildlife Division	2024-25
2	Project Great Indian Bustard (Conservation Action Plan for GIB and Lesser Florican)	5	50.96	8.77 to be released	WII	Wildlife Division	2024-25
3	Ecosystem Services Valuation for Mangrove Ecosystems in India	2	4.65	-	IIFM	RT Division	2024-25
4	Building a Comprehensive Digital Repository of Important Environmental Conventions and their Conference of Party (COP) Deliberations	1	0.40	-	IIFM	RT Division	2024-25
5	Identification of superior Genotypes of <i>Olea ferruginea</i> (Royle) Bearing high oil content in North Western Himalayan Region and development of its Propagation and cultivation Techniques	4	0.4753	-	ICFRE	RT Division	2024-25



6	Mass Timber based Building Construction: Capacity Building and Demonstration	5	6.80	0.27 to be released	ICFRE	RT Division	2024-25
7	Promotion of Sandalwood cultivation through training programs across India to improve the economic status of farmers.	5	8.58	0.15 to be released	ICFRE	RT Division	2024-25

6.3 Forest Establishment

General, ICFRE, Dehradun.

a Brief Introduction & objectives:

The Forest Establishment Division deals with a defined set of establishment matters pertaining to the Sub Ordinate Offices of the MoEFCC, viz., Forest Survey of India, Dehradun, Wildlife Crime Control Bureau, New Delhi, Directorate of Forest Education, Dehradun, National Zoological Park, New Delhi, Indira Gandhi National Forest Academy, Dehradun, and the Indian Council for Forestry Research and Education, Dehradun (Autonomous Body under the MoEFCC).

b Major Functions of the Division

- Nodal Division for reporting vacancies of Lower Division Clerk through Combined Higher Secondary Level Examination, Junior Translation Officer (Hindi), Stenographer-D to the Staff Selection Commission for the Subordinate Offices [Botanical Survey of India, Zoological Survey of India, NMNH, FSI, DFE, IGNFA, WCCB, NZP, Regional Offices-Head Quarter].
- Co-monitoring the recruitment targets along with the Administrative Divisions.
- Administering the works related to the ACC approval for appointment of Director

- Recruitment/Promotion/Deputation of Group A & B officers in the Subordinate Offices of the Ministry through the UPSC.
- Constitution of the Screening Committee for the selection of candidates for appointment to the Joint Secretary level and above posts in the ICFRE, Dehradun.
- Approval/amendments of Recruitment Rules (RRs) for Group A, Group B and Group C posts in the Subordinate Offices.
- Administrative processing of the proposals regarding the creation/revival of the posts received from the FSI, DFE, IGNFA, WCCB, NZP, and ICFRE / Union Territories (UTs) for their Forest Establishments.
- Handling matters related to the appeals in disciplinary cases/ appeals against adverse entries in the ACR/APAR of Group 'A' 'B' & 'C' in the Subordinate Offices of the Ministry.
- Processing and disposal of Public Grievances, RTI applications, VIP references as per the SoPs.
- General Establishment matters such as awarding annual increments, LTC, etc., in respect of the WCCB, New Delhi.



c. Activities undertaken during the period

- Recruitment of 53 LDCs through CHSL 2023 Examination and transmission of Dossiers to SSC for selection to the post of JSA/SSA in the Sub-Ordinate Offices.
- Completed the procedure and reported vacancies of 62 Lower Division Clerks for the CHSL-2024 Examination, 22 Stenographer-D, and 23 Junior Translation Officers (Hindi) to the Staff Selection Commission (SSC) as Nodal Division.
- Coordinated the Mission Mode Recruitment Phase II between P-II and Subordinate Offices and the ICFRE.
- Participated in 10 DPCs related to the promotion of Administrative Officers, Under Secretary, Upper Divisional Clerk, Lower Divisional Officer, Technician Grade-II, Driver, etc., in the ICFRE Institutions / Subordinate Offices.
- Notified amendments in RRs for the posts of Steno Gr-III, UDC, and Driver in the WCCB, Administrative Officer in the NZP, New Delhi.
- Accorded extension of the deputation period for two IFS officers posted in the organization under the ICFRE.
- Cadre clearance was accorded for four IFS officers for posting as DCF/CF in the ICFRE, Dehradun.
- Constituted the committees under DoPT OM dated 28.08.2020 for periodic Review of Central Government Employees for strengthening of administration under Fundamental Rule (FR) 56(j)/(l) and Rule 48 of CCS (Pension) Rules, 1972 at subordinate offices attached to the Forest Establishment Division.
- As of November 2024, the FE Division processed and disposed of 111 RTI Requests 10 RTI Appeals, 38 Public Grievances, and 13 VIP/MP references. The cases were processed for disposal in a standard time of less than 10 days.
- Processed and defended 31 Court Cases in various Hon'ble Courts and Hon'ble Central Administrative Tribunals.
- Issued advisories to the FSI, Dehradun regarding administrative processing and disposal of Disciplinary matters under the CSS- CCA Rules.
- All Officers and staff completed the required learning hours in the National Learning Week and Mission Karmayogi.
- Developed validated video content on the functioning of the FE Division for the Ministry portal.
- Participated in the plantation drives under Plant4Mother/ Ek_Ped_Mam_Ka_Nam held at Asola Wildlife Sanctuary, NCT Delhi, National Zoological Garden, New Delhi.
- Coordinated the implementation of the Plant4mother
- Ek_Ped_Mam_Ka_Nam campaign plantation drives in Chhattisgarh and Kerala, leading to the achievement of planting 2.16 Cr saplings and 19.11 Lakh in the States respectively.
- Other miscellaneous matters regarding sub-organizations, State Governments, and UTs. of India regarding forest establishment.



d. Works under progress:

- Following up on recruitment to the vacancies of 62 Lower Division Clerks, 22 Stenographer-D, and 23 Junior Translation Officers (Hindi), already reported to the Staff Selection Commission (SSC) as Nodal Division.
- Allocation of the candidates recommended by the SSC to the various Subordinate Offices of the Ministry for the above posts.
- Administrative processing of a proposal for the creation of 118 posts for strengthening WCCB and its Regional Offices.
- Coordination in the Mission Mode Recruitment Phase II between P-II and subordinate offices and ICFRE.
- Facilitating onboarding of the employees of the Subordinate Offices and ICFRE on eHRMS and SPARROW - APAR portals.
- Periodic coordination/follow-up meetings with subordinate Offices /ICFRE and State Govts/ UTs for matters related to the establishment of forest staff, grievances, court cases and vacancies across various forestry executive and ministerial cadres
- Periodical monitoring and compliance reporting on implementation of FR 56(j)/(I) and Rule 48 by the Subordinate Offices and ICFRE.
- Conducting training programme by DIGF(FE) for 100 employees in Phase-I of Large Scale Jan Seva Programme of the Capacity Building Commission.
- Annual Inspection of the Subordinate Offices and ICFRE under the FE Division.

6.4 Forest Policy

a. Brief Introduction, objectives and functions of the Division:

Forest Policy Division deals with the National Forest Policy, 1988, the Indian Forest Act, 1927 and forest related policies and legislations of other Ministries and State Governments. The Division facilitates the promotion of agroforestry and implement the National Transit Pass System in the country. It is the National Focal Division for international cooperation on United Nations Forum on Forestry (UNFF), Asia Pacific Forestry Commission (APFC), Asia Pacific Forest Invasive Species Network (APFISN), Committee on Forestry of FAO (COFO), UN-REDD, Centre for International Forestry Research (CIFOR) and International Poplar Commission of FAO. The Division is mandated to deal with implementation of REDD+ programme in the country at the national level. Forest Policy Division is also the nodal Division for all matters related to India-USA partnership Agreement on Sustainable Forest and Climate Adaptation and coordinating implementation of USAID programmes in India. The Division is also nodal Division for India-UK Forest Partnerships. The Division deals with policy matter and bilateral negotiations on forest and sustainable development and forest and trade related multilateral and bilateral issues.

The Division gives policy directions and issues advisories from time to time



to State Governments on important forestry matters. The Division has no subordinate offices/ institutions attached with it.

b. Important activities undertaken

- (i) Implementation of National Transit Pass System (NTPS): Ministry has developed a National Transit Pass System (NTPS) for seamless inter/intra state transportation of timber and other forest produces across all states. Online portal on National Transit Pass System (NTPS) can be used for issuance, monitoring and maintaining records of transit permits. It promotes Single Pan India Permit for the transit of timber and other minor forest produce for ease of doing business. To roll out the NTPS in States/UTs, Ministry had organized various meetings and training sessions to the States/ UTs. So far 27 States / UTs have adopted NTPS by amending the State Transit Rule or by agreeing to use NTPS where TP Rule is not in place for implementation of NTPS. These States are Madhya Pradesh, Jammu and Kashmir, West Bengal, Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Tripura, Karnataka, Kerala, Andhra Pradesh, Andaman & Nicobar Islands, Rajasthan, Chhattisgarh, Delhi, Haryana, Punjab, Chandigarh, Ladakh, Tamil Nadu, Telangana, Gujarat, Dadra and Nagar Haveli and Daman & Diu, Maharashtra, Odisha, Himachal Pradesh and Goa.
- (ii) Implementation of Tree outside Forests in India (TOFI) Program: TOFI programme

aims at promoting quality planting material; ensuring better alignment of state-level policies; increasing access to finance and insurance; promoting tree-based enterprises/value chains; establishing demonstration nurseries and plantations; and promoting widespread awareness to technical and market-related information. TOFI is being implemented in Andhra Pradesh, Assam, Haryana, Odisha, Rajasthan, Tamil Nadu, and Uttar Pradesh. Various meetings including review meeting were organized by Ministry for implementation of TOFI in all seven States. Delegation from MoEF&CC and State Forest Departments participated in a study tour on tree improvement under TOFI programme of India under USA Partnership agreement held from 18th – 29th October 2024 in Brazil.

- (iii) Green Credit Program (GCP): Ministry has launched the Green Credit Program under the Green Credit Rules, 2023, which encourage PSUs to undertake voluntary environmental measures *inter-alia* "tree plantation" as one of the activities for increasing the green cover across the country and issuance of green credit. Accordingly, the State Forest Department of every State and Union territory has been requested to identify degraded forest land parcels under the control and management of Forest Departments which shall be made available for tree plantation and Eco restoration for enhancing the Forest/Green cover in the Country. So



far, over 48,000 ha of degraded forest land have been identified in different states, out of which around 23,000 hectares of degraded land parcels have been selected for tree plantation and eco-restoration activities by various Public Sector Undertakings.

(iv) Ministry actively engaged and directed all its subordinate bodies/ institutions along with the State Forest Departments for celebration of 4th Jan Jatiya Gaurav Diwas from 15th November to 26th November, 2024.

(v) Swachhta campaign 4.0: Forest Policy Division has completed all the assigned tasks which include (a) weeding out of the files as per schedule (b) space creation (c) disposal of all pending grievances, assurances, VIP references, etc (d) cleaning of all desks (e) disposal of unutilized equipment's, etc.

c. Important conferences organized in India or international conferences-nature of participation, subjects discussed, implementation –action taken.

(i) Ministry has organised a National Level Meeting of the PCCF&HoFF of all States/ UTS under the chairmanship of HMEFCC on 29.02.2024 at MoEF&CC, New Delhi on various agenda like NIRANTAR, Agro-forestry, eco-tourism, Green credit etc.

(ii) Participation at UN Forum on Forest meetings: Indian delegation led by DGF&SS participated in the 19th session of United Forum on Forests (UNFF)

meeting at UN Hqrs, New York, USA from 06th to 10th May, 2024. During the session, India highlighted the Country's significant advancements in forest conservation and sustainable forest management which led to consistent increase in forest cover over the past fifteen years. The Ministry hosted a side event on 'Principles and Strategies for Landscape Integrated Fire Management through Collaborative Governance' in partnership with the Agency for Integrated Rural Fire Management, Portugal, the Korea Forest Service, and the International Tropical Timber Organization (ITTO) at the UNFF 19 at New York.

(iii) Delegation from MoEF&CC participated in 27th session of the Committee on Forestry (COFO) held from 22nd – 26th July 2024 at the FAO headquarters in Rome, Italy. FAO released the State of the World's Forests, 2024. The report, also highlighted India's National Agroforestry Policy, 2014 as the first policy in the world to promote agroforestry at a national level. India's delegation played a pivotal role in the 27th COFO session, contributing to the final recommendations and emphasizing regional cooperation in forestry matters.

(iv) Indian delegation participated in FAO, Regional workshop on Forest education in the Asia – Pacific Region held from 05th – 06th March, 2024 in Bangkok, Thailand to put forth India's views on



various agendas including the exchange of information regarding existing forest education activities and initiatives implemented at the country level.

- (v) Indian delegation participated in an event on Eighth (8th) Session of the Intergovernmental Technical Working Group on Forest Genetic Resources in Rome, Italy held from on 26th – 28th November, 2024.
- (vi) Indian delegation participated in an event South-South Knowledge Exchange on Enhancing Forest Monitoring and Collaboration held at FAO HQ, Rome, Italy from on 25th – 28th November, 2024.

6.5 Forest Protection

a. Brief introduction, objectives and Functions of the Division:-

Introduction:-

- i. The Forest Protection Division of the Ministry has been mandated for addressing issues related to protection of the forests such as protection of forests from illicit tree felling, de-forestation, encroachment and forest fires etc. The division also looks into the matters pertaining to disaster management of forest fires.
- ii. The Forest Protection Division of the Ministry supports the efforts of State Governments/Union Territory Administrations in protection of forests, prevention & control of forest fires by providing financial assistance under Centrally Sponsored Scheme.

Objective and Functions of the Division:-

- i. Nodal division for the issues relating to forest fires.
- ii. Implementation of the National Action Plan on Forest Fire.
- iii. Concerns regarding the protection of forests include preventing illegal tree cutting, halting deforestation, and addressing the encroachment of forest land.
- iv. Using geo-spatial technology to manage forest fires, such as disseminating alerts, providing pre-fire warnings, and assisting the Forest Survey of India in assessing burned areas. Nodal division for issue pertaining to disaster management.

b. Important activities undertaken

- i. The Forest Survey of India, Dehradun an organisation under the Ministry has put in place a remote sensing-based system for the detection of forest fires throughout the Nation that allows for the quick detection and dissemination of information concerning forest fires. The early detection and control of forest fires across the Nation is significantly assisted by this technique.
- ii. The user subscriptions of the Forest Survey of India Forest Fire Alert System have increased to 3.21 lakhs in current fire season (Nov 2023-24) as compared to 2.14 lakhs in the last forest fire season (Nov 2022- June 2023).



- iii. For dousing of the large forest fires Standard Operating Procedure (SOP) cum escalation matrix, has been released in collaboration with the National Disaster Management Authority, New Delhi.
 - iv. The active coordination and monitoring with the State Forest Departments have resulted in 67% dousing of large forest fires within 24 hours in 2023-24 (Nov 2023- June 2024) as compared to on 33% in the (Nov 2022- June 2023).
 - v. The Forest Protection Division organized a National Workshop on "Application of Space Technology in Forest and Wildlife Management in India" from 21st-22nd August 2024 to sensitize State Forest Departments, ISRO Organizations, Research and Academic Institutions, and other organizations on the application of Space Technology in the management of forest fires.
 - vi. The Ministry has also organised a two-day workshop on "Redesigning Forest Fire Fighting Tools and Equipment on 21st - 22nd November 2024 to sensitize the State Forest Departments and other stakeholders about the State of Art Tools and Technologies to improve forest fire management in the country.
 - vii. The Ministry in coordination with NDMA and NDR has trained three battalions of NDRF, comprising 150 personnel to tackle large forest fires. These three NDRF battalions are urgently stationed at Dehradun, Burnihat and Vijayawada.
 - viii. The awareness among the stakeholders have reduced the forest fire detection incidents by the satellite. Only 203544 forest fires were detected in 2023-24 as compared to 212249 in previous year. A net reduction of 8,705 incidents in a single year.
 - ix. As the Nodal Ministry responsible for managing issues related to forest fires and chemical accidents, the Ministry has set up a Disaster Management Cell for monitoring such disasters. Additionally, a 24-hour toll-free helpline (1800119334) has been installed to closely monitor incidents involving fires and chemical disasters that occur in the States and Union Territories.
 - x. A continuous advisory is being sent to all States and Union Territories before to the start of the fire season, urging them to concentrate on being prepared to put out any forest fire as soon as possible in order to effectively avoid and manage it.
- c. Progress/Innovations**
- i. The Forest Protection Division is using the Forest Survey of India Van Agni Geo-Portal to monitor near real time forest fire detection and large forest fires in various States and UTs throughout the 2023-24 forest fire season.
 - ii. The Ministry and the Forest Survey of India have been working well together to detect forest fires and notify the State and Union Territories of them. Research conducted by Indian Council of Forest Research and Education



(ICFRE), Dehradun and its partner institutes evaluated loss and damage in the States of Madhya Pradesh and Uttarakhand. The State Governments are also encouraged to evaluate their own burnt areas.

d. Important Cumulative achievement

i. Forest Fire Mitigation Training Programme for National Disaster Response Force Functionaries (NDRF), has been undertaken by the Ministry to Provide knowledge on prevention, control and response actions for handling forest fires. Three NDRF Battalions has been trained and deployed at Dehradun, Guwahati and Vijayawada.

e. Continuing committees/commissions-their work during the year and present position.

- i. Total two Screening Committee meeting has been conducted for the FY-2024-2025.
- ii. In compliance of the direction of the Hon'ble National Green Tribunal, New Delhi the Forest Protection Division has constituted a Central Monitoring Committee (CMC) under the Chairmanship of Secretary (EF&CC) to monitor the implementation of the National Action Plan on Forest Fire.

Scheme/Programme

Name of the Scheme: "Forest Fire Prevention and Management Scheme" - Centrally Sponsored Scheme

Objectives:-

- i. To reduce the frequency of forest fires and assist in restoring productivity of forests in affected areas.
- ii. To formally establish a collaboration with forest fringe communities and the conservation of forests.
- iii. To support the overarching objective of preserving the stability of the environment.
- iv. To create a forecasting system for forest fires and a method for grading the hazard of fires.
- v. To support the States and UTs in making the most efficient possible use of modern technology (such as GPS, GIS and remote sensing) for planning, developing, and implementing a system for managing and preventing fires.
- vi. To increase understanding of the dynamics and effects of forest fires.

f. Progress / Achievements both cumulative and for the reference period.

As of December 26, 2024, an amount of Rs. 16.09 crore has been incurred under the Centrally Sponsored Scheme: Forest Fire Prevention and Management for the Financial Year 2024-2025.

6.6 Survey and Utilization

a. Introduction:

The Survey and Utilization Division deals with the survey and utilisation of forest resources; matters pertaining to the trade policy on sandalwood, red sanders,



agarwood etc including regulation of the export and import of forest produce in line with the Export and Import (EXIM) policy; matters concerning to the State Forest Development Corporations; the Andaman and Nicobar Islands Forest Plantation Development Corporation Limited, etc. Other responsibilities include matters related to the Wood-based Industries (WBI), National Working Plan Code, implementation of the Indian Forest and Wood Certification scheme (IFWCS). Additionally, the Division also handles the international cooperation for the matters relating to the International Tropical Timber Organization (ITTO) and the International Network for Bamboo and Rattan (INBAR). The Division has one subordinate organisation i.e. Forest Survey of India (FSI), Dehradun and all matters related to the FSI excluding establishment issues are dealt by the Division. SU Division also deals with the matters related to Central Empowered Committee (CEC). More information on the function of the Division is as follows:

- (i) Forest Survey of India: The Forest Survey of India (FSI) assesses forest resources of the country using remote sensing and field inventory and provides training to forestry personnels of the State /UTs Departments on various forest based thematic areas.
- (ii) Central Empowered Committee: - The Central Empowered Committee has been reconstituted vide notification dated 05.09.2023 to monitor and ensure compliance with Supreme Court orders related to environment, forests, and wildlife, and to recommend measures for effective implementation of these orders.
- (iii) National Working Plan Code:- The working plan is the main instrument for scientific management of forests in India. National Working Plan Code was first adopted in 2004 with a subsequent amendment in 2014. This was further revised in 2023 as the National Working Plan Code 2023.
- (iv) Indian Forest and Wood Certification Scheme:- Indian Forest and Wood Certification Scheme (IFWCS) was released in December 2023 to promote sustainable timber and forest produce through voluntary participation.
- (v) **Export & Import of forestry products and tariff structure of forestry items:-** SU Division deals with the formulation of guidelines and directions for domestic and international trade in forest produce and necessary regulation of export and import of forest produce as per the Foreign Trade Policy as well as the applied tariff rates. The Division also deals with the issue of NOC for grant of license for export of wood and wood products for the application received through Directorate General of Foreign Trade, New Delhi.
- (vi) Woodbased Industries:- The Guidelines for Wood Based Industries (Establishment and Regulation) Guidelines, 2016 was notified by the Ministry in compliance of order



of Hon'ble Supreme Court dated 05.10.2105 in W.P. (C) No. 202/1995 in the matter of T.N. Godavarman Vs. Union of India and Ors. Based on the comments received from State/UT Forest

Department and concerned stakeholders, the Guidelines were modified in 2017 and 2019. On the basis of these guidelines, the State Level Committees for Wood Based Industry take

decision for issue of new licenses/renewal of licenses for wood based industry.

(vii) State Forest Development Corporations:- SU Division is nodal division for matters related to State Forest Development Corporations.

(viii) International Tropical Timber Organization (ITTO): India is a founder member of ITTO which aims for conserving tropical forest and assisting countries to develop economically in the field of forestry. The ITTO brings together producer and consumer member countries to discuss and exchange information and develop policies on all aspects of the World Tropical Timber Economy. The Headquarter of ITTO is in Yokahama, Japan. There are 75 members countries out of which 37 are producers and 39 are consumers. India belongs to the group of the producer member countries. The ITTO's membership represents 90% of world trade in tropical timber and

80% of the world's tropical forests. SU Division in the Ministry is the Nodal Division for all matters related to ITTO.

(ix) International Network for Bamboo & Rattan (INBAR):- INBAR is an intergovernmental organization established in 1997. INBAR is dedicated to improving the social, economic, and environmental benefits of bamboo and rattan. INBAR plays a unique role in finding and demonstrating innovative ways of using bamboo and rattan to protect environments and biodiversity, alleviate poverty, and facilities fairer pro-poor trade. INBAR connects a global network for partners from the government, private, and not-for-profit sectors in over 50 countries to define and implement a global agenda for sustainable development through bamboo and rattan. SU

Division in the Ministry is the Nodal Division for INBAR.

(x) Survey and demarcation: - SU Division is expediting digitization of forest boundaries in all the States and Union territories and resolving the discrepancies between the notified forest area and forest area arrived after digitization the boundaries.

b. Important activities undertaken

- India State of Forest Report (ISFR) 2023 was released by Hon'ble Minister on 21.12.2024.
- The National Working Plan Code-2023



was approved by the Ministry which includes the Indian Forest Management Standard, for all principles of sustainable forest management practised in the country in measurable terms. Regular meeting to review the status of Working Plans in the States are organised by the Division. FSI has also launched the mobile based and web based App on NWPC and has provided training to the forestry officials for preparation of Working Plans using the Apps.

- Consequent upon release of IFWCS (PRAMAAN), various actions have been taken for implementation of PRAMAAN. Ministry has designated IIFM Bhopal as a Scheme operating agency to operationalise IFWCS. MoU has been signed by IIFM, Bhopal with Quality Council of India for developing standards for certification. Capacity building of the stakeholders on the IFWCS are being carried out by IIFM.
- During the year, many reference regarding export and import of red sanders and sandalwood were processed and reply of MoEFCC furnished to Directorate General of Foreign Trade, Ministry of Commerce & Industry, New Delhi.
- The Division has received many references from State Forest Departments regarding various issues related to wood based industries which were examined and suitable reply was furnished to concerned State.
- Based on revision in the quote of export

of Agarwood, draft Notification for Amendment in Export Policy condition of Agarwood (*Aquilaria Malaccensis*) Chips and Powder and Agar Oil received from DGFT has been vetted by the Ministry.

- The Ministry has implemented the decision of the Cabinet for closure of the Andaman & Nicobar Islands Forest & Plantation Development Corporation Limited (ANIFPDCL), Port Blair.
 - Meeting with the officials of BISAG-N and DPIIT was held to address the issue related to the integration of forest layers with PM GatiShakti National Master Plan Portal.
 - SU Division has convened the regular meetings to review the status of submission of recorded forest area boundary data to FSI/BISAG-N and present status of boundary demarcation of notified areas and action plan thereof.
 - The High Level Technical Committee to undertake more comprehensive study to examine the issue of Red Oil Palm Plantation in Andaman and Nicobar Islands consisting of eight members has submitted the report to the Ministry. SU Division has submitted the Report before the Hon'ble Supreme Court of India for further consideration.
- c. Progress/Innovations for the reference period especially can be highlighted prominently.**
- Release of India State of Forest Report-2023 by Forest Survey of India, Dehradun.



- Launch of web based and mobile based NWPC-2023 App to use it for preparation of Working Plans by the States/UTs.
- Steps taken for forest certification issuance through national certification schemes PRAMAAN.

d. Continuing committees/commissions-their work during the year and present position

- A Committee under the Chairpersonship of C.Achalendar Reddy was constituted on Red Oil Palm (ROP) plantation in Andaman and Nicobar Islands. The committee has submitted the report. The Report has been submitted before the Hon'ble Supreme Court for consideration.

e. Important conferences organized in India or international conferences-nature of participation, subjects discussed, implementation-action taken.

- A four member Indian delegation participated in the 60th Session of International Tropical Timber Council (ITTC) and sessions of its associated Committees. During the session, India highlighted the country's significant advancements in the sustainable forest management, Indian Forest and Wood Certification Scheme (IFWCS) and technological advancement in forest fire management. Bilateral meetings were held with International Tropical Timber Organisation (ITTO) & RESTEC, Japan. In meeting with the Executive Director, ITTO, the delegation highlighted the

technological advancement of India in forest fire management. Bilateral meeting was also held with the RESTECH President, Japan & DGF&SS, MoEFCC, Gol on implementation of the MoU signed with FSI & RESTEC.

f. MEAs agreement with countries, international organizations, compliance.

- A MoU signed between Forest Survey of India (FSI), Dehradun and Remote Sensing Technology Centre of Japan (RESTEC) Japan in Tokyo, Japan on 21.03.2024 for technical cooperation between the two premier institutes.

g. List of major Publications brought out-brief purpose of each, whatever necessary

Release of India State of Forest Report-2023. The ISFR 2023 presents the latest status of the forest cover and Tree cover of the country, estimates of growing stocks, extent of trees outside forests, mangrove cover, bamboo resources and assessment of forest carbon stock.

Autonomous bodies-appraisal of the functioning of each of the autonomous bodies/institutions in relations to their objectives.

There is no autonomous institute under the administrative control of SU Division. However FSI, Dehradun is the attached subordinate organisation under SU Division except establishment matter. Details of activities undertaken by FSI during the period is attached as Annexure-I.



Further SU Division deals with all matters including administrative matter related to CEC, the activities undertaken by CEC during the period is attached as Annexure-II under are

Annexure-I.

Forest Survey of India

Forest Survey of India (FSI), a premier national organization is a subordinate office of Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India.

a. Objectives of FSI

- To prepare State of Forest Report biennially, providing assessment of latest forest cover in the country and monitoring changes in these.
- To conduct inventory in forest and non-forest areas and develop database on forest tree resources.
- To function as a nodal agency for collection, compilation, storage and dissemination of spatial database on forest resources.
- To conduct training of forestry personnel in application of technologies related to resources survey, remote sensing, GIS, etc.
- To strengthen research & development infrastructure in FSI and to conduct research on applied forest survey techniques.
- To support State/UT Forest Departments (SFD) in forest resources survey, mapping and inventory.

- To undertake forestry related special studies/consultancies and custom made training courses for SFD's and other organizations on project basis.

Major Activities of FSI

- Biennial assessment of Forest Cover using remote sensing technology
- Inventory of Forest areas
- Inventory of Trees Outside Forests (Rural & Urban)
- Inventory data processing
- Methodology Design
- Training and Extension
- Projects and Consultancies

b. Important activities undertaken by FSI

A. FOREST COVER MAPPING & TREE COVER:

Forest Survey of India (FSI) carries out in wall-to-wall forest cover assessment of the country on biennial basis through interpretation of satellite data and publishes the information in the 'India State of Forest Report'. So far, eighteen cycles of forest cover assessment have been completed from 1987 to 2023. The results of 18th cycle Forest Cover Mapping (FCM) were published in ISFR 2023, and currently the work of 19th Cycle FCM, for ISFR 2025 is in progress.

In addition to forest cover mapping, assessment of tree cover of the country



is also being carried out using the Trees Outside Forests (TOF) inventory data. As per ISFR 2023, there is an increase of 156.41 sq km (0.02%) in the forest cover and 1,289.40 sq km (1.16%) in the tree cover as compared to the last assessment, ISFR 2023. Thus, there is an overall increase of 1,445.81 sq km (1.18%), forest cover and tree cover put together at national level.

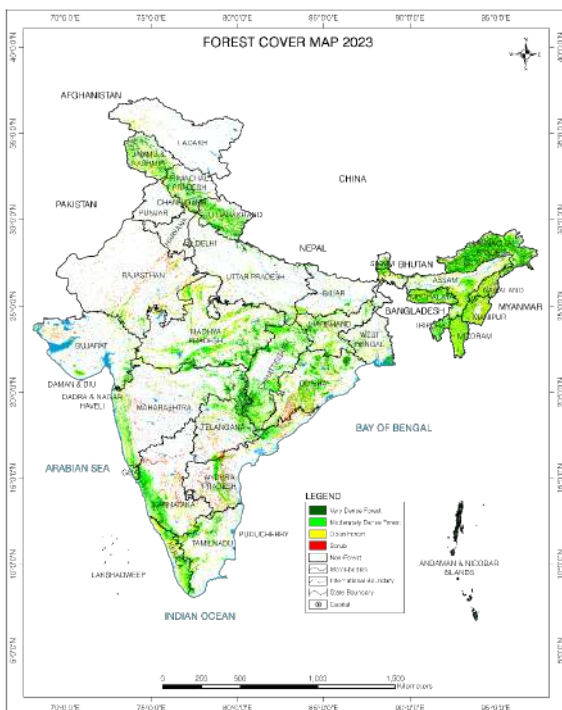


Fig.1 Forest Cover Mapping

B. FOREST FIRES

(i) Near Real Time Monitoring of Forest Fires:

FSI has been alerting State Forest Departments of forest fire locations detected by the MODIS (Moderate Resolution Imaging Spectro-radiometer) sensor on-board Aqua and Terra Satellites of NASA since 2004. Since then, there has been continuous upgradation

in the forest fire alert systems.

(ii) The FSI Fire Alerts System 3.0 has the following features:

- » Improved Custom Filter which boosted its accuracy level
- » Large Forest Fire monitoring programme to automatically identify and track large forest fires
- » MapServer based Van Agni Geo-portal to view dynamic display of alerts along with other thematic layers
- » Web Map Service available for integration with State Forest Departments geoportal
- » Customized alerts for 21 States at Beat level and 4 States at Range level
- » Improved feedback system (via SMS and nodal officer page)
- » Improved Nodal officer page

The number of near real-time forest fire detections for the period between Nov. 2023 to June 2024 has been 26,390 and 2,03,544 for MODIS and SNPP-VIIRS sensor respectively. The FSI forest fire alert system is being used by more than 3,07,137 registered subscribers across the country.

Near Real-Time Forest Fire Detections

Sensor	(Nov. 2021 – June 2022)	(Nov. 2022 – June 2023)	(Nov. 2023 – June 2024)
MODIS	29,675	31,145	26,390
SNPP-VIIRS	2,23,333	2,12,249	2,03,544



(iii) Large Forest Fire Monitoring:

FSI uses near real time SNPP-VIIRS detections to monitor large forest fire. In Large Forest Fire Monitoring System, FSI aims to track large fire events across the country and disseminate specific Large Fire alerts with the objective to identify, track and report serious forest fire detections so as to help monitor such fires at senior level in the State Forest Department and also seek timely additional assistance that may be required to contain such fires.

Large Forest Fire Detections

(Nov. 2021 - June 2022)	(Nov. 2022 - June 2023)	(Nov. 2023 - June 2024)
13,555	12,506	11,928

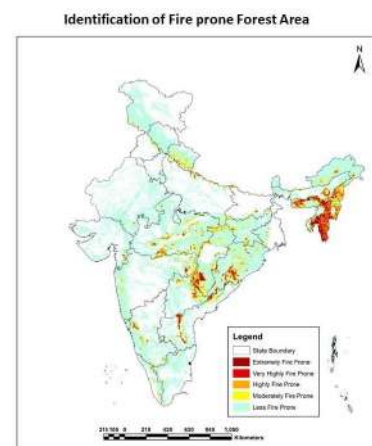
(iv) Pre-Fire Alerts based on Fire Weather Index (FWI):

Forest Type Layer information and Forest Fire Archival information are also being used to generate Forest Fire Danger Rating. During Fire season, the Extreme Risk and Very High Risk categories of Forest Fire Danger Rating are disseminated as Pre-Fire Alerts on every Thursday of week to SFDs. Pre-Fire Alerts are disseminated through email as KML (Keyhole Markup Language) file which is Google Earth compatible file, to PCCF (HoFF) and Forest Fire Nodal Officer of the SFD. The National Disaster Management Authority (NDMA), has conceptualized a Common Alerting Protocol (CAP) based Integrated Alert System for disasters at Pan-India level.

FSI established as one of the Alert Generating Agency (AGA) since March 2023, is responsible for uploading Pre-Fire Alert data onto the SACHET Portal. This data is subsequently broadcast to public as Pre-Fire Alerts by the respective State Disaster Management Authorities (SDMA) after assessing the local environment, climatic and other related factors.

(v) Study on identification of fire prone forest areas based on GIS analysis of archived information:

The map showing proneness of the area to forest fires can be an effective management tool for controlling forest fires. This proneness may be determined by the frequency of detected forest fires in an area over a certain period. These maps may be used for identifying highly prone forest fire areas so that future events of fire may be prevented through increased vigil.

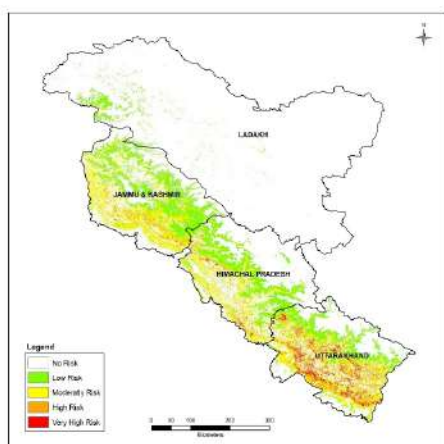


(vi) Forest Fire Risk Zonation Mapping in West Himalayan States:

A pilot study has been carried out for the



West Himalayan States/UTs comprising Himachal Pradesh, Uttarakhand, Jammu & Kashmir, and Ladakh to identify Fire Risk Zones and categorize them into different risk classes using suitable variables. The results have shown to have a good correlation with the fire detections, with majority of fire clusters falling under very high risk and high risk classes. It has been observed that the number of detections per unit area of each class in each State/UTs is highest in Very High Risk class followed by High Risk and Moderate Risk class.



(vii) FSI Van Agni Geo-portal

Forest Fire Geo-portal, VAN AGNI 3.0 (http://vanagniportal.fsiforestfire.gov.in/fsi_fire/fire.html) is an in-house development of FSI using open source software/tools like MapServer, which was launched in 2019. The Geo-portal provides user-friendly interactive viewing where the user can view forest fire related data (Near Real Time Forest Fire data, Large Forest Fire events tracking etc. along with other thematic layers such as

Forest administrative boundaries, Forest Cover, Forest Type, Fire Prone Forest Area and FWI based fire danger rating etc.) pertaining to area of interest. Therefore, FSI Van Agni Geo-portal serves as a single point source of the information related to forest fires in India. Any user can visualise Near Real-Time Forest Fire data detected using MODIS & SNPP-VIIRS sensor of last three days in the portal. Besides this, Large Forest Fire Events showing active and inactive pixels and Forest Fire Danger Rating are also available on the portal.

C. NATIONAL SPATIAL DATA INFRASTRUCTURE (NSDI)

National Spatial Data Infrastructure (NSDI) is a national program monitored by NSDI division of Department of Science and Technology to build consensus on harmonizing the available countrywide spatial database to a common set of standards, parameters and to minimize the disparity in data themes among various institutions, organizations across the country. In this context, Forest Survey of India (FSI) has been identified as a partner institutions and a member of working groups (WG) assigned with the important responsibility of creating theme layers pertaining to forest resources and their categories. FSI is working as the technical member for the working group of the National Data Registry (NDR). NDR Data



node is accessible and functional with the allocation of Virtual Machine (VMs) to all the respective NDR node agencies including FSI for serving interoperable data/map services towards geospatial data integration.

D. DECISION SUPPORT SYSTEM (DSS)

The Decision Support System (DSS) is a web based GIS tool, developed by Forest Survey of India (FSI), which provides qualitative, quantitative & administrative characteristics of forests, which help in informed, unbiased and expeditious decisions on management of forest. This system uses Rule based algorithm, which in turn uses several parameters derived from the spatial layers (given in the table) for identification of **Inviolate** and **Not Inviolate areas**. It is being used by MoEF & CC, its regional officers and SFDs and other Ministries for e.g. Central Electricity Authority (CEA), Power Grid Corporation of India (PCI), Ministry of Power (MOP), Mineral Exploration Corporation Limited (MECL), Department of Hydrocarbon (DGH), National Highway Authority of India (NHAI), GIM Directorate, Geological Survey of India (GSI), etc.

E. e-Greenwatch

(<http://www.egreenwatch.nic.in>)

The primary function of '**Compensatory Afforestation Fund Management and Planning Authority**' (CAMPA) is the regeneration of vegetation cover

and promoting afforestation as a way of compensating for forest land which is diverted to non-forest uses. To monitor and track how well CAMPA funds are achieving, the e-Green Watch application software was developed as an integrated & online system to make the data accessible in real-time to all stakeholders and public at large. The e-Greenwatch portal helps in keeping a track of all plantation and other activities being carried out by the State Forest Departments (SFDs) using CAMPA funds. At present 32 States/ UTs are linked to the e-Green Watch portal. Till December, 2024, FSI has analyzed 2,53,420 polygons under fresh category and 1,26,523 under revisited category, from 32 States/ UTs. Out of the total no. of polygons, 51,309 are under the **correct category**, 1,13,547 under the **incorrect category** and 88,564 under the **unascertainable category**.

F. National Forest Inventory and Modernization of National Forest Inventory:

The NFI design was adopted by FSI in the year 2002 to generate national level estimates on growing stock, forest area and other parameters of the forest resources. The whole country was divided on 14 physiographic zone and 60 districts were selected for survey spread all over the physiographic zone in a cycle of two



years in forest as well as in Trees Outside Forest. FSI redesigned the National Forest Inventory (NFI) programme from district based approach to grid based approach. Under the new design, whole country is divided into a nationwide uniform grids of 5 Km x 5 Km. Thus, the revisit time has been reduced from 20 years to 5 years for Forest Inventory and 10 years for TOF inventory.

G. Trees Outside Forest Resources in India:

Trees Outside Forest (TOF) found in diverse rural and urban landscapes of the country have immense ecological and economic importance in rural and urban parts of the country. A new methodology has been developed to estimate the TOF resources and the extent of TOF area in the country, under the present NFI design. The major species found therein has been assessed using the newly developed methodology. Moreover, potential annual yield from timber from TOF has also been assessed.

The NFI information on the FI and TOF plots is used to prepare results of growing stock estimation for forest and TOF, carbon stock and other parameters for successive ISFRs. The recent ISFR

2023 is based on information of about 27,917 plots inventoried in forest areas and 62,074 plots inventoried in TOF area.

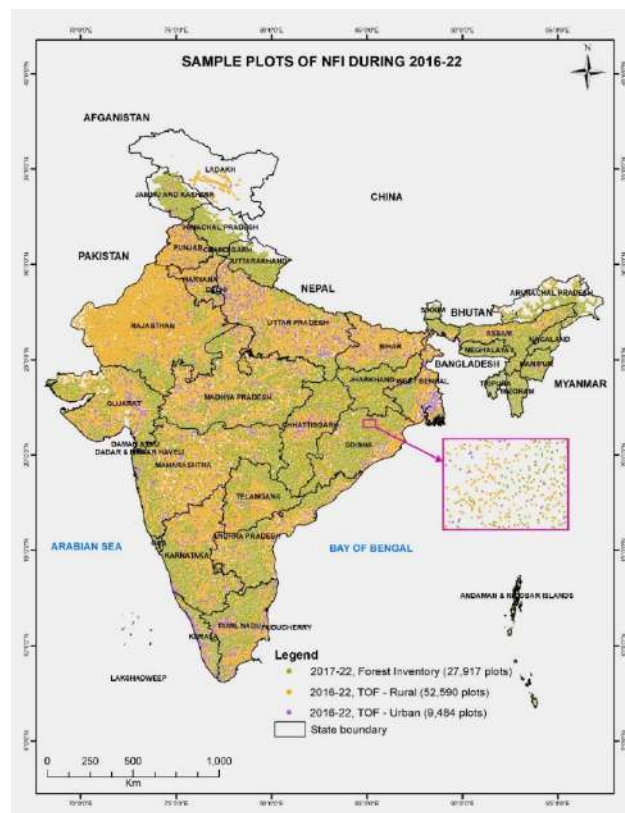


Figure: Map showing sample plots of NFI during 2016-22

H. Trees Outside Forest (Rural) Studies in States

(i) Assessment of Trees outside Forest (Rural) in Himachal Pradesh State:

The Himachal Pradesh Forest Department has requested FSI to assess the total availability of timber in Non-Forest Land (NFL) i.e. TOF, annual availability of timber in TOF total as well as annual availability of tree species from TOF exempted for the purpose of felling and



transit in the State and annual availability of Khair wood from TOF. FSI has taken up the project in a collaborative manner, wherein field work has been done by the staff of HP Forest Department. The final report of the study has been submitted to Himachal Pradesh Forest Department on April, 2024.

(ii) Assessment of Trees Outside Forests (TOF) including Growing Stock in Jammu & Kashmir:

Jammu & Kashmir Forest Department, has requested FSI to assess the availability of wood from Trees Outside Forests (TOF) in rural areas of the UT, following latest methodology. Main objectives of the project are to estimate number of trees in TOF (R) in different diameter classes, estimate growing stock and to assess annual yield of timber species in TOF in Jammu & Kashmir. FSI has taken up the project in a collaborative manner and completed all the works. At present, the draft report of the study has been submitted to J&KFD in March, 2024.

(iii) Assessment of availability of timber in TOF (Rural) & Tree Census in entire Goa

Goa Forest Department requested Forest Survey of India to carry out the study

on tree Census Outside Government Forest Area in Goa state. Accordingly, FSI has entered into an MoU with Goa Forest Department in 2023. Thereafter, FSI teams provided training to field crews of Goa Forest Department in February 2024. The field work is being carried out by the field crews of Goa Forest Department.

(iv) Assessment of Wood Availability in the State of Karnataka

Karnataka Forest Department had requested Forest Survey of India to carry out the study on annual wood availability from Trees outside Forest.

(v) Assessment of Timber Availability in TOF-Rural Nagaland

Nagaland Forest Department had requested Forest Survey of India to develop project to estimate potential production of timber in the State of Nagaland. Project proposal in this regard was send on 15.4.2024. Response from Nagaland Forest Department is awaited.

(vi) Assessment of Khair-wood in the UT of Jammu & Kashmir:

The UT of Jammu & Kashmir has requested FSI to take up a special study for assessment of khair-wood in the UT of J&K. In this regard, preliminary



discussions are going on between FSI and J&K.

I. National Working Plan Code (NWPC-2023)

As per NWPC 2023, following applications have been developed by FSI:

- Android based Mobile Application for data collection in field;
- Web Based Application (WBA) for data entry, to be used by those WPOs, who are collecting data in physical field form & not Android based Mobile Application.

The android based application has been placed at the google play store (link: https://play.google.com/store/apps/details?id=com.fsi.NFI&pcampaignid=web_share) and is freely downloadable.

J. Training-cum-Capacity Building Workshop Organized by FSI for Forestry Officers of Kingdom of Tonga on "National Forest Inventory":

- (i) FAO sub-regional office for the Pacific Islands requested FSI for a developing National Forest Inventory framework for Kingdom of Tonga. FSI organized training-cum-capacity building workshop for forestry officers of Kingdom of Tonga on "National Forest Inventory" from 04-

07 September, 2024 at FSI, Dehradun. Field visits were an integral part of the workshop to expose the participants by practical demonstration of the field plot layout and data collection through PDA based application, which is developed in-house by FSI and is being used for data collection under NFI.

This workshop is an illustrative example of Tripartite Co-operation between Government of India, Kingdom of Tonga and FAO Sub-regional office for Pacific Islands.

- (ii) Regular Training Courses as per Training Calendar 2022-2023 & 2023-24

FSI imparts training to forestry personnel working at various levels in State Forest Departments to sensitize them with the latest advancements in application of Remote Sensing & GIS for preparation of Working Plans, Forest Carbon Assessment, GPS Applications in Forest Survey and Demarcation, Application of GIS in Forest Resources Management, Applications of Drones etc. The following training courses has been conducted during the period between January 2024 - December 2024.



Training courses during the period 01 January, 2024 to 31 December, 2024

S. No	Theme	Date	Venue	Total Participants
1.	Preparation of Working Plan-Forest Resource Assessment using RS/GIS & Field Inventory Methods	15.01.2024 to 25.01.2024	FSI	38
2.	Preparation of Working Plan-Forest Resource Assessment using RS/GIS & Field Inventory Methods	18.06.2024 to 28.06.2024	FSI	32
3.	Application of GIS & Environment Statistics	01.07.2024 to 05.07.2024	FSI	28
4.	Two Days Training Programme for Zonal Staff of Forest Survey of India	11.07.2024 to 12.07.2024	FSI	20
5.	Preparation of Working Plan-Forest Resource Assessment using RS/GIS & Field Inventory Methods	22.07.2024 to 02.08.2024	FSI	15
6.	Three Days training Programme for Zonal Staff of Forest Survey of India	07.08.2024 to 09.08.2024	FSI	19
7.	Four Days Training Programme for Capacity Building Training cum Workshop for Govt. of Tonga on National Forest Inventory	04.09.2024 to 07.09.2024	FSI	10
8.	Applications of Remote Sensing & GIS in Effective Forest Planning & Management	09.09.2024 to 13.09.2024	FSI	13
Total				175



(iii) **The following visits of Universities, FTIs and SFDs were organized for visitors (RFO's and other SFD Personnel) from January, 2024 –December 2024.**

Details of visitors to FSI during the period 01 January, 2024 to 31 December, 2024 is as follows:

S. No.	Theme	Date	Total Participants
1.	College of Horticulture and Forestry, Pasighat, Arunachal Pradesh	01.02.2024	26
2.	Forest Research Institute (DU), Dehradun	02.02.2024	40
3.	Indira Gandhi National Forest Academy, Dehradun	06.02.2024	40
4.	Forest Training Institute Chail, Distt. Solan (H.P.)	07.02.2024	42
5.	Indian Institute of Remote Sensing, ISRO	12.02.2024	14
6.	Chandra Shekhar Azad University of Agriculture and Technology, Kanpur	12.02.2024	32
7.	Forest College research Institute, Hyderabad	28.02.2024	57
8.	College of Forestry, Thrissur, Kerala	06.03.2024	35
9.	College of Forestry DUAT, Odisha	12.03.20224	47
10.	Forest College and Research Institute, Mettupalayam	12.03.2024	57
11.	SRM College of Agriculture Chengalpattu, Tamil Nadu	26.03.2024	95
12.	SRM college of Agriculture Chengalpattu, Tamil Nadu	01.04.2024	95
13.	SRM college of Agriculture scince Chengalpattu, Tamil Nadu	02.04.2024	58
14.	Karnataka Forest Academy Dharwad, Karnataka	24.04.2024	44
15.	College of Forestry, SIRSI, Karnatka U.A.S Dharwad	26.04.2024	62
16.	Gujarat Forest Rangers College, Rajpipla	09.05.2024	45
17.	Forestry Training Academy Haldwani (Distt. Nainital)	07.06.2024	42



18.	Birsa Agricultural University, Ranchi	10.06.2024	34
19.	Chandrapur Forest Acadmy, Maharashtra	13.06.2024	39
20.	Chandrapur Forest Acadmy, Maharashtra	21.06.2024	30
21.	Rani Lakshmi Bai Central Agricultural University, Jhansi	07.08.2024	34
22.	Central Academy for State Forest Service, Dehradun	29.08.2024	29
23.	Forest Training Institute, Rampurmandi	04.10.2024	75
24.	Central Academy for State Forest Service, Coimbatore	14.10.2024	52
25.	Pt.Deendayal Upadhyay College of Horticulture & Forestry, Piprakothi, East Champaran	16.10.2024	26
26.	Forest Research Institute (DU) dehradun	21.10.2024	33
27.	Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Prayagraj	14.11.2024	19
Total			1568

K. Financial Budget of FSI

Regular budget of FSI during the last five financial years is as follows:

(Rs. In Crores)

S. No.	Financial Year	Budget
1.	2020-21	26.00
2.	2021-22	33.10
3.	2022-23	34.00
4.	2023-24	37.00
5.	2024-25	46.00

L. Forest Carbon Projects under NATCOM

FSI has been estimating carbon stock in the country's forests on regular basis for various National Communications (NATCOMs) and providing valuable inputs to the MoEF&CC in preparation

of GHG inventory of the country FSI submitted all the reports for NATCOM-III project, which have been sanctioned by the MoEF&CC to FSI under the funding from UNDP. The completed NATCOM projects are hereunder.

1. Estimation of Soil Organic Carbon (SOC) in TOF. This report has already been submitted to Ministry within proper deadline.

- » Trees outside forests (TOFs) are important natural resources that contribute substantially to national biomass and carbon stocks and to the livelihood of people in many regions of the world.
- » The study determined the carbon stocks present in the soil under TOF, distributed



under different land use classes other than forest across the country; as in all the land uses soil parameters contribute a significant role.

- » The study also analyze the carbon stocks present in the soil under TOF, spread over various agro-climatic zones other than forest in India; because, agro-climatic zones are the agricultural pointer guided by soil type, major land use classes, climate including temperature and rainfall and its variation, availability of water resources.

2. Developing volume equations for important 30 species in forest and TOF

- » In past, the volume equations have been developed by following a destructive approach also known as harvest method
- » India is having vast mangrove cover spread across 12 States & UTs, namely; West Bengal, Gujarat, A&N Islands, Andhra Pradesh, Maharashtra, Odisha, Goa, Karnataka, Kerala, Tamil Nadu, Dadra & Nagar Haveli & Daman & Diu and Puducherry.
- » Quantification of carbon stored in mangrove forest is fetching a significant role in carbon accounting.
- » Mangrove are complex ecosystem so traditional method of surveying and data collection is quite difficult process. Remote sensing technology is proving to be boon for monitoring inaccessible complex eco-systems on earth. Accurate and precise estimation of carbon stock

wherein the trees have been felled to measure the necessary variables like diameter and height.

- » Since nearly one and a half decades, the complete destruction of trees have widely been restricted by imposing stricter laws, the necessity of precise estimation of volume for important tree species without felling the same have gained importance.
- » The present study developed volume equations for important 30 species in forest and TOF, which in turn will suffice the growing necessity of getting precise volume estimates of woods for industrial development.

3. Estimation of carbon stock in Mangrove Eco-system.

is required for further Climate Change studies. Tree height is important parameter for carbon estimation and LiDAR technology is proved to be recent advanced technique and used in many published studies for precise tree height retrieval.

- » Therefore, remote sensing techniques coupled with less intense traditional method of surveying and data collection from limited or sample locations were used in the present study to estimate the carbon stock in India's Mangrove Ecosystem.

M. CENTRE FOR FOREST CARBON ASSESSMENT (CFCA)



(i) Background

- » Forests play an important role in mitigation and adaptation to climate change. Forests are considered as sink, reservoir and source of carbon. Healthy and growing forests sequester and store more carbon than any other terrestrial ecosystem.



- » Centre for Forest Carbon Assessment (CFCA) in FSI has been established in the year 2019, to regularly assess the Forest Carbon (%) as a primary source, of collected Soil, Plant, Litter and Dead Wood sample collected from field during inventory.
- » The Centre has also been responsible to take care the study of developing volume equations, forest biomass estimation and practical processing as well as analysis of soil sample.

(ii) Present National Focus on Carbon Study

- » In India, there is significant chance of creating 'Additional Carbon Stock of 2.5 to 3.0 Billion tonnes by the year 2030 by following the so far adopted methods i.e. 'Business As Usual'.
- » However, in 2019, FSI has done a comprehensive study from 'CFCA' by

identifying the possibilities of creating an additional carbon sink over and above 'Business As Usual'. Accordingly, FSI identified possible activities, where further emphasis could be given to raise the 'Carbon Stock' of the country.

- » Under those different activities, possible land area that could be utilized had been enumerated.
- » The setup has also undertaken the carbon analysis of **3387** samples. Out of which **1746 soil samples** and **1641 forest floor samples** are analyzed of the States falling under the jurisdiction of FSI North Zone. Those States are Rajasthan, Punjab, Haryana, Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Uttar Pradesh. The analytical results are in process for the publication under ISFR 2023.
- » Moreover, during forest floor carbon analysis, the **dry weight % of 1641 samples** had also been analyzed, for above-mentioned States under the jurisdiction of FSI North zone.
- » The brief overview of number of sample analyzed is mentioned in the following table.
- » The setup is presently undertaking the soil and forest floor analysis of the arrived samples from field of the States falling under the jurisdiction of FSI North Zone. Those States are Rajasthan, Punjab, Haryana, Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Uttar Pradesh. Presently, 1200 plus analysis have been



done of the arrived samples, for the next ISFR 2025.

- » FSI's CRMD lab has also conducted carbon and moisture analysis of 1000 plus samples collected from forest fire burnt affected area.

Annexure-II

Central Empowered Committee

Pursuant to the Hon'ble Supreme Court's order dated 18.08.2023 in I.A Nos 196062 and 174896 of 2019 in Writ Petition (Civil) No. 202 of 1995 and in the exercise of powers under section 3(3) of Environment (Protection) Act, 1986 the MoEF&CC vide notification dated 05.09.2023 re-constituted CEC as permanent Authority consisting of a Chairman, a Member Secretary, and three Expert Members for the purposes of Monitoring and ensuring compliance of the orders of the Hon'ble Supreme Court covering the subject matter of Environment, Forests and Wildlife and related matters arising out of the said order and to suggest measures and recommendations to the State as well as Central Government for more effective implementation of the Act and other orders of the Hon'ble Supreme Court.

2. The notification dated 5th September 2023 of MoEF&CC states that the Committee shall exercise powers and functions conferred upon the Committee by the Hon'ble Court of India in Writ Petition (Civil) No. 202/1995 in T.N. Godavarman

Thirumalpad Vs Union of India and others and W.P. (C) No. 171/1996 Environment Awareness Forum Vs. J&K.

3. Presently, the Central Empowered Committee (CEC) is handling matters in Writ Petition (Civil) No. 202/1995 and 171/1996 in the case of T. N. Godavarman Thirumalpad; Writ Petition (C) No. 13381 of 1984 relating to Taz Trapezium Zone; Writ Petition (Civil) No. 4677 of 1984 relating to the protection of Delhi Ridge involving restriction on felling of trees and illegal mining in Aravalli's, Writ Petition (Civil) No. 337 of 1995 relating to the protection of Wildlife / National Parks and Sanctuaries; Writ Petition (Civil) No. 562 of 2009 pertaining to the illegal mining in the Districts of Bellary, Tumkur, and Chitradurga in the State of Karnataka; etc.
4. The Central Empowered Committee (CEC) plays a vital role in supporting the Hon'ble Supreme Court's decisions on forest and environmental issues. By relying heavily on the CEC's recommendations, the Supreme Court ensures informed decision-making. Additionally, the CEC guides various stakeholders in complying with Supreme Court orders, promoting environmental protection and sustainable development.
5. During the calendar year of 2024, the Central Empowered Committee (CEC) submitted 35 Reports to the Hon'ble Supreme Court on the Applications filed before the CEC and Interim Applications referred by the Hon'ble Supreme Court



for further consideration.

6.7 Forestry Research

a. Brief introduction and objectives:

Introduction

Indian Council of Forestry Research and Education (ICFRE), an apex body in the national forestry research system, has been undertaking the holistic development of forestry research, education and extension covering all aspects of forestry. The Council deals with solution based forestry research in tune with the emerging issues in the sector, including global concerns such as climate change, conservation of biological diversity, combating desertification and sustainable management and development of resources.

Objectives of ICFRE

- To undertake, aid, promote and coordinate forestry research, education and extension leading to scientific and sustainable management of forest resources in the country.
- To align forestry research programs in the council with national priorities including achievement of Sustainable Development Goals and combating climate change.
- To provide scientific advice and policy support to the central and state governments aiding informed decision making in forestry matters of national importance and international commitments.

- To act as a repository of scientific knowledge related to forestry, environment and climate change, and disseminate such knowledge to various stakeholders including forest dependent communities and also provide consultancy and capacity building services in environment and forest sector.
- To provide technical assistance and support to states, forest-based industries, tree growers, farmers and others for forest protection, afforestation, agro-forestry and allied activities.
- To develop appropriate forest based technologies, processes and products for sustainable resource use, livelihoods and economic growth.
- To promote forestry education in the country and facilitate universities in improving quality through technical and financial support including development of uniform curricula.
- To conduct other activities incidental and conducive to attainment of forestry related objectives, which the council may consider necessary.

b. Important activities undertaken

- 61st Board of Governors Meeting was held on 19 February 2024 at MoEF&CC, New Delhi under the Chairmanship of Mrs. Leena Nandan, IAS, Secretary MoEF&CC & Vice Chairmanship of Mr Jitendra Kumar, IFS, DGF&SS, MoEF&CC. Three publications on Soil Health Card; Integrated Identification Method for Distinguishing between *Dalbergia latifolia*



Sl. No.	States	No. of Soil Samples Analyzed	No. of Forest Floor Samples Analyzed	Dry wt. % analysis for Forest Floor Samples
1	Rajasthan	452	424	424
2	Punjab	58	32	32
3	Haryana	59	58	58
4	Jammu and Kashmir	245	241	241
5	Himachal Pradesh	296	289	289
6	Uttarakhand	287	274	274
7	Uttarpradesh	326	301	301
8	Delhi	23	22	22
Total		1746	1641	1641

and *Dalbergia sissoo* and Miyawaki Plantation was also released during the meeting.



61st Board of Governors Meeting at MoEF&CC, New Delhi



30th Annual General Meeting at MoEF&CC, New Delhi

- The 30th Annual General Meeting was held on 5 August 2024 at MoEF&CC in New Delhi, chaired by Shri Bhupender Yadav, Hon'ble Minister, MoEF&CC and attended by Shri Kirtivardhan Singh, Minister of State, Smt. Leena Nandan, IAS, Secretary, MoEF&CC and Mr. Jitendra Kumar, IFS, DGF&SS, MoEF&CC. During the meeting, two publications on "Factors Responsible for Sal Mortality in Jharkhand State" and "Compendium of Sustainable Land Management Practices Vol.II" were released.
- XXIV Research Policy Committee Meeting 2024 was held on 08 and 09 February 2024 and 20 new projects were approved and 79 ongoing projects were evaluated. 29 plan projects have been completed in March 2024.
- Organized five Regional Research conference:
 - » Biodiversity Research for Attaining Sustainable Development Goals at ICFRE-IFB, Hyderabad.
 - » Integrated approaches for managing forests against emerging threats of insect pest and diseases: Challenges



and solution strategies at ICFRE-HFRI, Shimla.

- » Research so far way forward at ICFRE-IWST, Bengaluru.
- » Research requirement for livelihood generation through forestry interventions in North Eastern Region at ICFRE-RFRI, Jorhat
- » Regenerating Landscapes: Forestry intervention for Rehabilitation and Restoration of degraded land & stressed ecosystem at ICFRE-AFRI, Jodhpur.



Regional Research Conference at ICFRE-HFRI, Shimla

- ICFRE elected as Vice Chair of Asia-Pacific Association of Forestry Research Institutions (APAFRI, 2024-27) in the 10th General Assembly held on 27 to 28 August, 2024 at Selangor, Malaysia. APAFRI is an independent non-profit organization of 66 forestry research institutes from 22 countries, dedicated to enhancing research and technology development capabilities in support of the conservation and management of forest resources in the Asia-Pacific region.



- **Green Credits Programme:** ICFRE designated as Administrator of the Green Credit Programme, is responsible for implementation of the GCP including development of activity specific methodologies and IT infrastructure (Portal/Registry) for GCP, registration of activities, issuance of green credits, monitoring and audit. Registration in GCP Portal completed by 13 PSU's and 10 SFDs. A total of 279 land parcels (8,332 ha) have been registered and 148 parcels (3,887 ha) have been approved by ICFRE.
- Accredited Forestry courses of Faculty of Forestry, Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir, Benhana, Ganderbal, Kashmir.
- ICFRE-FRI (DU) Fellowship program was approved in the meeting of BoG of ICFRE and the rules for "Operationalization of fellowship for Ph.D. scholars of ICFRE-FRI(DU), Dehradun has been notified.
- Conducted induction training of 35 newly recruited scientists of ICFRE.
- As part of the एक पेड़ माँ के नाम campaign, Hon'ble Minister, MoEF&CC, Sh. Bhupender Yadav inaugurated the "Matri Van" on 21 June 2024, by planting



Rudraksha Tree in ICFRE-FRI, Dehradun campus.

- ICFRE & its institutes established MatriVan campaign across the country, total 2097 participants participated in the programme and planted around 2689 seedlings.



Establishment of Matri Van at New Forest Campus, ICFRE-FRI, Dehradun



Establishment of Matri Van in Beolia, Shimla

- Under Mission Life, ICFRE and its institutes conducted 237 activities from January, 2024 like cleanliness drive, awareness campaigns, drawing competitions, quiz competitions, bicycle rallies, Seminar, conferences and World Environment day etc. with the participation of around 63,965 people.
- Under Prakriti (A Scientist-Student

Connect Initiative), Over 8,666+ students of various KVs, JNVs and other schools & colleges were benefitted through 101+ programmes including 23 Lectures, 05 Awareness/training programmes, 30 Exposure Visits and various Campaigns, Plantation Programmes, Biodiversity & Nature Walks, Quiz/Declamation/ Essay/ Painting Competitions, Screening of Documentaries, Study Tours, Meetings, Celebration of Days, Distribution of extension materials etc.

- Under Mission Karmayogi, 798 ICFRE employees were registered on iGOT Portal and completed 944 modules.
- ICFRE Dehradun successfully implemented Special Swachhata Campaign 4.0 from 02 to 31 October 2024, achieving its goals of reducing pendency, promoting cleanliness, and institutionalizing sustainability. Key outcomes included 100% resolution of pending grievances, streamlined file management, enhanced cleanliness, generate revenue of ₹1,07,000 from scrap disposal, and freeing up 825 sq. feet of space.
- ICFRE and G.B. Pant National Institute of Himalayan Environment jointly organized a one day workshop for transfer of ICFRE Technologies on; Harvesting technology for efficient production of oleoresin from chirpine; An improved technology for extraction of bhimal fibre; and Separation of natural fibre from chirpine to women and farmers of Mahila Haat Sansthan on 30 May 2024 at G.B. Pant, NIHE Campus, Almora.



- Organized a workshop on Tree Improvement on 20 and 21 August 2024. Hon'ble Minister of State, MoEF&CC Shri Kirti Vardhan Singh, inaugurated the workshop. During the workshop Documentaries on; Bio-products of ICFRE – IFGTB and; Arbor Easy – DNA isolation were released.



Workshop on Tree Improvement held at ICFRE-IFGTB, Coimbatore

- Established 02 New VVKs at Puducherry and Chandrapur, Maharashtra and one new Demo Village at Samt hal Banjari, Seoni (M.P).
- Organized seven Tree Growers Mela/ Institute Industry Meet at Chamba; Puducherry; Jaisalmer; Jorhat; Prayagraj; Gandhinagar and Bengaluru. About 1500 satkeholders participated in these Mela's.



Kisan Mela at Kalsuin, Chamba



Wood industry Interactive meet at Gandhinagar, Gujarat

- Established one TDC at ICFRE-IWST Bengaluru and VAM Bio Fertilizer production unit in TFRI Institute.



VAM production unit at ICFRE-TFRI, Jabalpur

- Rajbhasha Activities:**



- » During the year 2024, 07 workshops were conducted in ICFRE HQ and its institutes in which a total of 350 officers and employees participated.
- » From 14 to 30 September 2024, Hindi Pakhwada was organized in ICFRE HQ and in all ICFRE Institutes. During the Hindi fortnight, various competitions were organized to create awareness for Hindi language among the staff and officers. The employees were also awarded for doing excellent work in Hindi.

c. Progress/Innovations

- Developed one Ectomycorrhizal biofertilizer formulations “**Him Growth Booster**” for enhancing growth and development of conifer seedlings and one carrier based formulation “**Him Tricho Kawach**” to protect the crops from soil borne fungi.
- Re-discovered *Magnolia gustavii* King, a critically endangered tree species, after a lapse of 133 years from Dangori Reserve Forest in Assam. It has been reintroduced at Kakopathar under Doomdooma Forest Division for *in-situ* conservation and also planted at ICFRE-RFRI for *ex-situ* conservation.



Visit of Forest Officials from State Forest Department, Assam to re-introduced site of *Magnolia gustavii* (plantation during April, 2023 for in-situ conservation)



Plantation plot of *M. gustavii* at ICFRE-RFRI, Jorhat, Assam for ex-situ conservation.

- The Genus *Boesenbergia*, also known as finger root, has been rediscovered from Nambor Reserve Forest, Assam after a lapse of 128 years (last herbarium was collected during 1895) and conserved at ICFRE-RFRI Botanical Garden.



Ex situ conservation of *B.kingie* at Botanical Garden of ICFRE-RFRI, Jorhat



Boesenbergia kingie Mood & L.M. Prince with flower



Release of Forest Soil Health Cards of Tamil Nadu by Smt. Leena Nandan, IAS, Secretary, EF&CC

- Discovered two new fungal species, *Botryospha eriaeucalpti* sp. and *Calonectria eucalyptorum* sp.
- Developed the **National Forest Fire Portal** (accessible at <https://ncsffm.bicfri.in>) to strengthen the management and dissemination of information related to forest fires across the country.
- Designed the Forest Fire Knowledge Network (FFKN) web portal, that offers a wide range of resources and services dedicated to forest fire prevention, management, and response. Website address is <http://ffkn.bicfri.in/>
- Released Forest Soil Health Card for Forest Divisions of Telangana and Tamil Nadu State.

- Trained 15 master trainers (identified among Silicosis Widows associated with the NGO) for mass multiplication and application of *Trichoderma* fortified vermicompost for economic upliftment and Handholding with the assistance of Mine Labour Protection Campaign Trust (MLPC).
- Prepared 10 documentaries on; Mushroom cultivation; Arjun Chhal; Bamboo Mat Corrugated Sheet (BMCS) Roofing Solution; Fire Retardant Test; Plastic Film as Self Adhesive in Plywood; Tara Red; Tree Pal; Tree Rich Bio-booster; Bamboo Shoot Processing and Value Addition; and Tree Growers' Mela 2024.
- Finalization of DUS testing Guidelines of *Ailanthus excelsa* meeting held on 12 July 2024 with PPVFRA and other expert members.
- Established the Field Gene Bank of FGR field gene bank species in FGR-Field Gene bank centre at Tiruvanmalai and IFGTB field Research Centre at Gudular. Established seed Bank (-20C) walk in cold storage facility in IFGTB.



- A complete working micropropagation protocol of mahogany (*Sweitenia macrophylla*) has been transferred to Shivashakti Biotech Limited.
- ICFRE and its institutes organized 180 trainings for around 2186 participants in various forestry related aspects.



Training on Biofertilizer and its application under Agroforestry



Demonstration on charcoal making from weed waste

• Patents and Trademarks

- » Patent has been granted for herbal hair colouring composition on 04.10.2024.
- » A patent filed for "Method for separating Cyclopentenyl cyclic Fatty acids from Hydnocarpuspentandra seed oil (No. TEMP/E-1/90418/2024-CHE).
- » Obtained trade mark for Royalseema Red Sanders Soap (No. : 5870030 dt.

29-03-2023) a herbal hand made soap made using the natural colourant of red sanders.

- FSSAI certificate for Tara Red Jam made using the natural colourant of red tamarind and for herbal products derived from *Madhuca longifolia* and Moringa (nutraceutical bars, anti-bacterial handwash, wound-healing cream, Tooth paste and powder) has been obtained by ICFRE-IFGTB, Coimbatore and ICFRE-TFRI, Jabalpur respectively.
- For enhancing Livelihood of the People, successfully established seven Common Facility Centers (CFCs) across the North East region of India, each equipped with state-of-the-art infrastructure for bamboo processing.
- License agreement has been signed with three Private laboratories by IFGTB for multiplication of Eucalyptus, teak and mahogany clones.

d. Important Cumulative achievements

- Field gene bank with five species (*Canarium strictum*, *Artocarpus gomezian*, *Poeciloneuron indicum*, *Dysoxylum malbaricum*, *Mammea suriga*) established at Iruvakkki, Shimoga.





- Established field germplasm bank of *Syzygium alternifolium*, *Madhuca longifolia* and *Tamarind* and demonstration plot of *Soymida febrifuga* at Telangana. Also *Costus speciosus* trials has been established at FRC Mulugu.
- Field gene bank of *Syzygium cumini*, *Mitragyna parvifolia* and *Careya arborea* was established at Gondia, Maharashtra and field gene bank of *Buchnanian lanzan* was established at TFRI, Jabalpur campus.



Field gene bank at Gondia, Maharashtra

- In Central India seven *Melia dubia* genotypes (700, 2035, 2094, 2059, 2028, 2084, 2093 and 2025) performed better in terms of height and collar diameter.
- A full sib progeny trial with about 350 seedlings of *Rhizophora* has been established in Pichavaram Reserved Forest.
- Establishment of Demo plots at KVK, Pongalur, Tiruppur district. About 600 Quality Planting Materials of TC Teak, Casuarina, Mahogany, Eucalyptus, Sandal and Sweet Tamarind were planted.
- Established broad genetic base progeny

Field gene bank at Iruvakkki, Shimoga and clonal trial of *Careya arborea* in Udumbamchola Thekkedy, Idukki district of Kerala.

- A farmer's variety of *Melia dubia* GK10 has been submitted for registration with the PPVFRA, GoI.
- Selected Ten CPTs of *Maduca indica*, Pung Talab, Chikhlad in Pratapgarh district, 18 CPTs of *Butea monosperma* and 19 CPTs of *Manilkara hexandra* in Banbori Choti, Devgarh in Pratapgarh district of Rajasthan.



Marking of CPT of *Manilkara hexandra*, and *Butea monosperma* in Banbori Choti

- Ten Candidate Plus Trees (CPTs) of *Albizia odoratissima* were identified and selected



in Attapady, Mannarkad, Silent valley Forest Ranges for genetic assessment study.

- Surveyed and identified and selected 25 superior trees of *Macaranga peltata* (Roxb.) Mueller from the natural forests and from home stead garden in Kerala.
- Demonstration plot cum clonal trials of Poplar were established to showcase the growth and cultivation practices to the farmers and other stakeholders at Tajpur village, Begusarai and Barnihar, West Champaran. The Poplar-based agroforestry models viz., Poplar-Litchi, Poplar-Sugarcane and Poplar-Maize have also been established in Muzaffarpur, Narkatiyaganj and Araria, Bihar.
- *Buchanania lanzan* based agro forestry system was established during Kharif season at existing plantation at ICFRE-SDC, Chhindwada.



B.lanzan based agro-forestry during Kharif-Maize season at Chhindwara, MP

AFRI-DS2, AFRI DS-4 were planted on farmland to evaluate their performance under agroforestry in arid region. The survival percentage for all clones was 100%.



D. sissoo clone on farmer's land under agroforestry trial in Raiasthan

- Established, manure trial of *C. inophyllum* clones in 0.65 ha at Thalamalai, irrigation trial in 0.6 ha at Gudalur and spacing trial in 0.6 ha at Neyveli.
- For bud break and proliferation of Khejri. BAP 2 mg/l was found most effective for bud break. Treatments with 0.1 % HgCl₂ 1-minute treatment + MS media showed the highest bud break (93.10 %) and lowest contamination rate (31.03%).



- *Dalbergia sissoo* clones, viz. AFRI-DS1,



Bud break in Thar Shobha Khejri

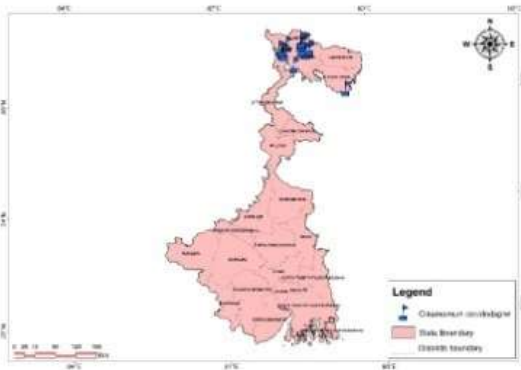
- For cloning and characterization of the salt tolerance gene *nhx1* from facultative halophytes, RNA extraction protocol was standardized, and cDNA preparation was done from *P. juliflora* and *S. persica* leaves. Gene specific primers were designed for *PjNHX1* gene and used to amplify cDNA from *P. juliflora* and partial length gene sequence was sequenced. Amplification of cDNA Ends (RACE) was performed on *PjNHX1* gene with the RLM RACE protocol. Full length *PjNHX1* sequence has been deduced.
- Whole genome resequencing of 150 teak genotypes identified 5,039,445 SNPs. Fine-scale linkage decay analysis showed short-range LD covering 1.3 Kb at an $r^2 = 0.2$.
- To promote large scale multiplication of micro propagated teak plants trainings on teak tissue culture were given to Personnel from Devleela Biotech, Raipur, SreeAdithya Biotech, Bengaluru and Hi-Fi Biotech Labs, Karuppur.
- A UPLC- QTOF- MS/MS- assisted metabolomic study of traditionally used *Neolitsea pallens* leaves across 13 locations in Himachal Pradesh led to the identification of 56 unique

compounds. Key marker compounds, primarily phenolics, were identified, enabling future authentication and standardization of the plant. The population from Majhrana emerged as the chemically superior population (CSP) due to its highest compound count.

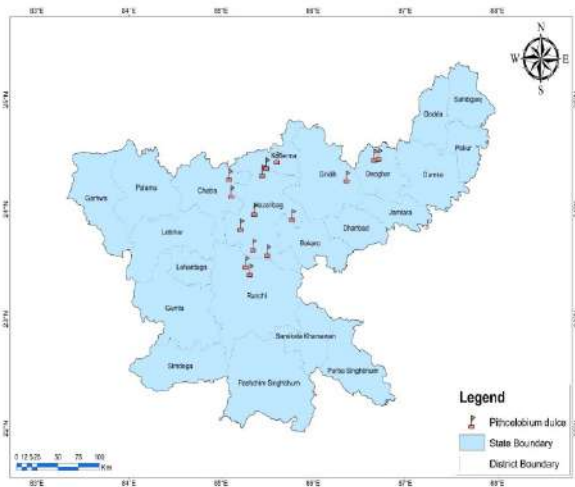
- The fatty oil isolated from the CSP of *Prinsepia utilis* was assessed as a potential biodiesel source. Results demonstrated successful biodiesel production, with physicochemical properties meeting BIS 15607:2022 standards. FTIR and NMR analyses confirmed functional groups characteristic of biodiesel molecules, and GC analysis identified the fatty acid methyl ester (FAME) composition.
- Dyes were extracted from the weeds *Stevia ovata* and *Eupatorium adenophorum* and evaluated for use on fabrics. Dyeing trials with different mordants on silk, wool, and cotton fabrics showed consistent, visually appealing results, with color fastness ratings ranging from 4.0 to 4.5 on the gray scale. The dyes also exhibited antimicrobial activity against fungi (*Geotrichum candidum* and *Aspergillus terreus*) and bacteria (*Escherichia coli*) with *E. adenophorum* demonstrating superior antifungal efficacy.
- In studies conducted in Jharkhand and West Bengal, among 23 populations of *Schima wallichii* (for dye), Kurseong (5.40%), Panijhora (5.26%), and Chelka 1 (4.58%) have been identified as superior population. For *Cinnamomum cecidodaphne* (for essential oil), 22 Miles



(1.67%), Tindhariya (1.59%), and Panjhora (1.51%) have been found to be superior populations. In *Pithecellobium dulce*, Jammukhari (20.44%), Bishnu chowk (19.10%), and Jharna Mori (18.59%) showed chemically superior population. Distribution maps of these species were prepared.



Distribution map of *Cinnamomum cecododaphne*

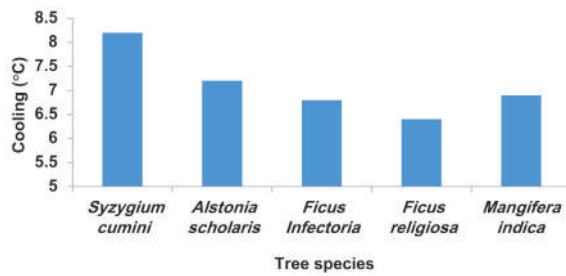


Distribution map of *Pithecellobium dulce*

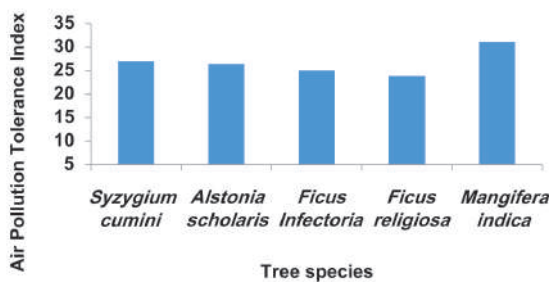


Distribution map of *Schima wallachi*

- Moth database of Shiwaliks landscape of Northern India was updated with information on 402 species of 22 families of moths identified, 351 specimens collected from Shiwaliks of Northern India.
- For quantification of oxygen production capacity and mitigation potential of urban plantation species for improving urban health and combating climate change study was carried out in major cities U.S. Nagar, Bareilly, Lucknow, Rohtak, Gurugram, Dehradun and Delhi. The tree species mainly *Lagerstroemia speciosa*, *Syzygium cumini*, *Alstonia scholaris*, *Ficus infectoria*, *Ficus religiosa*, and *Mangifera indica* were selected in the cities. For Dehradun city the local cooling was maximum by *Syzygium cumini* and Air Pollution Tolerance Index (APTI) was maximum for *Mangifera indica*.



Local cooling created by urban tree species in Dehradun city.



Air Pollution Tolerance Index (APTI) of selected urban tree species in Dehradun city

- Prepared composite boards using a novel synergy of natural bamboo fibers and milk packet waste, the exhibited characteristics in conformity with the standards set by the Indian regulatory bodies for particle boards designated for interior-grade applications.
- Developed on laboratory scale the resin and adhesive formulation by replacing phenol to the extent of 50% by lignin for the manufacture of boiling Water Resistance Grade plywood as per IS 848: 2006 specification for synthetic resin adhesives for plywood (phenolic and amino plastics).
- For the development of fire retardant plywood, chemical retention and better flammability were achieved in

medium density wood species (Rubber wood, *Poplar* and *Melia-dubia*). Tricresyl phosphate was added in the resin system to improve the fire retardant property. 20% & 30% of ammonium poly phosphate yielded better flammability in all species; 2% of tricresyl phosphate yielded the better results in flame penetration and rate of burning as per the IS 5509.

- The replacement of phenol by lignin were studied for 30% to 60%. Plywood of 4mm and 12mm of size 244 cm x 122 cm evaluated for physical and mechanical properties, general-purpose plywood, bond quality and Boiling water resistance (BWR) grade. The plywood samples confirm to the requirement of Boiling water resistance (BWR) grade as per IS 303 and IS: 848:2006.
- Prepared Him Growth Booster, a mycorrhizal biofertilizer formulation to accelerate the growth of conifers seedlings in the nursery and establishment after out planting in field. It contains culture of *Ramaria formosa* cultivated on Ragi (Finger Millet) and mixed with talc. *Trichoderma asperellum* based formulation Him Tricho Kawach prepared to manage the fungal pathogens under nursery and field conditions.
- In Floristic survey of Giri Khad Watershed, Himachal Pradesh, total 119 species were recorded. *Aconitum heterophyllum* (Patish), *Taxus wallichiana* (Rakhal) was found endangered and *Zanthoxylum armatum* (Tirmira) was found LC (Least



concern) according to IUCN. The 14 representative villages located in the Upper Giri watersheds was selected for the utilization pattern of economically important species. Total 60 medicinal plant species was recorded. 16 numbers of fuelwood tree species and seven fodder tree species were used by people of the villages.

- Survey was carried out at more than 15 sites in Lahaul and Spiti district of Himachal Pradesh and differences in morphometric traits in *Salix* spp. were observed in response to their niches. Soil characteristics at different sites such as moisture (%), pH, bulk density (mg/m³), and EC (μs) varied in the range of 1.21 to 4.35, 7.8 to 8.7, 1.18 to 1.45, and 0.21 to 0.34, respectively. Soil organic carbon (%) ranged from 0.46-1.79 and available nitrogen (Kg/ha) ranged from 125.44-175.61. Nursery techniques were standardized and 24 cm cutting length and 2 feet stakes were found to be best for Willow propagation. Based on morphometric traits, 62 candidate plus trees (CPTs) were marked. Germplasm banks of 25 selected genotypes were established at three sites in Spiti, H.P. Artificial inoculation of *Nematus pavidus* and *Tuberolachnus salignus* in the field trials and analysis revealed significant resistance in genotypes G1T2, G2T3, G2T13, PT1, G2T11, GU2T2, and GU1T2 as compared to control and other genotypes.
- For reclamation of coal mine areas, successfully tested 14 bamboo species

and identified *Bambusa bambos*, *B. nutans*, *B. tulda*, *B. vulgaris* (green and yellow), *B. multiplex* and *Pseudosasa japonica* as the most resilient species, all showing impressive survival and growth rates. The use of soil amendments, such as PGPR, biochar, and farmyard manure, significantly enhanced bamboo growth and improved soil health.



View of Coal Mine site before plantation at Margherita (2020)



View of Plantation after four years of planting at Margherita (2024)

- Restored 6.5 ha of abandoned coal mined land near Latyrke Village, Saipung Block, East Jaintia Hill District, Meghalaya with about 32 numbers of native plant species with the application of plant growth promoting rhizobacteria (PGPR) and Arbuscular Mycorrhizal Fungi (AMF). Out of which 20 plant species showed above 80 % survival. Seed ball technology was found to be successful for restoring vegetation in coal mined area with more



than 60% seedlings survival with seeds of *Pongamia pinnata*, *Indigofera tinctoria* and *Syzygium cumini*. The restoration works also accelerated natural succession of 110 plant species after two years of plantation which was only 48 before the plantation in the coal mined site.



View of Coal Mine site before plantation at Latyrke, Meghalaya (2021)



View of Plantation after one year of planting at Latyrke, Meghalaya

- Draft 'Detailed Project Report (DPR) for rejuvenation of Subarnarekha and Damodar rivers through forestry interventions' funded by NAEB, MOEF&CC, GoI, has been prepared.
- The carbon services from 16 forest types across the country have been studied by laying 410 tree quadrats (0.1 hectare each). Maximum carbon services in terms of above ground biomass of trees (DBH>10cm) was provided by Tropical

Moist Deciduous Forests (156.28 t/ha) followed by Subtropical Pine Forests (98.94 t/ha) and Himalayan Moist Temperate Forests (98.72 t/ha) as against Tropical Dry Evergreen Subtropical Broadleaved Hill Forests which reported lowest carbon of 16.25 and 19.72 t/ha in their forest carbon pools.

- Herbal Mosquito larvicide was developed with combination of extracts and oils of *Hyptis suaveolens* and *Lantana camara* and assessed in lab and field conditions. Developed Herbal Mosquito Larvicide was found effective in larval mortality.



Herbal Mosquito Larvicide

- Herbal cream was developed with combination of extracts and oils of *Cassia tora* and *Sapindus laurifolius* and assessed in lab for physico-chemical properties viz. phase separation, irritability, spreadability etc. Product was found to be effective and possessed wound healing and anti-inflammatory properties.



Herbal Wound Healing and Anti-inflammatory Cream



- Standardized hydroponics/soilless farming technique for medicinal plants - *Bacopa monnieri* and *Centella asiatica* with different nutrient formulations. The biomass, number of leaves and number of branches increased significantly in different hydroponic systems. The yield (fresh biomass) of *B. monnieri* and *C. asiatica* exceeded 4-5 times and 6-8 times, respectively in hydroponics than plants grown in soil. Quantity of bioactive compounds - poly-phenols, flavonoids, antioxidant activity and bacoside content were also found to be higher in hydroponically grown plants in comparison to produce obtained through traditional farming. Produce was available throughout the year, three to four harvest can be collected.



Cultivation of *C. asiatica* in Nutrient Film Technique system



Vertical aeroponic system

- The insect *Patialus tecomellae*, a defoliator of Rohida trees, was redefined by amplifying its DNA with universal primers, sequencing it, and comparing the sequence with NCBI's database. This was the first submission of *Patialus tecomellae* to NCBI, and its accession number is PP054313. Also developed a DNA barcode for the proper identification of the insect and submitted sequences to the NCBI database for the Cosmet moth, *Limnaecia chionospila*, from the Cosmopterigidae family of Lepidoptera, with accession number of PP892274 and for *Encarsia formosa*, a parasitoid of the babul whitefly, *Acaudaleyrodes rachipora* (Singh) with accession number of PP894803 and identified *Tecomella undulata* as a new host plant for the invasive mealybug *Phenacoccus solenopsis*.
- A total area of 12 ha degraded rocky



terrain and 10 ha of sanddune area and 14 ha degraded sandy plain has been rehabilitated using appropriate plant species.



Ziziphus mummularia planted at Udasar site Bikaner, Rajasthan

Cenchrus ciliaris grass established at Udasar site Bikaner, Rajasthan



Lasiurus sindicus grass established at Udasar site Bikaner, Rajasthan

Cassia angustifolia as cover crop at Udasar site Bikaner, Rajasthan

Before and After plantation Lunawas hilly site

- For standardization of methods for sustainable postharvest management of NTFPs, experiments were conducted on Shade drying, Solar drying and Direct sun drying on *Butea monosperma* (Flower), *Terminellia bellerica* (Fruits), *Phyllanthus acidus* (Fruits) and *Balanites aegyptiaca* (Fruits) and their phyto-chemical analysis was also carried out. Best results were obtained in Solar drying.
- To support the Tamil Nadu Greening Mission programme, five trainings were imparted to the grass root level staff of the forest department to help them understand the need to identify seed sources and need for seed supply chains.
- Suitability of the lesser known forest plant (LKFP), *B. aegyptiaca* seed oil for biodiesel formulation study through physicochemical property analysis revealed that the properties aligned well with BIS 15607 specifications proved its suitability for biodiesel production.



- A display unit (carpellarium) for seed referral centre was created and displayed 120 species.
- Four strains of *Trichoderma harzianum* have been identified which were able to control soil-borne plant pathogens of Shisham and promote the growth of seedlings in nursery as well as in plantation.

Scheme on “Strengthening Forestry Research for Ecological sustainability and Productivity Enhancement” Funded by National Authority CAMPA (2019-2025)

Component - I

- For Casuarina; Established 15 clonal trials and 13 progeny trials of in the States of Andhra Pradesh, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Tamil Nadu, Telangana and Uttar Pradesh.



Fast growth of clone CH5 clone casuarinas (30 months old) at Chandwa, Jharkhand

- For Bamboo; 9 clonal trials, 10 field trials, 7 agroforestry trials, 10 nurseries, 10 germplasm banks, 12 bambusetums and 17 laboratories established at eight ICFRE institutes.
- Eight sandalwood-based agroforestry trials have been established in

Gottipura research station, H. D. Kote, Kattigenahalli, Nallal research station, Pratapgarh, Rajasthan and Mehsana Gujarat. Economic return from intercrop (Finger Millet) was Rs. 80,000.00 at H. D. Kote. Three awareness programme on sandalwood cultivation and diseases management were conducted, two in Karnataka and one in Telangana for 120 farmers. A bulk-seed provenance trial was raised in Kanasar village, Jodhpur.



Bulked seed sandalwood trial at Kanasar, Rajasthan, and agroforestry trial in Mehsana, Gujarat.



- For Eucalyptus multiplied 3000 clonal plants of 200 clones. Six multi location trials at Marakkanam, Thiyagadurgam, Thimmalai, Mehsaana, Junagadh and Jaisalmer were established.



Clonal Multi location trial at Thiyagadurgam,
Tamil Nadu by IFGTB



Eucalyptus trial at Linch, Mehsana,

- For Red sanders; established a provenance trial at Mangapuram, Tirupati with 625 plants from five provenances. A stable carbon isotope ratio ($^{13}\text{C}/^{12}\text{C}$) database was prepared for 622 Red Sanders heart wood cores.
- For Teak 9000 bottles of Tissue shoot cultures were established. Teak field trials established in Pondicherry and Tamil Nadu were evaluated for their growth performance.
- Seed germination studies of 10 species were carried out. Established a RET Park at ICFRE TFRI, Jabalpur. Training on Nursery Management Practices and Forest Seed Technology for Frontline Staff of Jorhat Forest Department, Assam was imparted.
- Established National Germplasm Bank of Tamarind in Dryland Agricultural Research Station, Tamil Nadu Agricultural University, Chettinad. Developed value-added products utilizing tamarind seed gum as a pectin substitute for tamarind pulp jelly, coconut jelly, guava jelly, and yogurt.
- Processes developed for producing herbal shampoos using the essential oil of *Vitex negundo* and fatty oil of *Pithecellobium dulce*, mosquito repellent lotion and bathroom cleaner using the essential oil of *Litsea cubeba* and a soap bar and lip balm from the fatty oil of *Mallotus nudiflorus*.
- In cold desert area shrub species such as *Rosa webbiana*, *Hippophae rhamnoides* and *Colutea nepalensis* were observed to be best species for soil and water conservation purpose.

Component – II

Forest Genetic Resource: Documented



596 prioritized forestry species covering 124 forest types across 14 states. Prepared 260 herbarium specimens and eco-distribution maps of 150 species. Conservation strategies developed for 195 species and regeneration studies carried out for 39 species. Standardized seed extraction techniques and germination methodology for 120 species and storage methods for 91 species for seed germplasm conservation. Established Seed Genebank facility at IFGTB Coimbatore (conserving 273 accessions of 30 species) and TFRI Jabalpur (198 accessions of 36 species). Optimized the nursery techniques of FGR species viz. *Phoebe goalparensis*, *Morus laevigata*, *Shorea assamica* and *Litsea cubeba*. Prepared a regeneration data base of 100 economically important FGR species found across North East India.



Quality Planting Material of *Phoebe*

Component-III

In Policy studies under Centre for Forest Policy Research five studies based on

JFM, agroforestry, wood substitutes and grazing policy guidelines and Guidelines under Forest (Conservation) Act, 1980 for diversion have been completed.

Component IV

Capacity Building of State Forest Departments for developing "State REDD+ Action Plans" under National REDD+ strategy: Completed. Capacity of 469 participants from various states had been developed for development of State REDD+ Action Plan for implementation of REDD+ activities at state level.

Component V:

In Operationalization of Human Resource Development Plan of ICFRE Under this component total 1537 participants have been trained in scientific, technical and administrative aspects.

Component VI

Operationalisation of Forestry Extension Strategy and Action Plan of ICFRE; Established 02 new VVKs at Puducherry and Chandrapur, 01 Demo village at Seoni (M.P.), organized Seven Tree Grower Melas, 01 Technology Demonstration Centre at ICFRE-IWST, Bengaluru, conducted 61 Trainings under VVK and DV, produced 10 documentaries



and established demonstration plot of medicinal plants species at Model nursery Badagaon, Himachal Pradesh.

e. Continuing committees/commissions-their work during the year and present position.

- The Twenty-third Institutional Biosafety Committee meeting of ICFRE-IFGTB, Coimbatore was conducted on 16 July, 2024.
- As an Executive Committee Member of the Asia Pacific Association of Forestry Research Institutions (APAFRI), ICFRE-IWST participated in its 28th meeting in Selangor, Malaysia during 26-29 Aug 2024.
- ICFRE-IWST, Bengaluru attended virtually Working Group Meeting W2 of ISO /TC on 24.09.2024 Structural Glued Products organised by ISO in China as "P" member from India.
- ICFRE-IWST, Bengaluru participated as a member for 'Plywood Production - NOS (National Occupational Standards) group organized by Furniture and Fittings Skill Council (FFSC) on 17.10.2024.
- Attended Meeting of Wood and Other Lignocellulosic Products Sectional Committee, CED 20, CED 20:1 and CED 20:6; sectional committee meeting of CED 13; Panel for Timber and Bamboo, CED 46:P6; MDF and Particle Boards;

TEC; plywood and resin adhesives of CED 20; Panel for construction practices and safety, CED 46:P11; technical committee meeting P3 of CED 13; revision of standards on Particle boards and MDF of CED 20; Manak Manthan meeting on discussions on drafted IS 1328 pt-1, IS 3087, IS 12406 and IS 848 and; Working group Meeting on Plywood, block board and flush door with reference to IS 848, 1328, 13745, 1659 organized by Bureau of Indian Standards.

f. Important Conferences organized in India or international conferences-nature of participation, subjects discussed, international organizations, compliance.

- FAO-Regional Stakeholders Conference on Protocol for Accreditation of Nurseries on 15th May, 2024 at ICFRE (Forest Officers, Scientists, Representative from Agriculture, Horticulture, Sericulture, NGOs etc.,).
- Organized a workshop on Tree Improvement on 20 and 21 August 2024. Hon'ble Minister of State for Environment, Forest and Climate Change, Shri Kirti Vardhan Singh, Government of India inaugurated the workshop.
- Wood Industry Institute Meet, organized by ICFRE - IWST at Guajrat State Forest Department training center, Gandhinagar on 8th January 2024.



- Workshop / Panel discussion "Dialogue with wood industries for sustainability" at India Wood Exhibition 2024 at Bangalore on 22.02.2024.
 - National Seminar was organized by ICFRE-IFP, Ranchi on 'Cultivation, Conservation and Sustainable Utilization of Medicinal Plants in North Bengal' from 13 to 14 March 2024 at Siliguri, West Bengal. 110 nos. participants attended the Seminar.
 - A workshop was conducted on the topic "Mitigating land degradation and desertification" from 5th August to 8th August 2024 held at Central University of Punjab.
- g. MEAs, Agreement with countries, international organizations, compliance.**
- ICFRE has signed MoUs with National Organizations for collaboration in the field of forestry research, education and extension:
- Space Application Centre- Indian Space Research Organization (SAC-ISRO), Ahmedabad.
 - Department of Forests, Environment & Climate Change (DoFECC), Govt. of Jharkhand.
 - ICFRE-HFRI, Shimla with Economic Advisor, Economics and Statistics department Himachal Pradesh.
 - ICFRE-HFRI, Shimla with College of Excellence, Government College, Sanjauli, Shimla.
 - ICFRE-HFRI, Shimla with National Institute of Sowa Rigpa (NISR), Leh, Ladakh.
 - ICFRE-HFRI, Shimla with Shoolini Institute of Life Sciences and Business Management, Solan, Himachal Pradesh.
 - ICFRE-HFRI, Shimla with HIMOARD, Khaneri, Rampur, Shimla.
 - ICFRE-HFRI, Shimla with Himachal Pradesh Integrated Development Project (HP-IDP), Sloan.
 - ICFRE-RFRI, Jorhat with ICMR-Regional Medical Research Centre-NE, Dibrugarh, Assam.
 - ICFRE-RFRI, Jorhat with Rangia College. Rangia, Assam.
 - ICFRE-RFRI, Jorhat with One Life Agricole Private Limited, New Delhi-110001, Operating in Tura (Meghalaya).
 - ICFRE-RFRI, Jorhat with AAIE Eath Intiatives Private Limited.
 - ICFRE- IFP, Ranchi with Koderma Thermal Power Station, Koderma, Jharkhand, Damodar Valley Corporation (KTPS, DVC).
 - ICFRE-IFP, Ranchi with Koderma Thermal Power Station , DVC (KTPS, DVC).



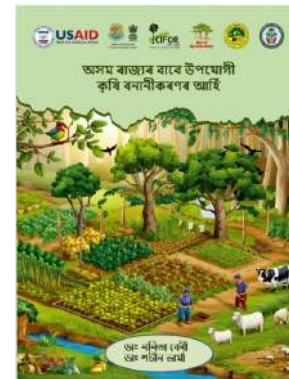
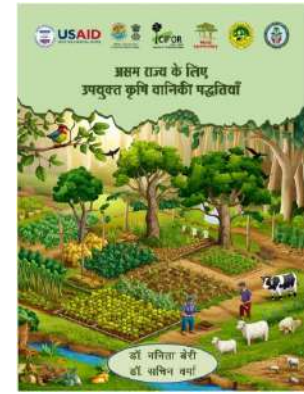
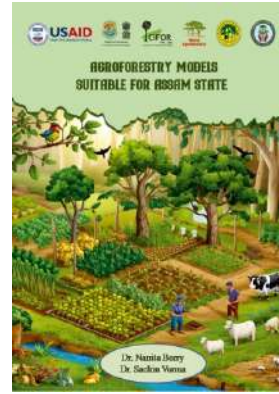
- ICFRE-IFB, Hyderabad with Brandix India Apparel City Private Limited, Visakhapatnam.
- ICFRE-IFB, Hyderabad with Odisha State Forest Department, Bhubaneswar.

h. List of major publications brought out- brief purpose of each, wherever necessary.

During the year, 459+ research papers/ books/popular articles etc. have been published in various National/ International Journals by ICFRE personnel. Some of the important publications are as follows:

Books and Manuals

- Rotation and Volume Estimation of Khasi Pine in Meghalaya (Vol-I).
- Multifunctional Agroforestry, Elite Publishing House, New Delhi-110089, ISBN: 978-93-5899-417-9.
- Training Manual: Cultivation, Harvesting, Value Addition and Trade of Agar and Agar Products.
- Prepared and published specialized booklets tailored to the targeted seven states of India. A comprehensive booklet on 'Agroforestry Models specifically suitable for Assam' was developed in multiple languages including English, Hindi and Assamese.



- Book on Tree species suitable for Agroforestry systems in Tamil Nadu
- Manuals on Valuation of nutrient cycling in ecosystem services
- User manual on TreeGenie – digital interactive platform.
- Manuals on Vegetation Survey and Assessment of Carbon Services in Forests.
- Important Indigenous and Exotic Trees of the Thar Desert: A Treatise.
- Manual on sustainable harvesting and management of *Dendrocalamus strictus*.

6.8 National Afforestation and Eco-development Board (NAEB)

Nagar Van Yojana



National Afforestation and Eco-development Board is implementing Nagar Van Yojana (NVY) which envisages developing 600 Nagar Vans and 400 Nagar Vatikas in the country during the period of 2020-21 to 2026-27 with an objective to significantly enhance the tree outside forests and green cover, enhancement of biodiversity and ecological benefits to the urban and peri-urban areas apart from improving quality of life of city dwellers. The Central grants from funds under National Authority of CAMPA is provided under the scheme to cover mainly the cost of fencing, soil-moisture conservation measures & related activities, administrative activities, plantation and maintenance.

In CFY 2024-25, 125 projects have been approved till date at the total cost of Rs. 151.56 crores and the I instalment of Rs. 106.37 crores have been released. Out of these 125 projects, 111 projects were approved under Ministry's 100 day action plan.

Eco-Development Forces

Eco-Development Forces Scheme was established in the 1980s as a scheme implemented through the Ministry of Defence for ecological restoration of terrains rendered difficult either due to severe degradation or remoteness of location or due to difficult law and

order situations. The scheme of Eco Development Forces is based on twin objectives of ecological regeneration in difficult areas and promotion of meaningful employment to ex-servicemen.

Under this scheme, the establishment and operational expenditure on the Eco Task Force (ETF) Battalions raised by Ministry of Defence is reimbursed by Ministry of Environment and Forests while the inputs like sapling, fencing etc. and also the professional and managerial guidance is provided by the State Forest Departments. In ETF Battalions, the Ministry of Defence deploys its ex-servicemen, preferably from within the area of operation, whereas the core of the force is constituted of regular servicemen. Presently there are six ETFs operating in 4 states of India. These are 127 Inf. Battalion & 130 Inf. Battalion in Uttarakhand, 128 Inf. Battalion in Rajasthan, 129 Inf. Battalion in Jammu & Kashmir and 134 Inf. Battalion & 135 Inf. Battalion in Assam. The ETFs are being implemented in collaboration with three agencies namely, Ministry of Defence, Ministry of Environment, Forest & Climate Change and the concerned State Government where the ETF Battalions are functioning. So far, an amount of Rs. 68.34 Crores has been released under the scheme by the Ministry in the year 2024-25.



6.9 National Green India Mission

a. Introduction:

National Mission for a Green India (GIM) is one of the eight Missions outlined under the National Action Plan on Climate Change which aims towards protecting, restoring and enhancing India's forest cover and responding to Climate Change. It envisages a holistic view of greening and focuses on multiple ecosystem services along with carbon sequestration and emission reduction as co-benefit.

Mission Objectives

- Increased forest/tree cover and improved quality of the existing forest cover.
- Improved ecosystem services including biodiversity, hydrological services and carbon sequestration.
- Increased forest-based livelihood income of households living in and around the forests.
- Enhanced annual CO₂ sequestration.

b. Activities undertaken:

GIM activities were started in year 2015-16 and so far, a sum of Rs. 944.48 Crores have been released to Seventeen States and one union territory for creation of plantation over an area of 155130 ha and livelihood improvement activities of forest dependent communities.

- » Fund amounting to Rs. 82.70 crore has been released to six States/UT namely Haryana, Karnataka, Madhya Pradesh, Sikkim Uttarakhand & Jammu & Kashmir for carrying out the afforestation activities which include advance work, creation of plantation and maintenance of plantation done during the previous year.

c. Continuing committees/commissions-their work during the year and present position:

- 2nd National Governing Council (NGC) was held on 4th September 2024 under the Chairmanship of Hon'ble Minister, EF&CC. During the meeting, GIM implementing States highlighted the achievements done by them under Green India Mission.

d. Progress / Achievements both cumulative and for the reference period:

A sum of Rs 944.48 Crore has been released to seventeen states and one union territory from the year 2015-16 to 2024-25 for creation of plantation of 155130 ha in the forest and non-forest areas along with various livelihood improvement activities. The State wise details of afforestation being taken up and funds released is given in table below:

*States have taken up the advance work.



S. No.	Name of the State	Creation work done	Funds Released (Rs. in crore)
		Targets (in ha.)	
1	Andhra Pradesh	1,433	6.19
2	Arunachal Pradesh*	-	34.71
3	Chhattisgarh	19,128	72.84
4	Haryana	1,301	29.34
5	Himachal Pradesh	-	17.09
6	Jammu & Kashmir	1,066	36.72
7	Karnataka	2,722	23.66
8	Kerala	12,297	25.47
9	Madhya Pradesh	26,597	123.26
10	Maharashtra	5,223	10.30
11	Manipur	14,432	62.66
12	Mizoram	19,643	160.21
13	Odisha	20,711	88.37
14	Punjab	6,568	26.95
15	Sikkim	6,567	42.73
16	Uttarakhand	14,836	167.59
17	West Bengal	2,606	10.95
18	Uttar Pradesh	-	5.43
Total		155130	944.48



Creation of plantation will be done based on the actual progress done by State regarding advance work.

e. Grant-in-aid released to Institutions/ organizations including NGOs:

- Funds released to the State Forest Development Agencies (SFDA) for carrying out the GIM activities during the FY 2024-25 under the Green India Mission (01.04.2024 to till date):

S. No.	Name of Organization	Total Amount Released (Rs. in Crore)
1	SFDA, Haryana	12.19
2	SFDA, Karnataka	4.99
3	SFDA, Madhya Pradesh	23.61
4	SFDA, Punjab	12.25
5	SFDA, Sikkim	25.16
6	SFDA, Uttarakhand	4.50
Total		82.70

Ministry has established a Centre of Excellence for Sustainable Land

Management (CoE-SLM) at ICFRE. The main role of the proposed Centre of Excellence (CoE) would be to share knowledge, technology & training of manpower of developing countries Parties of UNCCD and to promote scientific approach to arrest further land degradation and restoration of degraded lands. Directorate of Green India Mission has released Rs 3.98 Cr from FY 2023-24 to till date for taking up the activities as per the approved Annual Plan of Operations within the mandate of CoE-SLM.



CHAPTER : 7

CONSERVATION – WILDLIFE



CHAPTER - 7

CONSERVATION – WILDLIFE

7.1 Wildlife Conservation

a. Introduction:

The Wildlife Division of Ministry of Environment, Forest and Climate Change is the nodal division for the conservation of wildlife in the country. It is headed by the Additional Director General of Forests (Wildlife) who is also designated as the Director, Wild Life Preservation under the Wild Life (Protection) Act, 1972. The division deals with the policy, legal and financial matter for wildlife conservation. It also provides financial support to the States/UTs for the protection, management and conservation of wildlife and their habitats through Centrally Sponsored Scheme-Development of Wildlife Habitats (CSS-DWH).

b. Activities undertaken:

- Matters related to Wild Life (Protection) Act, 1972
- Project Dolphin
- Project Lion
- Human-Wildlife Conflict Management
- Wildlife Week, 2023 Celebrations
- Release of Status Snow Leopard in India
- CITES
- MoEFCC-GEF funded 'Small cats Project'
- Participation in UNESCO 46th session of the World Heritage Committee

c. Progress/Innovations:

Framing of Rules in pursuance of Amendment of Wild Life (Protection)

Act, 1972:

In pursuance of the amendment of the Wild Life (Protection) Act, 1972 in 2022 and its coming into force in April 2023, the Ministry had, in 2024-25 notified the following Rules:

- Wild Life (Protection) Licensing (Additional Matters for Consideration) Rules, 2024 [G.S.R. 46(E) dated: 16.01.2024]
- Wild Life (Transactions and Taxidermy) Rules, 2024 [G.S.R. 47(E) dated: 16.01.2024]
- Scheduled Specimen (Conditions and Procedure for exemption), Rules, 2024 [G.S.R. 130(E) dated: 23.02.2024]
- Captive Elephant (Transfer or Transport) Rules, 2024 [G.S.R.191(E) dated: 14.03.2024]
- Living Animal Species (Reporting and Registration) Rules, 2024 [G.S.R. 145(E) dated: 28.02.2024]

Protected Area Network in the Country:

The network of the Protected Areas (PAs) in the country has increased during the period. Presently total number of PAs in the country are 1022 which encompasses a total area of 1,78,640.69 Sq. Km, covering 5.43% of the total national geographic area.

7.1.1 Project Dolphin:

The Hon'ble Prime Minister during his address on 74th Independence Day on 15th August 2020 announced 'Project Dolphin' for the conservation of both marine and riverine dolphins as well as the associated Cetaceans. During the period, the following



important were carried out:

- The first ever range-wide population estimation of riverine dolphins is completed.
- Financial assistance was provided to the States/UTs for Dolphin conservation activities under the CSS: Development of Wildlife Habitats.
- Cooperation of The Indian Coast Guard was solicited on conservation matters.
- 2nd Dolphin Steering Committee meeting was convened along with ranges states and stakeholder Ministries, under chairpersonship of Secretary, EFCC.
- Newsletters for Project Dolphin launched.

7.1.2 Project Lion

Asiatic lions (*Panthera leo persica*) are only found in India. Due to several causes, including community involvement, emphasis on technology, animal healthcare, good habitat management, and measures to reduce human-lion conflict, the lion population in Gujarat has been increasing. The population of Asiatic Lions has increased from 411 in the year 2010 to 674 in the year 2020. Recognizing the greatest interests of Asiatic Lions, the Hon'ble. Prime Minister on August 15, 2020, in his speech on Independence Day address, declared Project Lion to ensure the survival of Asiatic Lions in the nation. The main objectives of Project Lion are:

- Secure & restore lions' habitats to manage its growing population;
- Scale up livelihood generation and participation of local communities;
- Become a global hub of knowledge on

big cat disease diagnostics and treatment and

- Create inclusive biodiversity conservation through Project Lion Initiative

A comprehensive plan 'Project Lion: Lion @47 vision for Amrutkal' has been prepared and shared with the State Government of Gujarat. The major activities undertaken under Project Lion are as follows:

- DPR for establishing the National Referral Centre- wildlife has been approved, the site has been identified and the State Forest Department has taken possession.
- Activities undertaken by the Gujarat Forest Department are supplemented.
- Funds to the tune of Rs 76.55 Cr have been approved for the National Referral Centre- wildlife.
- Species conservation, habitat improvement, forest and wildlife protection, monitoring, and patrolling are being taken up by the Gujarat Forest Department.
- Monitoring of the landscape through radio-collaring, camera trap, telemetry, SIMBA, and patrolling through e-Guj, Human-wildlife conflict management, Eco-development works, Awareness generation, and sensitization are being undertaken.

Wildlife Week, 2024 Celebration:

The Hon'ble Prime Minister of India, delivered a message on the occasion of Wildlife Week, 2024. The theme for wildlife week 2024 was '*Wildlife conservation through co-existence*'. As part of celebrations, webinars and campaigns were organised across the country to create awareness



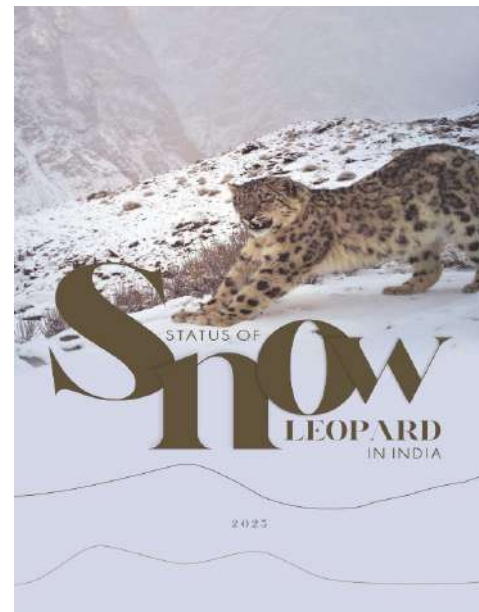
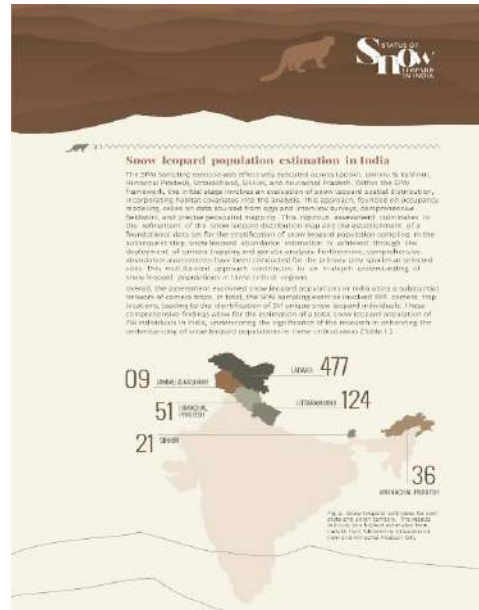
among every group of the citizens. A national level competition of painting, wildlife photography and hackathon was organised and winners were felicitated during the wildlife week celebration at Wildlife Institute of India, Dehradun. Apart that forest field officials and representatives of local community across the States/UTs who have done noteworthy work in wildlife conservation were called and honoured during the event.



Wildlife Week celebration at Wildlife Institute of India, Dehradun.

Release of Status Snow Leopard in India:

The first ever scientific report on the status of Snow Leopard in India was released by the Ministry. The report estimates a total population of 718 individuals of Snow Leopard in India including its state-wise distribution as Ladakh (477), Uttarakhand (124), Himachal Pradesh (51), Arunachal Pradesh (36), Sikkim (21) and Jammu & Kashmir (9).



Release of Status Snow Leopard in India

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

A National level Non Detrimental Finding (NDF) Study was done for Agarwood (*Aquilaria malaccensis*). Further, during the 27th Plants Committee Meeting, held in Geneva, on 8th – 13th July 2024, an update was provided on the management of *Aquilaria malaccensis*, indicating the details of the



non-detriment finding and a zero-export quota for wild harvests. Based on the NDF, India was successful in preventing inclusion of Agarwood (*Aquilaria malaccensis*) in the Review of Significant Trade.

MoEFCC–GEF funded ‘Small cat Project’:

Ministry of Environment, Forest and Climate Change is implementing a Global Environment Facility (GEF) supported project in the states of Arunachal Pradesh (Pakke-Eaglenest Landscape), Uttar Pradesh (Dudhwa Landscape) and Rajasthan (Ranthambore Landscape) in partnership with UNDP-India as the assurance partner and Global Tiger Forum (GTF) as the Responsible Party.

The project envisage the inclusion and integration of small cat needs into the existing big cat conservation. Under the project conservation strategies for the small wild cat species found in three landscapes focussed with special emphasis on Caracal (*Caracal caracal*) in Western India, Fishing Cat (*Prionailurus viverrinus*) in Northern India, and Clouded Leopard (*Neofelis nebulosa*) in North-East India. The project builds on four pillars that enable institutional framework, strengthening management of protected areas, community stewardship, and partnerships.

Key updates during the current year include:

- *National Green Business Platform:* To engage the corporate sector in conservation initiatives benefiting wild cats and facilitate sustainable financing for maintaining community stewardship, regional and national level meetings were organized with

representatives of the ministry, the partner states, assurance partners, and business houses.

- A transboundary consultation workshop was organized with project stakeholders and with the representatives of Bhutan and Nepal.
- Awareness activities, regarding diversity of wild cats in India with their cultural and ecological values undertaken amongst the general public.

Participation in UNESCO 46th session of the World Heritage Committee:

Delegation attended the UNESCO 46th session World Heritage Committee meeting held from 21-31 July 2024 at New Delhi and participated in the technical sessions /discussion on nominations of Natural Heritage sites.

d. Financial assistance under Centrally Sponsored Scheme-Development of Wildlife Habitat:

Financial assistance provided to States/UTs for the conservation and protection of wildlife and its habitats under the Centrally Sponsored Scheme-Development of Wildlife habitats in current financial year for the following components:

- Support to Protected Areas (National parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves)
- Protection of Wildlife Outside Protected Areas
- Recovery programmes for saving Critically Endangered Species and their habitats.



7.2 Wildlife Crime Control Bureau

a. Establishment and Mandate: The Wild Life Crime Control Bureau (WCCB) was constituted by Government of India on 6th June, 2007 under Section 38 Y of the Wild Life (Protection) Act, 1972, and it became operational in the year 2008. The Bureau has been envisaged as a multi-disciplinary body with officials from Police, Forest/WL, Customs and other Intelligence & Enforcement agencies.

Wildlife Crime Control Bureau (WCCB) has been tasked with the following functions under Section 38 (Z), of the Wild Life (Protection) Act, 1972:

- a) Collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals and to establish a centralized wildlife crime data bank;
- b) Co-ordination of actions by various officers, State Governments and other authorities in connection with the enforcement of the provisions of this Act, either directly or through regional and border units set up by the Bureau;
- c) Implementation of obligations under the various international Conventions and protocols that are in force at present or which may be ratified or acceded to by India in future;
- d) Assistance to concerned authorities in foreign countries and concerned international organizations to facilitate co-ordination and universal action for

wildlife crime control;

- e) Develop infrastructure and capacity building for scientific and professional investigation into wildlife crimes and assist State Governments to ensure success in prosecutions related to wildlife crimes;
- f) Advise the Government of India on issues relating to wildlife crimes having national and international ramifications, and suggest changes required in relevant policy and laws from time to time.

b. Activities undertaken:

In line with its mandate, the Bureau has undertaken the following activities:

- The Bureau has collected, collated & disseminated 154 no. of intelligence inputs on wildlife crime and criminals to the Central / State agencies concerned for joint enforcement operations / apprehension of criminals.
- Collection of wildlife crime data from 36 agencies of the States/UTs (Forest & Police Depts.) by creation of online data management system in WCCB website.
- Wildlife Crime Enforcement under the provisions of Wild Life (Protection) Act, 1972:-
 - Detection/ search/ seizures/ apprehensions – 73 No. of Wildlife Crime cases detected in Joint Operations conducted by Bureau with other State/ central



Enforcement Agencies during the period.

- Assistance in investigation and prosecution of important wildlife offences being investigated by other agencies: Assistance to the State authorities in investigation was provided in 46 No. of wildlife crime new cases during the year.
- Capacity building in dealing with wildlife crimes and investigation of wildlife offences:-
 - Conducted 13 No. of two days capacity building training courses on investigation of wildlife offences and intelligence tradecraft for 980 Police, Forest, Indian Coast Guard & Customs officials.
 - Conducted 97 No. of Sensitization programmes / workshops / online webinars for the Central and State agencies on issues related to wildlife crimes and identification of wildlife articles in which 5718 Officials participated.
 - Conducted 24 PRI Sensitization programmes for the PRI members/ Villagers on issues related to wildlife crimes and protection of wildlife in which 1301 PRI members & other stakeholders participated.
 - Provided expert resource persons to various training centers and enforcement agencies for sensitization on wildlife and wildlife

crime.

- Human Resource Development in WCCB – Deployment of WCCB officials for various training courses for their capacity building as Trainers in the relevant fields.

Coordination and cooperation to combat organized wildlife crimes with trans-border ramifications: - WCCB

participated in the following international meeting related to combating organized trans-border wildlife crimes:

- ⇒ India-Nepal transboundary Conservation Coordination Meeting at Mungraha (Bihar) on 12.02.2024.
- ⇒ Post Operational Meeting of Operation THUNDER 2023 and Regional Investigative and Analytical Case Meeting conducted by Interpol at Singapore on 22nd to 26th January, 2024.
- ⇒ Case Coordination Meeting between India and Thailand at Bangkok, Thailand organized by UNODC on 30th to 31st January, 2024.
- ⇒ Regional Investigative Analytical Case Meeting on Exotic Species Trafficking at Delhi on 22nd to 23rd February, 2024 organized by Interpol.
- ⇒ UNODC Open-Source Investigations Training at Gurugram on 11th to 15th March 2024.
- ⇒ Regional Training of Trainers (ToT) on Legal Documentation at Paro, Bhutan on 27th to 31st May 2024 organized by



SAWEN.

- ⇒ SAWEN Regional Workshop to Enhance Capacity of Forest Officials and Customs Authorities at Nepal on 24 to 26 July, 2024.
- ⇒ Wildlife Inter-Regional Enforcement Meeting at Captown, South Africa on 4th to 7th November 2024.

- Assisted the Customs Department in inspection of consignments in respect of violations of WLP Act, CITES and FTP. Assist and advise Customs department in identification of wildlife articles and issues related to CITES.

- Regulation of legal trade under CITES: WCCB assisted Customs by conducting inspection of pre/post shipment of flora and fauna samples of EXIM consignments as per the provisions of the Wild Life Protection Act, 1972, CITES and EXIM Policy. Such inspections resulted in detection of 57 WLP, CITES and EXIM policy violations at various exit points across the country during this financial year.

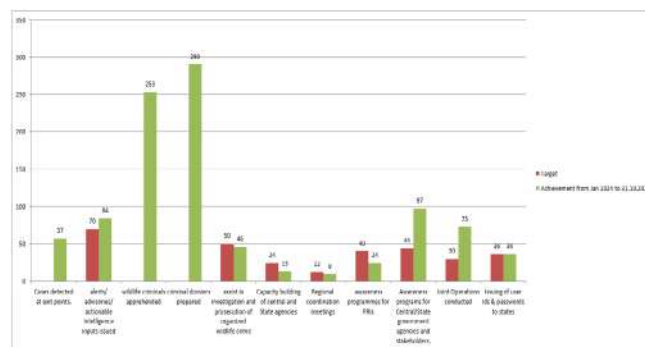
- Issue Alerts and Advisories to the stakeholders on the issues pertaining to wildlife crime enforcement, policy and legislations: During the year 05 advisories on modus operandi, trade route and trend of wildlife crime to sensitize enforcement agencies across the country and 79actionable Alerts/Inputs were issued to the concerned authorities on wildlife crime related issues that resulted in seizures of various wildlife articles/protected animals and arrest of accused.

Photographs of WCCB achievements during 2024:

Detection & seizures



Clockwise from top (Seizure of Indian Softshell turtles at Baruipur, West Bengal on 04-02-2024, 150 Kg semi processed Sea Cucumbers at Ramnad, Tamil Nadu on 14-03-2024, Leopard skin at Cuttack, Odisha on 06-02-2024, One Tiger skin and one elephant tusk at Shivala, Bihar on 17-04-2024, 4 No. of otter skin at Pasighat, Arunachal Pradesh on 23-05-2024 during joint enforcement operations conducted by WCCB)



Achievements under Operational Targets of WCCB from Jan 2024 to 31 Oct 2024

World Wildlife Day 2024

March, 2024: On the occasion of World Wildlife Day, 2024, WCCB conducted awareness program, Beach Cleaning Drive and sensitization program at Chennai and Rameshwaram Tamil Nadu, Amritsar Punjab, Madhopur Rajasthan, Amarkantak MP, Jaunpur UP and Bhuneshwar Odisha.

World Environment Day 2024

June, 2024: On the occasion of World



Environment Day, 2024, WCCB conducted Beach Cleaning Drive with CISF staff at Fort Kochi, sensitization program with WAKE (Welfare Association of Kendriya Bhavan) at the Kendriya Bhavan, Kochi and sensitization program at Navy Training Center, Naval Base, Ernakulam, Kerala.

WCCB Volunteers Scheme

WCCB Volunteers Scheme for enrollment of volunteers to assist WCCB in collection of information on wildlife crime, capacity building, awareness generation, achieving mandated objective. In every two year, WCCB invite application from citizen having inclination towards wildlife conservation to become Volunteer with WCCB. 68 No. of Volunteers registration were renewed during this period.

Activities related to CITES:

- A. The Bureau has developed a web based app for printing of CITES Permits and report generation.
- B. WCCB is in the process of launching DICS (Digital Import Clearance System) integrated to SWIFT platform of Customs, CBIC and UAT (User Acceptance Test) for the same have been completed.
- C. Attended a no. of meetings at the Ministry on various CITES matters.
- D. As per recommendation of the NTFAP on PGA Procedure & Regulation, a timeline of activities requiring minor and major procedures for cargo clearances has been prepared and uploaded on the website for trade facilitation and public information.
- E. CITES Annual Report, 2023 has been

prepared & submitted to the M.A., CITES, New Delhi.

Hindi Section Report 2024

Wildlife Crime Control Bureau (WCCB) conducted Hindi Pakhwada dated 09.09.2023 to 23.09.2024 which includes various competitions like Essay writing competition, Hindi Quiz contest, Bilingual word meaning and oral Test, Interpretation Test, Dictation test & Speech competition.

Vigilance Awareness Week 2024

WCCB also conducted "Vigilance Awareness Week" dated 28.10.2024 to 03.11.2024. During these two competitions were organized and the winners were awarded prizes along with certificate.

Publications

Quarterly Newsletter: WCCB also publishes a Quarterly e-Newsletter of its own titled as "WCCB Newsletter", highlighting major activities undertaken by the agency in the concerned quarter period. The newsletter is duly shared with all the enforcement agencies of the country.

WCCB Internship Programme

WCCB organized summer Internship Programme 2024-25 May-June, 2024. The program was inaugurated by Additional Director, WCCB, Sh. H.V Girisha. All senior officers of WCCB and Interns from across the country participated in the programme. Senior officials of WCCB also interacted with the participants and apprised them of wildlife crime related issues. 18 No of interns participated.



Social Media Outreach

Wildlife Crime Control Bureau (WCCB) has been optimizing the potential of social media to connect with the society and making them aware of all the activities being undertaken by the agency to check illegal wildlife crime. Apart from having a full-fledged webpage, WCCB has presence on all major social media platforms viz. Facebook, Twitter, Instagram, and YouTube.

7.3 Central Zoo Authority

a. Brief introduction, objectives and functions of the Division

Introduction:

The Central Zoo Authority (CZA) is a statutory body under the Ministry of Environment, Forest & Climate Change, Government of India. It was constituted in 1992 under the

provisions of Wildlife (Protection) Act, 1972 to oversee the functioning of zoos in India and provide them technical assistance. The prime concern of the CZA has been to raise the existing standards of animal housing, upkeep and health care in the zoos of the country.

Objectives:

- Enforce minimum standards and norms for upkeep and healthcare of animals in Indian zoos and
- Control mushrooming of unplanned and ill-conceived zoos.

Functions/Progress/Achievements both cumulative including innovations.:

The Authority has been assigned following functions under Section 38 (C) of the Wildlife (Protection) Act, 1972:-

(a)	To specify the minimum standards for housing, upkeep and veterinary care of the animals kept in zoos;	The CZA has prescribed following standards of for housing and upkeep of animals housed in captivity: 1. Recognition of Zoo Rules 2. Guidelines for the Scientific management of zoos
(b)	To evaluate and assess the functioning of the zoos with respect to the prescribed standards or norms;	During the reporting period, the Central Zoo Authority has physical evaluated 33 zoos.
(c)	To recognize or derecognize zoos;	The CZA granted recognition/ renewal of recognition to the 32 zoos. Besides, approval for establishment of 15 new zoos was provided. At present there are 156 recognized zoos in the country.



<p>(d) To identify endangered species of wild animals for purposes of captive breeding and assigning responsibility in this regard to a zoo;</p>	<p>The Central Zoo Authority has identified 74 species of indigenous faunal species for focused conservation breeding. This includes 24 species of birds, 46 species of mammals and 4 species of reptiles. For this purpose, 42 zoos have been identified, of which 29, are designated as coordinating zoos. It was envisioned earlier that at least 100 individuals of each identified species are established that are genetically, physically and behaviourally fit individuals. The goal is to have these populations as an 'insurance' (maintaining a viable ex situ population of the species to prevent predicted local, regional or global species extinction and preserve options for future conservation strategies) in case species restoration is planned. Broadly, the establishment of these populations broadly follow the "IUCN Species Survival Commission Guidelines on the Use of Ex situ Management for Species Conservation Version 2.0". The CZA had published the first "Guidelines/ Norms for Conservation Breeding Programme of the Central Zoo Authority" in 2011.</p>
	<p>As part of this, 25 species (17 threatened species, 3 Critically Endangered and 5 Endangered) were provided financial assistance by the CZA. Examples of successful breeding programs that have resulted in the establishment of captive populations include:</p> <ul style="list-style-type: none"> a. Barasingha (<i>Rucervus duvaucelii</i>) b. White-rumped Vulture (<i>Gyps bengalensis</i>) c. Himalayan newt (<i>Tylototriton verrucosus</i>) d. Lion-tailed Macaque (<i>Macaca silenus</i>) e. Stump-tailed Macaque (<i>Macaca arctoides</i>) f. Western Tragopan (<i>Tragopan melanocephalus</i>) g. Red Panda (<i>Ailurus fulgens ssp fulgens</i>) h. Smooth-coated otter (<i>Lutrogale perspicillata</i>) i. Himalayan Monal (<i>Lophophorus impejanus</i>) j. Nicobar Pigeon (<i>Caloenas nicobarica</i>) k. Indian pangolin (<i>Manis crassicaudata</i>) <p>During the year 2023-24 various species have bred well in captivity which includes White-rumped</p>



		Vulture (<i>Gyps bengalensis</i>), Long-billed vulture, Blyth's Tragopan (<i>Tragopan blythii</i>), Cheer Pheasant (<i>Catreus wallichii</i>) and Indian Chevrotain (<i>Moschiola indica</i>), etc.
(e)	To coordinate the acquisition, exchange and loaning of animals for breeding purpose;	During the reporting period, CZA has approved 60 animal exchange proposal between Indian Zoos and 122 exchange proposal between Indian & Foreign Zoos.
(f)	To ensure maintenance of studbooks of endangered species of wild animals bred in captivity;	Out of studbook of 34 identified species of captive wild animals housed in Indian Zoos, Studbook for 4 captive animal species were updated during the reporting period. The program is currently being updated using the global standards including the IUCN- Conservation Planning Specialist Group - One Plan Approach.
(g)	To identify priorities and themes with regard to display of captive animals in zoos;	CZA is assisting recognized zoos in finalization of Master Plan for long-term future development. The CZA is also reviewing the previously approved Master (Layout) Plans of Zoos and Master Plan of Zoos to ensure the more insight of CZA for better development of the Zoos. During the reporting period, CZA has approved the Master (Layout) Plan of 2 zoos and approved the Master Plan of 3 zoos and Animal Collection Plan of 4 zoos.
(h)	To coordinate training of zoo personnel in India and outside India;	CZA conducts dedicated in-person training programs at all verticals of zoo management such as - Zoo Managers, Veterinarian, Educationist, Biologist, Middle level official & Zoo Keepers every year.
(i)	To coordinate research in captive breeding and educational programmes for the purposes of zoos;	During the period, CZA has granted NOC to four proposal research projects that have zoo/ ex-situ linkage. However, financial assistance was not provided to any research project as no such request was received.
(j)	To provide technical and other assistance to zoos for their proper management and development on scientific lines;	MoEF&CC has allocated an amount of Rs. 11.85 Crores during the reporting period out of which CZA has received an amount of Rs. 8.60 Crores. The same has been utilized and released to the zoos/ organization for approved items of the works and operational cost of CZA.



(k)	To perform such other functions as may be necessary to carry out the purposes of this Act with regard to zoos.	Other than above the CZA has convened 1 meeting of the Central Zoo Authority, 2 meeting of the Technical Committee of CZA, 1 meeting of Administrative Committee & 3 Meeting of Expert Group on Zoo Designing, CZA to finalize the various Technical and Administrative issues.
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b. Important activities undertaken

- The DPR for establishment of National Referral Centre - Wildlife (NRC-W) at Junagarh, Gujarat as a part of activities proposed under 'Project Lion - Lion@2047: A vision for Amrutkal' envisioned by the MoEF&CC was approved and the construction work of

the centre to be initiated shortly.

c. Important Conferences organized in India or international conferences

During the reporting period, 2 in-person capacity building programme, was organized. The details are tabulated below:

Topic	Date of organization	Participation	Participants benefitted
Zoo Keeper training programme for	March 05-07, 2024	Zoo keeper from eastern region zoos	30
Capacity enhancement workshop for zoo veterinarian	September 25-27, 2024	Zoo Directors from all over country	30
National Seminar on Innovative Design and Technology for zoo management and Conservation across India	October 15-16, 2024	Zoo Directors and stakeholders	35
Zoo Keeper training programme	October 23-25, 2024	Zoo keeper from south region zoos	30
Capacity Building Workshop for Zoo Biologists	October 24-26, 2024	Zoo Biologists from all over country	30
Zoo Keeper training programme	November 11-13, 2024	Zoo keeper from north-east region zoos	30
Zoo Keeper training programme	December 06-08, 2024	Zoo keeper from eastern region zoos	30
Stakeholders' consultative workshop for development of National Wildlife Health Policy	December 17, 2024	Stakeholders from all over the country	60 (Approx.)



d. Major publications

1. Ex-Situ Updates Vol 4 Issue 1 & 2.
2. Ex-Situ Updates Special Issue - Hindi Version (2023-24).
3. Ex-Situ Updates Vol 4 Issue 3.
4. Ex-Situ Updates Vol 4 Issue 4 & Vol 5 issue 1.

Details – Quarterly newsletter styled for outreach to the general reader with the primary aim to create conservation awareness and outreach. All the above publications are regarding the management of the zoos on scientific basis covering the related topic including management of Zoo, Conservation and education awareness etc.

Photos



Snow leopard at Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal



41st meeting of the Central Zoo Authority



Pangolin At Nandankanan Biological Park, Bhubaneswar, Odisa



Lion-Tailed Macaque At Arignar Anna Zoological Park, Vandalur, Chennai, Tamil Nadu

e. Grant-in-aid released to Institutions/organizations including NGOs.

Sl.	Name of Organization	Purpose	Total amount released	Status of third-party evaluation	Remarks
1.	Central Zoo Authority	Scientific Management of Zoos	452.29 lakhs	To be taken up	Total Amount received has been utilized as on 20.01.2024
2.		Salary and Operational cost	407.71 lakhs		



7.4 Project Elephant



Elephant Camera Trap Photo Elephants, the largest of all land mammals, are vital in maintaining the balance of natural ecosystems. As integral components of their biome, they play a pivotal role in preserving forest ecosystems and biodiversity. Recognized as “keystone species,” they facilitate seed dispersal and support diverse invertebrate communities. After consuming plant material, elephants transport it in their digestive systems and deposit it in their dung, often several kilometers from the initial feeding site. This behavior, which impacts the availability of resources for other species, earns them the title of ecosystem engineers, as they modify, maintain, and create habitats through their actions.

India is home to 60% of the global Asian elephant population, with 29,964 elephants recorded in the country during the last census conducted in 2017. To safeguard the long-term survival of these elephants in their natural habitats, including the protection of their habitats and migration corridors, the Government of India initiated Project Elephant (PE) in 1991-92. This Centrally Sponsored Scheme was established with the following objectives:

- To protect elephants, their habitats, and corridors.
- To address the challenges of human-elephant conflict.

- To ensure the welfare of captive elephants.

The implementation of Project Elephant is through the Centrally Sponsored Scheme with the grant to State Governments with a funding pattern ratio of Central: State share to 60:40 and 90:10 for North East and Himalayan states. Presently the Project is being implemented in **23** States/UTs. Project Elephant and Project Tiger were initially sub-schemes under the Integrated Development of Wildlife Habitats (IDWH). During an Expenditure Finance Committee (EFC) meeting convened by the Department of Expenditure within the Ministry of Finance, and subsequently approved by the Cabinet, it was decided that the sub-scheme of Centrally Sponsored Scheme (CSS) for Project Elephant (PE) would be merged with the CSS for Project Tiger (PT). The merged scheme was renamed as Centrally Sponsored Scheme (CSS)- Project Tiger & Elephant (PT&E) to consolidate efforts for the conservation of these flagship species and maximize the resources.

a. Activities undertaken:



World Elephant Day 2024

- ▶ **The World Elephant Day 2024** was organized jointly by the Ministry of Environment, Forest & Climate Change



(MoEF&CC) and the Government of Chhattisgarh in Raipur to celebrate elephants as India's National Heritage Animals and promote their conservation. The world elephant day was inaugurated by Hon'ble Minister, EFCC, Shri. Bhupendra Yadav in the presence of Shri Vishnu Deo Sai, Hon'ble Chief Minister, Government of Chhattisgarh and Shri. Kedar Kashyap, Hon'ble Minister, Forest and Climate Change, Government of Chhattisgarh and Shri Brijmohan Agrawal, Hon'ble Member of Parliament, Raipur.

A nationwide awareness campaign engaged 10 lakh school children across 5000 schools, fostering conservation awareness. Chhattisgarh's biological and cultural significance, along with its human-elephant conflict challenges, were highlighted, positioning the state as a priority for conservation. The event reaffirmed collective efforts to ensure sustainable coexistence and the protection of this iconic species.

▶ The **Gaj Gaurav Awards** were presented during the World Elephant Day event to Late Shri Bubul Gogoi (Posthumous), Mahout from Assam; Shri Dinabandhu Barman, Head Mahout & Team from West Bengal; Shri Anaya Kumar Samal, Para Forest Worker from Odisha; and Smt. Sanghamitra Mahanta, Forest Guard from Odisha. Their efforts were recognized for advancing elephant conservation and management practices.



Gaj Gaurav Awards

- ▶ The 20th Steering Committee Meeting of Project Elephant, chaired by Hon'ble Minister, EFCC Shri Bhupendra Yadav on 12.08.2024 at Raipur, Chhattisgarh. The meeting deliberated upon further strengthening elephant corridors and management of elephant reserves and emphasised on efforts to deal with human-elephant conflicts in a responsive manner.
- ▶ **Central Project Elephant Monitoring Committee (CPEMC):** The 7th meeting of Central Project Elephant Monitoring Committee (CPEMC) held on 19.07.2024 under the chairmanship of ADGF (PT&E) & MS (NTCA).
- ▶ **Captive Elephant Healthcare Committee (CEHWC):** The 4th meeting of Captive Elephant Healthcare and Welfare Committee meeting held on 07.08.2024 wherein deliberation on various aspects of captive elephant healthcare, welfare and capacity building of Mahouts was undertaken.
- ▶ **Elephant Conservation Plan (ECP):** Recognizing elephants as keystone, umbrella, and flagship species, the development of the Elephant Conservation Plan (ECP) was envisioned to ensure effective management of the species across extensive forest landscapes. The plan takes into account various factors, including biodiversity, topography, climate, and hydrology,



to support sustainable conservation efforts. Following the release of Framework for Elephant Conservation Plan, on Elephant Day, a project on 'Planning Conservation in Elephant Reserves-Developing Elephant Conservation Model Plan' for the Nilgiri Elephant Reserve was sanctioned by on 23.10.2024.

▶ **MEE-ER (Management Effectiveness Evaluation of Elephant Reserves)**

(MEE-ER): Project Elephant evaluated the management effectiveness of Elephant Reserves (ERs) to enhance landscape-level elephant management, integrate ERs with wildlife management, and standardize management requirements for elephant habitats and populations. A pilot MEE-ER, involving experienced foresters and scientists, was conducted in four ERs across India: Shivalik ER (northwest), Kaziranga-Karbi Anglong ER (northeast), Mayurbhanj ER (east-central), and Nilgiri ER (south). A report on the MEE-ER, with Nilgiri Reserve receiving the highest rating released during the World Elephant Day 2024.

- ▶ The Ministry with an aim to avoid the elephant deaths due to train hits have identified 110 numbers of sensitive railway stretches with support of Wildlife Institute of India, Dehradun and shared with the respective State Forest Departments and the Ministry of Railways. Out of 110 sensitive stretches, 68 stretches have been jointly surveyed by the representatives of Project Elephant, Wildlife Institute of India, Indian Railways and officials of State Forest department. Final

report of 10 States (Arunachal Pradesh, Assam, Jharkhand, Karnataka, Madhya Pradesh, Nagaland, Odisha, Tamil Nadu, Uttarakhand and west Bengal) suggesting mitigation measures to prevent elephant train collisions released during the 20th Steering Committee meeting of Project Elephant. In addition, the surveys have been completed for the state of Andhra Pradesh, Kerala and Uttar Pradesh. An online railway portal has been developed by WII for monitoring the implementation of mitigation measures. The details of the survey conducted and reports finalized are available under the portal.

- ▶ A regional coordination meeting to meeting to granulate the components of Regional Action Plan (RAP) for southern states for managing human-elephant conflicts was held on **5th September 2024 in Coimbatore**, where decision on forming a core drafting committee to develop a RAP was taken.
- ▶ **DNA profiling of captive elephants:** Gajah Suchana App was developed for collation of data on captive elephants and their owners. More than 1500 biological samples (~50% of the captive elephant population) from 21 states have been collected and analyzed at WII under the project using Gaj Soochna mobile App.
- ▶ **All India Synchronized Elephant Estimation:** The process of Phase-I sampling for the All India Synchronized Elephant Population Estimation 2022 has been completed in the North East States. The exercise has been completed in rest of India.



b. Constitution / Re-constitution of Committees

- ▶ The Central Project Elephant Monitoring Committee constituted for monitoring and implementation of directions/ instructions/ guidelines of the Ministry and Court's direction related to conservation and protection of elephants re-constituted on 23.12.2024.
- ▶ The Captive Elephant Healthcare and Welfare Committee (CEHWC) re-constituted on 16.07.2024
- ▶ Sub-committee to prepare a draft guideline for foot-care of captive elephants constituted on 29.10.2024.
- ▶ Sub-committee to prepare a draft document on 'Best practices in Captive Elephant Management for Elephant Handlers' constituted on 03.12.2024.
- ▶ Sub-committee to prepare a draft document on "Principles of Captive Elephant Management' constituted on 03.12.2024.
- ▶ Sub-committee to prepare a draft advisory on tusk trimming constituted on 3.12.2024.

c. Capacity building workshops:

The Project Elephant with support of Elephant Cell, Wildlife Institute of India organized the following capacity building workshops on:

- i. Capacity Building Workshop on "Enhancing Elephant Welfare in Captivity" was held. It focused on improving the skills of custodians and handlers from Tamil Nadu, Kerala, Karnataka, and Andhra Pradesh, promoting better care and management

of captive elephants.

- ii. "Minimizing the Impact of the Railway on Elephants and Other Wildlife" for the officials of Indian Railways was conducted on 20-23th November, 2024 at Wildlife Institute of India, Dehradun.
- iii. "Exploring Solutions for Minimizing Electrocutation Risks and Promoting Wildlife Safety Across Power Infrastructure in India" for the officers/ officials of the Ministry of Power, State Power transmission agencies, Central Electricity Authority (CEA), State Forest Departments was organized from 20-23rd November, 2024 at Wildlife Institute of India, Dehradun.

d. Release of publications:

- ▶ During the World Elephant Day 2024 the Hon'ble Minister Shri Bhupendra Yadav, unveiled three publications which is as follows:
 - (i) the Framework for Elephant Conservation Plan,
 - (ii) Recommended Operating Procedures for managing distressed elephants,
 - (iii) Management Effectiveness Evaluation of Elephant Reserves in India - Pilot Study & Revision of Criteria & Indicators
- ▶ Following documents released by Hon'ble Minister, EFCC during the 20th Steering Committee meeting of Project Elephant conducted on August 12, 2024.
 - (i) Trumpet Newsletter by Project Elephant
 - (ii) Human Elephant Conflict: Field



manual in Odiya, Kannada & Tamil.

- (iii) Land Use & Land cover of Elephant Reserves in India-Version II.
- (iv) Report on Suggested Measures to Mitigate Asian Elephant-Train collisions on vulnerable Railway Stretches for the State of Arunachal Pradesh, Assam, Jharkhand, Karnataka, Madhya Pradesh, Nagaland, Odisha, Tamil Nadu, Uttarakhand and West Bengal

7.5 National Tiger Conservation Authority (NTCA)

a. Introduction

The National Tiger Conservation Authority (NTCA) is a statutory body under the Ministry of Environment, Forests and Climate Change constituted under enabling provisions of the Wildlife (Protection) Act, 1972, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it under the said Act.

NTCA has been fulfilling its mandate within the ambit of the Wildlife (Protection) Act, 1972 for strengthening tiger conservation in the country by retaining an oversight through advisories/normative guidelines, based on appraisal of tiger status, ongoing conservation initiatives and recommendations of specially constituted Committees.

The 'Project Tiger' is a Centrally Sponsored Scheme (CSS) of the Ministry of Environment, Forests and Climate Change, providing funding support to tiger range States for in-situ conservation of tigers in designated tiger reserves, and has put the endangered tiger on an assured path of recovery by saving it from extinction, as

revealed by the recent findings of the All India tiger estimation using the refined methodology.

Objectives:

The objectives of NTCA are:

1. Providing statutory authority to Project Tiger so that compliance of its directives become legal.
2. Fostering accountability of Center-State in management of Tiger Reserves, by providing a basis for MoU with States within our federal structure.
3. Providing for an oversight by Parliament.
4. Addressing livelihood interests of local people in areas surrounding Tiger Reserves.

Functions:

Powers and functions of the National Tiger Conservation Authority as prescribed under section 38O (1) and (2) of the Wildlife (Protection) Act, 1972, as amended in 2006 are as under:-

1. To approve the tiger conservation plan prepared by the State Government under section 38 O (1) (a) of this Act
2. evaluate and assess various aspects of sustainable ecology and disallow any ecologically unsustainable land use such as, mining, industry and other projects within the tiger reserves
3. lay down normative standards for tourism activities and guidelines for project tiger from time to time for tiger conservation in the buffer and core area of tiger reserves and ensure their due compliance



4. provide for management focus and measures for addressing conflicts of men and wild animal and to emphasize on co-existence in forest areas outside the National Parks, sanctuaries or tiger reserve, in the working plan code
5. provide information on protection measures including future conservation plan, estimation of population of tiger and its natural prey species, status of habitats, disease surveillance, mortality survey, patrolling, reports on untoward happenings and such other management aspects as it may deem fit including future plan conservation
6. approve, co-ordinate research and monitoring on tiger, co-predators, prey habitat, related ecological and socio-economic parameters and their evaluation
7. ensure that the tiger reserves and areas linking one protected area or tiger reserve with another protected area or tiger reserve are not diverted for ecologically unsustainable uses, except in public interest and with the approval of the National Board for Wild Life and on the advice of the Tiger Conservation Authority
8. facilitate and support the tiger reserve management in the State for biodiversity conservation initiatives through eco-development and people's participation as per approved management plans and to support similar initiatives in adjoining areas consistent with the Central and State laws
9. ensure critical support including scientific, information technology and legal support for better implementation of the tiger conservation plan
10. facilitate ongoing capacity building programme for skill development of officers and staff of tiger reserves, and
11. perform such other functions as may be necessary to carry out the purposes of this Act with regard to conservation of tigers and their habitat.
12. The Tiger Conservation Authority may, in the exercise of its powers and performance of its functions under this Chapter, issue directions in writing to any person, officer or authority for the protection of tiger or tiger reserves and such person, officer or authority shall be bound to comply with the directions.

b. Progress/ Innovations

All India Tiger Estimation: The All India Tiger Estimation report showed an increase in unique tiger sightings and estimated the tiger population at 3682 with a range up to 3925, reflecting a 6.1% annual growth rate. Notably, Central India and certain regions witnessed population spikes, while others faced declines, emphasizing the need for targeted monitoring and conservation efforts.

Management Effectiveness Evaluation: India has successfully completed the fifth cycle of Management Effectiveness Evaluation (MEE) for its Tiger Reserves. In the latest cycle, 12 Tiger Reserves achieved an 'Excellent' rating, 21 were 'Very Good,' 13 were 'Good,' and 5 were rated 'Fair.' The overall mean score for all 51 evaluated Tiger Reserves was 78.01%. The results provide valuable insights into the strengths and areas for improvement in the Tiger Reserve Network.



Project Cheetah:

- The first ever transcontinental introduction of cheetahs was undertaken on September 17, 2022,
- The first batch of eight Cheetahs (comprising five females and three males) was transported from Namibia to Kuno National Park in India.
- The cheetahs were released in Kuno NP by the Hon'ble Prime Minister of India.
- This initiative was augmented on February 18, 2023, with the transportation of twelve Cheetahs to India from South Africa
- 19 Cheetahs were born on Indian soil
- Enabling Memorandums of Understanding have been inked with Namibia and South Africa in this regard
- A Memorandum of Understanding is under consideration with Kenya, where a high level delegation held bilateral
- Initiative has been taken to enter into an engagement with Botswana
- The introduction of Cheetahs in India's Kuno National Park has witnessed the mortality of eight adults and five cubs till date.
- 12 adults and 12 cubs are currently surviving and adapting well to Indian conditions
- Notably, no unnatural mortalities were recorded among free-ranging individuals, despite traversing human-dominated landscapes.
- A dedicated team of forest officials, Cheetah experts and veterinarians has been undertaking protection as well as monitoring of Cheetahs 24x7 basis.

- Gandhisagar Wildlife Sanctuary has been developed in Madhya Pradesh to receive Cheetahs in addition to Kuno
- Banni grasslands in Kutch region of Gujarat is also being developed as a conservation breeding facility for cheetahs

c. Continuing committees/commissions-their work

Technical committees meeting:

- 27.04.2024 (7th TC)
- 25.06.2024 (8th TC)
- 20.09.2024 (9th TC)
- 04.10.2024 (10th TC)

Administrative committee

- 10.04.2024

NTCA meetings

- 25th meeting of NTCA held on 29.07.2024
- 26th meeting of the NTCA held on 21.12.2024

d. Important conferences organized in India or international conferences

The 1st meeting of the International Steering Committee of the International Big Cat Alliance was held on April 16, 2024.

The inaugural meeting of the International Steering Committee (ISC) of the International Big Cat Alliance (IBCA) was convened on April 16, 2024, in New Delhi, India. This significant gathering saw participation from fourteen countries, the Republic of Armenia, People's Republic of Bangladesh, Kingdom of Bhutan, Kingdom of Cambodia, Republic of Ecuador, Arab Republic of Egypt, Federal



Democratic Republic of Ethiopia, Republic of India, Republic of Kenya, Democratic Republic of Malaysia, Federal Republic of Peru, Republic of Suriname, Republic of Uganda and Special Representative of Federal Republic of Mexico and seven partner organizations: Global Tiger Forum, International Union for Conservation of Nature (IUCN), Sankala Foundation, United Nations Development Programme (UNDP), Wildlife Institute of India, World Bank, and World Wide Fund for Nature (WWF) India.

The ISC meeting reviewed the proposed items included in the agenda and recommended them to the Assembly for adoption and ratification. Key items on the agenda included discussions and decisions on administrative arrangements, the Framework Agreement, Rules of Procedure for the Assembly, manual regulations, IBCA Branding, the Work Plan, and the Budget. Each item was deliberated upon comprehensively, ensuring that the decisions were made collaboratively with input from all assembly members.

This meeting marks a pivotal step in the operationalization of IBCA's Mission and Vision to protect and conserve big cat species globally, demonstrating the collaborative effort and commitment of member countries and partner organizations.

e. MEAs, Agreement with countries, international organizations, compliance

- Action has been initiated to enter into a MoU with Kenya and start a dialogue with Botswana.
- A MoU titled "Conservation of the Tiger and the Jaguar" was inked with Guatemala on 3.5.2024.

f. Major publications

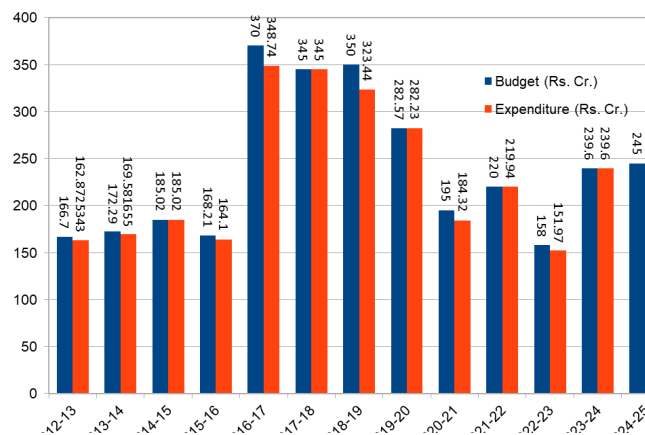
1. Status of Tigers, Co-predators and Prey in India 2022
2. Status of Leopards in India 2022
3. Management Effectiveness Evaluation of Tiger Reserves in India 5th Cycle
4. Bridging the Gap: Unveiling effectiveness of India's tiger reserve management
5. Amrit Kaal ka Tiger Vision Tiger@2047
6. Tigers Unveiled: A Bibliographic Odyssey 2019-2023
7. Introduction of Cheetah in India: Annual Report 2022-23
8. Project Tiger 50 years of Tiger Conservation in India

g. Progress/ Achievements both cumulative

Project Tiger Scheme

- The National Tiger Conservation Authority implements and steers the Project Tiger Component on the ongoing CSS of Integrated Development of Wildlife Habitats.

Performance of the Scheme over the last decade may be seen in the graph below:





h. Grant-in-aid released to Institutions/ organizations including NGOs

S. No.	Name of Organisation	Purpose	Total amount released (Amount in Rs.)
1.	Wildlife Institute of India	M-StrIPES	Rs. 30,80,000
		Tiger Cell	Rs. 1,21,60,401
		Action Plan for Introduction of the Cheetah in India	Rs. 6,00,00,000
		Promoting community participation in conservation and conflict resolution in the fringe villages of Kairanga Tiger Reserve	Rs. 15,64,010
2.	Tigers Reserves	For providing equipments to tiger reserves for strengthening monitoring of tigers, Co-predators and their prey in tiger reserves of India	Rs. 8,09,95,359
3.	Madhya Pradesh Tiger Foundation Society		Rs. 1,22,496
4.	International Big Cat Alliance	For establishment	Rs. 5,00,00,000
Total:			Rs. 19,88,01,965

7.5.1 Project Cheetah

The restoration of cheetah in India must be viewed not simply as an introduction of a species, however charismatic it may be, but as an endeavor to better manage and restore some of our most valuable yet neglected ecosystems and the species dependent upon them.

In this regard, the Government of India launched Project Cheetah with the following objectives:

- i. To establish breeding cheetah populations in safe habitats across its historical range and manage them as a meta-population.
- ii. To use the cheetah as a charismatic flag-

ship and umbrella species to garner resources for restoring open forest and savanna systems that will benefit biodiversity and ecosystem services from these ecosystems.

- iii. To enhance India's capacity to sequester carbon through ecosystem restoration activities in cheetah conservation areas and thereby contribute towards the global climate change mitigation goals.
- iv. To use the ensuing opportunity for eco-development and eco-tourism to enhance local community livelihoods.
- v. To manage any conflict by cheetahs or other wildlife with local communities within cheetah conservation areas expeditiously through compensation, aware-



ness, and management actions to win community support.

In a historic milestone on September 17, 2022, the first batch of eight cheetahs (comprising five females and three males) was transported from Namibia to Kuno National Park in India. The release of these cheetahs into quarantine bomas within Kuno NP was overseen by the Hon'ble Prime Minister of India. To fortify the founder population, ongoing discussions and procedures facilitated the procurement of an additional twelve cheetahs from various private game reserves in South Africa. This augmentation initiative culminated on February 18, 2023, with the transportation of these twelve cheetahs to India.

In March 2023, Namibian female cheetah Jwala welcomed a litter of four cubs. In January 2024, a remarkable milestone was achieved in cheetah conservation on Indian soil as Namibian female cheetah Asha gave birth to her litter of three cubs and Jwala to 4 cubs. The cub numbers were strengthened further by the birth of cheetah Gami's 6 cubs in March 2024. While there have been instances of natural mortalities in the initial stages, which is expected in such translocations, the overall population of Cheetahs has increased to 24, indicating a positive trend.

Preparations at the Gandhisagar Wildlife Sanctuary are near complete wherein the following work has been undertaken:

- Quarantine bomas have been completed
- Soft Release Boma is ready

- Line quarters for a research team and veterinarian is ready
- Building has been renovated to function as a veterinary hospital
- Department of Animal Husbandry and Dairying, Gol, is scheduled to inspect and certify the quarantine bomas and other facilities on January 23-24, 2025.

In addition, the following works are currently ongoing at the Gandhisagar Wildlife Sanctuary

- Disease survey in the fringes
- Leopard extraction from the enclosed area is ongoing
- Prey augmentation in the 64 sq. km. enclosure

As per the action plan of cheetah introduction in India, 12-14 wild cheetahs are required to be imported from outside. In this regard, discussions are currently ongoing with the Republic of South Africa as well as Kenya. The NTCA has received the CITES Import Permit for receiving the next batch of cheetahs.

The Kenyan authorities have approved a MoU for concretising the engagement with India which has been vetted by the L&T Division, of the Ministry of External Affairs and approved by the EAM, Gol on January 17, 2025. An online meeting with officials from South Africa was held on January 16, 2025 to source the third batch of Cheetahs. Engagement with Botswana has also been initiated for collaboration in Project Cheetah.

- At present there are 12 adult Cheetah



and 12 cubs in Kuno.

- Preparations are near complete at Gandhisagar Wildlife Sanctuary, MP for receiving the next batch of cheetahs.
- Cheetah interpretation centre, training centre, museum, research centre and safari are being planned at Sesaipura near Kuno, vis-à-vis directions of the Hon'ble Supreme Court.

7.5.2 International Big Cat Alliance (IBCA):

Recognizing India's leadership, the Hon'ble Prime Minister of India launched the International Big Cat Alliance during the 50th anniversary of Project Tiger to strengthen global cooperation in protecting these magnificent species.

The objectives of the IBCA is to establish a collaborative platform that promotes synergy, facilitates the widespread sharing of effective big cat conservation practices, and offers access to a centralized repository of technical knowledge and financial resources. This aims to enhance habitats, bolster prey populations, and ensure the well-being of big cats, ultimately securing our future and mitigating the negative effects of climate change.

The vision of IBCA is to create a collaborative platform that fosters cooperation between big cat range countries, non-range nations with an interest in big cat conservation, conservation partners, business entities, and scientific organizations dedicated to big cat conservation. The objective is to collectively work towards the shared goal of ensuring robust and sustainable

populations of big cats throughout their habitats.

India signed the framework agreement and formally joined the IBCA on September 18, 2024. As on date, Nicaragua (05/07/2024), Eswatini(31/07/2024),Somalia(27/08/2024) and Liberia (18/11/2024) have joined the IBCA.

7.6 Wildlife Institute of India

Wildlife Institute of India (WII) was established at Dehradun in 1986 as an autonomous institute of the Ministry of Environment, Forest & Climate Change, Government of India. The Institute has emerged as a premier training and research institution in Wildlife and Protected Area Management in South and Southeast Asia. Its primary mandates are to (i) carry out scientific and applied research on various issues of wildlife and biodiversity conservation, (ii) develop wildlife science as a discipline through academic activities, (iii) build capacity in the field of wildlife management and conservation planning, (iv) provide technical inputs to MoEFCC and other stakeholders. The Institute has generated quality information and knowledge products in wildlife science through research and mainstreaming it in capacity-building programmes for various target groups.

The Sálim Ali Centre for Ornithology and Natural History (SACON), established in 1990 and registered as a society under the Societies Registration Act, of 1860, is now functioning as the South India Centre of the Wildlife Institute of India (WII) under the Ministry of Environment, Forest and



Climate Change (MoEFCC), Government of India. Founded to promote ornithological research, SACON's objectives encompassed a wide range of natural history studies, focusing on bird conservation and the ecosystems that support them. The recent merger with WII reflects the Government of India's move to integrate SACON's ornithology legacy with WII's extensive expertise in wildlife conservation.

a) Research

Research Projects

Wildlife research at the Institute is predominantly multidisciplinary, covering ecological, biological and socio-economic aspects across various ecosystems in the country. The research projects generate valuable scientific information relevant to the Indian conditions and create a cadre of trained field biologists, socio-economists and wildlife managers. The scientific information generated is utilized for wildlife conservation and management. Research also enables the Institute's faculty to keep abreast of the current field situations, management needs and research trends, continuously enhance their professional skills, and update their teaching inputs. The research agenda is guided by the Training, Research Advisory Committee (TRAC), comprising eminent conservationists, academicians, representatives of scientific organizations, and state wildlife organizations, ensuring that research conforms to the national conservation priorities.

Major Research Projects Completed during the Reporting Period

- Holistic Plan for a 10 km Radius Landscape Area Around Rajaji Tiger Reserve towards Identifying Critical Zones for Wildlife & Ensuring Sustainable Riverbed material (RBM) Mining Practices in Uttarakhand.
- Influence of Tectonic Shift (Uplift and Subsidence) on Carbon Stock Dynamics of Mangrove Forests of Andaman Islands.
- Rapid Assessment for Facilitating Elephant, *Elephas maximus* Movement between the Panir Reserved Forest and Dulung Reserved Forest along the Lower Subansiri Hydroelectric Project.
- Evaluation of Efficacy of Various Population Estimation Methods for Elephants to Develop Population Monitoring Protocol.
- Response to Anthropocene and Climate Change: Movement Ecology of Selected Mammalian Species across the Indian Himalayan Region.
- Cumulative Environment Impact Assessment on Wildlife Habitat and Ecological Values Due to Proposed Doubling of Railway Track from Tinaighat to Kulem in the Northern Western Ghats.
- Wildlife Study and Mitigation Plan for Development of 4 Lane Haridwar Bypass Road (Package-2) Passing Through Rajaji Tiger Reserve and National Park, Uttarakhand.
- Assessment of Fine-Scale Spatial and Temporal Use of Key Wildlife Species



in Relation to Ecological Resources and Suggest Mitigation Plan to Ameliorate Impacts Due to Upgradation of Harrawala Railway Station.

- Development of a Genetic Database of Captive Elephants across India for Welfare and Management.
- Assessment of Disease Prevalence in Ungulates in Protected Areas of Mizoram.
- Planning Conservation in Elephant Reserves–FrameworkforthePreparation of the Elephant Conservation (ECP).
- Monitoring Threatened Birds of the Thar Desert: How Does Habitat Restoration for the Great Indian Bustard Impact Associated Avifauna?
- An Integrated Approach for Conservation of Mishmi Takin, *Budorcas taxicolor taxicolor* in North-east India: Linking Species Ecology with Traditional Ecological Knowledge
- Ecology and Conservation Perspectives of Fishing cat, *Prionailurus viverrinus* in EGREE, Andhra Pradesh.
- Integrated Wildlife Action Plan Comprising of Mitigation and Compensating Measures with a Landscape Approach for the Entire Forest Area in Hazaribagh Wildlife Division, Hazaribagh West Forest Division and Koderma Forest Division in the Impact Zone of Koderma Detour.
- Niche Selection and Mesopredator Release in High Altitude Ecosystems
- PAN-India Assessment and Monitoring of Endangered Species Covered under the Integrated Development of Wildlife Habitats Scheme of MoEFCC – Caracal, *Caracal caracal*.
- Integrated Development of Wildlife Habitat – *Batagur baska* (Northern River Terrapin).
- Habitat Improvement and Conservation Breeding of Great Indian Bustard
- PAN India: IDWH (Endangered Species Monitoring) – Nilgiri Tahr.
- Ecology and Conservation of Major Carnivores & Ungulates of Semi-Arid Grassland-Scrub-Agro-Systems of Karnataka
- Population Status, Ecology, and Conservation of the Indian Swiftlet in the Western Ghats, West Coast, and Offshore Islands of Maharashtra
- Bird Wildlife Hazards to Aircrafts in Select Indian Civil Airfields of Airports Authority of India- Phase I (Maharaja Bir Bikram Airport, Agartala, Raja Bhoj International Airport, Bhopal, Devi Ahaliya Bhai Holkar Airport, Indore, Jayprakash Narayan International Airport, Patna and Surat International Airport)
- Taxonomic Characterisation of Select Galliformes of India Using Feather Morphometrics and DNA for Application in Wildlife Forensics
- Ecological Assessment of Endemic and Threatened Laughingthrushes of the Western Ghats to Develop Conservation Plan for Securing their Population and Habitats



- Mechanisms of Coexistence in a Species-rich Carnivore Assemblage from a human-dominated landscape in Kachchh, Gujarat, India

b. Academic Programmes

XVIII M.Sc. (Wildlife Science) Course 2022-24

The course was commenced in August 2022. The fourth semester of the XVIII M.Sc. course commenced in January 2024, and the students proceeded to field dissertation study in respective Forest Department of the States as per their choices. Most students completed their Field Dissertation Study and started writing their thesis for the final presentation.

XIX M.Sc. (Wildlife Science) Course 2023-25

The XIX MSc Wildlife Science Course commenced on 7 August 2023 with a capacity of 20 students, including eight WII-sponsored and 12 self-sponsored. These students are from 11 states of India, with diverse backgrounds and interests. All first-semester modules were completed as per the course calendar. The following tours were conducted during the first semester: (i) The Wetland Management tour to Odisha was carried out from 19-28 February 2024. (ii) The Techniques Tour was conducted in October 2024 in Southern India.

The 3rd Semester Examination are in progress during November 2024. The dissertation proposals will be prepared in November-December 2024 and necessary permission will be obtained from the State Forests Departments for the dissertation training of the students.

XX M.Sc. (Wildlife Science) Course 2024-26

XX M.Sc. Course in Wildlife Science commenced at the Institute in August 2024. A total of 18 students including one foreign student joined the course. Their Orientation tour was carried out in the Lansdowne Forest Division of Rajaji Tiger Reserve in August 2024. The Field Tour to Central India will be conducted in Madhya Pradesh from 28 November 2024.

First M.Sc. (Freshwater Ecology & Conservation) Course 2024-26

WII announced admission to the first batch of M.Sc. Freshwater Ecology and Conservation (2024-2026), a pioneering course to understand nuances of freshwater ecosystems. The course is sponsored by the National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Government of India under its *Namami Gange* programme.

A total of eighteen meritorious students have joined the course to gain knowledge on concepts, principles, approaches, analytical skills and field techniques in Freshwater Ecology and Conservation from eminent scientists and field practitioners in freshwater ecology.

M.Sc. Wildlife Science (Ornithology) at SACON

The program covered the third semester during the reporting period. The third semester commenced on 18 December 2023 with ten modules covering the applied aspects of wildlife science. During the third semester, students developed proposals for their dissertation study to be undertaken in the fourth semester and successfully



defended them in an open seminar on 22 March 2024. Subsequently, the study proposals for the Dissertation were finalized and sent to respective authorities for research permits. During the reporting period, several external experts were called to deliver lectures to MSc students online and offline.

Training Programmes

XLIV Post Graduate Diploma in Advanced Wildlife Management Commenced, Dehradun, commenced from 15 September 2023 to 15 July 2024.

The 44th Post-Graduate Diploma Course in Advanced Wildlife Management commenced on 15 September 2023. A total of 16 Officer trainees from various Indian States. They included three each from Odisha and Madhya Pradesh, two from Rajasthan, and one each from Arunachal, Sikkim, Mizoram, Assam, Uttar Pradesh, Kerala, AGMUT, and Maharashtra. The following field tours were conducted during the reporting period: (i) Wetland Tour at Odisha from 7-18 February 2024. (ii) Management Tour in South India from 26 February 2024 to 10 March 2024. (iii) South Africa Study Tour from 18 March 2024 to 3 April 2024. All the officer trainees have completed the course.

XLV Post Graduate Diploma in Advanced Wildlife Management Commenced, Dehradun, commenced from 1 September 2024 to 30 June 2025.

The 10-month P.G. Diploma Course Advanced Wildlife Management Commenced on 1 September 2024 at this Institute with 17 officer trainees including 3 lady officers

of the rank of Deputy Conservator of Forests/Assistant Conservator of Forests and equivalent levels. The following field tours were conducted during the reporting period: (i) High Altitude Tour at Kedarnath and adjoining area from 04-10 November 2024. (ii) Orientation Tour at Lansdowne Forest Area from 07-11 November 2024.

XXXVIII Certificate Course in Wildlife Management, Dehradun, 1 November 2023 – 31 January 2024.

The Wildlife Institute of India (WII) works in wildlife conservation, education, and research. The Institute runs a 3-month Certificate Course in Wildlife Management for in-service Range Forest Officers/ Deputy Range Officers or equivalent ranks. The course commenced on 1 November 2023. A total of 28 officer trainees from different states of India and abroad joined the course. All the officer trainees have completed the course. The certificate course concluded on 31 January 2024.

XXXIX Certificate Course in Wildlife Management, Dehradun, 1 November 2024 – 31 January 2025.

XXIX Certificate Course in Wildlife Management commenced on 1 November 2024. A total of 22 in-service Range Forest Officers/ Deputy Range Forest Officers or equivalent ranks from various States of the country joined the course.

c. Workshops, Seminars, Meetings and Other Activities

A large number of activities were conducted during the reporting period. The information on some important



events is given below:

- Short-term Course (5-day) on Bird Identification and Forensics for Tamil Nadu Forest Academy Officers, Coimbatore, 8–12 January 2024.
- Three-day Workshop on Wildlife Conservation as part of “Training of Personnel of Other Services for Class-I/ Group A Officers”, Coimbatore, 22-24 January 2024.
- Mahseer Monitoring Workshop-cum-Field Training for Monitoring Humpback Mahseer and other Aquatic Wildlife in Moyar River, Bandipur Tiger Reserve, Karnataka, 26-28 January 2024.
- Exploring Solutions for Minimizing Electrocutation Risks and Promoting Wildlife Safety across Power Infrastructure in India, Dehradun, 11–13 January 2024.
- Workshop on Gaur Monitoring and Population Estimation Method, Bandhavgarh Tiger Reserve, 31 January 2024.
- Workshop on Finalization of the ‘Framework for the Preparation of Elephant Conservation Plan (ECP), Dehradun, 6 February 2024.
- Workshop on Intervention in Wild Animal Health-2024, Sariska Tiger Reserve, 10-27 February 2024.
- Training of Other Service Officers (Group II & III) on “Human-Wildlife Conflict Issues & Mitigation”, Dehradun, 26-28 February 2024.
- National Level Training Workshop on Freshwater Biodiversity Conservation’ for University Teachers and Professors at WII, 5-8 March 2024.
- World Sparrow Day, 20 March 2024.
- Indian Revenue Service (Customs & Indirect Taxes) Group-A (NACIN, Palasamudram, 8-20 April 2024.
- Celebrating World Heritage Day, 18 April 2024.
- The 2024 Earth Day Celebrations at Wildlife Institute of India, Dehradun, 22-23 April 2024.
- WII-NMCG’s Ganga Biodiversity Conservation Workshop for students of Quantum University, Roorkee, 6 May 2024.
- Wildlife Protection, Law and Forensic Science for Officer Trainees of 75th Batch of Wildlife Conservation, Identification of Wildlife Part and Forensic Investigation’ for the Trainee Inspectors of Customs and Indirect Taxes, NACIN, Jaipur, 20-21 May 2024.
- World environment Celebration, ITI, Anaikatty, 30 May 2024.
- WII-NMCG celebrated World Environment Day, 5 June 2024.
- A National - Level Training Workshop entitled “Harmonising Sustainable Fisheries for Freshwater Biodiversity Conservation”, Dehradun, 11-13 June 2024.
- Indian Wildlife Ecology Conference-2024, Bengaluru, 14-16 June 2024.
- Yoga Day Celebrations at WII & Others Sites of Ganga States, 21 June 2024.



- Mission LiFE awareness programme, Coimbatore, 24 June 2024.
- Training for Range Officers Tamil Nadu Forestry Training College, Vaigai Dam, 25 June 2024.
- International Plastic Bag Free Day Awareness programme, Coimbatore, 3 July 2024.
- Van Mahotsav Week, Coimbatore, 5 July 2024.
- Paper-bag Making Workshop, Anaikatty, 19 August 2024.
- Stakeholder meeting for Tamil Nadu's Ramsar Sites in Tirunelveli, 29 August 2024.
- Stakeholder meeting for Tamil Nadu's Ramsar Sites in Ramanathapuram, 31 August 2024.
- National Training Programme on the Management of Bird Wildlife Hazards to Aircraft to IAF Officials, Coimbatore, 2-5 September 2024.
- Stakeholder meeting for Tamil Nadu's Ramsar Sites in Kanyakumari, 3 September 2024.
- Internal Annual Research Seminar, Dehradun, 9-11 September 2024.
- Three-day Workshop on "Human-Animal Interface Management for Indian Forest Service Officers", Dehradun, 18-20 September 2024.
- Wildlife Week Celebrations of Ministry of Environment, Forest and Climate Change at WII, Dehradun, 2-8 October 2024.
- Annual Research Seminar of the Wildlife Institute of India, Dehradun, 5-6 October 2024.
- Tamil Nadu Govt. Teachers Training Programme, Coimbatore, 21 October 2024.
- Stakeholder Workshop on Mitigation Planning of Linear Infrastructure Developments in the Transboundary Terai Arc Landscape, Dehradun, 23-25 October 2024.
- SACON Birder's Meet on Nature Education and Extension, Coimbatore, 9 November 2024.
- Salim Ali Birth Anniversary Celebrations, Special Postal Cover and Postcard Released by India Post, Coimbatore, 12 November 2024.

Major Achievement

The Wildlife Institute of India received the Certificate of Accreditation from the Hon'ble Minister of State, Personnel, Public Grievance & Pension, Dr. Jitendra Singh by the Capacity Building Commission, on 12 August 2024. WII is accredited with Excellent (Four Star) Rating under the Capacity Building Commission's National Standards.

7.6.1 Pashmina Certification Centre

Pashmina is a cornerstone of livelihood for the artisan and weaver communities of Jammu & Kashmir. There has been ambiguity in the purity of the products with the adulteration of low quality fibers of sheep, yak and angora. In absence of the certification of such items by authenticated laboratories, customs department scrutinise such products to rule out the



mixing of the prohibited products along with the consignments of Pashmina. Owing to post confiscation testing, the scrutiny process takes times to clear the products thus hampering the Pashmina trade. To deal such issues the Export Promotion Council for Handicrafts (EPCH), New Delhi has signed 'MoU' with the Wildlife Institute of India (WII), Dehradun, for setting up a 'Pashmina Testing Facility' for its associated members involved in Pashmina Trade on 05th January 2023. A fully functional Pashmina Certification Centre (PCC) was inaugurated by Hon'ble Minister, EF&CC on 19th May 2023. The PCC established under a Public-Private Partnership (PPP) model, exemplifies the government's commitment to supporting artisans, weavers, and traders while fostering self-reliance in traditional handicrafts. The PCC represents a unique, self-sustaining initiative within a government organization, generating revenue while creating employment opportunities for budding professionals under the PPP model.

The PCC played a vital role in promoting Pashmina industry by certifying genuine products, enhancing product's credibility in global markets, and ensuring fair trade practices. Additionally, the facility indirectly contributing to the conservation of the Tibetan antelope (Chiru), whose population was previously threatened by illegal trade in Shahtoosh wool. Subsequently, an Advanced Facility for Pashmina Certification was setup in PCC, WII with installation of the Scanning Electron Microscope (SEM) with Energy Dispersive Spectroscopy (EDS) that enhances the precision and reliability of wool testing and certification, which was

inaugurated by Hon'ble Minister, EF&CC on 21st December 2024. The PCC at WII exemplifies its commitment to integrating science and traditional practices for the benefit of artisans, traders, and the global community.

Over the period since its establishment, the PCC has certified over 16,000 shawls, ensuring their authenticity and the absence of mixing of other fibers, thus enabling seamless trade of genuine Pashmina products in both national and international markets.



Inaugural of Advanced Facility for Pashmina Certification by Hon'ble Minister, EF&CC on 21st December, 2024 in the presence of Hon'ble Minister of State, EF&CC



PCC analysis trend from July 2023 to 15th January 2025, n=16,865



CHAPTER : 8

CLIMATE CHANGE



CHAPTER - 8

CLIMATE CHANGE

8.1 Climate Change

a. Brief Introduction, objectives, and functions of the Division

The Ministry of Environment, Forest, and Climate Change (MoEFCC) is designated as the nodal Ministry to deal with subject of the climate change. The Ministry coordinates India's domestic as well as international actions through its Climate Change Division.

The Division, together with Adaptation Cell, Cells for Carbon Market, Article 6 and the National Communications, also support the Ministry in formulating and implementing policies and programs related to climate change. It has been involved in preparing India's Nationally Determined Contribution, Long-term Low Carbon Development Strategies, National Action Plan for Climate Change, and the State Action plans for the Climate Change.

The division also coordinates to take stock of climate actions being undertaken by other Ministries and Departments to ensure that India meets its climate commitments.

The division also coordinates for representing India's stance in various international climate negotiations, including the annual Conference of Parties to the United Nations Framework Convention on Climate

Change (UNFCCC) and other bilateral or multilateral forums.

b. Important Activities / Progress/ Innovation / Cumulative Achievements

• India's Participation in 29th Session of Conference of Parties to the UNFCCC (in short COP 29) held in November 2024 in Baku (Azerbaijan)

The COP 29 took place from 11-24 November 2024. The major agenda items for negotiation at COP 29 were the New Collective Quantified Goal (NCQG), Article 6 of Paris Agreement related to Cooperative approaches (Carbon Markets), Global Stocktake (GST), Work Programme on Just Transition, Framework for Global Goal on Adaptation (GGA), operationalization of the Loss and Damage Fund, and the Mitigation Work Programme (MWP) and the Technology Implementation programs.

An inter-ministerial Indian delegation led by Hon'ble Minister of State for Environment, Forest, and Climate Change (HMOS), Shri Kirti Vardhan Singh represented India.

During the COP 29, India participated in High-Level Ministerial Dialogue on the New Collective Quantified Goal on Climate Finance, High-Level Ministerial Round Table on Pre-2030 Ambition,



Annual High-Level Ministerial Round Table on Just Transition, High Level Ministerial Dialogue on Adaptation Finance and made interventions. India also made interventions in Single Setting Session plenary, COP 29 closing plenary, plenary on MWP and during the Presidential consultation on the agenda, proposed by BASIC Group of Countries, on Unilateral Measures.

Delivering India's National statement at the High-level Segment of the CoP29 of UN Climate Change Conference at Baku, Azerbaijan, Union Minister of State for Environment, Forest and Climate Change, Shri Kirti Vardhan Singh called the CoP as historic and called all Nations to put up a collective fight against Climate Change, under UNFCCC and its Paris Agreement. He said, "What we decide here, will enable all of us, particularly those in the Global South, to not only take ambitious mitigation action but also adapt to Climate Change. This CoP is historic in this context".



Secretary (MoEFCC) and Dy. Leader of the Delegation, Ms. Leena Nandan called for 'Balance in the Climate Discourse' while firmly asserting that

any attempts to deflect the focus again from finance to repeated emphasis on mitigation cannot be accepted.

The outcomes of COP 29 are in the format of various decisions and India's position is articulated in these decisions except that on the new collective quantified goal on climate finance (NCQG). During the closing plenary on early hours of 24th November, 2024, India objected to hurriedly adopted decision on NCQG without following the due UN process. India's statement at the plenary demonstrated its commitment to act as a voice for the Global South in wanting more international support for developing nations to step up their climate actions.

India's interventions at COP 29 reflected the country's stance in advocating for the rights of the Global South and developing nations, particularly in relation to Equity and Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). India called for credible, accessible, long-term, grant-based, concessional climate finance, and technology transfer from developed countries to address the impacts of climate change, especially considering the historical greenhouse gas emissions of these countries.

- **Ek Ped Ma Ke Nam Thematic Installation at COP 29 in Baku.**

A thematic installation to promote



essence of 'Ek Ped Maa Ke Naam' campaign was set up at COP 29 in Baku. It is a unique initiative combining environmental responsibility with a heartfelt tribute to mothers, inaugurated on June 5, 2024, with the planting of a Peepal tree by the Hon'ble Prime Minister at Buddha Jayanti Park in Delhi.

The activity emphasized on the importance of collective efforts to improve the environment and highlight India's strides in increasing forest cover over and the quest for sustainable development.

- **India's participation in various Side-events during CoP29 at Baku, Azerbaijan**

The Ministry collaborated with various agencies to organize following key strategic side events on several aspects of climate action during the CoP29 UN Climate Change Conference at Baku, Azerbaijan, from 11th-22nd November, 2024:

- i. Integrating Disaster Resilient Infrastructure into the Adaptation Strategies, 13.11.2024 (CDRI Pavilion)
- ii. Lead-IT (Leadership Group for Industry Transition) Member Meet, 14.11.2024 (India Delegation Office)
- iii. India-Sweden Industry Transition Partnership (ITP) – Road to Belém,

16.11.2024 (Swedish Pavillion)

- iv. Unlocking Investments for Climate Resilient and Sustainable Infrastructure in Small Island Developing States (SIDS), 18.11.2024 (CDRI Pavillion)
- v. Energy Transitions for the Global South: Unleashing the role of solar for the global south, 19.11.2024 (ISA Pavilion)
- vi. Lead-IT Summit 2024 of members, 20.11.2024 (EU Office)
- vii. Solarizing Communities through Women-led Climate Action: Strengthening Adaptation, Unlocking Finance and Creating Jobs, 21.11.2024 (ISA Pavillion)

Through these side events, the team India shared experiences, highlighted key initiatives to deal with the climate change. The team effectively articulated and showcased India's commitment to climate action and various initiatives being taken at the international as well as domestic level.

- **Leadership Group for Industry Transition:**

The second phase of Leadership Group for Industry Transition (LeadIT) i.e. LeadIT 2.0 and India-Sweden Industry Transition Partnership (ITP) was launched by Hon'ble Prime Ministers of India and Sweden at COP 28 in Dubai.



The Group comprises 41 members with 18 countries and 23 companies. LeadIT provides spaces for multi-stakeholder dialogues, supports technology transfer and co-development in heavy industry sectors, and facilitates country partnerships that support emerging and developing economies in accelerating their industry transition through coordinated multilateral technical and financial assistance.

The work under the India-Sweden Industry Transition Partnership (ITP) kicked off on 22nd Apr, 2024 in New Delhi with a launch and meeting of the five Working Groups. The Groups bring together key stakeholders (Government as well as private) from India and Sweden to focus on Cement, Steel, Innovation, Carbon Markets and Finance. Several meetings of the Working Groups followed the kick-off meeting and Coordination Committee Meetings held on 26 Jun 2024 and 7 Oct 2024 to update the Committee about the progress made by the Working Groups. The Groups have collectively drafted action plans, laying out specific steps and timelines to achieve the agreed deliverables by COP30.



Picture 1: India Sweden ITP Kick-off Meeting, 22 April 2024, New Delhi

At COP 29 in Baku in November 2024, the LeadIT Company members meet was hosted at the India Delegation office on 14 November 2024. The Meet witnessed the sharing of the experiences and expectations of the members from the Group. A Side Event “*India-Sweden Industry Transition Partnership (ITP) – Road to Belém*” was organized on 16 Nov 2024, at the Swedish Pavilion. The panel discussion provided a platform to take stock of progress made under the India-Sweden ITP and highlighted the links with its sister partnership, the Brazil-UK Industry Decarbonization and Hydrogen Hubs.



Picture 2: LeadIT Company Members Meeting, 14 Nov 2024, Baku

The Annual LeadIT Summit was co-hosted by Hon’ble Minister of State for Environment, Forest and Climate



Change, Shri Kirti Vardhan Singh and Swedish Minister for Climate and Environment, Ms. Romina Pourmokhtari, on 20th Nov 2024 in Baku, on the sidelines of COP 29. This annual event brought together governments, industries, and key stakeholders to discuss industrial low carbon transition, innovation, public-private partnerships, and aligning heavy industry with the Paris Agreement. The first five-year report of LeadIT, outlining its work, successes and impacts so far was also released by the two Ministers.



Picture 3: Annual LeadIT Summit, 20 Nov 2024, Baku

- **India's Adaptation Efforts:**

India had submitted the Initial Adaptation Communication to the United Nations Framework Convention on Climate Change (UNFCCC) on December 9, 2023, highlighting the adaptation priorities, strategies, policies and programmes of the country along with implementation support needs for adaptation action. India, despite its pressing development imperatives, has accorded a prominent focus to the sustainability aspects in its accelerated

economic growth. India recognizes adaptation is inevitable and imperative for its development process and has been undertaking several efforts to increasingly mainstream adaptation efforts while furthering developmental requirements through a range of schemes/ projects/ programmes of several Ministries/ Departments to improve adaptive capacities and reducing socioeconomic vulnerabilities of the people. This reflects the importance that the Government is placing on adaptation action and, at the same time, is reflective of the significant pressure on domestic resources. The Initial Adaptation Communication of India estimates that the total adaptation relevant expenditure was 5.60 per cent of the GDP in 2021-2022, growing from a share of 3.7 per cent in 2015-16, indicating integration of climate resilience and adaptation into development plans. An increase in adaptation finance flows to India would ease the resource constraint and enable the country to meet its long-term sustainable development and economic growth objectives.

In its Adaptation Communication, India articulated that the country intends to address the identified needs and priorities through a robust adaptation-planning framework by developing a National Adaptation Plan for India. Further, the outcome of the first global stocktake, concluded at COP 28 in



December 2023 has called on Parties, that have not yet done so, to have in place their National Adaptation Plans (NAPs), policies and planning processes by 2025 and to have progressed in implementing them by 2030. UAE framework for Global Climate Resilience also decided that all countries should have fully transparent National Adaptation plan in place. In line with this, MoEFCC has initiated the process to develop the National Adaptation Plan (NAP). The NAP is a strategic vital document that would articulate India's adaptation priorities. The objective of the process is to develop a comprehensive and inclusive NAP that aligns with sustainable development goals and ensures climate resilience for all regions and sectors. Considering the thematic targets under the Global Goal on Adaptation and national priorities, nine sectors have been identified which include Agriculture and Allied Sectors, Water, Forestry, Disaster Management and Infrastructure Resilience, Ecosystems and Biodiversity, Health, Poverty Alleviation and Livelihoods, Traditional Knowledge and Heritage, Adaptation Resourcing.

- **Adaptation for Resilience (ADAPT4R) Project funded by the Multilateral Adaptation Fund:** Ministry of Environment, Forest and Climate Change, Government of India and Ministry of Environment, Wildlife, Forest Resources, Water Supply, Plantation and Community Infrastructure,

Government of Sri Lanka launched a regional project for "Strengthening the resilience of vulnerable communities to increased impacts of climate change in India and Sri Lanka" (ADAPT4R) on October 21, 2024. The project has received approval of multilateral Adaptation Fund Board (AF) and will be implemented in India and Sri Lanka in identified districts of both the countries sharing similar climate risks, agro-ecological conditions, and socio-economic vulnerabilities. In India the project will be implemented in Odisha, Andhra Pradesh and Tamil Nadu. The project aims to strengthen existing regional institutional mechanisms for knowledge and learning exchange on climate information services, substantially contributing to climate resilience in the region.

- **Green Climate Fund (GCF):** The Government of India has been engaging actively with the Green Climate Fund (GCF) and so far, twelve (12) projects/ programmes have been approved to India with a total allocation of USD 803.9 million to mitigate and adapt to climate change in sectors including water, clean energy, coastal, livelihood, transport, medium and small enterprises and climate start-ups. In year 2024, 03 funding projects and 01 readiness support have been approved to India. The India's GCF portfolio can be accessed through link "<https://www.greenclimate.fund/countries/india>".



- **Release of Green Climate Fund Toolkit:** MoEF&CC has released a GCF Toolkit – “Engaging with the Green Climate Fund” on 4th October 2024 to guide all stakeholders engaged in the area of climate change and sustainable development on how to access GCF resources and implement GCF-funded projects in the country. It also provides a checklist on how to get started with the preparation of a funding proposal all the way through to the development of a concept note, as well as guidance on how to access GCF support for project preparation. The toolkit is available on the MoEF&CC website and can be accessed through link “<https://www.moef.gov.in/green-climate-fund-toolkit>”.



(Release of GCF Toolkit – “Engaging with the Green Climate Fund” on 4th October 2024)

- **Capacity Building Workshops under Green Climate Fund:**

In year 2024, following capacity building workshops under GCF have been organized to raise awareness of stakeholders including GCF Direct Access Entities (DAEs), State/UT governments, private sectors, financial

Institutions etc.

- **Climate Conference 2024**

It The Climate Conference 2024 under the GCF Readiness programme was held in Mumbai on 12th January 2024, focusing on the pivotal role of the private sector, climate tech Start-ups and institutional investors in mobilizing financial resources and technical capabilities. The goal was to leverage government efforts, engage civil society and communities, and develop innovative climate services and adaptation technologies.



(Climate Conference 2024 in Mumbai on 12th January 2024)

- A workshop to facilitate the interaction between GCF Secretariat and India’s GCF stakeholders was organised on 13th August 2024 in Delhi. GCF Mission, MoEF&CC, International Entities (IEs), Direct Access Entities (DAEs) and Public & Private Sector attended the meeting. The overall aim was to strengthen India’s project pipeline and increase the number of GCF DAEs.



(Interaction between GCF Secretariat and stakeholders on 13th August 2024)

- The second GCF Training of the Trainers Workshop was organised at IIFM Bhopal from 8-9 October 2024 to impart information on accessing climate finance from GCF. State Government representatives from Madhya Pradesh, Chhattisgarh, and Maharashtra attended the workshop.



- The third GCF Training of the Trainers was organised on November 28-29, 2024 with participation from States of Punjab, Uttarakhand, Jammu & Kashmir, Uttar Pradesh, FRI, WII, IIT

Roorkee and civil society organizations. The aim was to train the participants on the understanding of access modality of the GCF.

- **Bilateral Meetings at COP 29:** Nearly 17 Ministerial Level Bilateral meetings were organized, including with delegations of UK, Russia, EU, France, Korea, Saudi Arabia, Australia, Nauru, Japan, and Germany, to discuss ways for enhancing cooperation on various aspects of Climate Change and strengthening the India's stance at COP 29.
- **Advisory proceedings before the International Court of Justice (ICJ):** India made written statement on its stance and delivered the oral statement before the International Court of Justice (ICJ) on the obligations of States in respect of climate change. Among the other, India through its written statement and oral submissions emphasized that countries with negligible historical emissions should not be expected to bear the same burden in addressing climate change. It is unjust to expect countries with negligible historical emissions to bear an equal burden in mitigating climate change. India urged the International Court of Justice to avoid creating new obligations that go beyond the existing climate-change framework.
- **State Action Plan on Climate Change:**



State Action Plans on the Climate Change are the strategic framework developed by States and UTs to address challenges from climate change within their geographical and administrative boundaries. Prepared in line with National Action Plan on Climate Change, these plans are a critical part of the overall national climate change mitigation and adaptation strategies. The SAPCC focuses on local actions that can reduce greenhouse gas emissions, enhance resilience, and promote sustainable development. As per the advisory of the Ministry, 34 States have prepared their SAPCCs. During 2024, the Ministry reviewed and approved revised SAPCCs of five States; namely, Assam, Chhattisgarh, Karnataka, Kerala, and Punjab.

c. MEAs, Agreement with countries, international organisations, compliance - Nil

- However, on the sidelines of the COP 29; nearly 17 bilateral meetings were organized, including with delegations of UK, Russia, EU, France, Korea, Saudi Arabia, Australia, Nauru, Japan, and Germany, to discuss ways for enhancing cooperation on various aspects of Climate Change and strengthening the India's stance at COP 29.

d. Progress/ Achievements

- India is the first G20 country to meet its carbon emission intensity reduction commitments given in the 2015 NDC

under the Paris Agreement, 11 years ahead of schedule.

- Also, we have achieved the target of non-fossil fuel based installed electric capacity 09 years before the deadline. We have not stopped here, India has now made these goals even more ambitious in its updated NDC, and we are moving towards achieving these ambitious goals.

- Regarding status on achievement of target under NDC related to carbon sequestration, the current assessment (ISFR 2023) shows that India's carbon stock has reached 30.43 billion tonnes of CO₂ equivalent; which indicates that as compared to the base year of 2005, India has already reached 2.29 billion tonnes of additional carbon sink as against the target of 2.5 to 3.0 billion tonnes by 2030.

e. Grant-in-aid released to Institutions/ organisations including NGOs-

The Division under the non-scheme establishment expenditure- Climate Change Action Programme released the Grant-in-aid (General and Capital) to the following institutions



S. No.	Name of the organisation	Purpose	Total amount Released
1.	Assam Climate Change Management Society, Assam	Financial Assistance for preparing the State Action Plan for Climate Change – 2 nd Instalment	Rs. 8.00 lakh
2.	Department of Ecology, Environment and Remote Sensing, Government of Jammu and Kashmir	Financial Assistance for preparing the State Action Plan for Climate Change- 1 st Instalment	Rs. 12.00 lakh
3.	Wildlife Institute of India, Dehradun	Financial Assistance for implementing certain aspects of the Long-Term Ecological Observatories (LTEO) Project	Rs. 95.00 lakh
4.	Indian Institute of Sciences, Bengaluru	Financial Assistance for implementing certain aspects of the Long-Term Ecological Observatories (LTEO) Project	Rs. 100 lakh
5.	CSIR- Fourth Paradigm Institute, Bengaluru	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 20.00 lakh
6.	Indian Institute of Science Education and Research, Bhopal	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 20.00 lakh
7.	Indian Institute of Technology, Kanpur	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 20.00 lakh
8.	Indian Institute of Technology, Bombay	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 40.00 lakh
9.	Indian Institute of Technology (IRD), Delhi	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 30.00 lakh
10.	Indian Institute of Science Education and Research, Mohali	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 20.00 lakh
11.	Indian Institute of Technology, Bombay	Financial Assistance for implementing certain aspects of National Carbonaceous Aerosols Programme Project	Rs. 36.00 lakh (GIA-Capital)



NATCOM

India submitted its 4th Biennial Update Report to the United Nations Framework Convention on Climate Change

India’s 4th Biennial Update Report (BUR-4) to the United Nations Framework Convention on Climate Change was submitted on December 30, 2024. The BUR-4 updates the Third National Communication (TNC) and contains the National Greenhouse Gas (GHG) inventory for the year 2020. The report also embodies information on India’s national circumstances, mitigation actions, an analysis of the constraints and gaps, and related finance, technology, and capacity-building needs.

National Greenhouse Gas Inventory

In 2020, India’s gross GHG emissions, excluding Land Use Land-Use Change and Forestry (LULUCF), were 2,959 million tonnes of CO₂e, and net emissions were 2,437 million tonnes of CO₂e with the inclusion of LULUCF. Table 1

presents a summary of sector-wise and gas-wise national emissions and removals.

Abbreviation: NO - Not Occurring.

The energy sector contributed the most to overall emissions (75.66 %), followed by agriculture (13.72 %), Industrial Processes and Product Use (8.06 %), and Waste (2.56 %) (Figure 1). In 2020, India’s forest and tree cover and other land use sequestered approximately 522 million tonnes of CO₂, equivalent to reducing 22% of the country’s total carbon dioxide emissions in 2020.

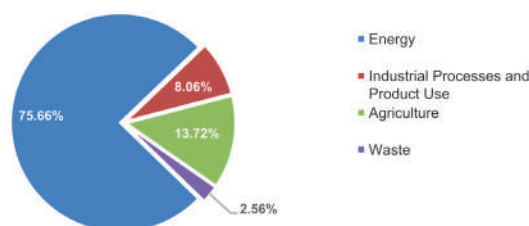


Figure 1: Distribution of GHG emissions (GgCO₂e) by sector, 2020

Figure 2 shows the %age share of the top 15 key emission categories for India for 2020 in terms of CO₂e.

Table 1: Sector-wise National GHG emissions in Gg for 2020

GHG sources and removals	CO ₂ emission	CO ₂ removal	CH ₄	N ₂ O	HFC ₂₃	CF ₄	C ₂ F ₆	SF ₆	CO ₂ equivalent
Energy	2181012	NO	1523	82	NO	NO	NO	NO	2238409
IPPU	201044	NO	232	8	2	1	0.27	0.004	238556
Agriculture	NO	NO	14290	342	NO	NO	NO	NO	405983
LULUCF	9369	-532357	41	1	NO	NO	NO	NO	-521933
Waste	NO	NO	2726	58	NO	NO	NO	NO	75641
Memo Items	802846	NO	0.09	0.11	NO	NO	NO	NO	802882
Total Emission	2382535	--	18771	489	2	1	0.27	0.004	2958589
Net Emission	2391904	532357	18811	490	2	1	0.27	0.004	2436656

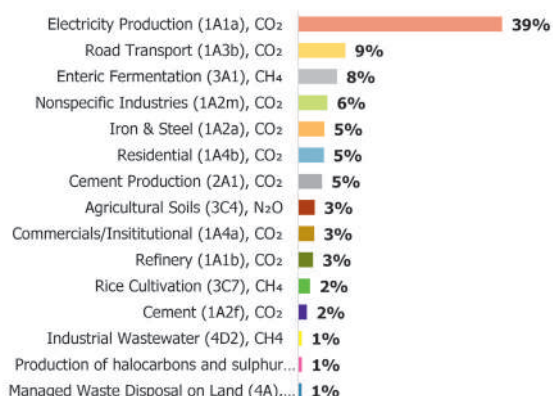


Figure 2: %age share of greenhouse gas emissions by category, 2020

Figure 2: %age share of greenhouse gas emissions by category, 2020

The CO₂, CH₄, and N₂O emissions accounted for 80.53 %, 13.32 %, and 5.13 %, respectively, of the national GHG emissions, excluding LULUCF (Figure 3). In the case of fluorinated gases, emissions of HFC, CF₄, C₂F₆, and SF₆ were 0.73 %, 0.20 %, 0.09 %, and 0.003 %, respectively.

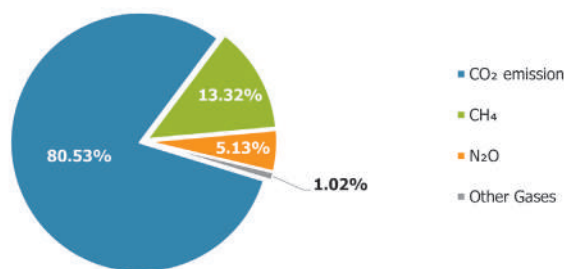


Figure 3: Gas-wise emissions for the year 2020

Total national GHG emissions (including LULUCF) have decreased by 7.93 % with respect to 2019 (Figure 4). Since 1994, India has undergone significant economic growth, resulting in an overall increase in greenhouse gas emissions. From 1994 to 2020, total CO₂e emissions (excluding LULUCF) rose by 144 %. The waste sector experienced a growth of 226 % from 1994 to 2020, attributed to population growth

and increased industrial activities. However, its contribution to overall emissions consistently hovers around 3 %, indicating a relatively low absolute contribution. The energy sector experienced a growth rate of 201 % from 1994 to 2020, primarily attributed to the ongoing rise in fossil fuel combustion. During the same period, the IPPU sector experienced a growth of 132 %, whereas the agriculture sector saw an increase of only 18 % (Figure 5). From 2000 to 2020, the LULUCF sector exhibited a 135 % increase in greenhouse gas removals.

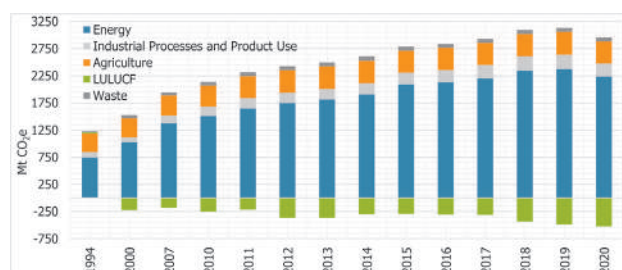


Figure 4: Sector-wise National GHG emission in Mt CO₂e for 1994-2020.

Source: (MoEF, 2004); (MoEF, 2012); (MoEF, 2010); (MoEFCC, 2016); (MoEFCC, 2018); (MoEFCC, 2021); (MoEFCC, 2023).

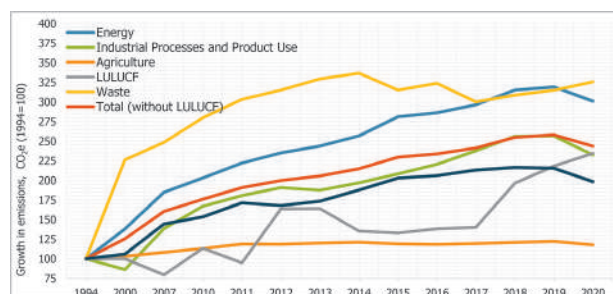


Figure 5: Growth in emissions of greenhouse gases, relative to 1994, illustrated by source categories, 1994-2019. Index 1994 = 100.

Source: (MoEF, 2004); (MoEF, 2012); (MoEF,



2010); (MoEFCC, 2016); (MoEFCC, 2018); (MoEFCC, 2021); (MoEFCC, 2023).

Mitigation Actions: India’s achievements in respect of the NDC targets

Despite India’s very low contribution to historical emissions and the current levels of global emissions, India has taken proactive actions to combat climate change in the context of sustainable development and its developmental aspirations and in light of its national circumstances, reflecting principles of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC) as enshrined in the UNFCCC and its Paris Agreement. The fundamental principle that informs India’s climate policy is to pursue its development goals according to national circumstances while keeping within its fair share of the global carbon budget.

Government of India has consistently undertaken several initiatives to promote non-fossil fuel based sources of energy. Owing to these, India stands 4th globally in renewable energy installed capacity, 4th in wind power capacity and 5th in solar power capacity. Over the past decade, the installed solar energy capacity has surged from approximately 2.63 GW in March 2014 to around 92.12 GW in October 2024, marking an extraordinary increase of nearly 35 times. These achievements align with the updated Nationally Determined Contributions (NDCs) of India which includes, inter-alia, achieving about 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. Table 2 summarises the progress of India’s NDC targets.

Table 2: Progress of India’s Nationally Determined Contributions (NDC)

Intended NDC (Oct 2015)	Updated NDC (Aug 2022)	Achievements	Remarks
NDC 1 - Reduction of the emissions intensity of GDP by 33% to 35% from 2005 level by 2030	33-35% enhanced to 45%	36% (between 2005-2020)	The original target was achieved 11 years ahead of schedule. On track to achieve the revised target
NDC 2 - Achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030	40% enhanced to 50%	46.52% (Oct, 2024)	Original target achieved 9 years ahead of schedule. On track to achieve the revised target
NDC 3 - To create an additional carbon sink of 2.5 to 3 billion tonnes of CO ₂ equivalent through additional forest and tree cover by 2030	No change	2.29 billion tonnes of CO ₂ e by 2021	On track as per Forest Survey of India estimates



8.2 Ozone Cell

1. OZONE LAYER PROTECTION

The stratospheric ozone layer is present from 10 to 50 kms above the Earth's surface. The stratospheric ozone layer acts as a shield and protects us from harmful ultraviolet-B (UV-B) radiation from the sun. Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Halon, Carbon Tetrachloride (CTC), Methyl Bromide, Bromofluoromethane (BFM) etc. are recognised as Ozone Depleting Substances (ODSs) that depletes the ozone layer. Depletion of Stratospheric Ozone Layer has the potential to cause skin cancer, eye cataract, suppress body's immune system, decrease crop yield etc., which led to the adoption of the Vienna Convention for the Protection of the Ozone Layer in 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987. The Montreal Protocol is recognized as the most successful international environmental treaty enjoying universal ratification from all the 198 United Nations Member countries and has led to phase out of 98 % of ODSs globally.

The MoEF&CC set up the Ozone Cell as a National Ozone Unit (NOU) to render necessary services for effective and timely implementation of the provisions of the Montreal Protocol and its ODSs phase-out program in India. The Ministry constituted an Empowered Steering Committee (ESC) under the Chairpersonship of the Secretary (EF&CC) to oversee the overall implementation of the provisions of the Montreal Protocol in the country.

In order to comply with the requirements of the Montreal Protocol, the Ministry has brought out comprehensive Ozone Depleting Substances (Regulation and Control) Rules, 2000 under the Environment (Protection) Act, 1986 for phasing out of various ODSs. The ODS Rules have been amended in 2001, 2003, 2004, 2005, 2007, 2014 and 2019 to implement ODS phase-out activities in the country.

2. IMPLEMENTATION OF HYDROCHLOROFLUOROCARBONS (HCFC) PHASE-OUT MANAGEMENT PLAN (HPMP)

HPMP Stage-II

The Executive Committee (Ex-Com) of the Multilateral Fund (MLF) approved the HCFC Phase out Management Plan (HPMP) Stage-II project for India during its 77th meeting held in December 2016. The HPMP Stage-II would address phase-out of HCFCs in various sub-sectors of foam manufacturing, Refrigeration and Air Conditioning (RAC) manufacturing and RAC servicing sector.

Under HPMP Stage-II project, 160 enterprises including large number of Micro, Small and Medium Enterprises (MSMEs) have participated for technology conversion from HCFC-141b to non- ODS and low-Global Warming Potential (GWP) technologies in foam sector. Similarly, four enterprises in RAC manufacturing sector have been participating for conversion from HCFC-22 to HFC-32 technology.

In the foam-manufacturing sector, the third party has been on boarded, after



physical site verification, confirmed that 158 out of 160 participating enterprises have phased out the use of HCFC 141b and no stocks of HCFC 141b are available at any of the manufacturing sites. Regarding the balance 2 enterprises, the MOA could not be operationalized as the enterprises have closed their operations. In the RAC manufacturing sector, six enterprises have completed the technology conversion activities and have shifted to Hydrofluorocarbon (HFC)-32 technology.

A separate notification S. O. No. 4724 (E) dated 31st December, 2019, amending the Ozone Depleting Substances (Regulation and Control) Rules, 2000, was published in the Gazette of India inter alia prohibiting the issuance of import license for HCFC-141b from 1st January, 2020. HCFC-141 b is one of the most potent chemical involved in stratospheric ozone depletion after the CFCs.

In addition to the amendment to the Ozone Depleting Substances (Regulation

and Control) Rules during 2019, the DGFT, Ministry of Commerce and Industry amended the import policy to ban the import of HCFC 141b to the country.

In a significant first, amongst the Article 5 Parties (developing countries) under the Montreal Protocol, India has been able to achieve the complete phase out of HCFC 141 b in the foam-manufacturing sector, as part of implementation of HPMP Stage II.

HCFC Reductions through HPMP Stage-II

The required level of reduction in HCFCs consumption in the year 2023 as per the target under the Protocol and the allowable consumption of HCFCs in different years in the range of 2017 - 2023, as per the approved HPMP-II is given in table below:

In line with the accelerated phase out schedule of the Montreal Protocol for HCFCs, as against 35% phase-out reduction of HCFCs during 2020-2023 as per Montreal Protocol Schedule, India achieved reduction of 50% of HCFCs in consumption sector.

S. N.	Particulars	2016	2017	2018	2019	2020	2021	2022	2023	Total
1	Montreal Protocol Reduction Schedule (ODP tons)	1447.38 90% of baseline	1447.38 90% of baseline	1447.38 90% of baseline	1447.38 90% of baseline	1045.33 65% of baseline	1045.33 65% of baseline	1045.33 65% of baseline	1045.33 65% of baseline	
2	Maximum allowable Consumption as per HPMP-II (ODP tons)	1447.38 90% of baseline	1447.38 90% of baseline	1433.63 89.15% of baseline	1103.85 68.64% of baseline	832.32 51.75% of baseline	799.76 49.73% of baseline	698.82 43.45% of baseline	643.28 40% of baseline	
3	Reductions required (ODP tons)	—	—	13.75	329.78	271.53	32.50	100.94	55.54	804.10

*from the implementation of HPMP-II, it is envisaged that 804.10 ODP tons reduction will be achieved



The production and consumption of HCFCs for the controlled uses for the year 2023 were very much lower than the compliance target under the Montreal Protocol. Hence, the country complied with respect to the obligation under the Montreal Protocol.

HPMP Stage-III

The HPMP Stage-III project for India was approved by the 91st meeting of the Ex-Com of the MLF held during December 2022. The HPMP Stage-III will be the last of the HPMPs for India in achieving compliance with the Montreal Protocol 2025 and 2030 control targets for consumption of Annex C Group 1 substances (HCFCs) with complete phase-out of HCFC-22 by 1 January 2025 in all manufacturing sectors as per the ODS (Regulation and Control) Rules 2000, as amended in 2014.

48 enterprises in the refrigeration-manufacturing sector and 16 enterprises in the air-conditioning manufacturing sector are participating in HPMP Stage-III.

Enabling Activities under HPMPs

Ozone Cell, MoEF&CC, in association with the UN Environment (UNEP) have been implementing the enabling components (Capacity Building and Awareness creation) of HPMPs. The following activities have been undertaken as part of the enabling component under HPMPs.

- **Capacity Building of Enforcement Department/Agencies**

Activities relating to the capacity building of enforcement Departments are being

implemented in association with the National Academy of Customs Indirect Taxes and Narcotics (NACIN) for capacity building by imparting training of new Customs and Enforcement Officers in the field of import and export of ODSs, through a MoA. The following activities have been implemented:

- Two Train the Trainers (ToT) workshop on combating Illegal trade in ODS conducted by NACIN on 26- 28 February 2024 at Puducherry, 8 -10 April 2024 at Darjeeling.
- Workshops for Training of new Customs and Enforcement Officers to combat illegal trade in ODS conducted by NACIN on 27 –28 May 2024 at ZTI Chennai.
- One-day capacity building workshop to combat illegal trade of HCFCs under HPMP-II conducted by NACIN, Palasamudram on 9th August, 2024 at Mount Abu, Rajasthan.
- Border dialogue with neighbouring countries on specific Ozone Depleting Substance (ODS) trade related aspects was held from 26-27 September 2024.

The training programme includes sensitizing field customs formations regarding prohibition of its import of HCFC-141b in the country and towards enforcing import ban on HCFC-141b starting from 1.1.2020, a special module was introduced in customs trainings.

- **Studies on key issues relating to Montreal Protocol implementation:**



⇒ Following studies have been undertaken:

- i. Guidebook on “Sustainable Technologies for Infrastructure relating to Cold Chain Sector” aims to promote adoption of sustainable low GWP technologies in the development of cold chain infrastructure including in retrofitting of existing cooling equipment / storage infrastructures in the cold chain sector, including the process and steps to be followed.
- ii. Guidebook for selection of “Sustainable Refrigeration and Air-conditioning equipment provides information related to selection of low GWP and energy efficient refrigerants.
- iii. Guidebook on “Passive Cooling Strategies for Sustainable Buildings” aims to reduce cooling demand by adopting energy efficient envelope in building design.

● **Development and dissemination of knowledge products**

Knowledge products comprising Booklet on good servicing practices or flammable refrigerants a quick guide has been brought out and disseminated widely.

Quarterly e-newsletter for RAC service technicians on the importance of good servicing practices including handling of different types of refrigerants, related safety issues and updates on refrigerant transition under the Montreal Protocol are being published in association with M/s TERI.

3. RATIFICATION OF THE KIGALI AMENDMENT TO THE MONTREAL PROTOCOL FOR PHASE DOWN OF HYDROFLUOROCARBONS (HFCs) BY INDIA

The Union Cabinet in its meeting held on 18 August 2021 approved the Ratification of Kigali Amendment to the Montreal Protocol for phasedown of HFCs by India. India ratified the Kigali Amendment to the Montreal Protocol for phasedown of HFCs on 27 September 2021.

As per the agreed phase-down of HFCs under the Kigali Amendment, India will have to complete its phase down of the production and consumption of HFCs in 4 steps from 2032 onwards with reduction of 10% in 2032, 20% in 2037, 30% in 2042 and 85% in 2047 respectively. The list of HFCs to be phase-down under the Kigali Amendment are as follows:

Sr. No.	Substance	100-Year Global Warming Potential
1.	HFC-134	1100
2.	HFC-134a	1 430
3.	HFC-143	353
4.	HFC-245fa	1030
5.	HFC-365mfc	794
6.	HFC-227ea	3220
7.	HFC-236cb	1340
8.	HFC-236ea	1370
9.	HFC-236fa	9810
10.	HFC-245ca	693
11.	HFC-43-10mee	1640
12.	HFC-32	675
13.	HFC-125	3500
14.	HFC-143a	4470



15.	HFC-41	92
16.	HFC-152	53
17.	HFC-152a	124
18.	HFC-23	14800

In accordance with the Montreal Protocol provisions, the framework for licensing system for import and export of HFCs and reporting obligations has been put in place after the first national stakeholder consultation held on 20 January 2022. The DGFT, Ministry of Commerce and Industry, the nodal agency for licensing for import/export of HFCs is implementing the licensing system for HFCs, based on the recommendations of the Ozone Cell, MoEFCC. Data reporting for HFCs commenced from 2022 along with other ODS as per provisions of Article 7 of the Montreal Protocol.

The National Strategy for HFC phase down is being prepared. As part of the strategy development, several stakeholders' consultative workshops and sectoral meetings are being organized in close cooperation with the industry associations.

The following are the sectors and sub-sectors where HFCs are used:

- i. Air-conditioning Manufacturing including room AC, light commercial, VRF systems and chillers;
- ii. Refrigeration Manufacturing including commercial refrigeration (cooling cabinets, freezers including vaccine coolers and freezers, water coolers, cold rooms, fishing vessels);
- iii. Process chillers (including food

processing equipment);

- iv. Mobile Airconditioning including buses, trains, etc.;
- v. Foam Manufacturing;
- vi. Firefighting manufacturing;
- vii. Industrial Aerosols including cosmetics;
- viii. Meter Dose Inhalers.

4. INDIA COOLING ACTION PLAN (ICAP)

MoEFCC developed and launched the India Cooling Action Plan (ICAP) during March 2019. India is one of the first countries in the World to have a comprehensive cooling action plan. ICAP aims to provide an integrated vision towards cooling across sectors encompassing inter alia reducing cooling demand, refrigerant transition, enhancing energy efficiency and better technology options with a 20-year time horizon, i.e. 2037-38.

ICAP recommends synergies with ongoing government programmes and schemes to maximize socio-economic co-benefits. The Government of India has taken steps to operationalize the recommendations given in ICAP after mapping of the recommendations for each thematic area, with the on-going government programmes/schemes and list out actions to be undertaken for achieving the said goals including identifying the required policy and regulatory interventions. Further, the following thematic groups during its meetings have identified a list of action points for operationalizing the



recommendations of the ICAP, which have been finalized in the meeting of Steering Committee and are under implementation by the concerned nodal Ministries/Departments/agencies:

i. Space cooling in buildings: Space cooling covers both passive and active cooling strategies, optimization of cooling loads, encompassing natural and mechanical ventilation in building design, thermal comfort standards specifying pre-setting of temperatures for air-conditioning equipment in commercial built spaces and promoting use of energy efficient refrigerant based appliances including not in-kind technologies.

ii. Cold Chain: Cold Chain sector comprising cold storages or refrigerated warehouses, pack houses, reefer transport and ripening chambers is poised for a significant growth in the coming years. The development of uninterrupted cold chain infrastructure will be a major driver in supporting the Government's priority areas of reducing food loss, ensuring food security and doubling farmers income.

iii. Domestic Manufacturing and Production Sector – Alternative Refrigerants and technologies: Indian fluorocarbon industry has improved their technological capability in indigenous development of production processes including new generation low-GWP refrigerants such as HFOs and

blends of HFOs and HFCs. This industry has shown results and is expected to continue to strive for self-sufficiency in indigenous refrigerant development and production of low/zero GWP alternative refrigerants.

iv. Research and Development: The development of a robust R&D ecosystem in India will involve further development of scientific manpower in the area; requisite academic and R&D institutional capacities; support for R&D activities on various facets of cooling including cooling equipment, passive building design interventions, not-in-kind technologies and new emerging technologies.

v. Servicing Sector: Servicing sector is directly related to the consumption of refrigerants and optimum and efficient performance of in-use air conditioning equipment. Training and certification of RAC service technicians have potential to provide significant environment and livelihood benefits. These could be achieved through appropriate skill development of service technicians along with creating a market demand for skilled technician, which shall be a key driver.

vi. Transport Sector: Improvements in system efficiency, transitioning to low-GWP environmentally friendly refrigerants and leakage free technologies, greater push for public transport infrastructure along with skilled servicing workforce and



operational behavioural change are key to promoting sustainable cooling in transport. These aspects have been addressed as recommendations in the ICAP under the Transport air-conditioning thematic area.

The ICAP has been recognized as an important policy initiative, which has the potential to provide socio-economic and environmental benefits related to reduced refrigerant use, climate change mitigation and Sustainable Development Goals.

5. AWARENESS CREATION AND CONSULTATION ACTIVITIES/ MEETINGS

The following activities have been undertaken for awareness creation to ensure that the industries and public at large are aware about the ill effects of ozone depletion, and undertake necessary ODS phase-out activities and support the policies to protect the ozone layer:

i. World Ozone Day 2024:

- (a) The MoEF&CC organized the World Ozone Day 2024 function in Delhi. The theme for this year World Ozone day was *"Montreal Protocol: Advancing Climate Actions"*. Secretary, MOEFCC was the Chief Guest
- (b) The World Ozone Day 2024 event was attended by School Children (around 500 school students), Line Ministries/ Departments, and Industries associated with Montreal Protocol implementation, Service technicians of Refrigeration and Air-conditioning (RAC), Partners

associated with Montreal Protocol implementation, think tanks, and Refrigerant gas Manufacturers, RAC and foam manufacturing enterprises, implementing agency, etc.

- (c) Major activities undertaken during the World Ozone Day 2024 are:

- **School Competition:** To create awareness among the students to protect the Ozone Layer, competitions in the categories of Poster and Slogan Writing were organized jointly by National Museum of Natural History (NMNH) and the Ozone Cell, MoEFCC for schoolchildren across the country. 4,187 entries have been received for the poster competition and 1,299 entries received for the slogan competition through a web portal developed for the purpose.
- The announcement made during the event regarding Ministry of skill development and entrepreneurship (MSDE) has approved the Unified Certification system for service technicians in the Refrigeration and Air conditioning servicing sector to be implemented for training and certification of 25,000 technicians from 2025 to 2030 under HPMP Stage -III.
- Announcement made for strengthening of training infrastructure by providing RAC testing equipment support to 100-



120 Industrial Training Institutes (ITIs).

● **Release of Awareness Material:**

- **Winning Poster:** The Chief Guest released the first prize winning entry in poster competition during the World Ozone Day function.



- **26th edition of "The Montreal Protocol: India's Success Story":** The 26th edition of "The Montreal Protocol: India's Success Story" highlights India's achievements in the Montreal Protocol Implementation in phasing out of Ozone Depleting Substances until date.



- **Booklet on Action Plan for implementation of the recommendations of the ICAP for Transport Air Conditioning Sector:** In order to operationalize the recommendations of India Cooling Action Plan (ICAP), the action plan

for Transport Air Conditioning has been finalized after mapping of the recommendations given in the ICAP with the on-going government programmes/schemes and the proposed actions by different agencies, after extensive discussions with all the concerned stakeholders including line Ministries/Departments.



- **Guidebook on "Sustainable Technologies for Cold Chain Sector"** aims to promote adoption of sustainable low GWP technologies in the development of cold chain infrastructure including in retrofiting of existing cooling equipment / storage infrastructures in the cold chain sector, including the process and steps to be followed.



- **Guidebook for selection of**



“**Sustainable Refrigeration and Air-conditioning equipment** provides information related to selection of low GWP and energy efficient refrigerants.



- **Guidebook on “Passive Cooling Strategies for Sustainable Buildings”** aims to reduce cooling demand by adopting energy efficient envelope in building design.



- **3rd edition of News TRAC** – Quarterly news magazine for RAC technicians to disseminate information to the service technicians for new developments and initiatives in the RAC service sector.



- **Animation Video by Prakriti:** An engaging animation video delivering messages on the importance of ozone layer protection.
 - **Documentary on RAC Service Technician Training:** Highlights the importance of training and certification of refrigeration and air conditioning service technicians.
- ii. The Joint meeting of South Asia and West Asia networks of NOOs held from 24-27 September, 2024 in Chennai, India, in association with UNEP OzonAction and the Central Board of Indirect Taxes and Customs (CBIC). The meeting was attended by Ozone Officers of South Asia and West Asia, representatives of nodal line Ministries/ departments, leading R&D academic institutions associated with Montreal Protocol implementation and Industry stakeholders.
 - iii. **Initiatives taken for Indigenous capacity development including research on low global warming (GWP) chemicals to be used as alternatives to HFCs:**

In order to promote indigenous



manufacturing of low global warming potential chemicals and development of a robust R&D ecosystem the MoEFCC has collaborated with 8 Indian Institutes of Technology (Roorkee, Hyderabad,

Kanpur, Patna, Banaras, Madras and Tirupati) to promote research and development of low global warming potential chemicals, including blends thereof, to be used as alternatives

ODS	Production* (MT)	Export** (MT)	Import** (MT)	Feedstock use within country (MT)	Consumption as per definition #
					ODS (MT)
CFC-11	0.000	0.000	0.000	0.000	0.000
CFC-12	0.000	0.000	0.000	0.000	0.000
CFC-13	0.000	0.000	0.000	0.000	0.000
CFC-113 ¹	0.000	0.000	0.000	0.000	0.000
Total	0.000	0.000	0.000	0.000	0.000
CTC ¹	36787.325	1350.003	840.790	35437.322 ^a (Production) 840.790 (Imported)	0.000
Total	36787.325	1350.003	840.790	36278.112	0.000
Halon -1211 ²	0.000	0.000	6.154 (Recovered/ Reclaimed)	0.000	0.000
Halon -1301 ^{1&2}	300.000 (feedstock)	300.000 (feedstock)	5.080 (Recovered/ Reclaimed)	0.000	0.000
Halon -2402 ²	0.000	5.028	0.000	0.000	0.000
Total	300.000	305.028	11.234 ²	0.000 ^b	0.000
Methyl Bromide ³	3275.950	1785.123	0.000	0.000	1490.827
Total	3275.950	1785.123	0.000	0.000	1490.827
HCFC-22	81001.337	16427.207 ^c	0.000	58755.083 ^d	5819.047
HCFC-123	0.000	0.000	84.376	0.000	84.376
HCFC-142b ¹	2976.719	98.300	2400.000	2878.419 ^e (Production) 2400 (Imported)	0.000
HCFC-141b	0.000	0.000	0.000	0.000	0.000
HCFC-133A ¹	0.000	0.000	0.000	0.000	0.000
HCFC-225 ca/cb ¹	10.090 ^f	0.000	0.000	0.000	0.000
Chloro Fluoro Propanes (mixtures of HCFC 241, 242, 243 and 244) ¹	4213.08	4213.08	0.000	0.000	0.000
Total	88201.226	20738.587	2484.376	64033.502	5903.423
Bromofluoro- methane ¹	0.609245	0.609245 ^g	0.463	0.463 (Imported)	0.000
Total	0.609245	0.609245	0.463	0.463	0.000



to substances controlled under the Montreal Protocol in line with industry requirements through engagement of research scholars. This would help in creating awareness for development and adoption on indigenous low global warming potential alternative technologies, which could be deployed during the HFC phase down besides promoting "Make in India" initiative of the Government. National Productivity Council (NPC) is appointed as an overarching institution for effective implementation of the proposed activities by the IITs.

iv. Ozone Cell, MoEFCC organised a study tour to Brussels (Belgium), Bonn-Frankfurt (Germany), Paris (France), Copenhagen (Denmark) from 22nd to 31st January, 2024. A total of 15 Officers from line Ministries/Departments/Agencies have participated in the Study Tour. The objective of the Study tour was to promote the exchange of experiences on the key policy-related issues for the national policymakers and government officials from India associated with Montreal Protocol implementation, based on which key strategic and operational actions required for effective implementation

HFC	Production (MT)	Export (MT)	Import (MT)	Consumption (MT)
HFC-32	11459.11	2856.496	8844.900	17447.514
HFC-41	0	0	0.000025	0.000025
HFC-125	10282.102	7126.832	373.975	3529.245
HFC-134a	13476.12	5367.726	7701.665	15810.059
HFC-227ea	0	5.070	308.626	303.556
HFC-152a	0	0	4502.914	4502.914
HFC-245fa	0	0	1772.705	1772.705
HFC-236fa	0	0.52	84.908	84.388
HFC-365MFC	0	0	19.800	19.800
HFC-43-10mee	0	0	0.9	0.9
R-404A* (HFC-125 = 44%, HFC-134a = 4%, HFC-143a = 52%)		239.016	1294.800	1055.784
R-407C* (HFC-32 = 23%, HFC-125 = 25%, HFC-134a = 52%)		492.533	538.776	598.943*
R-410A* (HFC-32 = 50%, HFC-125 = 50%)		5922.993	3492.061	2971.608*



R-426A* (HFC 125=5.1%, HFC134 a=93%, HC-600=1.3%, HC601a=0.6%)		0	40	40
R-438A* (HFC-32=8.5%, HFC-125= 45%, HFC-134a=44.2%, HC600=1.7%, HC-601a=0.6%)		0	260	260
R-448A* (HFC-32=26%, HFC-125= 26%, HFO-1234yf=20%, HFC-134a=21%, HFO-1234ze(E)=7%)		0	5.896	5.896
R-449A* (HFC-32=24.3%, HFC-125=24.7%, HFO-1234yf=25.3%, HFC-134a=25.7%)		0	0.999	0.999
R-454B* (HFC-32=68.9%, HFO-1234yf =31.1%)		0	0.521	0.521
R-454C* (HFC-32=21.5%, HFO-1234yf =78.5%)		0	0.184	0.184
R-508B*(HFC-23 = 46%, PFC-116 = 54%)		0	1.278	1.278
R-513A* (HFO-1234yf=56%, HFC-134a= 44%)		0	1.368	1.368
HFC-365mfc/HFC-227ea* (87%/13%)		0	364.800	364.800
Total	35217.332	22011.186	29611.076	48772.46203

of the Kigali Amendment can be framed as part of the National Strategy and operational framework for HFC phase-down.

- v. Three meetings of the Working Group of the Standing Committee on Monitoring were held to discuss applications related to use/ manufacture of ODSs for feedstock uses, inter alia including qualifying process as feedstock use.
- vi. The 5th meeting of the Steering Committee was held on 10th January, 2024 under the Chairpersonship of Secretary (EF&CC) to review the implementation of the finalised action

points relating to recommendations of the India Cooling Action Plan (ICAP).

- vii. Meeting of Production Quota was held on 26 April 2024 under the Chairpersonship of Economic Advisor, Ozone Cell, for distribution of production quota of HCFC 22 for non-feedstock applications.
- viii. Meetings of the thematic working group on Transport Air-conditioning was held on 5 August 2024.
- ix. Meetings to discuss the trend analysis developed for Production and consumption sector w.r.t National Strategy for phase-down of



- Hydrofluorocarbons (HFCs) were held on 13 May 2024 and 24 June 2024.
- x. Ozone Cell, MoEF&CC in association with IIT Kharagpur and TERI organized a consultative Workshop on 16 August 2024 to discuss the "Guidebook on Sustainable technologies for new and retrofitting of existing buildings and space cooling" and "Guidebook on Procurement of Refrigeration and Air Conditioning (RAC) equipment based on sustainable cooling technologies".
 - xi. The 46th meeting of the Empowered Steering Committee for Implementation of the Montreal Protocol and 6th Meeting of Steering Committee of the India Cooling Action Plan (ICAP) was held on 20th August, 2024 under the Chairpersonship of Secretary (EF&CC).
 - xii. The 8th meeting of the meeting of the Project Steering Committee (PSC) for Montreal Protocol Projects implemented through UNDP as Implementing Agency, held on 27th August, 2024 under the Co-Chairpersonship of Economic Adviser, MOEFCC and Deputy Resident Representative, UNDP India office.
 - xiii. Two meetings of the Committee constituted to review the existing system in place related to data of import and export of substances controlled under the Montreal Protocol i.e Ozone Depleting Substances (ODSs) and Hydrofluorocarbons (HFCs) was held on 15 April 2024, 6 May 2024, 14 May 2024 and 5th September, 2024.
 - xiv. Meeting of the Standing Committee on
- Monitoring was held on 10 September 2024 under the Chairpersonship of Chairman, CPCB, in which the Article-7 and Country Program Progress Report (CPPR) data for 2023 were recommended for approval.
 - xv. Two meetings of the Committee constituted for Strengthening Training Infrastructure at ITIs including providing basic tools and equipment support for handling servicing of flammable refrigerants and training on good servicing practices was held under the Chairpersonship of Economic Advisor, MoEFCC on 17 January 2024 and 4 September 2024.
 - xvi. Meeting of HPMP Stage-III participating enterprises was held on 5 November 2024 to discuss issues and challenges related to technology conversion.
 - xvii. The Project Implementation Committee (PIC) meeting (HPMP stage II and Stage III) for the enabling components being implemented by UNEP and servicing sector being implemented by GIZ was held on 5 November 2024 under the Chairpersonship of Economic Advisor, Ozone Cell.
 - xviii. Several consultative meetings were organized on a regular basis for interaction with industry, Government Departments etc., on issues relating to Montreal Protocol Implementation.
 - xix. Review meetings with UNDP to discuss progress of MLF Projects implemented by UNDP were held from time to time.
 - xx. Training, workshops were organized



across the country for RAC servicing technicians by GIZ, as part of the activities in the RAC Servicing Sector.

- xxi. Ozone Cell has made available awareness creation material to the public on its website. Instructional training videos for RAC service technicians in six different languages have been made.
- xxii. Separate QR codes have been generated for the instructional videos for wider dissemination through print medium.
- xxiii. Pamphlets and information material is brought out at regular intervals and disseminated.
- xxiv. Ozone Cell has made Animation video of messages by Prakriti on Ozone Layer Protection and Documentary film on India's Success Story on implementation of Montreal Protocol.
- xxv. In a large exercise to provide contemporary update relevant material related to RAC servicing, the publications brought out by Ozone Cell were sent to Government run ITIs across the country which have RAC trade vocational training.
- xxvi. CPCB, SPCB's and other State Government Departments are being regularly updated/ informed about the ODS phase-out programme being implemented in the country.
- xxvii. The Indian delegation actively participated in the following meetings of the Montreal Protocol:
 - 46th meeting of the Open-Ended Working Group of Parties to the

Montreal Protocol held from 8-12 July, 2024. 93rd and 94th meetings of the Ex-Com of the MLF for implementation of the Montreal Protocol held from 15-19 December, 2023 and 27-31 May, 2024 respectively.

- 35th and 36th Meeting of the Parties on Substances that Deplete the Ozone Layer held from 22-27 October, 2023 and 27th October- 1st November, 2024 respectively.

6. ACTIVITIES RELATED TO THE IMPLEMENTATION OF ODS RULES, 2000 AND ITS AMENDMENTS AND MONTREAL PROTOCOL

Activities related to the implementation of ODS Rules, 2000 and its amendments were carried out inter alia including registration, regulation of export/import, issuance of production quota, monitoring and reporting.

The statutory reporting under the Montreal Protocol under Article 7 has been completed and the Country Program Progress Report (CPPR) submitted to the Secretariat of the Multilateral Fund for the implementation of the Montreal Protocol. The compiled data submitted under Article 7 and Country Programme Progress Report (CPPR) for the year 2023 is as follows:

- 1 For feedstock only
 - 2 Recovered/Reclaimed halon
 - 3 for Pre-shipment & Quarantine
- a Total production of CTC for feedstock is 36787.325 MT out of which 1350.003



MT exported and 35437.322 MT is used within the country for feedstock

- b Total production of Halon-1301 for feedstock is 300 MT out of which 300 MT exported for feedstock, there was no use within the country for feedstock
- c Including 107.73 MT exported for feedstock to Japan.
- d Total production for feedstock of HCFC-22 is 58862.813 MT out of which 107.73 MT exported and 58755.083 MT is used within the country for feedstock
- e Total production of HCFC-142b for feedstock is 2976.719 MT out of which 98.300 MT exported and 2878.419 MT is used within the country for feedstock
- f Total production of HCFC-225 is for feedstock and the same exported during 2024.
- g 0.354531MT export to Singapore +0.254714MT export to United Kingdom (for feedstock)

Sources

*Producers

**Producer/Consumer/Directorate General of Commercial Intelligence and Statistics

As per the definition under the Montreal Protocol Consumption for controlled use= Production (for controlled use)+ Import(for controlled use)-Export (for controlled use)

*As per Article-7, no need to report the production of mixtures/blends. However, the consumption is calculated considering R-407C production= 552.70 MT and R-410A production= 5402.540 during the

year 2023.

8.3 United Nation Convention to Combat Desertification

a. Introduction:

The Desertification Cell plans, coordinates and collaborates activities for restoration of degraded land and for the achievement of Land Degradation Neutrality ((LDN) in India. It is also the focal section addressing the issues pertaining to the United Nations Convention to Combat Desertification (UNCCD), which was ratified by India on 17 December 1996, with the IGF being the National Focal Point.

The Desertification Cell is also the co-ordination division for SDG 15.3 (By 2023, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation neutral world) in the Ministry and the coordination Division for National State of Environment Report for information pertaining to land degradation status.

b. Important Activities during the reference period:

India at UNCCD COP 16: An inter-ministerial delegation led by the Hon'ble Minister of Environment, Forest and Climate Change participated at the sixteenth session of the Conference of Parties to the United Nations Convention to Combat Desertification (COP 16, UNCCD) held at Riyadh, Saudi



Arabia from 2 – 13 December 2024. The overarching theme of the conference was *'Our land, Our future'* which focused on garnering global momentum for the goal of combating desertification, land degradation and drought.

The major outcomes included the announcement of the Riyadh Drought Resilience Partnership, advancement of the Vision for Adapted Crops and Soils (VACS) and promotion of the Business4land initiative. The conference witnessed the formation of two new Caucuses for Indigenous Peoples and Local Communities to ensure that perspectives were well represented. Further, the World Drought Atlas and the Economics of Drought Resilience Report were launched. Additionally, for the first time, UNCCD Parties made a decision encouraging the sustainable management, restoration and conservation of range lands — vast ecosystems used for grazing — ahead of COP17, to be hosted by Mongolia in 2026 during the International Year of Rangelands and Pastoralists.

India's Interventions at UNCCD COP 16: India reiterated its commitment to combat land degradation and foster global drought resilience. The Hon'ble Minister represented India at the three Ministerial Dialogues on *'From Geneva to Riyadh and beyond, enhancing global and national policy instruments for proactive drought management approach'*, *'Unlocking Public and Private Finance for Land Restoration*

and Drought Resilience' and *'Impacts of land degradation and drought on forced migration, security and prosperity'*. At the dialogues, India highlighted the setting up of a Centre of Excellence on Sustainable Land Management in India to promote a scientific approach towards land degradation issues and key initiatives such as the Green Credit Programme and the Green India Mission.

Delivering the country statement at COP 16 the HMEFCC emphasized that in India, Earth is traditionally revered as Mother Earth and by drawing a parallel between the nurturing nature by Mother Earth with that of our own mothers India has launched a mass-based campaign, **Plant for Mother**, through which we have planted more than one billion saplings this year. He urged all countries and their citizens to join this unique initiative, which would be the biggest tribute to Mother Earth and would also contribute in addressing issues of land degradation and climate change.

In addition, Indian delegation has hosted Side Events on **Gender Responsive Perspective towards achieving Land Degradation Neutrality and Transforming Pathways: Achieving Land Degradation Neutrality through Sustainable Land Management Practices involving local communities, women and youth in India** which were well received by the participants. The Indian Delegation jointly released the publications - *'The Atlas of Land*



Degradation Vulnerability Assessment' with Space Application Centre, ISRO' and 'Sowing Equality, Growing Sustainability: Success stories of Women Combatting Desertification and land Degradation in India' with UNDP-India. Indian delegation also participated in the release of the 'Regional Drought Risk Management and Mitigation Strategy for South Asia' published by the Asian Disaster Preparedness Centre (APDC)'.

Aravalli Restoration: The Ministry had announced to revive the Aravallis, a major initiative to green the 5 km buffer area around the Aravalli hill range in the four States of Rajasthan, Gujarat, Haryana and parts of Delhi-NCR. The Detailed Action Plan of the project has been prepared in consultation with the State Governments which reflects the strategy for restoration of the district-wise identified potential treatment areas in the relevant states within the Aravalli Range.

Study Initiatives

Enhanced Capacity Building of Stakeholders

and State Governments on Forest Landscape Restoration and Reporting Mechanism on Bonn Challenge

NAEB is implementing a pilot project **"Enhanced Capacity building of Stakeholders and State Governments on Forest Landscape Restoration and Reporting Mechanism on Bonn Challenge"** in consultation with IUCN and is compiling the data for reporting the achievements under Bonn Challenge Commitments. The project aims to develop and adapt best practices and monitoring protocols for the Indian States and build capacity within five pilot States (identified as Haryana, Madhya Pradesh, Maharashtra, Nagaland and Karnataka) on the same in the first phase of the project. This will be eventually rolled out across the country in all States in subsequent phases of the project. The Project period is 5 years with a total cost of Rs. 3.76 crores. The project cost is met from National CAMPA Fund. The project initiated in 2020 and is ongoing.



CHAPTER : 9

INTERNATIONAL COOPERATION



CHAPTER - 9

INTERNATIONAL COOPERATION

9.1 International Cooperation

The International Co-operation (IC) Division coordinates all issues related to international environmental cooperation and allied areas. The Division handles bilateral country to country cooperation as well as Multilateral matters in the areas of environment protection. It also supports annual contributions to various UN and other international bodies, as it is a nodal agency for all the issues related to the environment within the Ministry of Environment, Forest and Climate Change (MoEFCC).

Multilateral: The IC division coordinates with UNEP, GEF, the World Bank (WB) and regional bodies like Economic & Social Commission for Asia & Pacific (ESCAP), Brazil-Russia-India-China-South Africa (BRICS); South Asian Association for Regional Cooperation (SAARC), South Asia Cooperative Environment Programme (SACEP), Association of South-East Asian Nations (ASEAN), Asian Development Bank (ADB), European Union (EU); Shanghai Cooperation Organisation (SCO); G20; and United Nations Environment Assembly (UNEA).

Bilateral: The IC division is also the Nodal Division for bilateral (country-to-country) cooperation in the field of environment and related matters. The Ministry has entered into total 31 MoUs on various environmental issues, out of

which 18 MoUs are directly administered by IC Division. Most of the MoUs/agreements are operated through the Joint Working Groups (JWGs).

a. Important multilateral activities

1. Shanghai Cooperation Organization (SCO):

- » The Shanghai Cooperation Organization (SCO) is a multilateral organization, established on 15 June 2001 in Shanghai, China, initially by 6 countries viz: China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan. Amongst other things, it aims to promote their effective cooperation in environmental protection. India officially joined SCO as full-fledged member at the historic summit in Astana on 9 June 2017. Shanghai Cooperation Organization has the status of Observer at the United Nations General Assembly.
- » India assumed the Chairmanship of the Shanghai Cooperation Organisation Council of Heads of State (SCO CHS), as per rotation, after Uzbekistan from 17 September 2022 onwards, for a period of one year. As part of its responsibilities as Chair, India hosted regular session of the SCO Council of Ministers for Environment and the meetings of its Expert Working Group in 2023.
- » Kazakhstan held the presidency of the Shanghai Cooperation Organization



(SCO) in 2023-2024, and under its leadership, there was a noticeable push toward strengthening regional cooperation on environmental sustainability, climate change, and forest management. The SCO's focus on these issues reflects the growing recognition of environmental challenges that transcend national borders, particularly in a region that includes rapidly developing countries facing significant environmental and climate risks.

- » The agenda items discussed in the meetings included Status and prospects for developing the cooperation in the field of environmental protection. The Fifth Meeting of Heads of Ministries and Departments of the Shanghai Cooperation Organization (SCO) Member States responsible for environmental protection, was held on 22 May, 2024 in Astana, Kazakhstan in which an Indian delegation led by Shri KB Singh, IGF attended the meeting. Agreement between the Governments of the Shanghai Cooperation Organization Member States on Cooperation in the field of environmental protection was signed by member countries. Ambassador of India in Astana Kazakhstan signed it on the part of MoEFCC



Fifth Meeting of Heads of Ministries and Departments of the Shanghai Cooperation Organization (SCO) Member States

2. United Nations Environment Assembly:

- » The United Nations Environment Assembly (UNEA) is the world's highest-level decision-making body on the environment. UNEA enjoys the universal membership of all 195 UN Member States and the full involvement of major groups and stakeholders. It sets the global environmental agenda, provides overarching policy guidance, and defines policy responses to address emerging environmental challenges.
- » It undertakes policy review, dialogue and the exchange of experiences, sets the strategic guidance on the future direction of the UN Environment Programme (UNEP), and fosters partnerships for achieving environmental goals and resource mobilization.
- » UNEA sessions since 2014 have been organized as five-day events, including the high-level segment that continues to attract heads of state and governments.



The first three days of the 5-day UNEA are dominated by plenaries, national and regional statements, and the work of The Committee of the Whole. The last two days are dedicated to the High-Level Segment where heads of state and government participate. Our former Hon'ble Minister of State (Independent Charge) for Environment, Forest & Climate Change, Information & Broadcasting and Minister of State for Parliamentary Affairs, Shri Prakash Javadekar, led the Indian delegation to the 1st UNEA in Nairobi in 2014.

- » The 6th United Nations Environment Assembly (UNEA 6) was scheduled from 26th February to 1st March 2024 in Nairobi, Kenya. UNEA, brings together governments, environmental organizations, and other stakeholders to address global environmental challenges and develop policies that promote sustainability. UNEA-6 was preceded by a meeting of the Open-ended Committee of Permanent Representatives, held from 19 to 23 February 2024, which helped lay the groundwork for the Assembly. An Indian delegation led by Shri. Naresh Pal Gangwar(AS) attended the meetings.
- » UNEA 6 adopted resolution proposed by India Co sponsored by Bolivia and Srilanka on 'Promoting sustainable lifestyles'.

3. BRICS Meetings:

- » BRICS represents a significant and growing coalition of emerging economies with the potential to reshape global governance. The group seeks to provide an alternative voice in global politics and economics, advocating for a multipolar world order that better reflects the interests of developing countries. While facing internal challenges and external criticisms, BRICS continues to be an important player in the ongoing evolution of the global system, particularly in terms of economic development, infrastructure financing, and global governance reform.
- » The BRICS Contact Group on Climate Change and Sustainable Development (BRICS CGCCSD) was established under the Russian Chairship in BRICS in 2024. The CGCCSD act as a platform for exchange of expertise and information on national policies and practices, intensification of joint practical efforts on climate change in the context of sustainable development, taking into account the existing socio- economic, technological and trade advantages of the partners.
- » Shri Bhupender Yadav, Hon'ble Minister of Environment, Forest and Climate Change, participated virtually in The BRICS Environment Ministers Meeting on 28 June, 2024, BRICS Senior Officers' Meeting of the EWG, was held on 26-27 June, 2024. On 27 June, 2024, there



were two parallel sessions of BRICS Forestry and 2nd Meeting of BRICS Contact Group on Climate Change and Sustainable Development.



BRICS Environment Ministers Meeting on 28 June, 2024

- » A Forum on 'BRICS Climate Agenda in the Current Conditions' was held on 29-30 Aug, 2024. Forum hosted a number of sessions on just transition, carbon markets and greenhouse gas emissions reduction and removal activities, green cities, adaptation, etc. A High-Level Dialogue on Climate Change was held on 30 Aug 2024 in which HMEFCC participated virtually. It had intervention by BRICS ministers responsible for climate change issues and certain documents of the BRICS CGCCSD which were adopted.



High-Level Dialogue on Climate Change held on 30 Aug 2024

- » MoU to establish the BRICS Carbon Markets Partnership, which will serve as a framework among the Participants to promote further cooperation in the field of carbon markets, with a specific focus on capacity-building and exchange of experiences has been signed by member countries

4. South Asia Cooperative Environment Programme (SACEP):

- » The South Asia Cooperative Environment Programme (SACEP) was set up in 1982 with headquarters in Colombo, Sri Lanka. India is a founder member of SACEP. Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka are the members of this programme. It aims to promote Regional Cooperation in South Asia in the field of environment, both natural and human, in the context of sustainable development and on issues of economic and social development.
- » The Governing Council (GC) is the principal deliberative and review body responsible for determining policies, strategies and programmes of the SACEP. The Governing Council of the



SACEP consists of Environment Ministers from all 8 Member States. Secretaries of the Ministries of Environment of SACEP Member States are the designated National Focal Points.

- » The 16th Meeting of GC of SACEP, was scheduled from 24-26 June, 2024 in Thimpu Bhutan, and Indian delegation led by Shri. Pravir Pandey (AS&FA) attended the meeting.
- » Major items highlighted by AS&FA were some of the recent initiatives of Government of India, namely Green Credit Initiative (GCI) launched by Hon'ble Prime Minister on the side-lines of COP 28; Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI); Mission Circular Economy; National Clean Air Programme; Digitization of Flora, Fauna and herbarium records; Transcontinental relocation of Cheetah; International Big Cat Alliance (IBCA); Forest (Conservation) Amendment Act, 2023; India Cooling Action Plan; and Banning of single use plastics.

5. G20:

- » The G20 consists of 19 individual countries, the European Union (EU) and the African Union (AU). The individual member countries represent approximately 85% of global GDP and around 75% of global trade. The G20 aims to foster international economic cooperation, address global challenges, and promote sustainable development. The G20 remains a central institution

for addressing global challenges and shaping the future of international cooperation. It continues to evolve as a forum for addressing issues that impact not just the member countries, but the global community as a whole, including economic stability, sustainable development, and the future of global governance

- » There were 4 agenda/priorities under the Sherpa track of ECSWG Brazil G20 Presidency, as mentioned below:
 - i. Emergency and Preventive adaptation to extreme climate events
 - ii. Payments for ecosystem services
 - iii. Oceans
 - iv. Waste and Circular Economy

These priorities/agendas are similar to the agendas/priorities under the ECSWG during India's G20 Presidency in 2023.

India participated in the Four ECSWG Meetings held under the Presidency of Brazil in 2024. The 4th Meeting of the Environment and Climate Sustainability Working Group, was held in Rio de Janeiro, Brazil, from 30 September to 04 October, 2024 and ministerial statement of ECSWG was issued. Based on the priorities to be dealt with during the ECSWG meetings, viz., oceans, payment for ecosystems services, adaptation and circular economy, a delegation led by Secretary, EF&CC participated in the G20 ECSWG meeting and side events from 30 September to 4 October 2024



at Rio De Janeiro, Brazil.

6. BIMSTEC Joint Working Group on Environment and Climate Change:

- » The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization that was established on 06 June 1997 with the signing of the Bangkok Declaration. Being a sector-driven grouping, cooperation within BIMSTEC had initially focused on six sectors in 1997 (trade, technology, energy, transport, tourism, and fisheries) and expanded in 2008 to incorporate agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people-to-people contact, and climate change.
- » The First Meeting of the BIMSTEC Joint Working Group on Environment and Climate Change was held on 6 December 2022 in Thimphu, Bhutan virtually. All Member States participated in the meeting hosted and chaired by the Lead Country for Environment and Climate Change, Bhutan. The 2nd Meeting of the JWG and the workshop was held during 9-12 Oct, 2023, and India also attended this meeting. The Indian delegation was led by Senior Economic Adviser, Shri Lalsanglur.

b. Important bilateral activities

1. **Spain:** A bilateral meeting between Ms Teresa Ribera Rodriguez, Vice President of the Government of Spain & Minister for Ecological Transition

and Demographic Challenge and Sh. Bhupender Yadav, HMEFCC took place on 08.02.2024 on issues of COP28 agreements, International Plastics Treaty negotiations, preparations for INC and International Alliance for Drought Resilience.

2. **Germany:** A bilateral meeting of India and Germany took place on 06.03.2024 at Indira Paryawaran Bhawan, New Delhi. The topics of discussion included proposed 4th Indo-German Environment Forum, Track-II Dialogue, UNEA and Joint Working Group on Climate Change.
3. **Guatemala:** An Indian Delegation led by Smt. Leena Nandan, Secretary, EFCC visited Guatemala from 3rd to 6th May 2024 for signing of the Memorandum of Understanding between the Government of the Republic of India and the Government of the Republic of Guatemala on Conservation of the Tiger (*Panthera Tigris*) and the Jaguar (*Panthera Onca*) and also to discuss cooperation in the areas of forests, resource efficiency, circular economy, green credit initiative and Sustainable Development through E-Governance
4. **Bhutan:** A bilateral meeting between Sh. Kirti Vardhan Singh, Hon'ble MoS and Lyonpo Gem Tshering, Bhutan's Minister of Energy and Natural Resources was held on 11 July 2024 at Godavari Conference Hall in Indira Paryawaran Bhawan wherein views on bilateral cooperation on Environment b/w India



and Bhutan were exchanged.

5. **United Kingdom:** A bilateral meeting between Smt. Leena Nandan, Secretary, EF&CC with British High Commissioner Ms. Lindy Cameron was held on 15th July 2024 at Indira Paryawaran Bhawan wherein issues including NDCs, Green Credit Initiative, COP-29, Forestry, Biodiversity, LeadIT, ISA etc were discussed.
6. **Colombia:** A Meeting between Sh. Bhupender Yadav, HMEFCC and Colombian Ambassador to India, Dr Victor Echeverri Jaramillo was held on 31st July 2024 at Indira Paryawaran Bhawan to discuss details and significance of CBD CoP16
7. **Singapore:** A bilateral meeting between Sh. Bhupender Yadav, HMEFCC with Mr Simon WONG, High Commissioner, Embassy of Singapore was held on 7.08.2024 to discuss 2nd India-Singapore Ministerial Round table and the draft Implementation Agreement under Article 6.2 for the trading of carbon credits.
8. **Germany:** Bilateral meeting between Smt. Leena Nandan, Secretary, EFCC and Parliamentary State Secretary Dr. Hoffmann on 25.10.2024 at Indira Paryawaran Bhawan was held and discussions on various issues like Indo-German Government Consultations, Bilateral cooperation (including working groups, especially bilateral working group on circular economy), Biodiversity,

Current multilateral environmental processes etc took place.

9. **European Union:** A High-Level Dialogue on Climate was conducted between India and EU in October 2024. The India side was led by Sh. Naresh Pal Gangwar, Additional Secretary, MoEFCC and the EU side was led by Ms. Diana Acconcia, Director for International Affairs and Climate Finance at the Directorate General for Climate Action, European Commission. The topics of discussion included climate finance, NCQG, Carbon Market, CBAM etc.
 10. **European Union:** A bilateral meeting was also organised between Sh. Naresh Pal Gangwar, Additional Secretary, MoEFCC and Ms. Diana Acconcia, Director for International Affairs and Climate Finance, EU covering topics of Sustainable shipping and recycling practices, NDCs and Adaptation.
- c. Joint Working Group Meetings in 2024**
1. **JWG with Guatemala:** An Indian Delegation led by Smt. Leena Nandan, Secretary (Environment, Forest & Climate Change) visited Guatemala from 3rd to 6th May 2024 to discuss cooperation in the areas of forests, resource efficiency, circular economy, green credit initiative and Sustainable Development through E-Governance.
 2. **JWG with Bhutan:** The first JWG with Bhutan was held in Thimpu, Bhutan on 21.10.2024. The Indian delegation was



led by Smt. Leena Nandan, Secretary, EFCC and issues like Sustainable Forest Management, International Big Cat Alliance, Climate Change, Air Pollution etc. were discussed in the same.

- 3. JWG with Switzerland:** 3rd JWG meeting between India and Switzerland was held under the chairmanship of Sh. Neelesh Kumar Sah, Joint Secretary on 08.02.2024 wherein Indian side was apprised of the status of new projects initiated in India like Passive Cooling for low carbon Built Environment (BeCool) and also new projects being designed like Climate Responsive and Socially Inclusive Restoration of Forest Landscapes (ReStoRe). Further an Outlook for 2024 was also furnished by the Swiss side wherein it communicated that it will design new phases of three projects namely Clean Air, CapaCITIES and SOLAR. Indian side had mentioned that Ecosystem Based Approach may be used rather than Nature Based solutions and the cooperation can be overlapped with NCAP for synergy.
- 4. JWG with Norway:** 10th JWG meeting between India and Norway was held on 25.06.2024 led by Smt. Leena Nandan, Secretary, EFCC in hybrid mode at Kaveri Conference Hall. Discussions were held on issues including Circular Economy, Plastic Pollution, RECEIC, Green Credit, Forest Fires, Land Degradation etc.
- 5. JWG with France:** 4th JWG meeting between India and France was held on 10th July 2024 at Teesta Conference Hall

under the chairmanship of Sh. Neelesh Kumar Sah, Joint Secretary. Matters related to Adaptation and resilience to Climate Change (esp Coastal Areas), Biodiversity Strategy (30x30 target) and other issues including Plastic Pollution, Circular Economy and Sustainable Lifestyles were discussed with the French side.

- 6. JWG with EU:** A Joint Working Group (JWG) meeting between India and the EU was held on 9th October 2024 at Teesta Hall, Indira Paryavaran Bhawan, New Delhi. The Indian side was led by Mr. Neelesh Kumar Sah, JS(IC), MOEFCC. The EU side was led by Mr Davor Percan, Head of Unit for Regional and Bilateral Environmental Cooperation, European Commission. The JWG meeting covered issues like Management of Waste, Resource Efficiency, Circular Economy, Biodiversity, Sustainable Forest management, Plastics, Water and Air Pollution etc.

d. MoUs

- 1. Guatemala-** A Memorandum of Understanding between the Government of the Republic of India and the Government of the Republic of Guatemala on Conservation of the Tiger (*Panthera Tigris*) and the Jaguar (*Panthera Onca*) was signed between India and Guatemala on 3rd May 2024
- 2. Russia-** A Memorandum of Understanding on issues of Climate Change and Low Carbon Development



between Republic of India and Russian Federation was signed on 8th July 2024.

9.2 Externally Aided Projects

- (i) **EPPR:** Project proposals seeking external assistance are examined and processed by DEA. IC Division in MoEFCC processes the EPPRs received, to provide comments/inputs and no objection on the project proposal pertaining to Environment, Forest and Climate Change. IC Division collates the inputs/comments received from the various Divisions under the Ministry on the EPPR received and convey it through the EPPR portal (eapdea.gov.in/PPR), managed by DEA.
- (ii) **GEF:** IC Division processes the projects proposed under the Global Environment Facility (GEF), a multilateral family of funds dedicated to confronting biodiversity

loss, climate change, and pollution, and supporting land and ocean health. In India, the GEF projects are implemented by various Union Ministries assisted by the GEF agencies such as UNDP, UNIDO, UNEP, World Bank, IUCN, FAO, WWF and ADB. Under the 8th Replenishment cycle of GEF, 12 Projects under various focal areas have been approved. Further, under Small Grant Programme of GEF, total 61 projects have been granted to NGOs/CSOs.



CHAPTER : 10

RESEARCH



CHAPTER 10

RESEARCH

10.1 Research in Environment

Environmental Research and Development Program (ERDP)

- ▶ The ERDP, part of the revamped “Environment Education, Awareness, Research, and Skill Development” scheme (formerly “Decision Support System for Environmental Awareness, Policy, Planning, and Outcome Evaluation”), aims to promote environmental research in key areas identified by the Ministry. It involves reputed institutions, government-funded bodies, and professional organizations, supporting decision-making for policy and planning in the Ministry’s initiatives.
- ▶ The ERDP is open to all institutions in the country with expertise in identified thematic areas to undertake specific projects on specific areas of concern and priority and / or urgency of the Ministry in meeting Ministry’s objectives of environmental protection and conservation of natural resources. Institutions availing such funding under the Scheme will be provided a grant for the project duration.
- ▶ ERDP supports the Ministry’s policy and planning by addressing environmental issues, promoting conservation, building expertise in emerging areas, and generating data for decision-making and international negotiations.

The major thematic areas for funding are:

- i. Biodiversity Conservation including Issues of Alien and invasive species and Human-wildlife Interface.
- ii. Ecosystems Conservation & Management (Mountain, Forest, Coastal, Wetlands, Pastoral, etc.) and Evaluation of Ecosystem

Services.

- iii. Socio-economic issues of environment and Sustainable Development.
- iv. Conservation and Management of Landscapes and Ecologically sensitive areas including issues of sustainable livelihoods.
- v. Sustainable Management of Natural Resources.
- vi. Climate Change: Vulnerability & Risk Assessment, Process, Mitigation and Adaptation.
- vii. Pollution Prevention - Clean Technologies and Processes, Cleaner Production, 3Rs, Resource Efficiency, Waste Minimization and Management, etc.
- viii. Use of remote sensing technology for inventorisation, assessment and monitoring of country’s natural resources such as land, water, forests, wetlands, glaciers etc. and for environmental conservation and protection on areas given above.
- ix. Taxonomy.

a. Major objectives:

- i. Promotion of Research & Development in various facets of ecology and environment for the conservation and protection of environment and natural resources of the country. To plan, support and coordinate environmental research in public interest for enhancing the understanding of environment and ecology and devising strategies and solutions for environmental protection and management for achieving the overarching objectives of sustainable development.



- ii. The research projects will enable the Ministry to build database of Research projects and their findings in identified problem areas for finding practical solutions to issues concerning environmental protection and management and to generate information and knowledge from outcome of R&D projects for developing policies, strategies, action plans, and integration of such outputs in Ministry's on-going Schemes and Programmes and in better management and conservation of natural resources.

b. Activities / Progress / Achievements undertaken in 2024:

- ▶ Organised 04 meetings of the Technical-cum-Financial Appraisal Committee (TFAC) and 02 meeting of the Steering Committee (SC) in current calendar year.
- ▶ TFAC constituted on 22.08.2023 for a period of 02 years and SC constituted on 02.08.2023 for a period of 02 years. During the current calendar year, 04 TFAC and 02 SC meeting has been organised so far to appraise the research project proposals.
- ▶ 07 new research projects have been sanctioned under different thematic areas to various research Institutions/ Universities.

10.2 National Mission on Himalayan Studies (NMHS)

The CS-I (Mountain) Division has been established in MoEF&CC to ensure better coordination on issues for conservation of mountain ecosystem and ensuring sustainable livelihood options for communities in the region and beyond along with effective networking/ collaboration with relevant organizations. The major activities under this Division are as follows:

- i. Coordination of activities (administrative/ establishment matters) for Govind Ballabh Pant National Institute of Himalayan Environment (NIHE) to achieve physical and financial targets.
- ii. Monitoring of physical and financial targets for successful implementation of the National Mission on Himalayan Studies (NMHS) along with organising consultations/review meetings under guidance of Scientific & Technical Advisory Group (STAG)/Steering Committee (SC).
- iii. Coordination with International Centre for Integrated Mountain Development (ICIMOD) for their activities in India along with support in preparation of ICIMOD's Strategy and Action Plans in consonance with MoEF&CC's mandate; organising consultations for monitoring their work in India.

a. Objectives of NMHS

- ▶ To build a body of scientific and traditional knowledge through demand driven action research and technological innovations along with institutional strengthening & capacity building;
- ▶ To strengthen technological innovations leading to sustainable management of natural resources of Himalaya for ensuring the ecological, water, livelihood security at the local, regional and national levels;
- ▶ To create science-policy-practice connect through a network of policy makers and practitioners (individual and institutions) engaged in working solutions to problems in the thematic areas;
- ▶ To demonstrate workable/implementable/ replicable solutions to the problems in the priority thematic areas.



b. Activities:

- ▶ The 12th Steering Committee meeting was convened on June 14, 2024 under the Chairship of the Secretary, MoEF&CC to review progress of NMHS and approve new projects. The consecutive four (04) meetings, i.e., 22nd, 23rd, 24th and 25th meetings of Scientific and Technical Advisory Group (STAG) were organized on January 30th, February 20th, May 30th and September 14th in Year 2024-25, which were Chaired by the Joint Secretary, MoEF&CC for assessment and recommendation of new projects as well as mission progress and activities.
- ▶ The 8th Monitoring & Evaluation (M&E) Workshop was organized through Hybrid Webinar Mode on 29th May 2024. Under the guidance of the Chief Guest the Joint Secretary, MoEF&CC, the invited Chair and eminent members, subject experts evaluated 13 NMHS-supported projects in one technical session.

c. Progress/Achievements:

- ▶ Synthesised and characterised **Graphene-based materials from tyre and plastic**.
- ▶ Developed the methodology for using of “**Engineering Muck**” as construction material; conducted the laboratory testing for the varying the percentage for cement-treated base (CTB) mix design; Designed the “**Pavement Design consisting CTB Layer**”, using IITPAVE software.
- ▶ Developed and demonstrated a **Retrofitting Model of a Trombe Wall (Heat Gain Technique)** at Dharchula, Pithoragarh, Uttarakhand.
- ▶ Two Patents have been filed on: (i) **Intelligent Rainfall Intensity Measurement**

System and Method; and (ii) **Smart Wireless Sensor Network (WSN) Device Enabling Continuous Monitoring of Remote Location and Method**.

- ▶ Establishment of an Open Source Digital Knowledge Centre viz, “**Centre for Education on Vernacular Architecture (CEVA)**”.
- ▶ Development of a Technology Prototype for “**Mechanization of Indigenous Yak (*Bos grunniens*) Milk Cottage Cheese (Hard Churpi) Manufacturing Process**”.
- ▶ Overall, Knowledge Products under the Mission NMHS include: Success Stories (26), Technical Reports (15), Policy Briefs (18), Books/Chapters (41), Research Articles (533 with IF 1121.96), Newsletters (11), Fliers (139), Manuals (23), Bulletins (17) among other key publications.
- ▶ In addition, an extensive database of the IHR is also being updated, inclusive of (i) 6407 Springs inventory online database; (ii) 14,683 Floral species and 31,705 Faunal species databases; (iii) 265 Geospatial databases; (iv) DNA Barcoding/ Molecular profiling database of 1415 threatened flora and 1595 faunal species; (v) 1,119 Agro-biodiversity Accession conserved, among others.

International Centre for Integrated Mountain Development (ICIMOD)

ICIMOD is a regional inter-governmental and knowledge sharing centre on sustainable and resilient mountain development for improved and equitable livelihoods, supported by 8 member countries of Hindu Kush Himalaya - India, China, Nepal, Myanmar, Pakistan, Afghanistan, Bhutan and Bangladesh. MoEF&CC is the nodal Ministry for ICIMOD activities in India.



The 55th meeting of Board of Governors of ICIMOD was held during 29th April – 05th May, 2024 in Thimphu, Bhutan with representation from all Regional Member Countries including India. The Annual Progress Report 2023, Audit Report 2023, Annual Plan and Budget 2025 were finalized during the meeting.

10.3 G.B. Pant National Institute of Himalayan Environment

a. Objectives:

- i. To undertake in-depth research and development studies on environmental problems of the Indian Himalayan Region;
- ii. To identify and strengthen the local knowledge of the environment and contribute towards strengthening researches of regional relevance; and
- iii. To evolve and demonstrate suitable technology packages and delivery systems for sustainable development of the region in harmony with local perceptions.

b. Activities:

- Institute has been implementing demand-driven projects on: (i) Creation of an Integrated Database of the Himalayan Biodiversity for Mainstreaming in Policy to meet National Commitments, (ii) Multidimensional assessment of ecological dynamics and ecosystem health of selected high-altitude Lakes of IHR for effective conservation and management planning (iii) Scaling Ecosystem-based Approaches in the Indian Himalayan Region for climate adaptation and biodiversity resilience, etc. from different funding agencies like DST, NMHS, NASF, ICIMOD, and Ministry of Ayush.
- To strengthen the database of plant diversity in the Himalayan region, a geo-

coordinated map of 1,076 endemic plant taxa belonging to 432 genera and 100 families has been developed.

- Established hydro - meteorological instrumentations as the first-ever pilot study on spring rejuvenation in the Cold Desert area (Lahaul and Spiti district, HP).
- Establishment of one of world's highest in-situ glacier monitoring sites (~5750 m asl) at Rulung Glacier, Ladakh.

c. Progress/Innovations:

- Towards developing a framework for Climate Resilient Village, typology was developed for three landscapes i.e., Rudraprayag, Lahaul Spiti, and Karbi Anglong districts. The Village Climate Resilience Index (VCRI) for 60 villages was calculated using primary field-based data on services.
- Towards improving the livelihoods of the villagers, various promising rural technologies such as (i) Dragon fruit cultivation in NE Regional Centre, (ii) Improved Curing Kiln for Large Cardamom and (iii) protected cultivation using poly-tunnel technology (Sikkim Regional Centre), (iv) promotion of crop diversity and assessment of agriculture production deficit (Garhwal Regional Centre), (v) Promotion of "Shree Anna" (small millet), (vi) a high-return yielding strawberry, kiwi, and walnut plantation, in Jeyoli village cluster (Head Quarters) were introduced. An inventory of glacial and high-altitude lakes within the Kargil District of Ladakh UT is prepared based on Sentinel-2 Multispectral Instrument (MSI) images for the year 2022 in order to strengthen the database on the Himalayan glacier lakes. The inventory also systematically



assesses lake-topographic attributes and their relationship with the permafrost occurrence. Hydrometeorology studies in Pine-Oak dominated systems indicated that the Oak ecosystem provides effective soil and water conservation services.

- Hydro-geological assessment viz. hydrographs, flow duration, master recession curves analysis, univariate and bivariate analysis supported by geological investigation of Manadunga springs cluster (total 8 springs) in Champawat district has been carried out.
 - Glaciers in Kali basin of Uttarakhand, Neola and Indus basin region of Ladakh were identified to establish the glacier-climate response functional relationships. Baseline data on snout measurement, stake installation for velocity measurement, water sampling, and stream discharge measurement were collected.
 - A low-cost solar-powered hydroponic prototype was developed near the Faecal Sludge Treatment Plant (FSTP) of the Municipal Committee Leh (MCL) at Bombguard. A hydroponic-based soilless plant production system for commercial crops in Sikkim with 03 types of model (i.e., A-type nutrient film technique, trench culture system, & bag culture system) and HQs Almora has been initiated.
 - The Institute, as per the NGT assignment, has completed various tasks such as (i) Joshimath disaster - a warning for Mussoorie, (ii) appeals on Vishungad-Pipalkoti Hydro Electric Project, (iii) Tourism - Prosperity & Ill Effects in the IHR, and (iv) the Environment plan of the state Uttarakhand and 13 districts. The Institute has developed a comprehensive solid waste management at NIHE, Almora.
- d. Achievements:**
- A field demonstration model of Passive Solar Heated building has been developed to promote renewable energy and reduce carbon footprints, at Sosa village of Uttarakhand.
 - Database on the Himalayan glacier lakes within the Kargil District of Ladakh UT.
 - A database for extreme weather events (Cloudburst, Flash Flood) in the Beas basin.
 - A geo-coordinated map of 1,076 endemic plant taxa (1,061 flowering plants, 3 gymnosperms, and 12 ferns and fern allies) of IHR belonging to 432 genera and 100 families.
 - India's highest located (5750m asl) hydro-meteorological observatories was established on the forefield of the Rulung Glacier in Ladakh.
 - Curation of biodiversity data for all species of plant resources (economic and traditional uses), Algae, Reptiles and Amphibians from nearly 10,000 research papers completed and fieldwork for biodiversity documentation in 6 districts of Uttarakhand for improvement in EPI.
 - Classification and mapping of High Altitude Wetlands over past decade (2015-2025) at seasonal intervals (Start of summer, Peak Summer and End of Summer) and completed field based floristic assessment of Tsomgo and Hanspokhari lake (Sikkim), Tso-Moriri lake (Ladakh) and Bhekal Lake (Uttarakhand).
 - Developed criteria and parameters for designing a framework to assess ecosystem health of High Altitude Wetlands and draft framework for economic valuation on the



basis of travel cost, contingent and cultural value method.

- Stakeholder consultation based needs assessment completed and a plan prepared for augmenting nature-based livelihood and strengthening local institutions for the conservation of wetlands in Sikkim.
- Under the NIRANTAR vertical, NIHE and NCSCM organized over 170 events under

Mission Life activities and sensitized more than 25000 people across IHR. NIHE and NCSCM submitted a joint project on “Mountain Vegetation to Mangrove Forests: Carbon sequestration potentials and climate change adaptations for Forest dependent Communities” submitted to the Technical and Finance Committee of NIRANTAR for funding under NMHS.

e. Funds released to Institutions/organizations including NGOs:

S. No.	Name of Organisation	Purpose	Total Amount Released
1	GBPNIHE	To fulfil the objectives of GBPNIHE	Rs. 23.75 crores
2	GBPNIHE (For Implementation of NMHS non-scheme)	To fulfil the objectives of NMHS	Rs. 3.86 crores



CHAPTER : 11

**Environmental Information,
Education and Awareness**



CHAPTER 11

Environmental Information, Education and Awareness

11.1 Environmental Education Programme

a. Brief Introduction, objectives and functions:

The Environment Education Division implements the 'Environment Education Programme (EEP)' - one of the components of the revamped Central Sector Scheme - 'Environment Education, Awareness, Research and Skill Development (EEARSD)'. Additionally, the Division acts a link between the various Divisions of this Ministry and the Eco-club network for facilitating organization of educational activities for children. The Division also acts as the Nodal Division in the Ministry for matters related to National Education Policy (NEP), 2020.

Environment Education Programme

The Environment Education Programme aims to supplement the efforts of Ministry of Education in the formal education front, through varied pedagogical initiatives to impart non-formal environment education. The programme aims to supplement the knowledge that the children and young generation gain from classrooms with experience from nature and hands-on activities.

The objective of the programme is to sensitize children/ youth on issues related to environment and to motivate them to adopt sustainable lifestyle through varied pedagogical initiatives like workshops, projects, exhibitions, campaigns, competitions, nature camps, summer vacation programmes, etc.

The Implementing Agencies (IAs) of this Programme could be either at Central or State level, such as

- Any agency or autonomous body/ institutes of Central or State Government/ UT Administration having a mandate related to education/ environment and are nominated by the respective Central or State Government.
- Nehru Yuva Kendra Sangathan or any such body under Department of Youth Affairs, Kendriya Vidyalaya Sangathan, Navodaya Vidyalaya Samiti or other such body under Ministry of Education, National Museum of Natural History under this Ministry, Panchayati Raj institutions/ Urban Local Bodies, etc.

Sustainable Lifestyle Workshops/ Projects/ Exhibitions/ Campaigns/ Competitions/ Nature Camps/ Summer Vacation Programmes, etc. would be organized by the Implementing Agencies for children/ youth. These initiatives give target beneficiaries a platform for developing scientific temper and critical thinking, display creativity in addition to strengthening of concepts and opportunity to experiment and experience sustainable solutions. Nature camps help children/ youth to understand and appreciate India's unique natural diversity, varied ecosystems, flora and fauna, as well as to understand the threats to their survival. Thematic campaigns/ competitions like quiz, debate, essay, painting, physical activities, community participation, etc., give children/ youth a platform for expressing their ideas and spreading their word to the public.



b. Important activities:

- **Workshop / training program** were organized by various Implementing Agencies of EEP on topics like, Sustainable Lifestyle, Zero Waste Initiatives, 5 Elements Film Festival, reducing plastic waste and Single Use Plastic (SUP), Management and disposal of e-waste, Solid Waste Management, Vermi composting, sustainable food system, developing kitchen gardens, eco-friendly Ganesha idol making, etc. Exhibition on Waste to Wealth were also organised in many states through IAs.



Waste to Wealth' exhibition by Eco-club students of Telangana

- **Campaigns-** Eco-clubs across the country celebrated various important days/ weeks during the FY 2024-25 like World Environment Day, International Day for the preservation of the Ozone Layer, International Day of Clean Air for Blue Skies, etc. by organizing rallies, painting/ slogan/ poster competitions, cleanliness drives, etc.



Posters Made on Ozone Day

- In the run-up to the World Wetland Day 2024, the Implementing Agencies of EEP organised massive campaign to sensitize Eco-clubs students and youth on wetland conservation and management. Various activities like thematic assemblies, workshops, visit to a wetland, competitions, classroom sessions, cleanliness drive near water bodies, signature campaign, poster display, pledge, mass awareness etc. were conducted all over the country. During the two-month long campaign, a total of 3,828 activities were conducted by schools/ colleges with participation of 4,23,451 students from 19 States/ UTs.
- **Nature camps:** Nature camps organized with an aim to create greater awareness, understanding and empathy among children for the environment continued to be one of the successful programmes during the year.



Eco-club students at a nature camp organized by EMPRI at Doresanipalya Forest Campus, Bengaluru



c. Budget Allocation and Financial Performance:

The total budget allocated under EEP for Financial Year 2024-25 is Rs. 55 Crores (Budget Estimate) and Rs. 41 Crores (Revised

Estimate). The grant-in-aid is being released in tranches to Implementing agencies and the expenditure till date (07.11.2024) is Rs. 25.79 Crores

Table: State-wise release of grant-in-aid under EEP during last three years

S. No.	State(s)	FY 2022-23*	FY 2023-24	FY 2024-25 (as on 07-11- 2024)
1	Andhra Pradesh	25,62,836	4,14,29,664	99,85,500
2	Assam	1,47,90,500	3,57,50,000	1,27,86,526
3	Bihar	-	10,21,141	-
4	Chhattisgarh	-	1,87,46,250	81,00,000
5	Goa	-	36,28,244	7,92,652
6	Gujarat	1,41,02,326	4,21,06,070	1,38,62,670
7	Himachal Pradesh	37,89,863	1,56,21,394	1,00,27,800
8	Karnataka	52,81,521	63,00,765	52,07,879
9	Kerala	64,79,000	1,37,26,407	60,92,297
10	Madhya Pradesh	-	3,55,00,000	1,32,52,907
11	Maharashtra	-	3,94,00,000	-
12	Mizoram	54,28,000	1,46,91,184	83,15,000
13	Nagaland	9,02,000	80,05,000	1,19,14,250
14	Odisha	1,35,75,000	4,73,29,752	3,04,15,782
15	Punjab	1,07,55,000	3,73,61,369	1,87,44,800
16	Rajasthan	60,38,160	5,09,15,000	2,30,26,415
17	Sikkim	35,38,000	97,10,000	1,01,14,999
18	Tamil Nadu	-	4,14,00,000	4,03,24,999
19	Telangana	33,64,500	3,65,60,000	2,15,14,564
20	Tripura	32,60,600	89,07,760	32,90,400
21	Uttar Pradesh	5,86,847	-	-
22	West Bengal	2,45,847	2,34,80,000	1,02,24,639
	Total	9,47,00,000	53,15,90,000	25,79,94,079

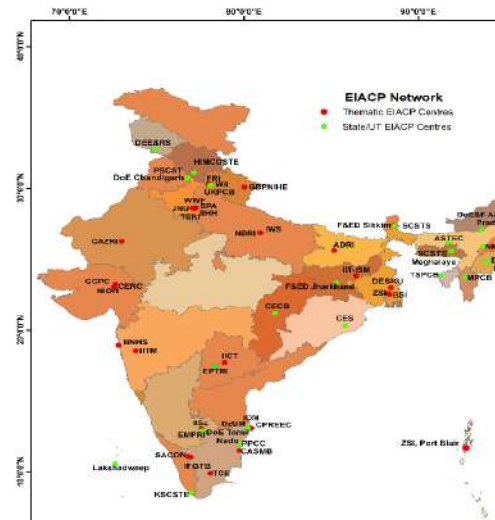
* Includes administrative charges released in respect of previous scheme EEAT



11.2 Environmental Information, Awareness Capacity Building and Livelihood Programme (EIACP) under EEARSD Scheme

The Environmental Information System (ENVIS) came into existence as a plan programme in 1983. ENVIS is a comprehensive network of environmental information Centres located across the country for environmental information collection, collation, storage, retrieval and dissemination to different users, which include decision-makers, researchers, academicians, policy planners, research scientists and public, etc. The network was expanded gradually with the involvement of thematic subject areas. The Centres are located in autonomous bodies under the Ministry and in the State Government Departments/ Organizations as also in notable Non-Governmental Organizations (NGOs) and institutions of excellence in higher education and research. The ENVIS Scheme, which was previously under the umbrella scheme 'Decision Support System for Environmental Awareness, Policy, Planning and Outcome Evaluation' has been subsumed within the revamped scheme of Environment Education, Awareness, Research and Skill Development(EEARSD),

which has been approved for F.Y 2021-22 to 2025-26 in June 2022. The revamped scheme has three components and one of the components is Environmental Information, Awareness Capacity Building and Livelihood Programme (EIACP).



Map of EIACP Network

Activities/Workshops/Events conducted under the EIACP

1. Mega Events:

Exhibition cum Awareness Programme on Mission LiFE

A two-day National Exhibition cum Awareness programme on Mission LiFE



Exhibition of Environment - Friendly Products by EIACP Centre



(Lifestyle for Environment) was held at India Gate, Delhi, on 9th and 10th February, attracting over 2,500 students from 60 institutions and more than 3,000 visitors. The event kickstarted with a bicycle rally symbolizing the commitment to reduce vehicular pollution, followed by folk

songs and Nukkad Natak on Mission LiFE. The Eco fashion show by School children was a highlight, showcasing attire made from sustainable materials. The event featured innovative eco-friendly projects by students, including harnessing kinetic energy, generating power from agricultural stubble, and creating products from e-waste. The exhibition showcased environment-friendly products from NGOs and 18 EIACP centres across India, including World Wide Fund (WWF) India, International Institute of Health and Hygiene (IIHH), IIT-Indian School of Mines (IIT-ISM) Dhanbad, The Energy and Resources Institute (TERI), Jawaharlal Nehru University (JNU), and the Central Pollution Control Board, highlighting sustainable items like organic food, compost, solar-powered appliances, and utility goods made from non-timber forest produce.



Inauguration of Exhibition cum Awareness Programme on Mission LiFE

All India EIACP Coordinators Meet
EIACP Cell of Ministry of Environment, Forest

and Climate Change with support from EIACP Resource Partner at TERI, organised a national level EIACP coordinators Meet on 7th September 2024 at Silver Oak Auditorium, India Habitat Centre, New Delhi. The event saw active participation from 54 EIACP Hubs/RPs from across the country along with many MoEF&CC officials, with around 150 participants in attendance. The program featured several key sessions aimed at enhancing the effectiveness of the Environment Information, Awareness, Capacity Building, and Livelihood Program (EIACP).

It began with introductory messages and an overview by officials from Ministry of Environment, Forest and Climate Change (MoEF&CC) and TERI. Following this, presentations by EIACP Centres highlighted their important contributions. Key discussions covered administrative issues, the Green Skill Development Program, capacity-building initiatives like Mission LiFE, and financial matters. These sessions enhanced the collaborative efforts and operationalization of the EIACP across the country.

The event concluded with the recognition and felicitation of the top-performing EIACP centers, followed by a vote of thanks.



All India Coordinator Meet of EIACP Centres



Awareness cum Exhibition Programme on Mission LiFE

An Awareness cum Exhibition Programme on Mission LiFE was conducted jointly by Kurukshetra University and EIACP Programme Centres namely, WWF India, Wildlife Institute of India (WII), Forest Research Institute (FRI) and Punjab State Council for Science and Technology (PSCST) on 18th March, 2024. This initiative, aimed at promoting environmental awareness and sustainability, witnessed active participation from various stakeholders. The event encompassed a range of activities including the inauguration ceremony, marathon, exhibition stalls, presentations, competitions, and a valedictory session.



Awareness cum Exhibition Programme on Mission LiFE at Kurukshetra University

Seminar cum Workshop along with an awareness programme on Mission LiFE

Department of Environmental Sciences - Kalyani University (DESKU) EIACP PC-RP organized a workshop on Environmental Biotechnology at the University of Kalyani, West Bengal, supported by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India on August 2024. As part of its initiative to raise mass awareness about the LiFE (Lifestyle for Environment) movement, DESKU conducted various competitions involving school, college, and university students, as well as the general public. These activities included a stall exhibition and science model competition focused on promoting LiFE principles.

A key highlight of the workshop was the exhibition of traditional, eco-friendly, and sustainable products. These stalls were thoughtfully curated to showcase items that reflect both the rich cultural heritage and environmentally conscious practices. The workshop provided an excellent platform to promote and showcase LiFE related products. The Green Skill Development Programme (GSDP) trainees also participated in the event, presenting the ecofriendly products made by them as well as scientific models at various stalls.



Exhibition cum Workshop Programme on Mission LiFE

Programme on Save Wetland under LiFE Mission

EIACP centres viz. WWF, IIHH, IWS, and National Botanical Research Institute (NBRI) participated in the event titled "Conservation and Wise Use of Wetlands under Swachhta Hi Seva" held on 27th September 2024 at Parvati Arga, Uttar Pradesh. The event was

organized by the Wetland Division of the Ministry of Environment, Forest & Climate Change (MoEF&CC). The event was graced by the presence of the Hon'ble Minister of State for Environment, Forest & Climate Change, who emphasized the importance of wetland conservation and highlighted the success stories of Wetland Mitras. As part of the event, an exhibition stall was set up to showcase materials related to the LiFE (Lifestyle for Environment) theme, including eco-friendly products, environmental awareness resources, the Quarterly Newsletter, Mission LiFE brochures, and badges. Additionally, a quiz and painting competition were conducted, engaging attendees in interactive and educational activities.



Event on 'Swachhta Hi Seva' at Parvati Agra, Uttar Pradesh

Mass Awareness Programme to promote Mission LiFE

EIACP Programme centers viz. JNU, WWF, TERI, IIHH and School of Planning and Architecture (SPA), organized a programme



on Raahgiri Day, October 27, 2024, at Connaught Place. The event featured a variety of engaging activities, including zumba and yoga sessions, quizzes and games, as well as a captivating nukkad natak performance. With a total outreach of 5000 people, the event effectively raised awareness about the importance of leading a healthy and active lifestyle. Participants were able to learn about the benefits of incorporating fitness and mindfulness practices into their daily routine, while also enjoying a fun-filled and interactive experience. Overall, the event left a positive impact on the community, inspiring individuals to prioritize their well-being and make positive lifestyle choices, thus, successfully conveying the importance of a sustainable, healthy lifestyle for all.



Raahgiri Event conducted by EIACP centres at Connaught Place

2. Participation in World Wetlands Day 2024 celebrations at Sirpur lake, a Ramsar site

The Ministry of Environment, Forest & Climate Change (MoEF&CC) in collaboration with Government of Madhya Pradesh, organised a national event at Sirpur Lake, Indore through Indore Municipal Corporation and Environmental Planning & Coordination Organisation (EPCO), Government of Madhya Pradesh to celebrate World Wetlands Day (WWD) 2024.

- A training module for Nature-guides developed under the Green Skill Development Programme (GSDP) of MoEF&CC was also released during this occasion. The exhibition included stalls by EIACP Centres (Recourse partners and Hubs viz. Forest and Environment Department Sikkim EIACP PC-Hub, Institute of Forest Genetics and Tree Breeding IFGTB EIACP PC-RP and CPR Environmental Education Centre (CPREEC) EIACP PC-RP focusing on, Mission LiFE, Green Skill Development Programme where they exhibited products made under GSDP such as bamboo crafts, Himalayan honey, Coconut products etc. Around 1000 students and Local people were participated and visited the stalls.





Eco-friendly GSDP products showcased by EIACP Centre at Sirpur Lake (Ramsar Site)

3. Celebration of various Environmental Days:

● **World Environment Day, 2024 - 5 June**

World Environment Day was celebrated on 5th June 2024 wherein the nationwide network of EIACP Programme Resource Partners and Hubs conducted a series of impactful activities. These initiatives included a large-scale plantation drives, vibrant awareness rallies, focused campaigns, the publication of informative posters, environmental quizzes, interactive workshops, and various awareness programs. Additionally, various knowledge products were showcased, and engaging contests were organized to foster greater environmental consciousness among communities across India.

● **World Ozone Day, 2024 - 16 September**

The theme for World Ozone Day 2024 was **“Montreal Protocol: Advancing Climate Action.”** On this significant

day, EIACP Programme Centres actively raised awareness about the crucial role of the ozone layer and its importance to global climate health. Through a series of informative lectures, poster exhibitions, engaging quizzes, and educational activities, the centres highlighted the critical need for ozone protection and its vital connection to climate action. Around 22,000 participants took part in the events.



Awareness Programme organized by EIACP Centres on World Ozone Day 2024

● **International Yoga Day, 2024 - 21 June**

On 21st June 2024, all EIACP centres celebrated International Day of Yoga, embracing the theme “Yoga for Self and Society.” The event not only emphasized the physical and mental benefits of yoga but also integrated the Mission LiFE (Lifestyle for Environment) message, underscoring the role of yoga in promoting a healthy, balanced, and sustainable lifestyle. Through this celebration, EIACP centres encouraged



individuals to adopt yoga as a practice for personal well-being and collective societal harmony.

EIACP Hubs and Resource Partners (RPs) also commemorated several other significant environmental observances throughout the year, including World Wetland Day, Earth Day, World Ocean Day, International Biodiversity Day, Wildlife Week, Lion Day, and World Mosquito Day. On each of these occasions, they organized a wide range of awareness activities, aligned with the specific themes of the day, to promote environmental consciousness and foster greater public engagement with pressing ecological issues. School, college students as well as the general public were actively involved in these initiatives.

1. Mission LiFE Activities

As part of Mission LiFE, all EIACP Programme Centres (PC Hubs/RPs) created standees and banners to

raise awareness about the ban on identified single-use plastic items. These materials were prominently displayed at key locations within the subordinate and attached offices, bodies, and organizations of the Ministry of Environment, Forest & Climate Change (MoEF&CC). Nearly all EIACP Centres participated in this initiative.

In addition to this, the Centres actively engaged in various other environmental awareness activities, including promoting water and energy conservation, organizing the plantation drive **“Ek Ped Maa ke Naam”**, encouraging the adoption of healthy lifestyle practices, and conducting the “Swabhav Swachhata - Sanskar Swachhata” campaign. EIACP Hubs and RPs also played a crucial role in supporting the Swachh Bharat Abhiyaan in their respective regions. Below are some of the major activities undertaken by the EIACP Centres:

Sl. No.	Name of the Activity	EIACP Centre Name	Highlights
1	Awareness campaign on Seven Themes under Mission LiFE	All EIACP Hubs/ RPs	EIACP Centres organized awareness campaigns focused on the seven key themes of Mission LiFE. These campaigns aimed to address critical environmental issues, including the management of single-use plastic waste, water conservation, energy saving, adoption of sustainable food systems, waste reduction, promotion of healthy lifestyles, and the recycling of e-waste.
2	Ek Ped Maa ke Naam	All EIACP Hubs/ RPs	EIACP Centres had undertaken various activities as part of the plantation drive “Ek Ped Maa Ke Naam,” during which tree saplings were planted at various locations across India.
3	Swachh Bharat Abhiyaan	All EIACP Hubs/ RPs	EIACP Centres had undertaken various activities during this period like cleanliness and sensitization drives, plantation of tree saplings, collection of garbage, litter and trash, administering the Green Pledge, etc.
4	Swabhav Swachhata, Sanskar Swachhata	IIHH	Under Swachhata ki Bhaagidari, throughout the SHS (Swachhata Hi Seva) campaign period, Sulabh International and Sulabh-IIHH EIACP RP jointly facilitated the engagement of approx. 3,00,000 people across 285+ locations in 26 states/UTs.



5	Life Pledge And Installation of Selfie Points Under Mission Life	All EIACP Hubs/ RPs	The selfie booths were installed at various prominent locations of EIACP centres, where people took selfies and were also administered LiFE pledge.
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LiFE Report: EIACP is actively involved in Mission LiFE activities. All activities conducted by EIACP Hubs and RPs are compiled in LiFE report and submitted to LiFE Cell every month.

2. Knowledge products released during the year

EIACP consistently brings out a wide range of valuable information products focused on Environment, Forests, Wildlife, and Climate Change. These include theme-based newsletters, special publications, e-newsletters, thematic bulletins, technical reports, mobile apps, posters, and directories of information at the State, Regional, and National levels. Additionally, the programme develops bibliographies, informational products on parks and sanctuaries, thematic maps,

and species distribution maps for flora and fauna.

11.3 National Museum of Natural History (NMNH)

The National Museum of Natural History (NMNH), a subordinate office of the Ministry of Environment, Forest and Climate Change, Government of India, was open to public on 5th June, 1978 at Mandi House, New Delhi coinciding symbolically with the World Environment Day with aim to create environmental awareness on nature and environment through non formal medium such as thematic galleries, exhibitions, film shows and educational activities to all masses of society in respect of to promote environmental awareness.

NMNH, New Delhi has its four Regional Museums of Natural History (RMNH) in

Publications

Sl. No.	EIACP Centre Name	Title	Publication type
1	TERI, Delhi	Compendium of Renewable Energy and Climate Change Case Studies in India Vol. 7	Compendium
2	IISc, Bengaluru	Natural Capital Accounting and Valuation of Ecosystem Services, Karnataka State, India	Book
3	GB Pant (NIHE), Almora	Himalayan Ecology: Special focus on Millets	Book
4	IIHH, Delhi	Swachhata Hi Seva- Swachhata Hi Seva	Booklet
5	CES, DEFC Odisha	Land restoration, desertification and drought resilience	Book
6	WII Dehradun	The Millets of India	EIACP Bulletin
7	WII Dehradun	An Atlas of Riverscape: Cauvery River basin	Atlas
8	WII Dehradun	Nature is our password, conservation the creed	Stamp



different parts of the country viz. Mysuru, Bhopal, Bhubaneswar and RGRMNH Sawai Madhopur. Another upcoming RMNH at Gangtok which is at comissing stage to cater service to North-East region.

a. Objectives:

- To develop the NMNH in the country's Capital to achieve the highest level of quality to promote environmental education on a national level;
- To develop Regional offices (regional museum of natural history) in various regions of the country in order to extend its activities at the regional/local levels;
- To develop museum-based educational projects at the level so as to help school curriculum on environmental education (EE);
- To develop EE resource materials (such as audio-visual aids, low-cost teaching aids, school loan kits, etc.) to promote environmental education (EE);
- To undertake research (museological and collection based) consonant with the scope and resources of the museum;
- To extend professional help to other agencies / organizations regarding natural history collections/museums, to develop national and international cooperation/collaboration with other organizations/ professional bodies/ museums related to natural history/EE.

b. Activities undertaken:

The NMNH and its Regional centres have been undertaking Environmental educational programmes/activities round the year to all masses of the society to enhance knowledge on environment. During the Current Financial Year a total

seventeen (17) temporary thematic exhibition, four (04) teacher training workshops, fourteen (14) competitions, seven (07) Lecture/talk, fourteen (14) mass awareness campaigns, four (04) exhibits of month, six (06) workshops for school children, two (02) programmes for children with special needs/ underprivileged, five (05) summer vacation programmes, nine (09) collaborative programmes and thirteen (13) programme to assist the Ministry have been conducted in which nearly 27 Lakh participants were benefited.

c. Educational Programmes/Activities:

NMNH and its regional centers organizes various in-house/ out-reach activities/ educational programmes throughout the year on the occasions of various Environmental related days such as Summer and Winter Vacation Programme, World Wetlands Day, World Water Day, World Forestry Day, Earth Day, World Environment Day etc. alongwith workshops, seminars/ webinars, competitions, lectures, green talks for children, trainee teachers and common masses. Also, various Campaigns and Beach Cleaning Drives etc. are being conducted in collaboration with institutions such as National Zoological Park (NZP), Universities BSI, ZSI, CMS VATAVARAN, UNESCO (WII-C2C), and State Universities, UNDP, GIZ etc. in various parts of the country for enriching knowledge and awareness for common public especially young children. Further, for wider publicity NMNH uses its own website, other social media platforms such as YouTube, Facebook and Twitter for sharing its activities to the public for promoting environmental awareness. Beside this, NMNH also assist the Ministry in #Mission LiFE programmes, "Ek Ped Maa Ke Naam" Plantation Drive, "Ideas4LiFE"



initiatives from IIT's (Delhi and Mumbai), Workshop cum consultative meeting for development of galleries at RMNH-Gangtok and widespread publicity on environment related information dissemination of knowledge and documentaries etc. under NIRANTAR.



Swachhta Campaign 4.0 at National Zoological Park, Delhi

11.4 Media Cell

Media Cell of MoEF&CC is mandated with taking up awareness campaigns using print, electronic and other mass media to enhance awareness about various environmental issues which would in turn facilitate better compliance with environmental regulations.

a. Broad Objectives of Media, Publicity and Information:

- I. Creation of Environmental awareness at all levels.
- II. Information dissemination about all Environment, Climate Change, Forest/Wildlife programmes and Biodiversity matter.
- III. Awareness generation regarding people's responsibilities towards environment.

b. Major Activities:

1. Celebration of World Environment Day:

Ministry of Environment, Forest and Climate Change celebrates World Environment Day (WED) on every 5th June.

2. Production and airing of documentary series on Doordarshan

Ministry is producing the 26 episodes of Documentary Series 'Dharti Kare Pukaar', which are telecast on Doordarshan National. The documentary series is covering topics from Forest, Wildlife, ban on Single Use Plastic, Mission LiFE, etc. It is anchored by the noted Environmentalist Shri Mike Pandey.

3. Social Media:

Ministry has social media accounts on Twitter, Facebook, Instagram, YouTube and LinkedIn.

S. No.	Social Media Handle	Followers on 5 th November, 2024
1	Facebook	2,25,000
2	Instagram	1,04,000
3	X(Twitter)	2,89,000
4	YouTube	12,600
5	LinkedIn	26,000

Efforts have been made to ensure optimum spreading of awareness through Social Media about the major achievements/breakthroughs of the Ministry and its subordinate offices and autonomous bodies etc. towards protecting environment.

11.5 Swachh aur Swastha Bharat Cell

a. Brief introduction, objectives and functions:

- i. To accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation, the Prime Minister of India had launched the Swachh Bharat Mission on 2nd October 2014. The mission was implemented as nation-



- wide campaign/Jan andolan which aimed at eliminating open defecation in rural areas during the period 2014 to 2019 through mass scale behavior change, construction of household-owned and community-owned toilets and establishing mechanisms for monitoring toilet construction and usage. Department of Drinking Water and Sanitation, Ministry of Jal Shakti has been entrusted to build bio-toilet and solid waste management facilities in rural areas and Ministry of Housing and Urban Affairs has been entrusted for urban areas.
- ii. Swachhta Action Plan (SAP) is an inter-Ministerial initiative of Government of India, it was initiated in the year 2017-18 on the directions received from Cabinet Secretariat and Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti (MoJS). Accordingly, all Ministries/Departments of Government of India started preparing and implementing the SAP.
 - iii. A separate budget head was created for this scheme in the year 2017-18 as per the directions received from Department of Expenditure, Ministry of Finance to enable central monitoring for expenditures made under SAP. To oversee, execute and monitor the programmes under Swachhta Action Plan, the Swachh aur Swasth Bharat (SSB) Cell was established in the Ministry in the year 2017-18.
 - iv. During the period 2018-21 SAP was implemented as a non-scheme programme wherein funds were disbursed from Other Administrative Expense Object head towards meeting the expenditure incurred on SAP activities.
 - v. To overcome the above procedural hiccup and streamline the programme a "Grant-in-Aid-General" Object head was created in year 2021-22 and the Swachhta Action Plan has been mainstreamed under the Environmental Information, Awareness, Capacity building and livelihood Programme of the Scheme "Environment Education, Awareness, Research and Skill Development". The scope of the program now includes building of bio-toilets at National Parks and sanctuaries.
 - vi. The revamped scheme consists of following components:
 - a. Environment Education Programme
 - b. Environmental Research & Development Programme
 - c. Environmental Information, Awareness, Capacity building and livelihood Programme
- SAP has been placed under the third component for up scaling and consolidating the awareness programmes under the Ministry for a wider outreach.
- b. Major Objectives of Swachhta Action Plan are as under:**
- i. To raise awareness by building Bio-Toilets at National Parks and Sanctuaries.
 - ii. To educate visitors/ stakeholders regarding cleanliness and thereby encouraging citizens to use toilets which will enhance the motto of the Swachh Bharat Mission.
- c. Activities undertaken in 2024:**
- Swachhta Action Plan for setting up



of bio-toilets has been finalized for 2024-25 and an amount of ₹2.89 Crore would be released to the implementing agency NTCA. Financial assistance would be given to NTCA for setting up of bio toilets in identified 9 Tiger Reserves in 5 states. "

11.6 Economic Division

a. Brief introduction, objectives and functions of the Division

Economic Division in the Ministry is responsible for the following areas of work:

- i. Nodal Division to deal with references received from M/o Commerce & Industry relating to Trade & Environment including Cabinet / Cabinet Committee/ Committee of Secretaries matters/ Ministry of Corporate Affairs.
- ii. Coordination of Ministry's position on trade-related matters referred by other Ministries, including Regional/ Bilateral/ Multilateral Trade Agreements on environmental, ecology, wildlife and forestry issues; Trade Policy Review of India by WTO; Free Trade Agreements (FTA); Comprehensive Economic Cooperation Agreements; Bilateral investment agreements/ investment protection agreements etc.
- iii. Coordination of matters related to relevant areas considered/reviewed by National Committee on Trade Facilitation (NCTF) headed by the Cabinet Secretary, wherein Secretary, EF&CC is a Member.
- iv. Nodal for matters related to DBT schemes including coordination with the DBT Mission, Cabinet Secretariat to on-board/off-board schemes of the Ministry on DBT Bharat portal.

b. Important activities undertaken

- Provided comments on various themes of trade and environment of WTO and forwarded to Department of Commerce.
- Provided comments to DoC and DPIIT on various Cabinet Notes.
- Participated in the initiatives under the Pillar III (Clean Economy) of Indo-Pacific Economic Framework (IPEF).
- Provided comments on Trade and Sustainable Development/ Environment Chapter for the India-EU and India-EFTA TEPA negotiations.
- Provided comments/inputs on various matters of Environmental Services, Trade and Sustainable Development, Most Favoured Nation (MFN) Treatment as part of Chapters in India-UK FTA, Goods Chapter and Energy and Raw Material Chapter under India-EU FTA, Stakeholder Consultations under India-Korea CEPA negotiations, Tariff lines for ASEAN- India Trade in Goods Agreement, Environmental Services under India-Australia CECA.
- Provided comments to D/o Commerce and participated in the negotiations under India-Australia Comprehensive Economic Cooperation Agreement (CECA). Also, furnished written explanation on the Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC), as sought by D/o Commerce, with respect to the India- Australia CECA.
- Updated response on all the questions and Action plan relating to B-Ready Methodology Framework of World Bank and forwarded to DPIIT.



- Provided inputs/ comments to D/o Commerce in respect of tariff lines for the ASEAN- India Trade in Goods Agreement (AITIGA). This division has also participated actively in the review of the AITIGA and in the successive rounds of negotiations.
- Furnished comments with DPIIT in respect of the draft EFC memorandum on the proposed 'Emerging Export Hubs from India' scheme.
- Shared inputs on various trade related issues to DoC and on issues pertaining to DPIIT.
- Prepared material for Economic Survey 2023-24 and forwarded to Department of Economic Affairs (DEA).
- Reported Monthly Progress and Annual Progress reports on achievements of DBT schemes to DBT Mission, Cabinet Secretariat.

11.7 Statistics Division:

The Statistics Division in the Ministry of Environment, Forest and Climate Change liaisons with all the divisions of the Ministry and, where necessary, its subordinate offices and autonomous institution to strengthen the process of collection, validation processing and interpretation of statistical data. Statistics Division also works as SDG coordination Unit in the ministry.

Statistics Division of the Ministry undertakes various tasks under the following components:

I. Activities undertaken in respect of Sustainable Development Goals, SDGs in the Ministry

MoEF&CC is implementing Sustainable Development Goals (SDGs) relevant to the

Ministry and is in particular responsible for SDG Goals 12, 13 and 15. Statistics Division acts as the nodal division for SDG and coordinates for the implementation of SDGs and related frameworks in the ministry. The following is the role of SDG Coordination unit-

- i. Coordination with NITI Aayog, MoS&PI and Custodian Agencies of SDG Global Indicators.
- ii. Coordination with the divisions and various line ministries for the metadata, baseline data and data flow.
- iii. Works on the data gaps and suggests alternate methodology for computation of various indicators for SDGs.
- iv. Presents Ministry's consolidated proposals in High Level Committee of MoS&PI (HLSC) for SDG indicator refinement.
- v. Provides technical support for metadata and refinement of indicators.
- vi. The following work was undertaken in respect of the National Indicator framework of the SDGs-
 - a. Finalised two new indicators for the SDG NIF namely, 13.2.3: "Percentage of Industries complying with Environmental Standards" for which the data source is CPCB and 15.2.2 "Percentage change in carbon stock in forest cover" for which the data source is FSI. These indicators are mentioned in SDF NIF 2024 progress report.
 - b. For the 2025 comprehensive review proposal for SDG indicators, inputs were provided with respect to two Indicator:



- 15.2.1 “Progress towards sustainable forest management” of Czech Forest Management
- 15.9.1 (a) “Number of countries that have established national targets in accordance with or similar to Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 in their national biodiversity strategy and action plans and the progress reported towards these targets” of Turkish Statistical Institute.

II. Activities undertaken in respect of Environmental Statistics:

- To liaise with all divisions of MoEF&CC and, where necessary, its subordinate offices and autonomous institution to strengthen the process of collection, validation processing and interpretation of statistical data.
- Coordinates with the Ministry of Statistics and Programme Implementation (MoSPI) to provide technical inputs on development of Official Statistics in line with Framework of Development in Environmental Statistics (FDES).
- The division supported the Ministry of Statistics and Programme Implementation (MoSPI) for publication of ‘EnviStats’ I publications on Environment Statistics. Statistics Division coordinated with the Divisions to provide inputs on behalf of the Ministry for the publication on data related to forests, climate change,

wild life and pollution for the publication of EnviStats-India 2024; Volume I.

III. Activities pertaining to Environmental Accounting

- The division is also responsible for coordination as regards developments in Natural Capital Accounting and the SEEA (System of Environmental Economic Accounting) and Ecosystem Accounting within MoEFCC and with other Ministries and UN
- The division supported the Ministry of Statistics and Programme Implementation (MoS&PI) in providing data and information for Environment Accounts.
- Expert group on Ocean Ecosystem Accounts in India was constituted by MoSPI for compilation of Ocean Ecosystem Accounting. Division provides comments and attends meeting for compilation of the Ocean Ecosystem Accounts of India.

IV. Global Indices for Reform and Growth Dashboard related Work of EPI and CCPI

In reference to the ongoing activities under the directions of Cabinet Secretariat and NITI Aayog on various global indices in the Government of India, Ministry of Environment, Forest and Climate Change has been designated as the nodal Ministry for Environment Performance Index (EPI) and Climate Change Performance Index



(CCPI).

Analysis of global data sets being used for EPI 2022 was undertaken and Indian data sources being used for these datasets were examined in terms of their linkages to Indian data sets, time lag of publication and data transformations undertaken on them.

For the latest edition of EPI 2024, detailed meetings in respect of "Control of Pollution", "Biodiversity" and "Climate Change" category of indices were undertaken. Data discrepancies & methodological flaws were examined in depth and shared with Publishing Agency and NITI Aayog.

The 2024 edition of EPI has 24 new indicators out of total 58 indicators, compared to 40 indicators in 2022. Several old indicators have been replaced by new indicators. A trend analysis was conducted to compare EPI scores and rank from 2020, 2022, and 2024 to understand how a country's environmental performance has evolved across different years, providing insights into the effectiveness of environmental strategies and interventions.

The analysis for the data sets used in CCPI 2024 was done and the points observed were shared with the publishing agency. CCPI 2025 report was released recently and India secured 10th position in the index. CCPI has 4 components under which 14 indicators are identified which are used to rank 67 countries. Since no country was strong enough in all index categories to achieve an overall very high rating, thus the top three places i.e 1-3 are vacant. Thereafter India is amongst the top 7

countries. The United Kingdom (6th) and India (10th) are the only two G20 countries among the high performers in CCPI 2025.

V. Data Governance Quality Index

Data Governance Quality Index (DGQI) is built by Development Monitoring & Evaluation Office (DMEO) for ranking the ministries on the basis of level digitization, security, quality and sound use of data generated and handled under Central Sector Schemes, Centrally Sponsored Schemes and Non Scheme Interventions. A dashboard is prepared wherein the schemes of the ministry are pre populated. The division in coordination with other divisions of ministries has submitted the filled in questionnaire for CS/CSS schemes and Non-scheme interventions of the ministry on the dashboard of DMEO. The score of the ministry has improved to 4.50 in the fourth quarter of 2023-24 from its original score 3.08 during 2021-22 through several quarters.

Sectoral Group of Secretaries -Resources (SGoS-3) and Viksit Bharat

The Sectoral Group of Secretaries -Resources (SGSR) cell coordinated with all the concerned divisions of the Ministry for finalizing issues related to Vision @ 2047 for Sectoral Group of Secretaries on Resources (SGoS-3). The Cell also enabled regular monitoring of Key Performance Indicators (KPIs) of MoEF&CC derived from recommendations of 5 Year Vision 2024 of SGoS-3. The relevant KPIs are updated on the E- Samiksha portal on regular basis. The synchronisation of the original Vision of SGoS (Resources) Group with the domain of other SGoS groups were analysed to bring



out a consistent set of KPIs that may be included in the Viksit Bharat Vision @2047 based on SGoS documents of all Groups.

11.8 Non-Governmental Organization (NGO) Cell

A Non-Governmental Organization (NGO) Cell is functional in the Ministry to handle various policy matters relating to the NGOs working in diverse fields of environment. The Cell does not disburse funds to NGOs as these are expended by the respective scheme Divisions of the Ministry. The basic functions of the Cell are to liaison with the NITI Aayog, the Programme Divisions of the Ministry, and other Government Ministries in respect of various guidelines/directions concerning NGOs.

As per the direction received from NITI Aayog and their proposed Darpan 2.0 version, NGO portal is being developed for the Ministry to function as single window counter for all NGO related activities, being carried out by different Divisions of the Ministry.

The proposal of NIC for the development of Web based NGO portal for processing, evaluating and monitoring grants under the different schemes of the Ministry for NGO Cell including Security Audit has already been approved and first instalment has also been released. The project is being executed through manpower support from National Informatics Centre Service Inc. (NICSI).

As of now, forms for NGO and Scheme Administrator log in have been developed along with a user manual. The same have been demonstrated to the user programme Divisions in the Ministry. These have to be tested by respective Scheme Divisions for finalization and to enable further integration with DARPAN portal of NITI Aayog and PFMS portal of DoE. The matter of integration of the 1st Phase module of the database with the PFMS has been taken up with CGA Office and is in progress.



CHAPTER : 12

**ADMINISTRATION AND
CIVIL CONSTRUCTION**



CHAPTER – 12

ADMINISTRATION AND CIVIL CONSTRUCTION

12.1 Administration

P.I

- Cadre Management of Scientific posts of the Ministry and Regional Offices and its Sub-offices, creation of Scientific posts of Ministry. Establishment/service matters of all Scientific posts of the Ministry (HQ) and Regional Offices and its Sub-offices viz. appointment, promotion, work allocation, court cases, leave and retirement benefits (those posted in Ministry, HQ).
- Cadre Management of Technical posts of the Ministry and Regional Offices and its Sub-offices, creation of Technical posts of Ministry. Establishment/service matters of all Technical posts of the Ministry (HQ) and Regional Offices and its Sub-offices viz. appointment, promotion, work allocation, court cases, leave and retirement benefits (those posted in Ministry, HQ).
- Recruitment and Framing of Recruitment Rules of Technical posts of the Ministry.
- Cadre management of Canteen Staff of the Ministry viz. appointment, promotion, establishment/service matters, court cases, leave and retirement benefits etc.
- Disciplinary proceedings of Group 'A', 'B' and 'C' Officers/Officials on the cadre strength of P.I Section.
- Maintenance of ACRs/APARs of Group 'A', 'B' and 'C' Officers/Officials of MoEF&CC, other than IFS Officers of the Ministry.
- Processing of LTC, GPF, House Building Advance, Computer Advances of Officers/Officials of MoEF&CC, other than IFS Officers of the Ministry.

- Signing of Foreign Travel Proforma (FTP) and issue of Foreign Deputation Orders.
- Processing of Medical Advance and reimbursement cases of Scientific, Technical and Canteen staff.
- Internship Scheme of Ministry of Environment, Forest and Climate Change.
- Review of services under FR 56(j) and other similar provisions.
- Updation of data on the Representation of Reserved Categories in Posts and Services of Government of India (RRCPS) Portal.

P.II

- All Establishment/Service matters of Central Staffing Scheme, Indian Economic Service, Indian Statistical Service, Central Secretariat Service, Central Secretariat Stenographers Service, Central Secretariat Clerical Service, Official Language Cadre officers of the Ministry viz. appointment, transfer/posting, disciplinary proceedings, leave cases, processing of pension cases and disbursal of retirement benefits, medical claims, tuition fee reimbursement, leave encashment, children educational allowance, Court Cases, etc.
- Framing/Amendment of Recruitment Rules and Recruitment of Staff Car Driver, Protocol Officer and MTS of the Ministry.
- Training Programmes of All India Service (except IFS cadre) and all Secretariat officers.
- Outsourcing of staff (deployment and policy matters).
- Deployment of personnel for Election related work.



- Work allocation among all officers/staff other than Scientific, Technical and IFS officers.
- Nodal Division of MoEFCC of e-HRMS.
- Generation of AVMS Certificate on SUPREMO Portal.
- Review and monitoring regarding filling up of vacancies under Mission Recruitment.
- Matters related to Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.

P.III

Introduction:

Following the re-organisation of the scientific Departments / Ministries during 1986 and the consequent de-linking of the Group ‘A’ scientific posts from the purview of the UPSC and the introduction of Flexible Complementing Scheme (FCS), P-III Section was created in the Ministry to function as a separate, distinct, centralized and confidential unit for the purpose of Recruitment through Direct Recruitment/Deputation as well as Promotion under FCS to the Group ‘A’ Scientific posts for the Ministry including its Regional Offices, Sub-Offices and Subordinate Offices having such posts in their organisations.

Objectives:

- I. Direct Recruitment to all Group ‘A’ Scientific Posts of the Ministry including its Regional Offices, Sub-Offices and Subordinate Offices as per Ministry of Environment, Forest and Climate Change Scientific Group ‘A’ posts Rules, 2015.
- II. Review/assessment of Group ‘A’ Scientists for promotion under Flexible Complementing Scheme (FCS) as per Ministry of Environment,

Forest and Climate Change Scientific Group ‘A’ posts Rules, 2015.

III. Amendment/interpretation of the Ministry of Environment, Forest and Climate Change Scientific Group ‘A’ posts Rules, 2015.

Activities undertaken:

(A) Promotion:

A total of 67 cases of promotion of Scientists of the Ministry including its Regional Offices, Sub-Offices and Subordinate Offices under FCS as on 01.01.2024 and 01.07.2024 were assessed by the Internal Screening Committees (ISC). Out of 67 Scientists, 65 Scientists were further interviewed by the Departmental Assessment Committees (DAC) /Assessment Board/ Departmental Peer Review Committees (DPRC), details of which are as under:

I. FCS as on 01.01.2024:

Grade	Assessed as on 01.01.2024	Recom-mended as on 01.01.2024	Not Recom-mended as on 01.01.2024
F to G	3	2	1
E to F	5	3	2
D to E	8	7	1
C to D	6	4	2
B to C	2	2	Nil
Total	24	18	6

II. FCS as on 01.07.2024:

Grade	Assessed as on 01.07.2024	Recom-mended as on 01.07.2024	Not Recom-mended as on 01.07.2024
F to G	1	Nil	1
E to F	34	20	14
D to E	2	2	Nil
C to D	4	3	1
B to C	2	Nil	2
Total	43	25	18



(B) Recruitment:

Process for filling up of 06 posts (04 posts of Scientist 'C' and 02 posts of Scientist 'B') of Scientists in the MoEF&CC and its Subordinate Offices through Direct Recruitment has been completed.

12.1.1 किलकारी (Kilkari)

The Ministry has established a crèche facility named "Kilkari", to provide a safe and nurturing environment for the young children of its officers and staff. The facility was inaugurated by the Hon'ble Minister of Environment, Forest, and Climate Change in the esteemed presence of the Hon'ble Minister of State of Environment, Forest, and Climate Change and the Secretary, EFCC. Kilkari is equipped with eight bunk beds, pantry, toys, color books etc. The facility is staffed by two Day Care Teachers and two Day Care Attendants. "



*Inaugural of crèche facility "Kilkari" b
Hon'ble Minister, EFCC in presence of
Hon'ble Minister of State, EF&CC*

12.2 Indian Forest Service (IFS) Division

Mandate:

- Ministry of Environment Forest and Climate Change is the Cadre Controlling Authority for the Indian Forest Service.

- IFS division deals with all cadre Management related matters of the service.
- The total authorized cadre strength of the Indian Forest Service as on 1st January, 2024 is '3193' (Three Thousand One Hundred Ninety-Three) which includes '2242' Direct Recruits and '951' Promotion posts. The Total Senior Duty Posts (SDP) in the Indian Forest Service are 1960 and remaining under various reserves. Besides serving the 36 Forest Departments in the States and Union Territories managing the country's natural resources, a large number of the IFS officers are in posted on deputation in various Ministries and institutions both in the States and at the Centre.

Activities of IFS Division:

- Appointment of Direct Recruit Indian Forest Service Officers recommended by Union Public Service Commission.
- Determination of vacancies and framing of rules for Direct Recruitment through Union Public Service Commission and allocation of cadres to IFS probationers.
- Determination of vacancies for induction of State Forest Service Officers by promotion into Indian Forest Service, Coordination of Selection Committee Meetings, Notification of Select List and year of allotment to officers inducted in Indian Forest Service.
- Review of cadre and revision in the composition and strength of IFS in various cadres.
- Selection/ appointment of IFS officers to various posts under Central Staffing Scheme of the Ministry and cadre clearance for appointment to various autonomous bodies including Indian Council of Forestry



Research & Education, Dehradun, Indian Institute of Forests Management, Bhopal and Wildlife Institute of India, Dehradun etc.

- Facilitation of Selection /Appointment of IFS officers against the Central Staffing Scheme of Department of Personnel & Training (DoP&T).
- Finalization of various service matters like inter-cadre transfers, Inter cadre deputation, Cadre clearance for placements/training and post-retirement benefits to the officers.
- Management of AGMUT cadre including promotions, transfers, postings and other service matters.
- Publication of Civil List of IFS Officers.
- Confirmation of IFS officers in Service.

Achievements:

1. Vacancies for induction of State Forest Service (SFS) officers into Indian Forest Service (IFS) have been determined in respect of 24 cadres on 08-04-2024.
2. Walking and Medical Test of 147 candidates recommended by Union Public Service Commission (UPSC) in Indian Forest Service Examination, 2023 was convened and the offer of appointment were issued to 139 candidates (including 14 provisional candidates). Candidature of remaining 8 candidates are under examination/process.
3. Cadre review of Indian Forest Service in respect of States of Uttar Pradesh, AGMUT, Uttarakhand, Punjab, Himachal Pradesh, Rajasthan, Tripura, Kerala, Nagaland, Chattisgarh, Maharashtra, Tamilnadu, and Jharkhand are under consideration in

consultation with Department of Personnel and Training (DOP&T)/State Government.

4. Two Meetings of Joint Cadre Authority of Arunachal Pradesh-Goa-Mizoram and Union Territory (AGMUT) have been organized in 2024. Next meeting of JCA is proposed in December, 2024.
5. Vision for IFS in 2047: Ministry has decided to prepare Prospective Plan for Indian Forest Service.
6. Vacancy Circular for filling up posts at AIG, DIG, IG, DDGF, ADG, DGF&SS were released on time. The Vacancy Circular for filling up the posts at AIG, DIG, IGF and DDGF level were released twice. 30 IFS officers has been selected at various levels under the Central Staffing Scheme of the Ministry in the year 2024.
7. The proposal for revising guidelines of CSS-MoEF&CC Scheme is under process. The empanelment guidelines under CSS-MoEF&CC Scheme have been sent to DoPT for approval of ACC.
8. APAR in respect of IFS Officers on Central Deputation has been generated in Smart Performance Appraisal Report Recording Online Window (SPARROW).
9. Up-to-date Civil List of IFS officers as on 01.01.2024 was published and is available on the website of this Ministry <http://www.ifs.nic.in>.
10. The dedicated website for Indian Forest Service i.e. ifs.nic.in has updated information pertaining to the vacancy/deputation (under CSS-MoEF&CC) circulars, training programme circulars, Rules and Regulations concerning IFS. Further, website also has Annual Performance Appraisal Report (APAR) availability status



of IFS officers which can be accessed by concerned officer.

11. 24 IFS officers were empanelled /appointed at various level under the Central Staffing Scheme of Department of Personnel & Training.
12. 38 State Forest Service (SFS) officers have been inducted into Indian Forest Service during 2024.
13. A total of 155 RTI application and 102 CPGRAM applications were disposed-off during the year 2024.

12.3 Mission Karmayogi/iGOT

Achievements of MoEFCC under Mission Karmayogi

1. Capacity Building Unit (CBU) Establishment: A CBU has been constituted to oversee the implementation of the Annual Capacity Building Plan (ACBP), with key members from various departments.
2. Annual Capacity Building Plan (ACBP) Approval: The ACBP for MoEFCC was approved on October 3, 2023, marking a significant step towards enhancing staff capabilities.
3. Staff Onboarding onto iGOT Portal: 1052 employees (approximately 100% of permanent staff and most contractual staff) have been on-boarded onto the iGOT portal for training.
4. Trainings under ACBP, utilizing free courses on iGOT and other platforms and physical trainings are currently underway.
5. Development of Domain Courses on iGOT: 16 domain courses have been created by various institutes/organizations.
6. Accreditation of Institutes: 15 institutes under the direct and technical control of the

Ministry have been accredited under the National Standards for Civil Service Training Institutions (NSCSTI), ensuring standardized benchmarks for civil service training.

7. National Learning Week Participation: MoEFCC actively participated in the National Learning Week, hosting 15 webinars/special lectures and organizing workshops to promote continuous learning and engagement with Mission Karmayogi's objectives.
8. Review Meeting and Action Points: A review meeting was chaired by the Hon'ble Minister of Environment, Forest, and Climate Change, on 8th January, 2025 resulting in key action points for future improvements, including regular progress mapping, development of domain-specific content, and enhancement of course quality.



Hon'ble Minister, EF&CC reviewing implementation of Mission Karmayogi/iGOT

12.4 Vigilance Division

- Disciplinary proceedings (involving vigilance angle) against all serving and retired IFS officers of AGMUT Cadre and other Officers/officials under the MoEF&CC.
- Examination and Processing of cases of imposition of major penalties of dismissal/ compulsory removal etc. (involving vigilance angle) on IFS officers referred by the State Governments.



- Appeals (including appeals against suspension)/Review preferred by officers/officials under the MoEF&CC including all IFS officers.
- Conducting and appointing of Inquiry Officer (I.O.) and Presenting Officer (P.O.) for Preliminary Information and Inquiry.
- Handling of vigilance complaints regarding misconduct of Officers/officials (including all IFS officers) under MoEF&CC received from the General Public/Organizations/Central Vigilance Commission (CVC/CVC portal)/PMO etc. During the period 01.01.2024 to 08.11.2024, Approx. 137 complaints received from CVC/CVC portal/directly in the Ministry were examined and 108 complaints were closed/filed/forwarded including old ones.
- Sanction of Prosecution including those under the Prevention of Corruption Act (PC Act), 1988 against IFS Officers and Officers/officials serving/retired from service under the MoEF&CC. 3 (three) cases of sanction for prosecution were granted during the period.
- Interaction with Central Bureau of Investigation (CBI) in various matters and facilitate in obtaining the information/documents from various Divisions of the Ministry.
- Identification of Sensitive Posts and to ensure periodical rotation of staff holding such sensitive posts. Administration Division is regularly asked to carry out rotation of staff holding sensitive posts.
- Receipt and Scrutiny of Annual Immovable Property Returns (AIPRs) of all officers and officials (including IFS officers) of MoEF&CC.
- According clearance from vigilance angle

in respect of officers and officials of the Ministry. 1445 vigilance clearance were accorded during the period.

- All Court cases having vigilance angle.
- Permission/Intimation of Movable/Immovable property under Conduct Rules, 1964 and All India Service (Conduct) Rules, 1968.
- Preventive Measures to check corruption.
- Organizing Vigilance Awareness Week as per CVC directions.

This year Vigilance Awareness Week was observed in the Ministry from 28th October to 3rd November, 2024 and the Secretary, MoEF&CC administered the pledge on 28.10.2024 in the Ministry. A Debate Competition on the theme "*Value crisis amongst youth is responsible for lack of honesty in society*" was held on 29.10.2024. Also a Quiz Competition was held on 28.10.2024. Winners of the Debate and Quiz Competition were awarded Letters of Appreciation and along with cash prize through e-payment.

12.5 Parliament Division

Introduction:

The Parliament Division is responsible for co-ordination of all parliament matters related to the Ministry of Environment, Forest and Climate Change (MoEF&CC).

I. Parliament Questions:

During the year 2024, at the end of the 265th Session of Rajya Sabha and 2nd Session of 18th Lok Sabha on 09th August, 2024, 247 Parliament Questions were answered by the Ministry pertaining to various aspects of Environment, Forest and Climate Change. In the Rajya Sabha, total 127 Questions were replied, out of which



14 were Starred and 113 were Unstarred. In the Lok Sabha, 120 Questions were replied, out of which 11 were Starred and 109 were Unstarred.

The Questions covered a wide range of issues with which this Ministry is concerned with and prominent among them were the Questions relating to Climate Change, Pollution, Wildlife Conservation, Forest conservation, Biodiversity, Environment Impact Assessment, Wetlands, Hazardous Substances Management etc.

Graphical Representation of the Parliament Questions replied by the Ministry in 2024, during 264th and 265th Session of Rajya Sabha and 01st and 2nd Session of 18th Lok Sabha is given below in Figure 'A' and Figure 'B':

1. Rajya Sabha

Question	264 th Session	265 th Session	Grand Total
Starred	3	11	14
Unstarred	32	81	113
Total	35	92	127

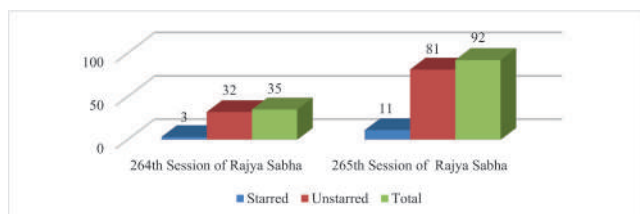


Figure 'A' Number of Questions replied by the MoEF&CC during 264th and 265th Session of Rajya Sabha during 2024

2. Lok Sabha

Question	01 st Session of 18 th Lok Sabha	2 nd Session of 18 th Lok Sabha	Grand Total
Starred	1	10	11
Unstarred	24	85	109
Total	25	95	120

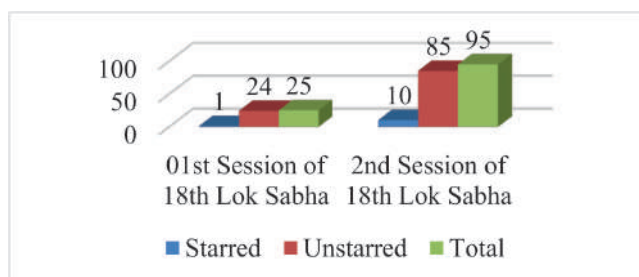


Figure 'B' Number of Questions replied by the MoEF&CC during 01st and 02nd Session of 18th Lok Sabha during 2024

II. Parliamentary Standing Committee :

Parliament Division, during the year 2024, as on 11.11.2024, has coordinated one meeting of the Department related Parliamentary Standing Committee on Science and Technology, Environment, Forest and Climate Change on the following subject:

“Functioning and activities of the Ministry of Environment, Forest and Climate Change”.

12.6 Information Technology and e-Governance

a. Brief introduction, objectives and functions

Government working is based on intensive knowledge and information sharing. For speedy implementation and monitoring of various programmes/schemes and to make most of ICT to secure efficiency in working, Ministry has embarked upon a comprehensive exercise to implement various e-Governance activities / projects.

b. Important activities:

- Implementation of eOffice in the Ministry and its attached/sub-ordinate offices.
- Establishment of LAN/WAN.
- Strengthening of IT infrastructure.
- Management of Cyber Security.
- Management of SPARROW for all officers



Dashboard of Ministry of Environment, Forest & Climate Change (MoEF&CC) website including Scientists.

- Implementation of PARIVESH 2.0.
- Implementation of online consent management.

c. Activities undertaken on Information Technology:

Trainings provided by IT Division:

- Provided training for upskilling of the existing support Staff under the Increasing Efficiency in Decision making in Government’ programme.
- Provided online and offline training on eOffice to Botanical Survey of India (BSI), Kolkata; Zoological Survey of India (ZSI), Kolkata; Indian Council of Forestry Research & Education (ICFRE), Dehradun, National Green Tribunal (NGT), New Delhi and online training to Indian Institute of Forest Management (IIFM).

Facilitation in Meetings:

- All meetings are organised through Video Conferencing (VC) including EAC meetings.
- Creation of Meeting IDs and moderated Video Conferencing System using Webex and Bharat VC Systems.

Measures taken for ensuring Cyber Security:

- Implemented network security tool Sentinel One EDR and Unified Endpoint Management (UEM) as cyber security preparedness in the Ministry. The installation of UEM will ensure (i) Endpoint hardware and software inventory, (ii) Operating System patch updates, (iii) 3rd Party Software – Install, Update & Removal, (iv) Vulnerability Assessment, (v) Endpoint Policy Management and (vi) Endpoint Scripting.
- Collated the 185 websites/portals registered under the Ministry in which 28 Domains were deactivated and 7 Domains were transferred to the concerned Ministry/Departments.
- Organised Interactive Session-cum-Training Program on Cyber Security for Officers / Officials in Ministry on 26 July, 2024.

IT Services

- Provided Technical Advisory for renovation of Conference halls and tested all IT related equipment after commissioning.



Dashboard of Online Consent Management & Monitoring System "

- VPN Access provided e-Office user in the Ministry and its attached / sub-ordinate offices to access from the Non-NIC ISPs.
- Digital Signature Certificate (DSC) made for 109 Access provided all eOffice user in the Ministry and its attached / sub-ordinate offices.
- Created email IDs in @gov.in domain for all the users of eOffice.
- Continued the Management of Wi-Fi System at Indira Paryavaran Bhawan including addition/deletion of users, configuration in mobile phones and installation of certificates in iPhones.
- Implemented and managed the Biometric Attendance System (AEBAS).
- IT infrastructure of the Ministry was strengthened.
- Examination of all policy issues pertaining to Information Technology.
- request for stationary.
- Management of Smart Performance Appraisal Report Recording Online Window (SPARROW) for online submission of APAR of IAS, IES, ISS, IPS, CSS & CSSS Officers and Scientists in the Ministry.
- Management of Internship, e SamikSha, PRAYAS, Swagatam and various other portals in the Ministry.
- Assisted for development of Meri LiFE Website and provided online training on MeriLiFE Portal to all Nodal Ministries, Central and State Government departments, Schools and other organisations and General Public for uploading the Tree Plantation details under 'Ek Ped Maa Ke Naam'.

4. Activities undertaken on e-Governance:

4.1 Implementation of eOffice:

Management of Websites and Portals

- Revamped the Website of the Ministry and Managed continuously.
- Management of Online Stationary Request Management System for submitting the
- Registered 5291 Users in eOffice portal, Posting and Promotion, Role Post, Setting of Workflow, updation in Notice Board.
- Implemented eOffice in Botanical Survey of India (BSI), Kolkata; Zoological Survey of India (ZSI), Kolkata; Indian Council of Forestry Research & Education (ICFRE),



Dehradun, Central Empowered Committee, National Green Tribunal (NGT), New Delhi and Indian Institute of Forest Management (IIFM), Bhopal and provided offline/Online training.

- The Ministry has implemented e office in the Ministry and all attached/subordinate offices.

4.2 Online Consent Management & Monitoring System:

Online Consent Management & Monitoring System (OCMMS) developed for State Pollution Control Boards (SPCBs) / Pollution Control Committees (PCCs) to automate the existing workflow which allows the industries for the online submission of application for Consent to Establish (CTE) / Consent to Operate (CTO), authorization for various categories of Industries / Institutions/Hotels/Hospitals.

- Online Consent Management & Monitoring System (OCMMS) has been implemented in 28 States/UTs viz. Arunachal Pradesh, Andhra Pradesh, Bihar, Chhattisgarh, Chandigarh, Daman & Diu, Haryana, Jharkhand, Jammu & Kashmir, Kerala, Meghalaya, Odisha, Punjab, Puducherry, Telangana, Tripura, Tamil Nadu, Uttar Pradesh, Sikkim, Delhi, Goa, Himachal Pradesh, Assam, Uttarakhand, West Bengal, Andaman & Nicobar, Ladakh and Lakshadweep. Integrated in the home page for Gujarat, Rajasthan, Karnataka, Maharashtra and Madhya Pradesh with open API and hyperlink of these states in the map are also provided.
- The OCMMS is integrated with DIPP / State Government Single Window System for Seventeen (17) States viz. Andhra Pradesh, Assam, Chhattisgarh, Haryana, Himachal

Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Odisha, Puducherry, Punjab, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh, Tripura and West Bengal. The mobile version of OCMMS is implemented in Fourteen (14) States viz. Andhra Pradesh, Assam, Bihar, Chandigarh, Delhi, Haryana, Jharkhand, Kerala, Punjab, Tamil Nadu, Chhattisgarh, J&K, Assam and Himachal Pradesh the same are made available under Play Store. The mobile app for Public Grievance System has been developed for the 5 States/UTs of Bihar, Chandigarh, Delhi, Jharkhand and Punjab.

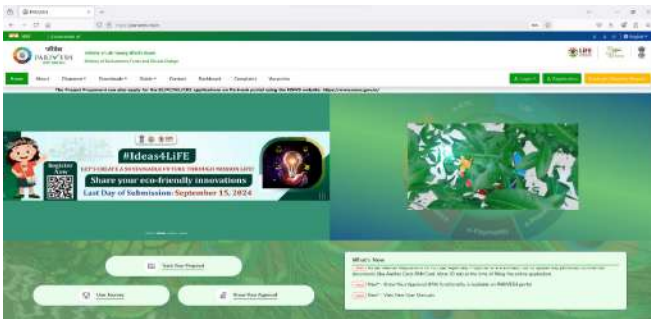
PARIVESH

(i) About PARIVESH:

- In pursuant to the spirit of 'Digital India' initiated by Shri Narendra Modi, Hon'ble Prime Minister of India and capturing the essence of Minimum Government and Maximum Governance, a Single-Window Integrated Environmental Management System named PARIVESH (Pro-Active and Responsive facilitation by Interactive, Virtuous and Environmental Single window Hub) has been launched by Ministry in August 2018.
- Based on the concept of web architecture, a workflow based application has been rolled out for online submission, monitoring and management of proposals submitted by Project Proponents to the Ministry of Environment, Forest and Climate Change (MOEFCC), Government of India as well as to the State Level Environmental Impact Assessment Authorities (SEIAA) to seek various types of clearances (e.g. Environment, Forest, Wildlife and Coastal Regulation Zone Clearances) from Central, State and district-level authorities. It automates the entire process of

submitting the application and tracking the status of such proposals at each stage of the processing. This system has been designed, developed and hosted on cloud environment by NIC, New Delhi.

- This web-based application is unique amongst all such portals of regulatory agencies. This initiative will bring the Ministry closer to the industry and citizens alike. After the introduction of e-communication in the first phase, this is the second phase of reforms towards e-Governance in its real spirit.
- Enhancements and revamp of PARIVESH, to meet the evolving needs of the Ministry and the stakeholders has been in progress.



(ii) Objectives of PARIVESH:

- Enhance efficiency, transparency, and accountability in the Environment, Forest, Wildlife and CRZ clearance processes.
- Sound and informed decision-making.
- Enhance responsiveness through workflows automation.
- Real time information about the status of applications with alerts at each of the stages through SMS and email.
- Efficient and expeditious processing and decision-making leading to reduction in turnaround time.
- Standardization in processing and decision-making across the states / UTs

- Enhance ease and convenience of citizens and businesses in accessing information and services.
- Real-time monitoring and adherence to timelines for verification.
- User-friendly and environmentally sustainable application processes.
- Improve environmental monitoring and compliance.
- Leading to the era of Mobile Governance with maximum transparency.

(iii) Benefits

For Project Proponent/User Agency:

- Single registration using NSDL PAN services and single sign-in for all types of clearances (i.e. Environment, Forest, Wildlife and CRZ).
- KYC Authentication for Existing proponent.
- Unique-id for all types of clearances required for a particular project.
- Single Window interface for the proponent to submit applications for getting all types of clearances (i.e. Environment, Forests, Wildlife and CRZ clearances).
- Helps the user to apply, view, track, interact and respond to the queries whenever he wants and wherever he is through web-based system. No physical interaction with the officers.
- Facility to download the e-signed approval letter.
- Supplemented by mobile app "PARIVESH" for Android and iOS based smart phones. The status of the application, replies to queries, agenda & minutes of meetings, approval letters can also be accessed/downloaded anytime on a smart phone through this App.



- Dashboard for accessing various analytical reports including charts/ graphs indicating pendency of information, time taken by processing authorities at each level, etc.
 - SMS and email alerts at all levels of application processing.
 - Facility for uploading the compliance reports for clearances. Facility for uploading of geo-tagged images on GIS maps.
 - Alerts through SMS and emails in case of non-compliances. This will help ensuring timely compliance of clearance conditions.
 - Improved public image through improved environmental compliances.
 - Form Rationalization - Elimination of duplicate and erroneous entries and Reduce effort for validation of same information at multiple points.
 - Know Your Approval and DSS module has been launched.
 - Standardization of Agenda & MoM templates - Time reduction in Agenda & MoM finalization and thus in clearance.
 - Change in registration process of applicants - Ability to map multiple projects to a unique business entity.
 - Enhancement has been done in all Forms.
 - Integration of PARIVESH with NSWS is in progress.
- For Processing Authorities:**
- A Single Window System for Central, State and District level clearances.
 - Auto generation of agenda (based on first come first served principle), minutes of the meetings and online generation of approval letters through digital signatures/ e-Sign by competent authorities resulting in ease and uniformity in processing of clearance applications.
 - Accessing of information about the pendency and timeline fulfilments of various applications under consideration.
 - Online submission and monitoring of compliance reports including geo-tagged images of the site by regulatory body / inspecting officers even through the Mobile App for enhanced compliance monitoring.
 - Integration with single window clearance systems launched by DIPP and various other state governments.
 - Processing of files through mobile app will facilitate for expeditious decision-making.
 - Geographic Information System (GIS) interface for the Appraisal Committee, to help them in analysing the proposal efficiently.
 - Dashboard for providing various analytical reports. Help in self-assessment and improved performance.
 - Efficient and real time review of pendency by higher authorities with facility to review the performance of the processing officers.
 - Automatic alerts (via SMS and emails) at important stages to the concerned officers, committee members and higher authorities to check the delays, if any.
 - Automatic alerts in case of non-compliances for clearance conditions – would result into enhanced compliance leading to sustainable development
 - Improved public image – from merely a regulator to more of a facilitator.
 - Enhanced system generated Agenda for EC has been developed and made live.



- New authority process workflow for FC has been made.

For Citizens:

- Enhance ease and convenience of citizens and businesses in accessing information and services.
- Availability of details of each project in public domain.
- Access to various technical and impact assessment reports, approval letters, etc. through web portal as well as through mobile app.
- Timeline for each stage is available in the public domain to bring in transparency and accountability in the system.
- Data base sharing will facilitate in research and development activities.
- Improved compliance, better environmental quality.
- Integration with Green Skill Development Programme-search engine for Green jobs.
- Know Your Approval (KYA) & Decision Support System (DSS) module to get better understanding of approvals required.

(iv) Modules of PARIVESH:

- Online Registration of Proponent/User Agency.
- Workflow / file processing and approval management.
- E-File Noting.
- Alerts& Notification (SMS and email).
- GIS based Appraisal and Geo-tagging.
- Compliance Monitoring for project proponents and regulatory authorities.
- Analytical Reports.
- Online Agenda Management.

- Online Minutes of Meeting.
- Query Module for Essential/Additional Details Sought (EDS/ADS).
- Generation of Approval letters for TOR/EC/FC/Wildlife/CRZ clearances.
- Dashboard for project proponents, processing authorities and citizens.
- E-Green skilled jobs.
- Audit Trail.
- FAQ.
- KYA & DSS.

12.7 Right to Information Cell (RTI)

- As per the RTI-MIS portal, during the period from 01.01.2024 to 17.12.2024, MoEF&CC received a total of 3507 RTI applications out of which 3366 applications were disposed of.
- A total number of 314 RTI appeals were received out of which 298 appeals were disposed of.
- The Central Public Information Officers (CPIOs) and First Appellate Authorities (FAAs) have been designated for effective implementation of the RTI Act, 2005. The notifications designating CPIOs/FAAs are revised periodically as and when there are changes in the allocation of work among CPIOs/FAAs. The Ministry has 88 CPIOs and 74 FAAs for disposal of above RTI applications and appeals received in the Ministry.
- Both online and offline applications/appeals that are received in the Ministry as well as on the designated counter at MoEF&CC, IPB, New Delhi are regularly updated and up-linked and forwarded to the respective CPIO/FAA based on the subject matter.
- As per Section 4 of RTI Act, 2005, Suo



motu information w.r.t. the Ministry of Environment, Forest and Climate Change was updated/uploaded on the website of the Ministry.

- Directions from the Central Information Commission (CIC) and the Nodal Ministry/ Department – DoPT were also circulated to the CPIOs/FAAs for implementation of the RTI Act.
- The status of RTI applications and appeals is being regularly monitored in Senior Officers Meetings.

12.8 General Administration (GA) Section:

- The General Administration (GA) Division of the Ministry is entrusted with the responsibility of providing logistics and support services to senior officers and staff for discharging their duties and smooth functioning of the Office. It includes procurement and supply of stationery, maintaining stores, disposal of obsolete materials, equipment, support services to the officials of the Ministry including provision of transport, communication and general upkeep etc. The Ministry is functioning from Indira Paryavaran Bhawan since 2014 and got LEED India Platinum & GRIHA-5 Star Green Building rating.

Activities undertaken:

- Special Swachhta Campaign 4.0 was observed from 2nd October to 31st October, 2024.
- Online Auction -
 - a. E-waste and Obsolete furniture items were disposed of vacating an area of about 700 sq. ft.
 - b. Three Staff Cars were also e-auctioned, vacating an area of about 270 sq. ft.
 - c. Revenue earned through e-auction was Rs. 6,23,925/-

Innovative Work on cleanliness activities:

- Scanning facilities were provided at IPB for all Divisions for scanning of Maps, Files and Records.
- Shredding machine was installed for shredding of papers, files etc.
- Special care was taken on cleaning of entire premises (Washrooms, corridors, atrium, Canteen area, Terrace Garden, Record Room, basement) of IPB.
- About 900 kg of garbage was disposed of vacating an area of about 150 sq. ft.

GeM Expenditure: -

As per the instructions of Department of Commerce to increase the expenditure for procurement through Government E-Market (GeM).

12.9 Public Grievance Cell

- The Public Grievance Cell has been functioning in the Ministry of Environment, Forest and Climate Change to attend to the complaints from all public regarding various issues like environment, pollution, wildlife, forestry and other environmental matters.
- Shri Satyajit Mishra, Joint Secretary is the Nodal Appellate Authority for appeal raised against disposed Public Grievance of the Ministry.
- Shri Vikram Singh, Deputy Secretary is Nodal Public Grievance Officer for all Public Grievances.
- During the period from 1st January, 2024 to 31st December, 2024, PG Cell had received total 6,227 Public Grievances. Out of 6,227 grievances, 298 PGs bought forwarded from last year and 5,929 PGs are received during this year (as on 31.12.2024).
- During the period, 6,013 grievances have



been disposed and only 214 grievances are pending for disposal.

- During the Period, 783 Appeals have been received in the Ministry. Out of these, 745 Appeals have been disposed of.
- The rate of disposal of Grievances and Appeals received is 95% (approx.) Efforts are being continued by the PG Cell to raise the disposal rate to 100% by issuing periodic reminders to the Divisions/ Sections concerned for early disposal of pending grievances, and to strive towards Zero pendency of grievances.
- Instructions have been issued in October, 2023 and August, 2024 to designated Grievance Redressal Officers(GROs) and Appellate Authorities(AAs) with regard to Redressal of Public Grievances(PGs), for improving quality of disposal of PGs and PG Appeals.
- GROs and AAs have been requested to keep in mind four dimensions i.e. Efficiency, Feedback, Domain, Organizational Commitment along with other indicators introduced by Department of Administrative Reforms and Public Grievances(DARPG), while disposing of PGs and PG Appeals and to focus on efficiency. PGs and PG Appeals should be disposed of within stipulated time frame and quality of reply should be such that it generates positive feedback of the person filing the public grievance.
- DARPG has introduced Grievance Redressal Assessment Index (GRAI) to assist the Ministries/Departments to review, analyses and streamline internal grievance redressal mechanism.
- GROs and AAs have been requested to ensure timely disposal of all the PGs and PG

Appeals in the revised stipulate time frame (within 21 days) with proper justification and Action Taken Report (ATR), to improve ranking of Ministry in GRAI.

- In order to ensure quality disposal of PGs and PG Appeals within the stipulated time frame, the status of PGs and PG Appeals are being regularly monitored in Senior Officers' Meetings.

12.10 Implementation of Official Language Policy

Functions of Official Language Division in the Ministry are to implement Official Language Policy of the Union as prescribed in the Constitution of India, Official Language Act, 1963 (as amended 1967), Official Language Rules, 1976 (as amended 1987, 2007 and 2011), Annual Program and orders issued by the Government of India from time to time.

Activities undertaken

- Meeting of Official Language Implementation Committee –
During the said period, 03 quarterly meetings of the Official Language Implementation Committee were held to review the status of implementation of Official Language Policy in the Divisions/ Sections of the Ministry as well as in the Subordinate Offices of the Ministry located in Delhi-NCR.
- Hindi Workshops-
During the period under report, 03 Hindi workshops were organized to enable the officers and employees of the Ministry and offices under its control to do their day-to-day work in Hindi.
- Inspections-



In order to review the status of implementation of the Official Language Policy of the Union, the Committee of Parliament on Official Language inspected 05 offices under the control of the Ministry of Environment, Forest and Climate Change. Keeping in mind the target set in the Annual Program 2024-25, the officers/officials of the Official Language Division of the Ministry conducted official language inspection of 13 regional offices/subordinate offices and issued guidelines to the officers and employees of the concerned offices for proper compliance of the orders related to the official language policy. The Ministry also conducted official language inspection of its 14 divisions/sections as per the target set and resolved the deficiencies found.

- Publication of “Paryavaran” magazine:

The 72nd issue of the Ministry’s ‘Paryavaran’ magazine has been published and articles received for 73rd issue are being compiled. This issue of the magazine is expected to be published shortly

- Hindi Salahkar Samiti:

With the formation of the new Lok Sabha during the year 2024, the process of reconstituting the Hindi Salahkar Samiti of the Ministry has been started.

- Participation in Hindi Diwas and Fourth All India Official Language Conference, Delhi:

Officers and employees of the Ministry of Environment, Forest and Climate Change participated in the Hindi Diwas and Fourth All India Official Language Conference organized by the Department of Official Language, Ministry of Home Affairs in Delhi from 14 to 15 September, 2024.

- Organisation of Hindi Mah:

Like every year this year also Hindi Mah organized in the ministry from 01.09.2024 to 30.09.2024. During this period, 07 Hindi competitions were organized. Large numbers of officers and employees of the Ministry and CCU has participated in the Competitions.

12.11 Civil Construction Unit, CCU

The Government of India decided that each major scientific department with substantial annual civil work budget should have Civil Engineering Unit of its own for expeditious implementation of work connected with plan schemes. Accordingly, Civil Engineering Wing (now CCU) was created in March, 1987 in Ministry of Environment Forest and Climate Change. CCU headed by Chief Engineer is a division under the administrative control of the MoEF&CC. Main roles of CCU are:

- Planning of work including preparation of estimate in house and vetting of estimate prepared by other PWOs.
- To construct major work in house or getting these constructed through other PWOs.
- Technical advisor in the construction works of the ministry.

The Provision of CPWD code /work manual apply to such work. All proposals relating to policy matter are submitted to the Secretary, MoEF&CC.

Function of the division:

The CCU is engaged in execution of Civil and Electrical works of the MoEF&CC, its attached subordinate and autonomous offices. These include RO, BSI, FSI, ZSI, DFE, NMNH, IGNFA, ICFRE, NZP, IIFM, GBPNIHE, IPIRTI, CPCB, WII and CZA. The co-ordination and budget management of works executed by PWOs is being done by CCU.



Activities undertaken:

A. Works Completed:

S. No.	Name of Work	A/A & E/S Amount (Rs. In lacs)
1	Construction of backside boundary wall in Assam side and Construction of boundary wall for the residential campus for the CASFOS at Burnihat, Assam.	617.29
2	C/o campus boundary wall & guard room for the land allotted to BSI at Nauri. Solan	440.93

B. Works in Progress

S. No.	Name of Work	A/A & E/S Amount (Rs. In lacs)
1	Development of Botanical Garden of India Republic (BGIR), at NOIDA, Uttarpradesh on EPC Mode.	36900.00
2	Clo Regional Museum of Natural History at Marchak, Gangtok.	6941.00
3	Construction of Headquarters office building, hostel, auditorium and guest house for BSI at Andul Road, Howrah	5951.00
4	Construction of new hostel block G+2 for IGNFA at FRI, Dehradun	5261.00
5	C/o Type-II, Type-III, Type- IV, & Type-V quarters, scientist hostel, field Hostel, Auditorium and administrative Block at GBPNIHESD, Srinagar (U.K)	4464.00
6	Construction of Eastern Himalayan Faunal Repository at ZSI, Itanagar.	2978.92
7	Construction of New Academic Block at IGNFA	1790.00
8	Renovation of various Conference Halls of MoEF&CC at IPB, Jorbagh Road, New Delhi.	1283.00

C. Works in Planning Stage:

S. No.	Name of Work	Amount of Preliminary Estimate (Rs. In lacs)
1	Construction of Office Complex to accommodate Regional Office of MoEF & CC, FSI, NTCA & CPCB at Doresanipalya RF, JP Nagar, Bengaluru.	11,598.00
2	Construction of National Coral Reef Research Institute (NCRRI), ZSI, Port Blair, Andaman & Nicobar Islands.	9376.00
3	Construction of New building for CPCB at Parivesh Bhawan, New Delhi	8,610.00
4	Construction of Office Building for Eastern Ghats Regional Centre of ZSI, Amaravati, Andra Pradesh	8,415.00
5	Development of Civil Infrastructure for National Referral Centre-Wildlife at Junagarh, Gujarat (Phase-1)	7,650.00



6	Construction of Office Complex to accommodate Regional Office of MoEF&CC, WCCB & CPCB at Nannamangalam RF, Chennai	3,224.00
7	Construction of 40 Nos. Type-II Residential Quarters for NZP, New Delhi (SH: Civil and Electrical Work) (Phase-II)	1,896.00
8	Construction of Type-V, Type IV, Type -III and Type-II Qtrs at Dhobhi ghat for RO office, Dehradun	921.00

Narmada Conference Hall, IPB



Teesta Conference Hall, IPB



Brahmputra Hall, IPB



Sutlej Conference Hall, IPB



Boundary Wall, NZP



Development Works, NZP



New Hostel Building, IGNA at Dehradun



BSI Auditorium at Dehradun





CHAPTER : 13

**DEVELOPMENT MONITORING
& EVALUATION, BUDGET
AND ACCOUNTS**



CHAPTER - 13

DEVELOPMENT MONITORING & EVALUATION, BUDGET AND ACCOUNTS

13.1 Development Monitoring & Evaluation Division

a. Introduction

The work of Development, Monitoring and Evaluation Division (DMED) is associated with the Development Monitoring and Evaluation Office (DMEO) in NITI Aayog.

Mandate

The work of DMED is detailed as under:

- i. To carry out monitoring and impact Evaluation of the Ministry's funded schemes.
- ii. To focus on outcomes and take them into account during appraisal for continuation of the ongoing schemes.
- iii. To constitute Evaluation Monitoring Committee (EMC)
- iv. Coordination with NITI Aayog
- v. Nodal Division for coordination with Ministry of Panchayati Raj (MoPR)

b. Achievements

- i. The compiled OOMF 2024-25 prepared in respect of MoEFCC was sent to NITI Aayog. Hard copies of the same were printed and supplied to Rajya Sabha Secretariat and Lok Sabha Secretariat for circulation to respective Members of the Committee.
- ii. Prepared **Output-Outcome Monitoring Framework (OOMF) FY 2025-26** for all

CS/CSS schemes in collaboration with NITI Aayog, with a view to bring focus on outcomes in addition to the outputs.

- iii. Monitored the progress of all CS/ CSS Schemes and regular updation of the progress against the targets on the NITI Aayog OOMF Dashboard.
- iv. Coordinated with DMEO, NITI Aayog to furnish information w.r.t evaluation study of Centrally Sponsored Schemes of this Ministry being conducted by NITI Aayog.

13.2 Budget and Accounts

Office of Chief Controller of Accounts advise and assist the Ministry on matters pertaining to Budget, Expenditure Management, Accounting, Establishment Matters and Personal claims of the employees. The Accounting Organization in the Ministry under Chief Controller of Accounts includes one Controller of Accounts, the Principal Accounts office, 02 Pay and Accounts Offices (PAOs) located at New Delhi and Kolkata and 63 Drawing and Disbursing Offices (DDOs): 46 Cheque drawing DDOs and 17 Non-Cheque drawing DDOs.

The Principal Accounts Office (Pr.AO) is entrusted with the responsibility of maintaining various accounts of the Ministry viz. Finance Accounts, Appropriation Accounts and Monthly Account as well, monitoring expenditure to ensure adherence to Monthly/Quarterly Expenditure Plan based on DDG, conducting Internal Audit and Scheme Audit, and



monitoring of compliance to the instructions issued by Ministry of Finance, O/o CGA and CPAO from time to time, has been ensured.

The Internal Audit Wing (IAW) conducts Internal Audit of PAOs, DDOs, Autonomous Bodies and performance audit of schemes of the Ministry. During the FY 2023-24, regular audit of 42 units was conducted. During the FY 2023-24 a number of 224 audit paras were settled whereas 631 fresh paras were raised. Out of these fresh paras, 138 paras involving non-recovery/over-payment/infructuous/irregular expenditure/irregular purchase/non-adjustment of contingency advance/blocking of government money amounting to Rs. 8348.86 lakhs. Recently six consultants were hired for conducting the Internal Audit of various Organizations/Offices of Ministry of Environment Forest and Climate Change.

The PAO is responsible for processing payments while ensuring adherence to budgetary and expenditure ceiling and norms of financial propriety. It is also responsible for ensuring just-in-time release of funds digitally through PFMS to all beneficiaries/vendors/agencies, while ensuring that no idle money remains parked with grantee bodies. PFMS has also been implemented in all CDDOS of the Ministry. Further, online collection on non-tax receipts through Non-tax Receipts portal (NTRP) has eliminated delay and digitized the receipts.

Pension processing has been digitized through linkage of online Pension Sanction and Payment Tracking System- BHAVISHYA with PFMS. This has facilitated the retiring employee to fill the forms online and the Administrative Authority to process the online claim and Communicate

to PAO for issuance of Pension Payment Order (PPO) to CPAO.

Employee Information System (EIS) has been successfully implemented in NCDDOS/CDDOS under the Ministry for processing Personnel payments.

GPF module of PFMS has been successfully implemented in the Ministry which has made it convenient to monitor GPF accounts by subscriber themselves. Advance and withdrawals taken by the employees are being monitored smoothly.

The roll-out of Expenditure, Advance & Transfer (EAT) module for implementing agencies receiving Grants -in-aid, has enabled better monitoring of unspent balances and outstanding UCs. SNA, CNA and TSA has been implemented successfully in this Ministry and now one scheme has been chosen by Ministry of Finance for SNA SPARSH.

Accounting of CAMPA fund is also being carried out in the Principal Accounts Office with the help of CAMPA Authority.

Budget Division is entrusted with the planning and coordination of all Schemes and Non-schemes of the Ministry. It functions as the nodal Division for issues and matters related to Ministry of Finance (Department of Economic Affairs' Budget Division and the Department of Expenditure). The work handled in the Division covers preparation, monitoring and review of the Ministry's Annual Plans and the tasks associated with the Union Budget of the Ministry. The responsibility of monitoring of the progress in utilization of allocated funds released for implementation of various



Schemes is also assigned to the Division. The work of the Budget Division is detailed as under:

- Preparation of Statement of Budget Estimates (SBE), Revised Estimates (RE), Supplementary and Re-appropriation proposals
- Preparation of Detailed Demands for Grants (DDG)
- Preparation of Explanatory Notes on Saving/Excess within the Grant.
- Coordination with Department-related Parliamentary Standing Committee

- Compliance of Cash Management MEP/QEP)
- Monitoring of Expenditure
- Allocation of funds under Advances to Government Servants

Annual Plan 2024-25

The Ministry has been allocated an outlay of Rs.3330.37 crore in the Budget Estimates (BE) for the Financial Year 2024-25.

The financial outlays and expenditure during 2024-25 is given in the following table:

Umbrella Scheme-wise Allocation (2024-25)

(Rs. in Crores)

S. No.	Name of the Scheme	BE 2024-25	AE 2024-25 (upto 31.10.2024)
1	Environmental Knowledge and Capacity Building (CS)	78.34	33.55
2	National Coastal Management Programme (CS)	50.00	0.83
3	Environmental Education, Awareness, Research and skill development (CS)	87.40	35.79
4	Control of Pollution (CS)	858.50	7.21
5	National Mission for a Green India (CSS)	220.00	100.13
6	Integrated Development of Wildlife Habitats (CSS)	450.00	140.63
7	Conservation of Natural Resources and Ecosystems (CSS)	43.50	6.57
	Total	1787.74	324.71

Umbrella Non Scheme-wise Allocation (2024-25)

(Rs. in Crores)

S. No.	Name of the Scheme	BE 2024-25	AE 2024-25 (upto 31.10.2024)
1	Secretariat	379.63	144.07
2	Attached/ Subordinate offices	580.00	317.98
3	Assistance to Autonomous Bodies	391.00	302.56
4	Statutory & Regulatory Bodies	192.00	101.94
	Total	1542.63	866.55



List of Pending C&AG Paras (up to 6 November 2024)

S. No.	Report No. & Year	Para No.	Subject
1	26 of 2022	2.1(ii)	Deficiencies in internal Controls in Central Autonomous Bodies
2	26 of 2022	2.1(iii)	Deficiencies in internal Controls in Central Autonomous Bodies
3	26 of 2022	2.2(ii)	Common deficiencies noticed in the accounts of CABs
4	4 of 2022	Entire Report	Performance Report on 'Conservation of Coastal Ecosystems'
5	21 of 2022	5.4	Short recovery of rent of Rs. 96.72 lakh from a bank
6	21 of 2022	5.1	Assistance to Botanic Gardens Schemes
7	24 of 2023	5.1	Infructuous expenditure of Rs. 1.04 Crore
8	24 of 2023	5.2	Infructuous expenditure of Rs. 3.43 Crore on a waste destruction plant.
9	21 of 2023	4.16 figure 4.17	Outstanding Utilization Certificates
10	21 of 2023	4.6 Annexure 4.7 SI No. 14	Non-Surrender and Surrender of Savings on last day of the financial year
11	21 of 2023	4.2.2.2 Annexure 4.3 B SI No. 42	Other significant savings of Rs 100 Crore or more at Minor/Sub Head level
12	21 of 2023	4.2.2 Annexure 4.2 SI No. 15	Analysis of Savings-Segment Wise.

List of Pending PAC Paras as per APMS portal (up to 6 November 2024)

S.No.	Report No. & Year	Para No.	Subject
1	95 th Report of 17 th Lok Sabha	1	Pollution caused by Plastic
2	95 th Report of 17 th Lok Sabha	2	Pollution caused by Plastic
3	95 th Report of 17 th Lok Sabha	3	Pollution caused by Plastic
4	95 th Report of 17 th Lok Sabha	4	Pollution caused by Plastic
5	95 th Report of 17 th Lok Sabha	5	Pollution caused by Plastic
6	95 th Report of 17 th Lok Sabha	6	Pollution caused by Plastic
7	95 th Report of 17 th Lok Sabha	7	Pollution caused by Plastic
8	95 th Report of 17 th Lok Sabha	8	Pollution caused by Plastic
9	95 th Report of 17 th Lok Sabha	9	Pollution caused by Plastic
10	95 th Report of 17 th Lok Sabha	10	Pollution caused by Plastic



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Facebook : <https://www.facebook.com/moefcc>

Twitter : <http://www.twitter.com/moefcc> | **Email :** moefcc@gov.in