



Annual Report 2023-24



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



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CONTENTS

S.No.	Chapters and Sections Name	Page. No.
	Abbreviations	v
	Role and Mandate of the Ministry	vii
	Brief Statement of Activities of the Ministry	xi
1 Mission LiFE		
1.1	Life Style For Environment	02
1.2	Green Credit Program	10
2 Environment, Climate and Sustainability Working Group (G20 Presidency)		
2.1	G20- Background	13
2.2	ECSWG Meetings	13
3 Environment - Abatement of Pollution, Policy and Law		
3.1	Control of Pollution	19
3.2	Central Pollution Control Board	31
3.3	Hazardous Substances Management	38
3.4	Policy and Law	46
3.5	National Green Tribunal (NGT)	47
3.6	Eco-labelling	47
4 Environmental Impact Assessment and Clearance		
4.1	Environmental Impact Assessment	49
4.2	Coastal Regulation Zone (CRZ)	52
5 Conservation - Biodiversity		
5.1	Biodiversity	57
5.2	Biosafety	59
5.3	Zoological Survey of India (ZSI)	61
5.4	Botanical Survey of India (BSI)	66
5.5	Assistance to Botanical Gardens	69
5.6	Biosphere Reserves	71
5.7	Eco-Sensitive Zone	74

6 Wetlands & Coastal Ecosystem		
6.1	National Plan for Conservation of Aquatic Eco-System (NPCA)	78
6.2	Sustainable Coastal Management (SCM)	83
6.3	NCSCM	87
7 Conservation-Forest		
7.1	Forest Conservation	90
7.2	Compensatory Afforestation Fund Management and Planning Authority (CAMPA)	90
7.3	Forest Establishment	97
7.4	Forest Policy	99
7.5	Forest Protection	102
7.6	Survey and Utilization	104
7.7	Forestry Research	111
7.8	National Afforestation and Eco-development Board (NAEB)	134
7.9	National Green India Mission	135
8 Conservation-Wildlife		
8.1	Wildlife Conservation	138
8.2	Wildlife Crime Control Bureau	144
8.3	Central Zoo Authority	147
8.4	Project Elephant	151
8.5	Project Tiger/National Tiger Conservation Authority (NTCA)	156
8.6	Wildlife Institute of India	160
9 Climate Change		
9.1	Climate Change	165
9.2	Ozone layer Protection	169
9.3	United Nation Convention to Combat Desertification	182
10 International Cooperation		
10.1	International Cooperation	184
10.2	Externally Aided Projects	192
11 Research		
11.1	Research in Environment	196
11.2	G.B. Pant National Institute of Himalayan Environment and Sustainable Development	197
11.3	National Mission on Himalayan Studies	199



12 Environmental Information, Education and Awareness		
12.1	Environmental Education, Awareness and Training	202
12.2	National Museum of Natural History (NMNH)	204
12.3	Media Cell	206
12.4	Swachh aur Swastha Bharat Cell	207
12.5	Economic Division	208
12.6	Statistics Division	220
12.7	Non-Governmental Organization (NGO) Cell	224
13 Administration and Civil Construction		
13.1	Administration	226
13.2	Indian Forest Service (IFS) Cadre Management	228
13.3	Vigilance Division	229
13.4	Parliament Section	230
13.5	Information Technology and e-Governance	231
13.6	Right to Information Cell (RTI)	237
13.7	General Administration (GA) Section	238
13.8	Public Grievance Cell	238
13.9	Implementation of Official Language Policy	239
13.10	Civil Construction Unit (CCU)	241
14 Development Monitoring & Evaluation, Budget and Accounts		
14.1	Development monitoring & Evaluation Division	245
14.2	Budget and Accounts	245

Abbreviations

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



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



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, ensuring the welfare of animals and prevention and abatement of pollution. 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), Green Climate Fund (GCF) 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. National Compensatory Afforestation Fund Management and Planning Authority (CAMPA) was constituted vide order dated 13.8.2009 primarily to lay down guidelines for State CAMPA, monitor/assist/ and provide recommendations to State CAMPA and resolve issues.

The broad objectives of the Ministry are:

- Conservation and survey of flora, fauna, forests and wildlife
- Prevention and control of pollution
- Afforestation and regeneration of degraded areas
- Protection of environment and wildlife
- Facilitate activities related to India's commitments and obligations with three Rio Conventions i.e. UNFCCC, UNCCD and 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

These objectives are well supported by a set of legislative and regulatory measures, aimed at the preservation, conservation and protection of the environment. 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 and a National Environment Policy, 2006 also guide the Ministry's work.

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:

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

- for conservation, management and afforestation.
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.
 - 23A. 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.
 27. Central Pollution Control Board.
- 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
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
 - 36A. 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).
 46. The Environment (Protection) Act, 1986 (29 of 1986).
 47. The Public Liability Insurance Act, 1991 (6 of 1991).

48. The National Green Tribunal Act, 2010 (19 of 2010).⁸

NOTE:-

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

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- 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).
 - ³Omitted vide Amendment Series no. 349 dated 04.04.2019 (transferred to D/o Animal Husbandry and Dairying).
 - ⁴Inserted vide Amendment series no. 306 dated 31.07.2014.
 - ⁵Omitted 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.



Brief Statement of Activities of the Ministry



1 Climate Change

1.1 Reduction in the Emission Intensity of GDP:

India's emission intensity of GDP reduced by 33% between 2005 and 2019. The original target has been achieved 11 years ahead of schedule. The share of non-fossil fuel sources in India's total installed electricity generation capacity reached 43.82% as on 31 October 2023. The original target has been achieved 9 years ahead of schedule.

1.2 Updated Nationally Determined Contributions (NDCs)

The Hon'ble Prime Minister of India at the 26th session of the Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP-26) offered India's vision to the global community on meeting the challenge of climate change by presenting to the world five nectar elements (*Panchamrit*) of climate action by India. The Union Cabinet approved India's updated 'Nationally Determined Contribution' (NDC) on 3rd August 2022. This translates the '*Panchamrit*' targets announced by Hon'ble Prime Minister at COP-26 in December 2021 into enhanced climate targets for India. The enhanced NDCs are a step towards achieving India's long-term goal of reaching net-zero by 2070.

1.3 Long Term- Low Emission Development Strategy (LT-LEDS)

India has submitted LT-LEDS to UNFCCC in Nov, 2022 highlighting strategic low-emissions development transitions for the country. The LT-LEDS was prepared in the light of India's right to an equitable & fair share of the Global Carbon Budget which is the practical implementation of Climate Justice.

1.4 India's achievements against the NDC targets are presented in the table below:

NDC (2015)	TARGET (2030)	ACHIEVEMENT
Reduce Emissions Intensity of its GDP	33-35% over 2005 level	33% (2019)
Non-fossil electric installed capacity	40% cumulative	43.8% (2023)
Additional Carbon sink	2.5 to 3 billion tonnes	1.97 billion tonnes (2021)

India's updated NDCs:

In August 2022, India updated its NDC, India stands committed

- i. to reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level;
- ii. to achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and low-cost international finance including from Green Climate Fund; and
- iii. 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.

- 1.5 The Third National Communication to the United Nations Framework Convention on Climate Change was released on December 9, 2023. The report contains information on India's Greenhouse Gas Emissions, its vulnerability to climate change, and the measures it is taking to mitigate emissions and adapt to the impacts of climate change. As of 2019, India has reduced its emission intensity of GDP by 33% over 2005 levels.

Energy sector contributed the most to the overall anthropogenic emissions with

75.81 percent, followed by agriculture sector with 13.44 percent, Industrial Process and Product Use (IPPU) with 8.41 percent and Waste with 2.34 percent.

- 1.6 **Mission LiFE** was launched by Prime Minister Shri Narendra Modi on 20th October 2022. At the 2021 UN Climate Change Conference (UNFCCC COP26), Hon'ble PM had announced Mission LiFE, to bring individual behaviours at the forefront of the global climate action narrative. LiFE has been acknowledged by various international forums, including IPCC Climate Change 2022, Mitigation of Climate Change Working Group III Report, 2022. Cover decision of Sharm el-Sheikh Implementation Plan, 2022, G7 Communique adopted in Sapporo, Japan, 2023, Shanghai Cooperation Organisation Communique, 2023., G20 Leaders' Declaration, 2023 and 9th G20 Parliamentary Speakers Summit (P20) and Parliamentary Forum, 2023.
- 1.7 **Hydrochlorofluorocarbons Phase out Management Plan (HPMP)** : India is the first country in the world to develop a comprehensive Cooling Action Plan, which seeks 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. During HPMP Stage-II implementation, India completely phased out the use of HCFC- 141b in manufacturing of rigid foam, the first among the developing countries to achieve the milestone. As against target of 35% reduction from the baseline as on 1.1.2020, India achieved a reduction of 44%, highlighting India's efforts in protection of the stratospheric ozone layer.

- 1.8 **COP 28** : The 28th Conference of Parties (COP28) was held in Dubai, United Arab Emirates (UAE), from 30th November to 13th December 2023. The major outcome from COP 28 included the decision on Outcome of the First Global Stocktake, ratcheting up global climate ambition before the end of the decade. These global efforts will be taken up by the countries in a nationally determined manner taking into account the Paris Agreement and their different national circumstances. Another major outcome of COP 28 is the agreement on the operationalization of the Loss and Damage Fund and its funding arrangements.

The decision on the operationalization of the new funding arrangements, including a Fund, for responding to loss and damage was taken by consensus by all Parties including India. The purpose of the Fund is to assist developing countries that are particularly vulnerable to the adverse effects of climate change in responding to economic and non-economic loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events.

India's showcased a comprehensive and proactive approach to tackling climate change. Emphasizing the urgency of accessible climate finance for developing nations, Hon'ble Prime Minister highlighted the need to implement Nationally Determined Contributions (NDCs) and voiced concerns on behalf of the Global South. The initiatives launched, including LeadIT 2.0 for industry transition, the Green Credits Programme incentivizing pro-environment actions, and the focus on the Himalayan region's vulnerability, demonstrate India's commitment to diverse strategies for sustainable development.

India's involvement in the Quad Climate Working Group and the Mangrove Alliance illustrates



recognition of the pivotal role played by local communities and regional governments in fostering sustainable lifestyles and holistic conservation efforts.

2. G20 Initiatives launched Under India's presidency in the Environment and Climate Sustainability Work Group (ECSWG).

The following were launched:

- 2.1 Inception of a Global Alliance on land restoration of forest fire and mining affected areas under the Gandhinagar Implementation Roadmap and the Gandhinagar Information Platform (GIR-GIP).
- 2.2 Resource Efficiency Circular Economy Industry Coalition (RECEIC) with 40 founding members from private sector across the globe.
- 2.3 High-Level Principles for a Sustainable and Resilient Blue/ Ocean-based Economy (HLPSRBE). G20 countries formally adopted the 9 comprehensive high-level principles. It includes the baseline studies for preparation of Marine Spatial Planning for promotion of blue economy as per HLPSBE.

3. Green Credit Programme

Green Credit Initiative was launched by Hon'ble PM at CoP 28. It is an initiative within the governments broader Lifestyle for Environment or LIFE movement. The Green Credit Rules, 2023, have been notified 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. In its initial phase, voluntary tree plantation is envisaged on degraded land, waste land, watershed area etc. under the control and management of Forest departments.

The generation of Green Credit under Green Credit Rules, 2023 is independent of the carbon credit under Carbon Credit Trading Scheme 2023.

Governance structure of GCP includes the steering committee members from concerned ministries/departments, experts and institutions. The Indian Council of Forestry Research and Education (ICFRE) is designated as GCP administrator and is responsible for implementation and management of GCP. Digital process of GCP includes dedicated web platform and GC registry for streamlining the operations. In addition to these methodologies and guidelines, including registration, accounting and GC issuance, monitoring ensures the transparency and accountability of GCP.

4. Forest Conservation

- 4.1 **Remarkable Increase in the Number of Ramsar Sites of the Country:** India has increased its tally of Ramsar sites (Wetlands of International Importance) to 80 from existing 75 by designating five more wetlands as Ramsar sites. The number of Ramsar sites has increased from 26 to 80 in the last ten years. Amrit Dharohar Yojana has been launched for conservation of Ramsar sites through community participation on the environment day 2023. Faunal inventory of the 75 Ramsar Sites has been published by ZSI on 1st September 2023 and Floral inventory for Ramsar Sites is under preparation.
- 4.2 **Environmental Clearance and Forest Clearance:** Policy reforms and newer version of PARIVESH, which automated various processes, has resulted in reduction of an average time taken for grant of EC at Central Level in all the sectors from more than 600 days before 2014 to less than 72 days in 2022-23. Similarly, average time

taken for grant of FC has reduced to less than 135 days in 2021-2022. The PARIVESH platform now provides a common application form for 4 types of clearances: Environmental, Wild life, Forest and CRZ clearance. It has evolved a Decision Support System (DSS) which provide an efficient and effective environmental appraisal without compromising on its rigour. In CRZ clearance, all nine State Coastal Zonal Management Authority were onboarded, for the first time, on PARIVESH 2.0 for online submission and processing of applications. PARIVESH 2.0 is further integrated with the national single window system and the Gati Shakti portal.

- 4.3 **Forest (Conservation) Amendment Act, 2023:** To achieve the country's national as well as international commitments of NDCs, carbon neutrality, eliminate the ambiguities and bring clarity about the applicability of the Act in various lands, promoting the plantation in non-forest land, enhancing the productivity of the forests, amendment in the existing Act has been made by promulgating the Forest (Conservation) Amendment Act, 2023. During last two years, the Forest Conservation Division has issued approximately 60 guidelines or clarifications to further streamline the process of approval under the Forest (Conservation) Act, 1980.
- 4.4 **Increase in the number of Protected Areas:** The number of Protected Areas in the country, which stood at 745 in the year 2014 have risen to 998. This accounts for 5.28% of the country's total geographic area. The numbers of Community Reserves in the country have increased from 43 in the year 2014 to 220 presently.
- 4.5 **Increase in forest and tree cover:** As per India State of Forest Report (ISFR) 2021,

the total forest and tree cover in India is 80.9 million hectares, which is 24.62% of the geographical area of the country. Out of this, the increase in the forest cover has been observed as 1,540 sq km and that in tree cover is 721 sq km as compared to 2019. **589.70** Cr seedlings were planted and a total of 8.77 million Hectares of area was covered under tree plantation till October 2023 as compared to 2020.

- 4.6 **Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)** was launched on the World Environment Day (5th June 2023) by the Hon'ble Prime Minister. The aim of the MISHTI is to "Restoration of mangrove forests" by undertaking mangrove reforestation/afforestation measures along the coast of India by adopting existing best practices in India and globally. Ministry has prepared a proposal and same has been submitted to National CAMPA authority for allocation of funds under MISHTI for FY 2023-24. Rs. 100 Crores have been allocated as Project outlay for the FY 2023-24.
- 4.7 **Blue Flag Beaches:** There were no blue flag certified beaches in India in 2014. Government of India initiated the beach development work and 08 beaches conferred blue flag certification in 2020. In 2022, total 12 beaches had blue flag certification.

5. Air Quality/Pollution

- 5.1 **Improvement in Air quality:** Under NCAP (National Clean Air Programme) and XV FC grants, 131 non-attainment cities are being monitored for the air quality. They have shown a positive impact as there is progressive reduction observed in the annual average concentration of PM10 in these 131 cities which has ultimately resulted in the improved air quality. Under



Swachh Vayu Sarvekshan more than 100 cities are monitored for air quality with an intent and plan to improve the air quality through holistic approach.

AIR QUALITY	2019-20	2020-21	2021-22	2022-23
Reduction in annual concentration of PM 10 levels vis a vis base year 2017	Improvement in 85 cities	Improvement in 102 cities	Improvement in 95 cities	Improvement in 131 cities

6. Circular Economy

6.1 Mission Circular Economy: 11 Committees constituted for development of Circular Economy (CE) and Action Plans for 10 waste categories (Li-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, Municipal solid waste and Solar Panels). Accordingly, the following amendments were made to Promote mission of circular economy to move fast towards achieving climate goals.

- A) Plastic Waste Management Rule was amended on 27.04.2023.
- B) Extended Producer Responsibility (EPR) for Used Oil'' was amended on 18.09.2023.
- C) E-Waste (Management) Rules, was amended on 30.01.2023.
- D) Battery Waste Management Rules, was amended on 25.10.2023.

6.2 Total plastic packaging of around 3.3 million tonnes been covered under EPR for the year 2022-23. Registered PIBOs: 36111 Registered Plastic Waste Processors: 2350, till December 2023.

7. Wild Life

7.1 **Transcontinental relocation of Cheetah:** 8 cheetahs from Namibia and 12 cheetahs from South Africa have been translocated to Kuno National Park in Sept'22 and Feb, 2023 respectively. Cheetah had become extinct in the country in the late 1940/ early 1950s.

7.2 **International awards to tiger reserves:** Four more tiger reserves i.e. Pench Tiger Reserve, Madhya Pradesh and Pench Tiger Reserve, Maharashtra (jointly) & Satpura Tiger Reserve Madhya Pradesh and Manas Tiger Reserve, Assam have been conferred with Conservation Excellence Award in recent years.

7.3 **50 years of project tiger:** As per the latest Tiger Census report released in August **2023** India is home to more than 75% tiger population of the world. Tiger Estimation (2022) shows an increase from 2226 in 2014 to 3,682 in 2023 with 12 tiger reserves with Excellent category. The International Big Cat Alliance (IBCA) has been launched by the Hon'ble Prime Minister of India on 9th April 2023 for conserving global big cats including tiger.

7.4 **Digitization of Flora, Fauna and herbarium records:** The BSI and ZSI has carried out the digitization of 16500 specimens with 45000 images of the Type and Non-Type of Indian Faunal specimens. ZSI has completed faunal documentation from 27 States and Union Territories as well as all of the 10 Biogeographic Zones across the country. Data of 6124 springs in 11 IHR States and 1 UT (J&K) has been geo-tagged spatially online on the HIMAL Geo portal.

8. Budget and Accounts

Annual Plan for 2023-24

The Ministry has been allocated an outlay of Rs. 3079.40 crore in the Budget Estimates (BE) for

the Financial Year 2023-24.

The financial outlays and expenditure during 2023-24 is given in the following table:

Umbrella Scheme-wise Allocation (2023-24)

(Rs. in Crores)

Sl No.	Name of the Scheme	BE 2023-24	AE 2023-24 (upto 31.10.2023)
1	Environmental Knowledge and Capacity Building (CS)	92.86	60.01
2	National Coastal Management Programme (CS)	12.50	5.18
3	Environmental Education, Awareness, Research and skill development (CS)	87.40	25.23
4	Control of Pollution (CS)	756.00	376.61
5	National Mission for a Green India (CSS)	220.00	117.09
6	Integrated Development of Wildlife Habitats (CSS)	491.80	165.62
7	Conservation of Natural Resources and Ecosystems (CSS)	47.00	13.04
	Total	1707.56	762.78

Umbrella Non Scheme-wise Allocation (2023-24)

(Rs. in Crores)

Sl No.	Name of the Scheme	BE 2023-24	AE 2023-24 (upto 31.10.2023)
1	Secretariat	355.44	129.19
2	Attached/ Subordinate offices	558.00	275.44
3	Assistance to Autonomous Bodies	309.00	199.23
4	Statutory & Regulatory Bodies	1021.25	80.48
	Total	1365.84	684.34



List of Pending C&AG Paras (upto 9 November 2023)

S.No.	Report No. & Year	Para No.	Subject
1	27 of 2014	6.3	Wasteful Expenditure on hiring of office accommodation.
2	26 of 2022	2.1 (ii)	Deficiencies in Internal Controls in Central Autonomous Bodies
3	26 of 2022	2.1 (iii)	Deficiencies in Internal Controls in Central Autonomous Bodies
4	21 of 2022	5.3	Unfruitful expenditure of Rs. 73.35 lakh on a demonstration project
5	26 of 2022	2.2 (ii)	Common deficiencies noticed in the accounts of CABs
6	26 of 2022	2.3.4 (Sl. No. 48)	Current Assets, Loans, Advances: Rs. 83.32 crore
7	4 of 2022	Entire Report	Performance Report on 'Conservation of Coastal Ecosystems'
8	26 of 2022	2.3.4 (Sl.No. 47)	Current Assets (Schedule 11): Rs. 16.79 crore
9	21 of 2022	5.4	Short recovery of rent of Rs. 96.72 lakh from a bank
10	21 of 2022	5.2	Pollution Caused by Plastic
11	26 of 2022	2.1 (i)	Deficiencies in Internal Controls in Central Autonomous Bodies
12	21 of 2022	5.1	Assistance to Botanic Gardens Schemes



CHAPTER - 1

Mission LiFE



1.1 Life Style for Environment:

Introduction

LiFE was envisioned as an India-led global mass movement to nudge individual and community behaviour towards sustainable actions for the environment. The idea of lifestyle-based changes to reduce climate change was covered in the Hon'ble Prime Minister's speech at COP26 in Glasgow, wherein he introduced the concept of LiFE, i.e. Lifestyle for Environment and gave a clarion call to rekindle a global pursuit of Lifestyles for Environment (LiFE).

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.

Important activities undertaken

Pavilions on LiFE

LiFE Pavilions were set up at G20 Environment and Climate Sustainability Working Group (ECSWG) venues in Bangalore, Gujarat, and Chennai. Additionally, LiFE Pavilions were setup in Mysuru, Karnataka for the 'Commemoration of 50 years of Project Tiger', in Bhopal, at G20



LiFE Pavilion at the venue of 1st meeting of ECSWG of G20, Bengaluru from February 09-11th, 2023



LIFE Pavilion at 4th meeting of ECSWG at Chennai from July 26-28th, 2023



Parliamentary Speakers' Summit (P20 Summit) and at the World Food India Program, New Delhi. These pavilions increased awareness about LiFE and increased its global outreach.

Co-branding of Mission LiFE

World Wetlands Day, (02nd February, 2023) was celebrated in alignment with Mission LiFE by Eco-clubs across various States like Assam, Madhya Pradesh, Kerala, Tamil Nadu, etc. More than 15,000 students participated in these celebrations. National celebrations of World Wetlands Day were held at Nanda Lake, Goa's first Ramsar Site.

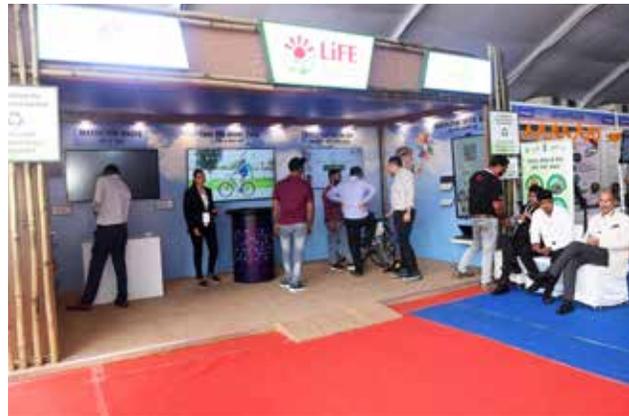
Hon'ble Minister of EF&CC launched the 'Save Wetlands Campaign' in the presence of Hon'ble Chief Minister of Goa

Mission LiFE was co-branded at World Sustainable Development Summit organized by TERI at India Habitat Centre during February 22-24th, 2023 through standees, videos, photo booth, distribution of LiFE souvenirs to delegates and participants, etc.

On September 7th, 2023, the International Day of Clean Air for Blue Skies, Hon'ble Minister of EF&CC, the Hon'ble Chief Minister of Madhya Pradesh Shri Shivraj Singh Chouhan, and the Hon'ble Minister of New & Renewable Energy, Environment Department of Madhya Pradesh, Shri Hardeep Singh Dang inaugurated the exhibition at Kushabhau Thakre International Convention Centre (KTICC), Bhopal, and took the blue pledge to embrace an environment-friendly lifestyle.



'International Day of Clean Air for Blue Skies' event





Promotion of Mission LiFE on International Platforms

Hon'ble Minister for EF&CC had discussions on combating climate change with UNFCCC Executive Secretary Mr Simon Stiell in New Delhi on February 25th, 2023. He also presented a LiFE badge to Mr Stiell.

Promoting Mission LiFE at **G7 Ministers' Meeting on Climate, Energy and Environment** in Sapporo, Japan (April 15-16th, 2023), Hon'ble Minister for EF&CC, said that India has focused on action by all, including individual and community actions through Mission LiFE and changing individual

and community behaviour alone can make a significant dent in the environmental and climate crises.



HMEFCC presenting LiFE Badge to UNFCCC Executive Secretary Mr Simon Stiell



Ms Ruchira Kamboj, Permanent Representative of India to the United Nations tweeted praise for the Mission LiFE exhibition organised at UN Headquarters, exclaiming that displayed photographs on the theme of LiFE serve as a reminder that modest efforts can result in significant progress in protecting our planet.

actions that will enable the world to embrace sustainable production and consumption patterns and mainstream Lifestyles for Sustainable Development. 'Travel for LiFE' initiative was recognized, along with the need to support smart destinations that are responsible and sustainable.

During September 9-10th, 2023, the Leaders of the G20 Nations resolved to act in concrete ways through partnerships for Mainstreaming Lifestyles for Sustainable Development. The leaders committed to take robust collective

At CoP-28, held at UAE from November 30th, 2023 to December 12th, 2023, Hon'ble Minister for EF&CC spoke of a sustainable lifestyle through a paradigm shift from mindless and destructive consumption to mindful and



Shanghai Co-operation Organization (SCO) meeting



deliberate utilization. Enshrined in Mission LIFE, the Hon'ble Minister invited people to assess the environmental impact of their actions and evaluate if the actions contribute to the problem or enhance the solution.

Initiatives by other Ministries for Promotion of Mission LIFE

A mega campaign 'Meri LIFE, Mera Swachh Shehar' was launched by Ministry of Housing & Urban Affairs (MoHUA) on May 15th, 2023. Thousands of Reduce, Reuse, and Recycle (RRR) Centres were set up across the country where

citizens can give their used clothes, shoes, old books, toys and plastic to be reused or recycled.

Public Service Announcements (PSA) in movie theatres-Subsequent to the issuance of certificate by Central Board of Film Certification (CBFC), Ministry of Information and Broadcasting for theatrical release of two Mission LIFE videos, these were disseminated as Public Service Announcements (PSAs) in 82 theatres in 59 cities/ towns/ villages across the States of Andhra Pradesh, Kerala, Tamil Nadu, Telangana, Maharashtra and Odisha. A total of 3512 shows

of Mission of LiFE video and 3473 shows of Save Water video were exhibited during the 15 days between 17th February and 3rd March, 2023.



Promotion of LiFE was done during the five-day celebrations of National Panchayat Awards Week 2023 organized by Ministry of Panchayati Raj during April 17-21st, 2023. Screening of two videos on Mission LiFE was done on April 20th, 2023 during the Clean Green Panchayat session of the 'National Conference on Sarvottam Panchayat Satat Vikas Prayas – Way forward for 2047', organized as a part of the week.

MoPNG launched a social media campaign on the LiFE theme of Save Water on 24th of August 2023. The Ministry tweeted graphics and posters to spread awareness regarding fixing leakages in taps to reduce wastage of water.



Industry Initiatives

As a co-branding initiative, ITC Ltd. prominently featured the LiFE themes and logo on their Classmate notebook products, to create greater awareness about LiFE among the youth.

CII Industry Members have adopted best practices that are aligned with the Mission LiFE initiative. The best practices for various corporates, including Coca-Cola and ITC, exemplify Industry's commitment to environmental responsibility and promote a greener and more sustainable future.



LiFE messages on ITC Classmate Notebooks

Progress / Innovations

To catalyze pan-India advocacy and awareness about LiFE, a month-long mass mobilisation drive was undertaken from 5th May 2023 to 5th June 2023 in the run-up to World Environment Day programme on 5th June, 2023. The Ministry developed 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. During this month-long campaign, more than 1.6 million action and awareness events were undertaken by the Ministries, State/UT Governments, and their Field Offices and Institutions, with participation from over 24 million individuals. 22 million individuals took



Adopt Sustainable Food Systems

Biodiversity conservation awareness at community level

1. Godrej and Boyce

Mangrove Mobile Application Developed

- The app helps in awareness creation to local communities, school and college students, Business members and academia about the importance of mangrove ecosystems.



Say No to Single Use Plastic

Using recycled plastic over virgin plastic wherever possible.



1. ITC Limited

- Recycled plastic used in packaging of soap & shampoo bottles
- 50% recycled content in primary packaging of shower gel
- 50% recycled content in LDPE branding wraps
- 70% recycled content in primary packaging of soap



2. Mondelez India Foods Pvt. Ltd.

- Recycled plastic used in festive gift boxes
- PET trays used in Cadbury Celebrations pack contain 80% recycled PET



Best practices by the industry members of CII to adopt Mission LIFE

the LIFE Pledge for environmentally sustainable behaviour.

To add further momentum to this campaign, a mobile application – the Meri LIFE app was also launched by Hon’ble Minister for EF&CC on 15th of May, 2023.

Every month, the Ministry focuses on one of the 7 themes of LIFE and publishes creatives and videos on that theme. So far 97 creatives and 17 videos have been published on 7 themes of LIFE. For example, the theme for the month of December 2023 was “Say No to Single Use Plastic”.

Achievements

As of December 2023, MoEF&CC has mobilized 79 Central Government Ministries and all 36 State Governments and UTs who have conducted 16.82 lakh awareness and action events with 2.69 crore participants.

Conferences organized in India/ International

The World Environment Day 2023 was celebrated around the theme “Solutions to Plastic Pollution”, a topic which aligns with one of the 7 themes of Mission LIFE: “Saying No to Single-use Plastics” and is also linked to implementation of a number



Inauguration of Meri LiFE mobile app by Hon'ble Minister of Environment, Forest and Climate Change

of LiFE actions. Hon'ble Prime Minister, Shri Narendra Modi addressed the gathering on the World Environment Day through video message. Union Minister of Environment, Forest and Climate Change and Labour and Employment, Shri Bhupender Yadav graced the occasion and walked through exhibition comprising Paintings and Digital exhibition on LiFE.

Progress/ Achievements both cumulative :

- i. **Two portals developed- The Mission LiFE Portal** (missionlife-moefcc.nic.in) is an open access knowledge and social media creatives repository and also for maintaining the database of the Action Plans of the Ministries/Departments. The Meri LiFE Portal (merilife.nic.in) has been developed for Ministries, Departments and Institutions to upload actions and



Meri LiFE dashboard (merilife.nic.in) Mission LiFE dashboard (missionlife-moefcc.nic.in)



Art installation made out of plastic waste with the message 'Say No To Plastic'.

awareness generation events' reports and capture the progress of the mass mobilisation drive.

- ii. **Digital Pavilions-** LiFE Pavilions were set up at G20 Environment and Climate Sustainability Working Group (ECSWG) venues in Bangalore, Gujarat, and Chennai. Additionally, LiFE Pavilions were setup in Mysuru, Karnataka for the 'Commemoration of 50 years of Project Tiger', in Bhopal, at G20 Parliamentary Speakers' Summit (P20 Summit) and at the World Food India Program, New Delhi. These pavilions increased awareness about LiFE and increased its global outreach.
- iii. **Mass Mobilisation Campaign-** To catalyse pan-India advocacy and awareness about LiFE, a month-long Mass Mobilization Campaign was undertaken in the run-up



Art installation made out of plastic waste with the message 'Say No To Plastic'.

to World Environment Day, from 5th May 2023 to 5th June 2023.

iv. G20 Declaration: The G20 countries, based on the G20 High-Level Principles, have committed to robust collective actions that will enable the world to embrace sustainable production and consumption patterns and mainstream Lifestyles for Sustainable Development. Towards this end, they:

- Committed to implement the G20 HLPs on Lifestyles for Sustainable Development.
- Supported the implementation of HLPs through international cooperation, financial support, and development, deployment and dissemination of technology.
- Noted the launch of “Travel for LiFE” and supported the development of smart destinations that are responsible and sustainable

vii. CoP 28: Promotional material of LiFE was shared for showcasing at India Pavilion in

CoP 28 held at UAE from November 30th, 2023 to December 12th, 2023. ‘Did You Know Facts’ for CoP 28 LiFE Panel and Loop of LiFE videos (11 Video) also shared for display at India Pavilion.

viii. 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 Green Credit Programme:

1. The Green Credit Rules have been notified by the Government of India on 12th October 2023 under the Environment Protection Act, 1986, as mechanism to encourage voluntary plantation activity across the country, resulting in award of Green Credits and also to build an inventory of land which can be utilised for afforestation programmes.

2. **The Green Credit Programme (GCP)** has the following objectives:

- 
- (i) To encourage voluntary plantation
 - (ii) Registration of land on the web portal to build a land bank which can be offered for plantation activities. This land inventory will be available to individuals/entities for voluntary plantation, plantation under CSR and for plantation under Accredited Compensatory Afforestation.
 - (iii) Registration of activities related to plantation on the web portal, either on land selected from the land bank or any other land.
3. Entities who can register land for plantations include individuals, gram panchayat/municipalities, communities, institutions, mining companies for reclaimed mining land, forest departments for degraded forest land. The types of land that can be registered include degraded forest land, watershed areas, waste land, etc. The entities who can undertake these tree plantation activities include individuals/institutions/communities etc.
 4. The individual/entities who carry tree plantation activities will be issued Green credits, as per methodology notified by the Central Government. Registration of the activity will be done using technology-based tools. Digital processes have been developed including a web platform and a registry for the programme. The verification of the details submitted for registration will also be undertaken through technology/digital tools, primarily.
- GCP will encourage private sector as well as other entities to meet their existing obligations, stemming from other legal frameworks, by undertaking plantations for generating green credits. Private sector, through generation of Green Credits, may be able to demonstrate environmental and social responsibility. This may help the private sectors to access low-cost capital from investors as well as financial institutions.



CHAPTER - 2

ENVIRONMENT, CLIMATE AND
SUSTAINABILITY WORKING GROUP
(G20 PRESIDENCY)

2.1 G20- Background:

The G20 Countries represent a spectrum of developed and emerging economies at different stages of growth and development. Collectively, they support 85 per cent of global GDP and 75 per cent of global trade. However, they are also responsible for over 80 per cent of the current annual greenhouse gas (GHG) emissions and facing the detrimental impacts of changing climate and environmental degradation.

India assumed the G20 presidency on 1st of December, 2022, taking over from Indonesia. As the largest democracy in the world, and the fastest growing economy, India's G20 presidency played a crucial role in building upon the significant achievements of the previous 17 presidencies. India's presidency focused on the theme of Vasudhaiva Kutumbakam - 'One Earth, One Family, One Future', with the agenda being inclusive, ambitious, action oriented and decisive. The theme affirms the value of human, animal, plant, and microorganisms and their interconnectedness on planet Earth and in the wider universe.

The Environment and Climate Sustainability Working Group is one of thirteen under the Sherpa Track, which identified the below thematic priorities for deliberation during the India's Presidency.

- Preventing, reducing and reversing land degradation; accelerating ecosystem restoration and halting and reversing biodiversity loss
- Protecting and conserving the ocean, promoting a sustainable and resilient blue/ocean-based economy
- Promoting resource efficiency and circular economy, preventing pollution and minimizing its risks

The Indian Presidency also spotlight Lifestyle for Environment (LiFE), with an emphasis on environmentally sustainable and responsible choices at both the individual lifestyle and the national development level, with the aim of achieving a cleaner, greener, and bluer future. Accelerating climate action and sustainable lifestyles spotlighting the India led Lifestyle for Environment (LiFE) were cross cutting elements that were mainstreamed across the three thematic priorities.

Cooperation amongst G20 Countries is essential to build economic resilience through resource security, achieve sustainable development, improve ecosystems and biodiversity via conservation and restoration, and combat climate change. The G20 Countries during the proceedings of this working group exhibit a spirit of renewed multilateralism, linking energy, development, and climate action priorities to deliver jobs, growth, and sustainability. The same was reflected at the Summit wherein the countries unanimously adopted the Green Development Pact, rendering consensus on key matters of climate and environment.



2.2 Environment and Climate Sustainability Working Group (ECSWG) Meetings

India's presidency came at a crucial time when the world is grappling with climate change, geopolitical tensions, economic challenges, escalating food and energy prices, and the long-term effects of the pandemic. India focused on various areas during its G20 presidency,



including women's empowerment, digital public infrastructure, health, agriculture, education, culture, tourism, climate financing, circular economy, global food security, energy security, green hydrogen, disaster risk reduction and resilience, fight against economic crime, and multilateral reforms. Throughout its G20 presidency, India conducted around 200 meetings in 32 different sectors at various locations across the country. The G20 Summit was one of the most high-profile international events hosted by India. The Indian leadership paved a new path for development and prosperity. India led the world towards sustainable and inclusive growth, and its G-20 presidency was, ambitious, decisive, and action-oriented.

India's G20 presidency aimed at bringing an integrated, comprehensive and consensus-driven approach to address climate change and pursue sustainable growth. India promoted LiFE- Lifestyle for Environment and resilient development paradigm for G20. Under India's Presidency, 13 Working Groups and 2 Initiatives met through the Sherpa Track to discuss priorities and provide recommendations. Environment, Climate & Sustainability was one of these working groups. The Ministry of Environment, Forest and Climate Change (MoEF&CC) hosted four Meetings of the Environment and Climate Sustainability Working Group (ECSWG), and deliberations were focussed on the thematic priorities and cross cutting issues as stated in the preceding section.

The first meeting of the ECSWG was held from 9th to 11th of February 2023 in Bengaluru, Karnataka. All three priority issues were taken up for the discussion during this meeting. G20 countries showed their interest and commitment to constructively working towards delivering outcomes on the three priority areas. During the meeting best practices for ecosystem restoration of forest fire and mining affected areas were

showcased, and a visit to the Bannerghatta National Park and Kalkere Arboretum was conducted to showcase the forest ecosystems of Karnataka, ecosystem restoration and ecotourism models, as well as wildlife protection. Throughout the meeting it was highlighted that India intends to address matters of environment and climate change through an action-oriented and consensus driven approach. The ECSWG worked in close collaboration with other G20 key working groups to holistically address issues relating to environment, sustainability and climate change. The discussions also included the creation of circular economies in various sectors including steel and biowaste and the role of extended producer's responsibility in creation of a circular economy. The idea of a G20 industry coalition for resource efficiency and circular economy was also tabled. The deliberations witnessed an enthusiastic participation of delegates from all countries. The Oceans and Blue Economy discussions covered a range of issues including marine litter, conservation and enhancement of coastal and marine ecosystems and marine spatial planning, over three meetings and one side event. The focus of discussions was on the problem of marine plastic litter and its adverse impacts. The discussions on three priority areas were decided to be taken forward at the 2nd ECSWG meeting, which was held on 27-29th March, 2023 at Gandhinagar.

The Second G20 ECSWG meeting held in Gandhinagar built on the discussions from the first ECSWG, constructive deliberations among the G20 countries took place on Arresting Land Degradation, Accelerating Ecosystem Restoration and Enriching Biodiversity; Promoting a Sustainable and Climate Resilient Blue Economy and Encouraging Resource Efficiency and Circular Economy. The G20 member countries reaffirmed their commitment towards combatting the environment and

climate crisis, but with a renewed sense of urgency. All the G20 countries agreed on the pressing need for concerted global efforts and the immediate action required, given the current scenario. After technical sessions delving deep on the outcomes of the three priority areas identified by ECSWG under the India Presidency, the countries highlighted several action points on how to bring about a meaningful change. The deliberations on biodiversity, land degradation and ecosystem restoration focused on identified priority landscapes under India's Presidency- they are forest fire and mining affected lands- India proposed establishment of the Gandhinagar Implementation Roadmap (GIR) during this meeting. During this meeting delegates visited the Dandi Kutir, which is the world's largest and only Museum built on one man's story - Mahatma Gandhi, Father of the Nation. The 2nd ECSWG meeting ended on a note of collaboration with a goal to refine the proposed outcomes under the G20 India Presidency by incorporating the feedback of the delegates and best practices shared during the sessions, and gather inputs on the outline of the Communique presented.

The third ECSWG meeting, held in Mumbai from 21st – 23rd May, 2023, took up the discussions from previous meeting. The deliberations were on three outlined priority areas for the ECSWG- arresting land degradation, promoting circular economy and giving impetus to blue economy. The major thrust was laid on Blue Economy during this meeting, two side events were organised- Mega Beach Clean Up Event and the Ocean 20 Dialogue on Day 1st of the meeting. The Mega Beach Clean Up Event at Juhu in Mumbai was a successful event which saw participation of 20 countries and 37 Indian beaches from the coastal states and Union Territories. The massive drive organized to sensitize people and create awareness was in alignment with the Prime

Minister's message on '*Swachhta*' and '*Jan Bhagidari*' and highlighted the significance of '*Lifestyle for Environment*' (LiFE) concept and the importance of individual actions in tackling the menace of marine pollution. The Ocean 20 Dialogue brought together international experts, innovators, community representatives, policymakers, and industry leaders, to facilitate discussions on aspects related to emerging science-technology-innovation driven solutions, challenges associated with effective and inclusive policy and governance, and avenues for establishing finance mechanisms to support national and regional Blue Economy endeavours. The primary agenda of the 3rd ECSWG meeting was the detailed discussions on the draft Ministerial Communique and entailed constructive discussions and deliberations on priority areas. Picking up the thread from the Focus Group Discussions which had been conducted by the Indian Presidency over the previous meetings across all the three thematic priorities, the discussions were conducted with a steadfast resolve of being collaborative and inclusive. The outcome documents were discussed line-by-line and the member countries presented their respective viewpoints. The 3rd ECSWG meeting ended with a discussion and negotiation on the Communique, to be further deliberated upon and refined in the virtual meetings held before the 4th and final ECSWG meeting held in Chennai from 26th to 27th July, with the Minister's meet on 28th July, 2023. Virtual negotiations over 300+ hours were held among the G20 nations chaired by India on all the thematic priorities and components of the draft outcome document.

During the fourth ECSWG meeting, further discussion on the outcome documents took place under the two broad tracks of Environment and Climate on 26th and 27th July. This was followed by the Environment and Climate Ministers Meeting



held on 28th July. During this meeting, further discussion on the outcome documents took place under the two broad tracks of Environment and Climate. The discussions on the same concluded in the Environment and Climate Ministers meeting to be held on 28th July. The three-day meeting brought together around 300 delegates from G20 member countries, invitee countries, and several International Organisations, with an objective to finalise the Ministerial Outcome and the Presidency Documents. The highlight of the 4th ECSWG and Environment and Climate Ministers meeting was the launch of the Resource Efficiency Circular Economy Industry Coalition (RECEIC) by Hon'ble Minister of Environment, Forest & Climate Change Shri Bhupender Yadav and joined by close to 40 companies across the globe as founding members. The coalition's objective is to unite nations, industries, and experts in their endeavour to propel the global

circularity agenda forward. The fourth meeting concluded with adoption of the ECMM Outcome Document and Chair's Summary including the High Level Principles on Sustainable and Resilient Blue/ Ocean based Economy and launch of 10 Presidency documents.

Under the G20 India Presidency, the, ECSWG has demonstrated an unwavering commitment towards ensuring environmental sustainability, which resonates with the vision of the Indian government to tackle the interconnected issues of climate and environment in an ambitious and decisive manner. The outcomes of the ECSWG were inculcated in the New Delhi Leaders' Declaration, Green Development Pact. The deliberations during the four scheduled meetings reached at concrete, implementable action points to foster the sustainable development, climate action and protection of the environment.





ECSWG meetings



CHAPTER - 3

ENVIRONMENT - ABATEMENT OF POLLUTION, POLICY AND LAW

3.1 Control of Pollution:

The Ministry of Environment, Forest & Climate Change administers the Central Sector Scheme- 'Control of Pollution' to curb environmental pollution. For the FY 2023-24, the total budget (under RE) of the scheme is ₹ 847.50 Cr. 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 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:

a. Assistance for Abatement of Pollution to weaker SPCBs/PCCs- Under this component State Pollution Control Boards (SPCBs) / Pollution Control Committee (PCCs) are supported to meet the expenditure requirements for taking pollution abatement activity including pollution assessment (Source monitoring, monitoring of ambient air, water and noise), technical studies for R&D, survey, and documentation for creation of environmental database and consultation in the area of pollution abatement of air, water & noise, scientific research and studies on issues of waste management, inventorisation of wastes, training and mass awareness, education, seminars/workshops/ conference, lab-upgradation/ procurement of equipment, E-Governance and IT applications including online consent management, online emission/ effluent monitoring systems, development

of IT infrastructure. Under this component, in the CFY 2023-24, funds of ₹68.00Cr have been sanctioned and out of this ₹ 19.64 Cr have been released till 30th November, 2023.

I. National Clean Air Programme (NCAP)

1. The National Clean Air Programme (NCAP) was launched by the Ministry of Environment, Forest and Climate Change (MoEF&CC) in January 2019 with an aim to improve air quality in 131 cities by engaging all stakeholders.
2. NCAP envisages a reduction by 20-30% in PM 10 concentration over baseline in the year 2017 by 2024.
3. The target has been revised to achieve upto the 40% National Ambient Air Quality Standards (NAAQS) in terms PM10 concentrations by 2025-26 with respect to the base year 2019-20.

II. Progress - Action Plan

1. NCAP focuses on the preparation and implementation of the national-level action plans, state-level action plans & city-level action plans of the targeted 131 cities.
2. The national level plan will include the action plans of different Ministries/ Departments of the Government of India. This includes convergence of schemes/programs of different Ministries/ Departments, received action plans from 7-line Ministries (MoP, MoRTH, MoHUA, MNRE, MHI, DoAFW&MoPNG)
3. State Action Plans have been prepared by 23 States/UTs.
4. City-level action plans have been prepared in 131 cities.



III. Progress – Air quality improvement

1. 90 cities have shown improvement in air quality in FY 2022-23 compared to base levels of 2017 and 15 cities conforming to national ambient air quality standards in comparison to 6 cities in 2017.

IV. Financial Arrangement

1. Central Government has earmarked an amount of ₹19,711.00 Cr. to 131 cities during the period FY 2019-20 to FY 2025-26. Out of above an amount of Rs. 3172.00 Cr. is allocated through CP Scheme of MoEF&CC for 82 non-attainment cities and ₹16539.00 Cr. is allocated for FY 2020-21 to 2025-26 under 15th Finance Commission (XV-FC) for improvement in air quality of 42 million plus Cities/Urban Agglomerations under the Million-Plus Cities Challenge Fund (MPCCF).
2. An amount of ₹ 1436.25 Cr has been released to 82 non-attainment cities funded by MoEF&CC under NCAP till December, 2023 for initiating measures to improve air quality such as construction and demolition waste management facilities, non-motorized transport infrastructure, green buffers, laying of pavements, mechanical street sweepers, composting units etc. Further based on the performance assessment of the million-plus cities an amount of ₹8357.63 Cr has been released till December, 2023 under Fifteenth Finance Commission (XVFC) air quality grant. MoEF&CC is the nodal agency for monitoring ambient air quality and recommending DoE for disbursing grants to 42 million-plus cities.
3. An amount of Rs. 3131 crore has been allocated in the FY 2023-24 for 131 cities.

V. Monitoring, Evaluation, and Reporting (MER)

1. Air quality monitoring is carried out in 885 stations (338 continuous and 547 manual) in 131 cities and the data is transmitted to CPCB through concerned SPCB/PCCs throughout the year. Performance of cities is assessed based on annual average of PM10 concentrations and Air Quality Index (AQI) computed from the air quality data collected annually through these stations.
2. Committees have been set up at national, state, and city levels for coordination, monitoring, and evaluation of progress on action plans by various stakeholder agencies/Departments/Ministries: -
 - 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, MoEF&CC
 - 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
 - a. **City Level**
 - i. City-level Implementation and Monitoring Committee under the Chairmanship of District Collector/Municipal Commissioner.
 - d. Periodical review meetings are held to oversee the progress of

implementation of NCAP at various levels. During the year 2023, **01 Apex Committee meeting** under the chairmanship of Hon'ble Minister EFCC, **01 Steering Committee meetings** under the chairpersonship of Secretary, MoEF&CC, **03 Monitoring Committee Meetings** under the chairmanship of Additional secretary, MoEF&CC and **04 Implementation Committee meetings** under the Chairmanship of Chairman, CPCB, have been convened.

- e. MoUs have been signed with NCAP cities between CPCB, SPCB, and ULB and 42 MPCs between the MoEF&CC, State government, and urban local bodies under XVFC.
- f. 63 Institutes of Repute (IoRs) are assigned to 131 cities for capacity building and for effective implementation of City action plans. The Ministry has designated IIT Kanpur as the nodal academic institution to coordinate with other IoRs.

VI. Guidelines under NCAP

Guidelines have been prepared for the following:

1. Guidelines for Release and Utilisation of Funds under National Clean Air Program
2. Ranking of Cities – “Swachh Vayu Survekshan”
3. Guidelines for Capacity Building Public Outreach under NCAP
4. Guidelines for NKN & IoRs under NCAP
5. Guidelines for Mission LIFE

VII. Knowledge Support, Capacity Building & Public Awareness

1. A National Knowledge Network (NKN) with IIT, Kanpur as coordinator and experts from fields, NGOs, and academia, has been established and is also operational, to provide technical and knowledge support to the program at the national/state/city level. NKN primarily provides knowledge-based scientific support and prepares guidelines on various aspects of the program and will be an advisory entity to CPCB for all air quality-associated matters.
2. Air quality management requires scientific evidence-based planning and execution of activities. To extend scientific support for various activities identified in the city action plan, Institute of Repute (IoR), - an institute working in or nearby, preferably IITs or NITs or local Institutes working or having expertise in air quality management, has been made knowledge partner to each city through an MoU in March 2021. Role and responsibilities of the ULBs, SPCB and IoR have been defined to undertake the approved activities of the Program in a systemic, scientific and time bound manner.
3. MoEF&CC has conducted 04 regional workshops/Interaction Meets (i.e. Northern, Western, Southern and Eastern) involving Member Secretaries of SPCB/PCCs and Municipal Commissioners of ULBs for sensitization, knowledge sharing and capacity building of the stakeholders in the States/UTs. The following such workshops were organized:
 - a. International Clean Air Day for Blue Skies (“Together for Clean Air”) – on 7th September, 2023 in Bhopal organized to focus on the need



- for stronger partnerships, increased investment and shared responsibility to overcome air pollution. Compendium of best practices adopted by cities has been released. On this occasion 9 better performing cities have been awarded a total of Rs. 5.25 crore under “Swachh Vayu Survekshan” for encouraging the cities to improve air quality in respective cities. Cities include **Category-1:** Indore, Agra, Thane, **Category-2:** Amravati, Moradabad, Guntur, **Category-3:** Parwanoo, Kala Amb, Angul. This Categorization is made based on the population.
- b. 24 SPCBs/PCCs and 131 ULBs have organised CBPO programmes and Mission LIFE activities at respective places.
 - c. Further, 24 SPCBs/PCCs and 131 ULBs have observed Swachh Vayu Diwas International Clean Air Day for Blue Skies on 7th September, 2023.
 - d. Ministry has conducted a Workshop on **Airshed Approach for Air Quality Management and Regional Cooperation in the Indo-Gangetic Plain (IGP)** with 08 States/UTs along with relevant stakeholder on 1st May, 2023 in New Delhi to prepare a roadmap and for AQM in the IGP airshed, with an emphasis on institutional and interstate coordination.
 - e. Southern region: on 19th October 2023, in Bengaluru for the States of Andhra Pradesh, Karnataka, Telangana, Tamil Nadu, Kerala and UTs of Lakshadweep, Pondicherry and Daman & Diu.
 - f. Western region: on 20th October 2023, in Mumbai for the States of Maharashtra, Gujarat, Madhya Pradesh, Goa and UT of Daman, Diu & Dadra Nagar Haveli were sensitized about the NCAP and XV-FC grant for improvement in air quality.
 - g. Northern region: on 30th October 2023, in Delhi for the Delhi and NCR region (Delhi, Haryana, U.P, Rajasthan and Punjab)
 - h. Eastern region on 20th October 2023, in Kolkata for the States of Chhattisgarh, Madhya Pradesh, Rajasthan (RD Bhopal Jurisdiction), Bihar, Jharkhand, Odisha, West Bengal, Andaman and Nicobar Island (RD Kolkata Jurisdiction) and Arunachal Pradesh, Assam, Nagaland, Meghalaya, Mizoram, Manipur, Sikkim and Tripura (RD Shillong Jurisdiction).
4. **Physical and Financial Modules** have been developed in the **PRANA-portal**. In this portal, action plans of cities, states and line ministries will be reflected and monitored for their implementation status. It will provide all information related to various policies / programs /schemes/ activities of the stakeholders along with the progress made towards improvement in air quality across the country. This portal will be a platform for monitoring and feedback on all efforts made for air quality improvement.
- Environmental Monitoring Network Programme**
- i. Operation and Maintenance of Continuous Ambient Air Quality Monitoring Stations (CAAQMS)

- ii. National Ambient Noise Monitoring Network (NANMN) – strengthening and establishment of New Stations in Million Plus Cities
- iii. National Water Monitoring Programme (NWMP)
- iv. Operation and Maintenance of National Air Quality Monitoring Programme (NAMP) stations Under this component, funds of ₹ 60Cr have been sanctioned and released till 30th November, 2023.

Research and Outreach Programmes-

The Ministry is providing funds to the projects which have impact for prevention and control of pollution. The proposals received under Research and Outreach Programme are placed before the Project Appraisal Committee (PAC) constituted under NCAP for recommendations. Project Appraisal Committee includes members from DST, CSIR and Ministry of Earth Sciences for synergy and understanding advancement in technology and sciences and other related stakeholder Ministries/organizations.

Under this component, funds of ₹ 21Cr have been sanctioned and released till 30th November, 2023.

Achievements and Progress are as follows:

A total of 81 standards across various industries 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 2023 on Emission and Discharge Standards under Environment (Protection) Act 1986 are as follows:

1. Revision of emission standards for particulate matter for Industrial Boilers vide Gazette Notification G.S.R. 373 (E) dated 16.05.2023
2. Environmental Standards for Hot Mix Plants vide Gazette Notification G.S.R. 376 (E) dated 18.05.2023
3. Environmental Standards for Calcined Petroleum Coke (CPC) Units vide Gazette Notification G.S.R. 414 (E) dated 05.06.2023
4. Amendment Notification for Revised Emission Standards for Generator Set (Genset) vide Gazette Notification G.S.R. 436 (E) dated 14.06.2023
5. Use of Reverse Osmosis (RO) Based Point of Use (PoU) Water Treatment System vide Gazette Notification G.S.R. 833 (E) dated 10.11.2023

The draft notification published in year 2023 for stakeholders' consultation on Emission and Discharge Standards under Environment (Protection) Act 1986 are as follows:

- I. "Regulations for Common Effluent Treatment Plants" vide G.S.R. 07(E) dated 04.01.2023
- II. Environmental Standards for Pesticides Manufacturing Industries vide G.S.R. 753(E) dated 17.10.2023
- III. Environmental Standards for Caustic Soda



Manufacturing Industries vide G.S.R. 754(E) dated 17.10.2023

- IV. Environmental Standards for Pulp & Paper Industry vide G.S.R. 825(E) dated 08.11.2023

Development and Promotion of Clean Technology and Waste Minimization Scheme

Clean Technology deals with Scheme Development and Promotion of Clean Technologies and Waste Minimization Strategies. A grant-in-aid scheme on Development and Promotion of Clean Technologies was initiated in 1994. Clean Technologies are distinct and different from “end-of-pipe” abatement technologies, minimizing the generation of waste streams in the production processes and utilizing the wastes from other consumption goods and production processes, rather than treating the wastes after generation. The Ministry has been providing financial assistance under the Central Sector Plan Scheme for those projects whose primary research has already been completed and is ready for pilot scale demonstration research on innovative technologies in the areas of highly polluting categories of industries. The main objective of the demonstration research projects was to standardize the data obtained after primary research to develop and demonstrate the suitability of the prototype and to study the feasibility of the technology in the Indian environmental conditions both from economic and scientific points of view.

The purpose of the scheme was to assist primarily the Small and Medium Scale units which do not have access to the requisite technical expertise to achieve waste minimization with the following objectives: -

- i. Identification of priority areas and development of appropriate economically viable clean technologies and waste

minimization strategies for small scale and medium scale industries through interface with industry, R&D establishments and academic institutions.

- ii. Promotion and adoption of clean technologies and waste minimization strategies by the industry/industrial clusters through setting up of pilot/demonstration projects on prototype development,
- iii. (iii) Absorption and up-gradation of imported clean technologies and their demonstration through pilot projects

The Scheme will be **discontinued after funding the existing and ongoing sanctioned projects.**

Presently there are 5 ongoing projects under the Scheme and the budget allocation of ₹ 1.5 Crore has been allocated in Centre Sector Scheme of the Division.

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 2023 has issued 8 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 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 and press industries operating in NCR districts to shift to PNG/cleaner fuels.

A standard list of approved clean fuels was formulated by the Commission and statutory directions were issued for its implementation in the NCR, targeting transition of all industries in the NCR to the approved fuels latest by 31.12.2022. Pursuant to a concerted drive for shifting more and more industries to approved fuels, the current status of running of industries on approved fuels is as under:

Towards adoption of standard approved fuels for NCR, PNG infrastructure and supply is extremely critical, targeting as many industries to switch over to cleaner fuels like PNG for their fuel requirements for boilers, furnaces, heaters etc. Up till now, out of total 240 areas in the NCR, 211 industrial areas have been provided PNG infrastructure and connectivity and the work is in progress in balance 29 industrial areas (7 in UP, 14 in HR and 8 in RAJ).

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

	Haryana (NCR)	UP (NCR)	Rajasthan (NCR)	NCT of Delhi	Total in NCR
No. of fuel-based industries	3,141	2,273	522	1,823	7,759
No. of industries shifted to approved fuels	2,954	2,188	484	1,823	7,449
Balance	187	85	38	-	310*

*units reported self-closure or through directions of the state authorities.



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, the Commission also issued detailed 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. to be implemented from 01.10.2023. The Commission, as a one-time exception, permitted DG Sets for all capacity ranges to be run only for emergency services in the NCR, even under periods of restrictions under the GRAP, only up to 31.12.2023 and strictly subject to adherence to the above noted schedule / measures for emission control thereafter.

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. Also, towards regular certification of vehicles and compliance of emission standards under new

“Pollution under Control” (PUC) Certificate regime and for ascertaining the compliance of PUC norms, details of the vehicles challaned during 2023 in the NCR are as under:

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. procurement, e-commerce platforms etc.

Nos. of electric vehicles currently registered in NCR upto September 30th, 2023, as reported by the State Govts. / GNCT of Delhi are as under:

Delhi – 2,38,056	Haryana – 75,837
UP – 84,716	Rajasthan – 13,784

As per the available data (upto September 30th, 2023), total 3,100 battery charging stations and 4,793 charging points are already in place in the territory of Delhi and 467 charging stations are available in other areas in NCR.

Auto rickshaws are a preferred economical mode of transport, these are also major contributors of particulate matter emissions, the Commission accordingly issued a Statutory Direction dated 30.11.2022, mandating that only CNG / electric autos would be registered across NCR w.e.f. 01.01.2023 and State Governments of Haryana, Uttar Pradesh and Rajasthan shall also ensure

NCR States	No. of Centers issuing PUC	No. of PUC issued	No. of Challan issued	Overaged 10/15 years old petrol /diesel vehicle
Delhi	947	36,29,139	164000	14687
Haryana	1776	29,03,277	11135	220
Rajasthan	197	97193	6154	148
Uttar Pradesh	589	14,58,093	22579	3058

to phase out all diesel auto rickshaws in a staggered but time bound manner completely by 31.12.2026.

Towards efficient and cleaner public transport services particularly intra-city and inter-city bus services within NCR, the Commission took up the matter with the NCR States to endeavour running of bus services between any NCR city / town and Delhi only through EV/CNG/BS-VI Diesel buses in the immediate term and only through CNG / EV buses in the medium / long-term. To this effect, in due consultation with and in agreement by the NCR States, the Commission through Statutory Direction No. 78 dated 19.10.2023 directed that all bus services between any NCR city / town in the State of Rajasthan / Uttar Pradesh and Delhi and all bus services between any city of Haryana and Delhi shall be operated only through EV/CNG/BS-VI Diesel buses w.e.f. 01.11.2023.

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 in their respective jurisdiction. Details of the inspections conducted from 01.01.2023 to 30.09.2023 are as under:

5. DUST FROM ROADS AND OPEN AREAS

Pursuant to the directions of the Commission, NCR states and GNCTD have set-up 60 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 and 2022, action Plans were reviewed, updated and finalised by the State Governments of Punjab, Haryana and Uttar Pradesh for the year 2023. Accordingly, a statutory direction for strict implementation of the updated revised plan of action for prevention and control of paddy stubble burning including achieving the targets for reduction of stubble burning events as in the respective plans was issued on 25.07.2023.

In-situ Crop Residue Management:

- a. Availability and allocation of CRM machinery

S. No.	Status of inspection of C&D sites	Delhi	Haryana	Uttar Pradesh	Rajasthan
1	No. of C&D sites physically inspected	43674	2612	1026	582
2	Total no. of sites against which EC was levied for non-conformities.	2557	96	71	30
3	No. of sites ordered for closure/stoppage of work.	206	74	5	21



- 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 has issued advisories to the 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.

In view of the compelling need to also control air pollution from coal based Captive Thermal Power Plants in the NCR, the Commission also issued Direction No. 72 dated 17.03.2023 to all the coal based Captive Thermal Power plants including co-generating Captive Thermal Power Plants situated in NCR, on the same lines as in

coal based thermal power plants, targeting at least 5% co-firing of biomass pellets/torrefied pellets (with focus on paddy straw), latest by 30th, September, 2023 and at least 10% co-firing by 31st December, 2023.

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 and 2022 are as under:

IEC Activities

Extensive IEC activities /Awareness programs

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

Punjab		Haryana		Uttar Pradesh (NCR)		Total (including Delhi and NCR Districts of Rajasthan)	
2021	2022	2021	2022	2021	2022	2021	2022
71,304	49,922 -30%	6,987	3,661 -48%	252	198 -21%	78,550	53,792 -32%

Cumulative Paddy Residue Burning events for the Period: 15th September–19th 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
70573	48915	34459 (-30% over 2022)	6337	3459	2085 (-40% over 2022)	115	86	118 (+37% over 2022)	77032	52470	36670 (-30% over 2022)

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 straw management strategies were further deliberated upon in the workshops and seminars organized during 2023 as under:

- i. CAQM in collaboration with MoEF&CC and Punjab Pollution Control Board organized a one-day workshop on "पराली- एकपूँजी" (Parali - Ek Punji)" on 20th February, 2023 at Mohali (Chandigarh) to deliberate upon the utilization of 'पराली' (stubble) as 'एकपूँजी' (resource). The Workshop was also benefitted by the gracious presence of Hon'ble Minister of Environment, Forest and Climate Change, Govt. of India, besides Hon'ble Chief Ministers of the States of Punjab and Haryana, other dignitaries and stakeholders.
- ii. Workshop on paddy straw management strategies held at PAU Ludhiana on 09.06.2023.

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 by the Commission in 2023 and Direction No. 77 was issued on 06.10.2023.

The Sub-Committee for Operationalization of GRAP has been reconstituted with Member Technical, CAQM as its Chairman and Member Secretary, 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

The Commission sought comprehensive action plans for Plantation/ Greening to abate air pollution. Major components of the action plans are Greening of Central verges, Greening of open areas along road side/ right of ways, Greening of hotspot areas and other high polluted areas, Afforestation and sustainability of green areas/ saplings. 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 2023-24	Plantation till 30.09.2023
Delhi	95,04,390	62,95,077
Haryana (NCR Districts)	98,93,797	70,26,065
Rajasthan (NCR Districts)	25,89,892	15,19,436
Uttar Pradesh (NCR Districts)	1,64,63,497	1,64,63,497
Total	3,84,51,576	3,13,04,075

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

- a. 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.
- b. Mass plantation drives focusing on proper nurturing and better survival rate,



prioritizing native species and protection of all categories of forest areas.

- c. Target oriented action plans for Greening/ paving of central verges and sidewalks along the entire road network.
- d. State governments and other institutions were advised to lay emphasis on dense forestation using various techniques including Miyawaki technique, keeping in view small areas available in NCR Delhi. They have been advised to use STP/ ETP treated water for irrigation purpose.
- e. While interacting with the State governments concerned and major institution 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.

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 1,67,608 issues have been flagged so far, of which 1,34,875 issues (approx. 80.5%) have since been resolved fruitfully as on 10.10.2023.

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 advised and projections 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 constituted a five –Member “Enforcement Task Force” (ETF), 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 and 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, as on 06.11.2023 from December 2021 is as under:

Total sites inspected	No. of closures direction issued				State-wise closure cases			
	Industry	C&D Sites	DG Sets	Total	Delhi	Har	UP	Raj
15,933	560	296	41	897	141	267	392	97

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 06.11.2023 are as under:

Sector-wise Resumption Cases			Total	State-wise Resumption Cases			
Industry	C&D Sites	DG Sets		Delhi	Har	UP	Raj
452	208	37	697	111	195	308	83

R&D PROJECTS:

The Commission for Air Quality Management in NCR and Adjoining Areas with a view to monitor, prevent, control and abate air pollution in Delhi-NCR invited research and development proposals, pilot projects for field demonstration and evaluation of various technology interventions from Scientists/Researchers/ Non-Government Organisations (NGOs)/CBOs/ Consortia/Individuals for improvement of air quality in NCR to be coordinated and proposed by an Academic/Research/ Scientific Institution of repute.

Total 07 proposals were approved for financial assistance by the Commission during the financial year 2022-23. All these projects are underway at various stages.

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 redress and reply. 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, with prior appointment.

14. BUDGET ALLOCATION FOR THE FINANCIAL YEAR 2023-24

Budget Allocation made as per the Budget Estimates of MoEF&CC for the Financial year 2023-24 is Rs 17.00 Crore as per details below:

- General: Rs. 13.90 Crore
- Capital: Rs. 0.10 Crore
- Salary: Rs. 03.00 crore

3.2 Central Pollution Control Board (CPCB)

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 Central Pollution Control Board (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 Central Board.

1.2 Important Activities of CPCB

1.2.1 Air Quality Monitoring Network



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

1. CPCB has started National Ambient Air Quality Monitoring Programme (NAMP) in 1984. At present, Ambient air quality monitoring network has 1429 stations, covering 511 cities in 28 States and 7 UTs. Out of these total 1429 stations, 931 stations are manual monitoring stations and 498 stations Continuous Ambient Air Quality Monitoring Stations (CAAQMS).
2. CAAQMS 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.
3. Under CAAQMS the Particulate Matter (PM₁₀ & PM_{2.5}), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Ammonia (NH₃), Carbon Monoxide (CO), Ozone (O₃) and Benzene (C₆H₆) 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.
4. 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 272 cities is available as on date. Out of 131 Non-attainment Cities, AQI is generated for 98 cities with the data generated through CAAQMS.

2 Water Quality Monitoring Network

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

1. 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 4484 locations. Total 64 Parameters are monitored under NWMP, including Physico-Chemical & Bacteriological parameters (31), Metals (15) and Pesticides (18)
2. The network comprises of monitoring locations in 28 States and 7 Union Territories (UTs). Monitoring network covers 47% locations on rivers (2108 locations on 642 Rivers), 16% locations on Stagnant water bodies (713 locations on 604 water bodies), 27% locations on Ground Water (1235 locations) and 10% locations on Coastal & Others water bodies (428 locations).
3. Real Time Water Quality Monitoring of River Ganga is carried out at 76 stations (Main stem – 35; Tributary – 32 and drain – 9) for 12 parameters including pH, BOD, DO, Temperature, EC, Chloride, COD, Turbidity, Nitrate, TOC, water level and dept.

2.1 National Mission for Clean Ganga (NMCG) – NamamiGange Programme

1. Three Projects were sanctioned to CPCB under NamamiGange Programme, with a primary emphasis on enhancing the water quality of the Ganga River and improving overall public health. The details are:
 - i 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.

- ii 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.
 - iii 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.
2. 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.
 3. Charter implementation has yielded remarkable reductions in specific freshwater consumption and effluent discharge across various sectors:
 - i. KL/MT in 2016-17 to 9.84 KL/MT in 2022-23, marking a 41.8% reduction. Chemical Recovery Plant (CRP) has been installed in Pulp & Paper mills and Zero Black Liquor discharge achieved in Pulp & Paper sector.
 - ii. In Sugar sector, specific freshwater consumption decreased from 299 KL/MT in 2016-17 to 79.58 KL/MT in 2022-23, a 73.38% reduction.
 - iii. In Textile sector, specific freshwater consumption went down from 141 KL/MT in 2019-20 to 33.47 KL/MT in 2022-23, resulting in a 76.26% reduction.
 - iv. In Distilleries, in the Ganga Basin achieved Zero Liquid Discharge. Specific freshwater consumption reduced from 15 KL/KL in 2016-17 to 5.14 KL/KL in 2022-23, marking a 65.73% reduction.
 - v. In Distilleries, in the Ganga Basin achieved Zero Liquid Discharge. Specific freshwater consumption reduced from 13 KL/KL in 2016-17 to 5.59 KL/KL in 2021-22, marking a 57% reduction.
 4. Water Quality of river Ganga is monitored manually at 97 locations and it is observed that:
 - i. No incidence of coloured water discharge and fish mortality since 2017 in river Ganga.
 - ii. Entire stretch is meeting bathing criteria for pH (6.5-8.5), DO (≥ 5 mg/l), BOD (≤ 3 mg/l) except marginal exceedance in terms of BOD (3.2-4.5 mg/l) in two stretches in Uttar Pradesh (a) Farrukhabad to Dalmau, Rai Bareilly & (b) D/s Mirzapur to Tarighat, Ghazipur (except U/s Varanasi, Vishwa Sundari Bridge).
 - iii. Stretch from Gangotri (Uttarakhand) to Kachhlaghat, Aligarh (Uttar Pradesh) is meeting the bathing water quality criteria.
 - iv. River Ganga is not meeting bathing water quality criteria in terms of Fecal Coliform (≤ 2500 mg/l) in two



stretches in Uttar Pradesh (a) U/s Kanpur to Kanpur D/s (except Bathing Ghat, Gola Ghat) & (b) D/s Mirzapur to Tarighat, Ghazipur (except U/s Varanasi, Vishwa Sundari Bridge), entire stretch of Bihar except Arrah Chapra Road Bridge, U/s Doriganj and entire stretch of West Bengal except three locations namely Khagra, Behrampore, Nabadip ghoshpara near monipurghat and Tribeni near burning ghat.

3 National Ambient Noise Monitoring Network

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

1. The Central Pollution Control Board in association with State Pollution Control Boards has established National Ambient Noise Monitoring Network (NANMN) in 7 Metro-cities (Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow and Mumbai).
2. A total of 70 Noise Monitoring Stations are operational in these Metro-cities (10 Stations in each metro-city).

4 Important steps taken for industrial pollution control

1. To promote self-regulation among highly polluting industries (17 categories), Grossly Polluting Industries 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), CPCB initiated Online Continuous Emission & Effluent Monitoring System (OCEMS). Currently about 6000 Industries have

installed OCEMS & providing online data through 39000 devices on 15-minute basis to CPCB, SPCBs & PCCs

2. 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, 256 industrial / non-industrial sectors (Red: 62, Orange: 91, Green: 65 & White: 38) have been categorized based on revised criteria of Pollution Index.
3. Based on Polluter pay Principle, CPCB / SPCBs started imposing Environmental Compensation against the industries, common facilities which are violating the norms/ standards for strict compliances.

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

1. 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:
 - i Areas having CEPI scores 70 and above are considered as Critically Polluted Area (CPA)
 - ii Areas having CEPI scores between 60 and 70 are considered as Severely Polluted Area (SPA)
 - iii Areas having CEPI scores less than

60 are considered as Other Polluted Area (OPA).

2. Using the CEPI score, CPCB has graded the 88 identified industrial clusters across the country (in 2009) and 43 industrial clusters in 17 states with CEPI score of 70 and above were identified as critically polluted areas (CPAs).
3. 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.
4. The concerned SPCBs/PCCs 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.

6 Status of Court / Tribunal Cases

7. The Court/Tribunal 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 by Law Division during Financial Year 2022-23 are as under:

Particulars	Supreme Court	High Courts	NGT Principal Bench	NGT Zonal Benches
As on March, 2022	178	315	156	256
New cases during 2022-23	82	55	127	132

Disposed of during 2022-23	41	25	66	92
As on March 2023	219	345	217	296

7 Budget Allocation for Financial Year 2023-24

Budget allocation as per Budget Estimate of MoEF&CC for Financial Year 2023-24 is **Rs.105.00 Crore, as per RE 2023-24**, the details are:

- a. General : Rs. 30.00 Crore
- b. Capital : Rs. 03.00 Crore
- c. Salary : Rs. 72.00 Crore

8 Waste Management

E-Waste: There are 569 authorized dismantlers/recyclers of E-Waste in the country having annual processing capacity of 17,90,348 TPA. There are 3430 Producers and 124 Recyclers, who have been granted registration at E-Waste EPR portal under E-Waste (Management) Rules, 2022

Hazardous Waste: As per the inventory, about 12.35 Million MT of hazardous waste is generated, out of which about 7.59 Million MT i.e. 61.4% of overall hazardous waste generated has been either recycled or utilized. Out of 7.59 Million MT, about 1.64 Million MT of hazardous waste has been recycled, 2.45 Million MT of HW has been Co-processed and about 3.51 Million MT of hazardous waste was utilized.

CPCB has issued 84 Nos of Standard Operating Procedure (SOP) for utilization of about 55 types of hazardous waste under Rule 9 of HOWM Rules, 2016. During the year the CPCB has prepared 07 new SoPs for wastes namely Spent Aluminum Chloride, Calcium Hypochloride, Ammonia Liquor, Spent Sulphuric acid, Caffeine Liquor, ETP sludge of Ceramic industry & Galvanizing units) and revised 05 existing SoPs.



Apart from the above, CPCB has also prepared the following 02 guidelines during the year 2022-23:

1. Guidelines for Handling and Management of Flue Gas Desulphurisation (FGD) Gypsum
2. Guidelines for Environmentally Sound Facilities for Handling and Scrapping of End-of-life (ELVs) (Revised)

Plastic Waste: There are 2232 Brand-Owners (BO), 3639 Producers and 25472 Importers have been issued registration having Extended Producer's Responsibility (EPR) target of 32.84 Lakh Tons for FY 2022-23. CPCB has framed the Standard Operating Procedure (SOP) and developed the online portal for certification of compostable Manufacturers/Sellers.

As per provision 4 (h) of PWM Rules, 2016, certificates have been issued to 305 compostable Manufacturers / Sellers. The certified capacity has increased substantially, from nil in 2016 to approx. 3.6 Lakhs.

Bio Medical: There are 215 no. of CBWTFs used for treatment and disposal of biomedical waste in addition to this 35 CBWTFs are under construction which may be utilised at later stage for treatment of biomedical waste. At present, cumulative treatment and disposal capacity of 1205 MT/day that includes Incineration capacity of 771 MT/day and autoclave capacity of 434 MT/day that shows that available capacity is more than the generation of biomedical waste that is 764 MT/day.

Ash Management: Ash generated by the coal and lignite based thermal power plants is mainly utilized in cement plants, brick manufacturing units, road and flyover embankments, reclamation of low lying areas, and back filling of abandoned mine voids. Accordingly, the

percentage of utilization of ash generated by the coal and lignite based thermal power plants has increased from 59.81% in 2015-16 to 94.97% in 2022-23, against the total ash generation of 285.62 million tons corresponding to a total installed capacity of 2,11,830.5 Mega Watts.

CPCB has developed an Ash Portal for uploading of ash generation, utilization and storage data periodically by the coal and lignite based thermal power plants. The SPCBs/PCCs, being enforcement and monitoring authority, also have access to the Ash Portal for effective enforcement and monitoring of compliance of the provisions of the Ash Notification.

Battery Waste: Battery Waste Management (Amendment) Rules, 2023 has been notified on 25th Oct., 2023. Accordingly, CPCB has developed Registration Modules for Producers & Recyclers of waste batteries. CPCB has granted registration to 1,635 producers and 10 Recyclers till date.

Tyre Waste: CPCB has developed Registration Modules for Producers & Recyclers of waste tyres. Accordingly, there are 96 producers and 27 recyclers, who have been granted registration under Waste Tyre EPR portal.

8.1 Industrial CAAQMS Portal

Sameer App was created by CPCB to create public awareness about air quality and provide a platform for grievances redressal. Since its launch, it has been downloaded by 2,13,700 users on Android and iOS platforms.

This App provides hourly updated information on AQI for more than 270 cities using real time data from 520+ stations in 31 States/UTs. 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>).

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.

Since November 2018, so far around 40K+ public complaints were received on Sameer App. Out of these about 80% complaints (32K+) were resolved through coordination with more than 42 implementing agencies which also have Zonal or Regional offices sums up to more than 100 agencies in Delhi NCR

As social media is now the dominant digital avenue for two-way communication hence, CPCB has created Social Media Handles on different 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, Koo and YouTube.

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 outcome of redressal is also monitored.

9 Industrial CAAQMS Portal

Industrial Air Quality Management Portal has been developed to collect, store, and analyse data from Automatic 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.



Awarding Indore City under Swachh Vayu Sarvekshan on Swachh Vayu Diwas held on 7th September, 2023 in Bhopal



Secretary, EF&CC addressing 08 State Govt/UTs located in Indo-Gangetic Plain in Workshop in held on 1st May, 2023



3.3 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 has been notified on 2nd November, 2022 which covers 106 Electrical and Electronic Equipment (EEE) including Solar PV waste. The 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.

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.

Ecomark:

The Ecomark Scheme was launched by the Ministry of Environment and Forest in G.S.R. 85(E) dated 21.02.1991, as a tool for the consumers to pursue sustainable consumption patterns as well as for the industry to implement an environment-friendly processes or production methods. Under this Scheme, Ecomark criteria for 17 product categories have been notified viz. Soaps and Detergents; Paper; Food Items; Lubricating oils; Packaging materials/ Package;



Architectural Paints and Powder Coatings; Batteries; Electrical and electronic goods; Food Additives; Wood Substitutes; Cosmetics; Aerosols and Propellants; Plastic Products; Textiles; Fire-extinguisher; Leather; and Coir & Coir Products.

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.

Central Sector Scheme 'Creation of Management Structure for Hazardous Substances':

S. No.	Organisation	Purpose	Amount released
1.	M/s Climate Collective Foundation	India Plastic Challenge-Hackathon, creating awareness on plastic pollution and its solutions.	Rs.14,04,000/- out of sanctioned amount Rs.17,55,000/-
2.	M/s Kerala Enviro Infrastructure Ltd.	Setting up of Common Bio-Medical Waste Treatment And Disposal Facility (CBWTF), District Kochi, Kerala.	Rs. 90,00,000/- out of sanctioned amount Rs.90,00,000/-
3.	Bamdev Smart Solutions Pvt. Ltd.	Setting up of CBWTF in Banda, Uttar Pradesh	Rs. 20,00,000/- out of sanctioned amount Rs. 50,00,000/-
4.	Manipur Pollution Control Board	Setting up of TSDF and CBWTF, West Imphal District, manipur	Rs. 2,01,00,000/- out of sanctioned amount Rs. 3,35,00,000/-
5.	Mizoram Pollution Control Board	Setting up of CBWTF, Aizwal, Mizoram	Rs. 80,00,000 out of sanctioned amount Rs. 2,00,00,000/-
6.	Goa State Pollution Control Board	Setting up of TSDF of Hazardous waste	Rs. 82,50,000/- out of sanctioned amount Rs. 3,00,00,000/-
7.	M/s Manav Rachna University	"Wastes to Resources"- An awareness campaign for Waste Management, in Haryana, Faridabad	Rs. 8,00,000/- out of sanctioned amount Rs. 10,00,000/-
8.	M/s Inclusive Recycling Foundation	Innovative awareness and training program to promote safe and circular e-waste management	Rs. 4,00,000/- out of sanctioned amount Rs. 10,00,000/-
9.	M/s Pt. Deen Dayal Upadhyay Smriti Sansthan	Plastic waste management awareness campaign in Jaipur and Dausa, Rajasthan	Rs. 6,42,800/- out of sanctioned amount Rs. 16,07,000/-
10.	M/s Sri Venkateshwara University	Awareness programmes on solid waste management in rural areas (10 villages) of Tirupati, AP	Rs. 10,00,000 out of sanctioned amount Rs. 10,00,000/-

S. No.	Organisation	Purpose	Amount released
11.	M/s Chintan M/s Environmental Research and Action Group	Enabling ULBs to use social media to implement PWM Rules 2021, New Delhi	Rs. 5,99,896/- out of sanctioned amount Rs. 14,99,74,000/-
12.	M/s Vibhavari foundation	Creating awareness regarding SUP ban and zero waste in 15 villages of district Dewas, M.P.	Rs. 4,00,000/- out of sanctioned amount Rs. 10,00,000/-
13.	MyGov	Setting up and engaging Social Media team with MoEF&CC on creating awareness on environmentally sound management	Rs. 38,00,000/- out of sanctioned amount Rs. 95,00,000/-
14.	Centre for Development of Advanced Computing (CDAC), Delhi	Online e-waste material balance system for handling of e-waste management cycle	82,54,500/- out of sanctioned amount Rs. 5, 87,74,000
15.	M/s Mother Earth Environ Tech Pvt. Ltd.	Setting up of Treatment, Storage and Disposal Facility (TSDF) of Hazardous Waste in District Ramanagara, Karnataka.	Rs.1,32,49,300/- out of sanctioned amount Rs.3,97,48,000/-

The following grant-in-aid released to institutions and organisations including NGOs:

Multilateral Agreements: The Division is also 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.

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):

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.

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.

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. UNEP: India-Norway Marine Pollution Initiative;
- iv. UNEP: Partnership for Action on Green Economy (PAGE);
- v. GIZ: Circular Economy Solutions (CES) preventing Marine Litter in Ecosystems;

- vi. EU: EU-Resource Efficiency Initiative (EU-REI), and SWITCH-Asia Programme;
- vii. Development of Institutional and Regulatory Framework for Implementation of Minamata Convention in India

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.
 - 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 are being used 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 5th January 2023 the number of registered obligated entities is given below (i) Registered PIBOs: 33530 (ii) Registered Plastic Waste Processors: 2327
- vi. The total plastic packaging of around 3.2 million tonnes been covered under EPR for the year 2022-23, till date. The quantum of plastic packaging waste covered under EPR is a significant proportion of plastic packaging waste being generated in the country. EPR certificates equivalent to 46.11 lakh tonnes of plastic packaging waste have been generated by registered Plastic Waste Processors, of which 33.49 lakh tonnes of EPR certificates have been transferred online to the registered PIBOs.
- vii. National Expo on Eco-Alternatives to single use plastic and start up conference 2022 held on 26th and 27th September 2022 in Chennai. More than 150 manufacturers of eco-alternatives from across the country participated in the Expo. The eco-alternatives included material made from sea-weed, bagasse, rice and wheat bran, rice stubble, plant and agricultural residue, banana and areca leaves, jute and cloth.
- viii. 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.
- ix. Battery Waste Management (Amendment) Rules, 2022 was notified on 25th October, 2023 to ensure environmentally sound management of waste batteries.



- x. Import of approximately 117 MT of mercury has been permitted by providing 12 Prior Informed Consents under Minamata Convention.
- xi. Key achievements under GEF funded project 'Development of alternatives to DDT': Manufacturing facility for 5 million Long Lasting Insecticidal Nets (LLINs)/year constructed and commissioned at HIL; around 15.8 Lakh LLINs manufactured under the project sold to MoH&FW, Indian Airforce, CRPF, public sector organizations, State Governments; 5 neem based pesticide formulations 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.
- xii. Key achievements under GEF funded project 'Environmentally sound management of PCBs in the country': Around 650 MT of PCB contaminated oil de-chlorinated 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.
- xiii. Project Cooperation Agreement signed for the Specific International Programme (SIP) project under Minamata Convention on Mercury 'Development of Institutional and Regulatory Framework for Implementation of Minamata Convention in India'.
- xiv. India has negotiated its position and protected interests in amendment of Minamata Convention on Mercury for phase-out date of Mercury Added Products such as compact and linear fluorescent lamps, switches and relays, cosmetics, dental amalgam and adoption of additional measures for phase-down of dental amalgam during the fifth meeting of the Conference of the Parties (COP-5) held on 30th October to 3rd November, 2023 in Geneva, Switzerland.
- xv. Ministry has notified amendment in HOWM Rules, 2016 on 12th 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
- xvi. Ministry has also issued notification w.r.t amendment in HOWM Rules, 2016 on 18th September, 2023 to notify Extended Producer Responsibility (EPR) for "Used Oil
- xvii. 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.
- xviii. Jan Vishwas (Amendment of Provisions) Act, 2023 was amended on 18th October, 2023.
- xix. 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 have been organized across India including offices and Companies and was uploaded by HSM in Meri LiFE Portal
 - HSM Division had actively participated in Mission Life events

focusing on plantation, awareness and the related details are uploaded in as a build up to June 5- World Environment Day, Ministry launched Portal/ mobile application called “Meri LiFE” to catalyze action for climate

xx. The Indian delegation participated in the sixteenth meeting of the Conference of the Parties to the Basel Convention (BC COP-16) held in Geneva, Switzerland (Geneva International Conference Centre (CICG)) from 1st -12th May 2023.

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

Second session of the Intergovernmental Negotiating Committee (INC-2): INC-2 took place from 29th May to 2nd June 2023 at the United Nations Educational, Scientific and Cultural Organization (UNESCO) Headquarters in Paris, France. 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.

xxii. Third session of the Intergovernmental Negotiating Committee (INC-3): INC-3 took place from 13th to 19th November 2023 at the UN Environment Programme (UNEP) Headquarters in Nairobi, Kenya.

The Indian delegation provided textual submissions on different elements of Zero draft including on scope, objective, principles especially Common but Differentiated Responsibility as well as national circumstances and capabilities, having binding production caps on plastic polymers and binding targets concerns relating to trade restrictions and other related matters, means of implementation, availability, accessibility, affordability including cost implications of alternative technologies, country driven action plans and that obligations shall be directly linked with availability of adequate and predictable financial and technical resources for developing countries and this should be made part of substantive provisions. It was emphasized that the scope of the instrument should be circumscribed as per UNEA 5.2 resolution.

xxiii. The Green Credit Rules have been notified by the Government of India on 12th October 2023 under the Environment Protection Act, 1986, as mechanism to encourage voluntary plantation activity across the country, resulting in award of Green Credits and also to build an inventory of land which can be utilised for afforestation programmes.

xxiv. MoEF&CC has published Draft Ecomark Certification Rules, 2023 vide S.O. 4441(E) dated 11th October, 2023 for public consultation which aims to strengthen the institutional structure and implementation of the Ecomark Scheme. The ‘Ecomark



Certification Rules, 2023' will replace the existing Ecomark notification.

- xxv. Under the G20 India Presidency 2023, theme of 'Encouraging Resource Efficiency and Circular Economy' was one of the key tracks of the ECSWG.

RECE Theme had four sub-themes on the topics (1) Extended Producer Responsibility (EPR), (2) Circular Bioeconomy, (3) Circularity in Steel, and (4) Establishment of industry led Resource Efficiency Circular Economy Industry Coalition

Presidency documents on 03 sub-themes of (i) Circular Economy in Steel Sector, (ii) Circular Bioeconomy, (iii) EPR for CE were prepared.

- i. Presidency document 'Knowledge Exchange on Circular Economy in Steel Sector' highlights four key strategies to transition towards a sustainable steel sector through resource efficiency and circular economy viz. (i) improving material efficiency, (ii) steel scrap recycling, (iii) improving efficiency of the steel production process, and (iv) accelerating transition towards renewables based steel production.
- ii. Presidency document 'Knowledge Exchange on EPR for Circular Economy' reflects a compilation of the different EPR approaches adopted by various countries, which can be leveraged by policy makers in framing and implementing EPR policies in their respective countries.
- iii. Presidency document 'Knowledge Exchange on Circular Bioeconomy' identifies opportunities, policies, innovations, best practices, and

successful interventions, to promote utilization of biogenic waste streams including municipal and industrial waste, agricultural residue, and non-food crops from degraded lands.

The 03 (three) Presidency documents and the 'Resource Efficiency and Circular Economy Industry Coalition' were released/launched during the 4th ECSWG and Ministerial Meeting held on 26th – 28th July, 2023.

The 'Resource Efficiency and Circular Economy Industry Coalition' was launched by Hon'ble Minister Shri Bhupender Yadav. This industry-led coalition aims to foster greater company-to-company collaboration, build advanced capabilities across sectors and value chains, bring learnings from diverse and global experiences of the coalition members, and unlock on-ground private sector action to enhance resource efficiency and accelerate circular economy transition.

3.4 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 NGTs.

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.

3.5 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 is 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 2.11.2023, are 2,971 in matters pending before the Supreme Court of India, High Courts, National Green Tribunal (all Benches), Central Administrative Tribunal, etc.

3.6 Eco-labelling:

1. The Ecomark Scheme was launched by the Ministry of Environment and Forest in G.S.R. 85(E) dated 21.02.1991, as a tool for the consumers to pursue sustainable consumption patterns as well as for the industry to implement an environment-friendly processes or production methods. Under this Scheme, Ecomark criteria for 17 product categories have been notified viz. Soaps and Detergents; Paper; Food Items; Lubricating oils; Packaging materials/ Package; Architectural Paints and Powder Coatings; Batteries; Electrical and electronic goods; Food Additives; Wood Substitutes; Cosmetics; Aerosols and Propellants; Plastic Products; Textiles; Fire-extinguisher; Leather; and Coir & Coir Products.
2. MoEF&CC has published Draft Ecomark Certification Rules, 2023 vide S.O. 4441(E) dated 11th October, 2023 for public consultation which aims to strengthen the institutional structure and implementation of the Ecomark Scheme. The ‘Ecomark Certification Rules, 2023’ will replace the existing Ecomark notification.



CHAPTER - 4

ENVIRONMENTAL IMPACT ASSESSMENT AND CLEARANCE

4.1 Environmental Impact Assessment

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 with river valley projects, and was subsequently 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. The amendments have also been done to address

emerging concerns stemming from the need to integrate environmental concerns into the developmental process for achieving the goal of sustainable development. 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 (1) 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.

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

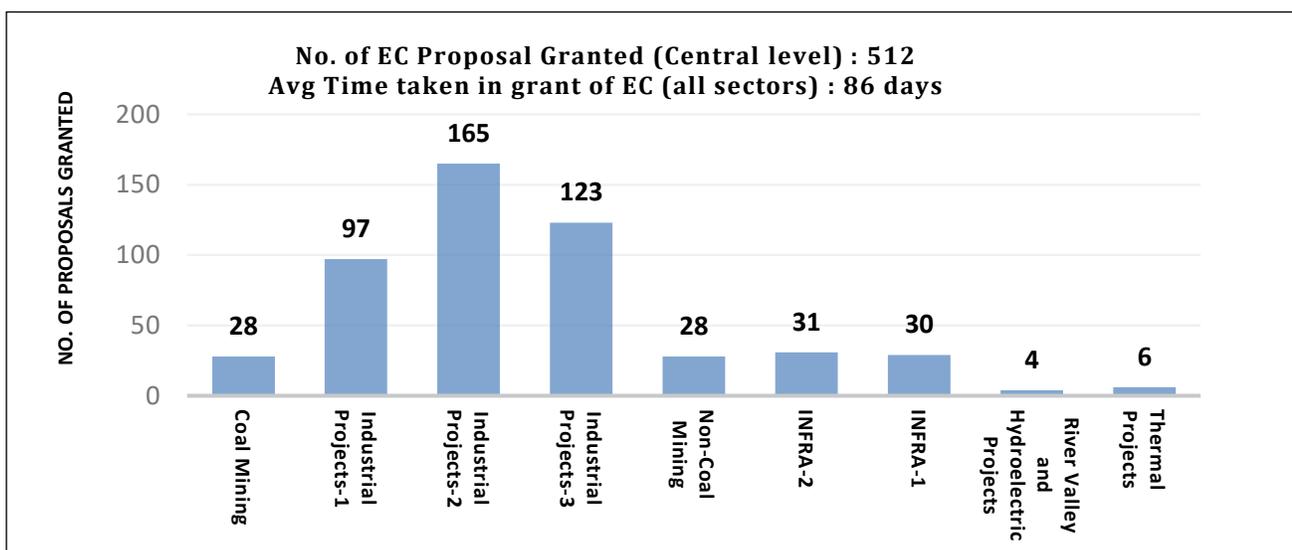


Fig 1: No. of EC Proposal Granted (Central level)



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 512 projects (between 1st January, 2023 to 27th December, 2023). The sector-wise environmental clearances issued to projects by the Ministry during the year 2023 (up to December 27th, 2023) is given in the *Fig.1*. The average time taken for grant of EC, from all sectors, at the Central level was 86 days against the stipulated timeline of 105 days.

Constitution of State Environment Impact Assessment Authorities (SEIAA)

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

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 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 MoEF&CC.

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 users 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, an upgraded version of existing PARIVESH is supplemented with unique modules (Know Your Approval, Know Your Customer, Decision Support System etc).

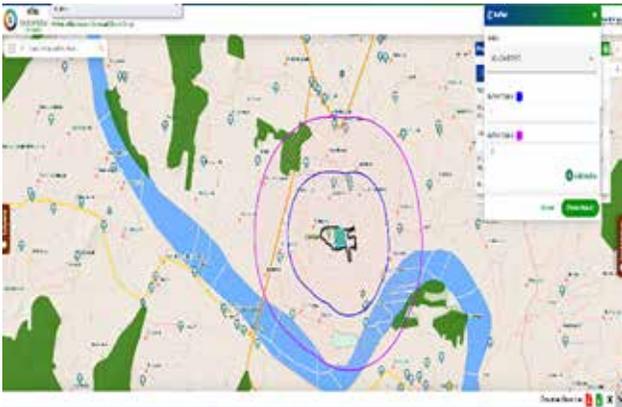
Major modules in PARIVESH 2.0 viz: end to end online processing of Category A and B environmental clearance proposals was developed and rolled out at Central and SEIAA level, respectively. In addition, in 2023, all major functionalities of other major clearances (FC/WL&CRZ) have been developed and rolled out. In CRZ clearance, all nine State Coastal Zonal Management Authority were onboarded, for the first time, on PARIVESH 2.0 for online submission and processing of applications. Furthermore, PARIVESH 2.0 was also integrated with Gatishakti and National Single window portal.

Entire clearance management in paperless mode in PARIVESH 2.0 not only ensures effective e-governance with ease of doing business but also helps in reduction of carbon foot print. Tangible outcome during 2023 are summarized as below:

- (i) **Prior Planning of Project:** Know Your Approval (KYA) module in PARIVESH 2.0 has been appreciated at different forum/capacity building programme

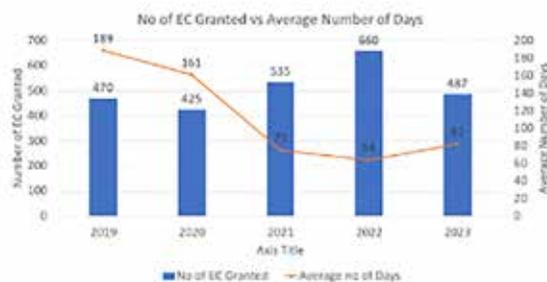
for facilitating the project proponent in assessing the environmental sensitivity of the project before its execution helping in better planning and ultimately helping in conservation of natural resources at one hand and reduction in time and cost of the project on the other hand.

- (ii) **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 the informed decision.



- (iii) **Expeditious Clearance Processing.**

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 ~75 days (Stipulated timeline =105 days). Target to bring down the average days to double digit achieved 3 years in advance.



- (iv) **Robust Compliances Monitoring:** 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 and submission of observations on the compliances by the IROs ensures implementation of an environmental management plan in more effective and transparent manner.

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

Clearances under EIA Notification, 2006 are granted by MoEF&CC 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 MoEF&CC 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 letter; and
- 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 Matter, VIP reference, 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 case-to-case basis.

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

The environmental appraisal of developmental 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 20.12.2023, there are 210 accredited EIA Consultant Organizations.

Achievements

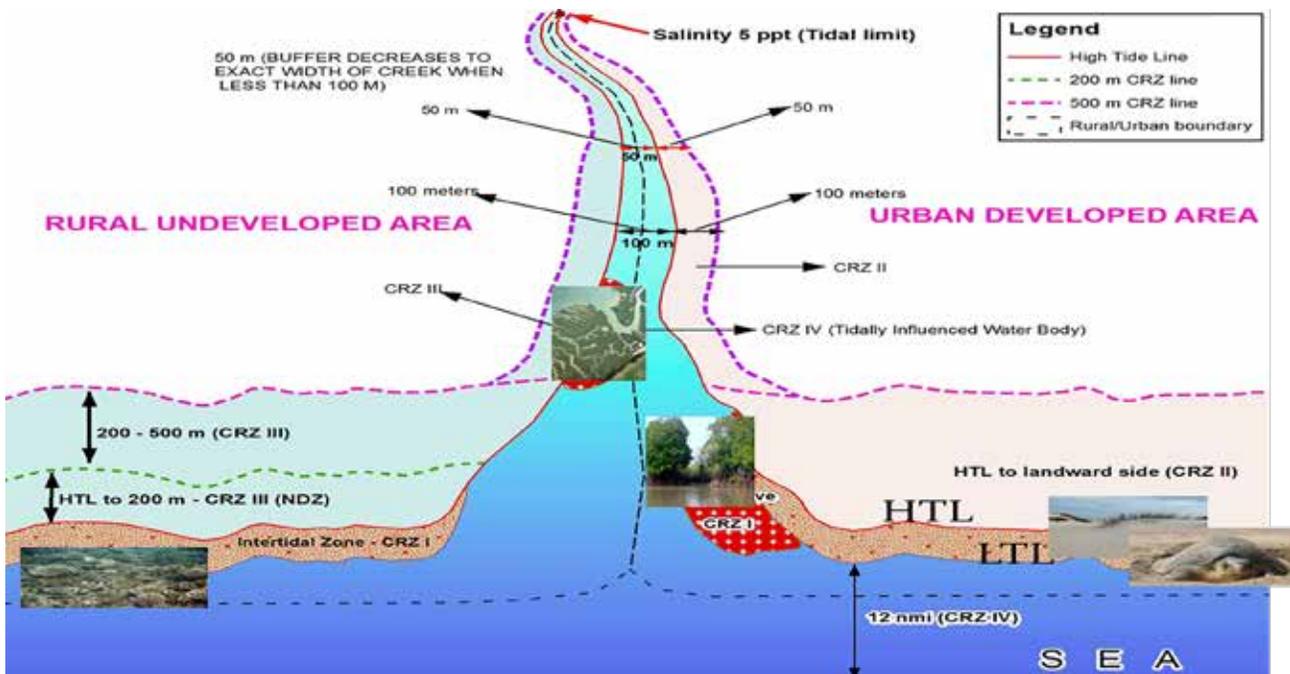
As part of systemic reforms, the IA Division has issued two major amendments to the EIA Notification, 2006 and 11 Office Memorandums during 2023 for streamlining the EC process. The notifications issued are as under:-

- Notification S.O. 1832(E) dated 21.04.2023- Provision for split and part transfer of the prior-Environmental Clearance, on recommendation of the concerned Expert Appraisal Committee to the other legal persons for the respective projects.

Notification S.O. 2226(E) dated 18.05.2023, Rationalized Environmental Clearance process for Pump Storage Projects.

4.2 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,



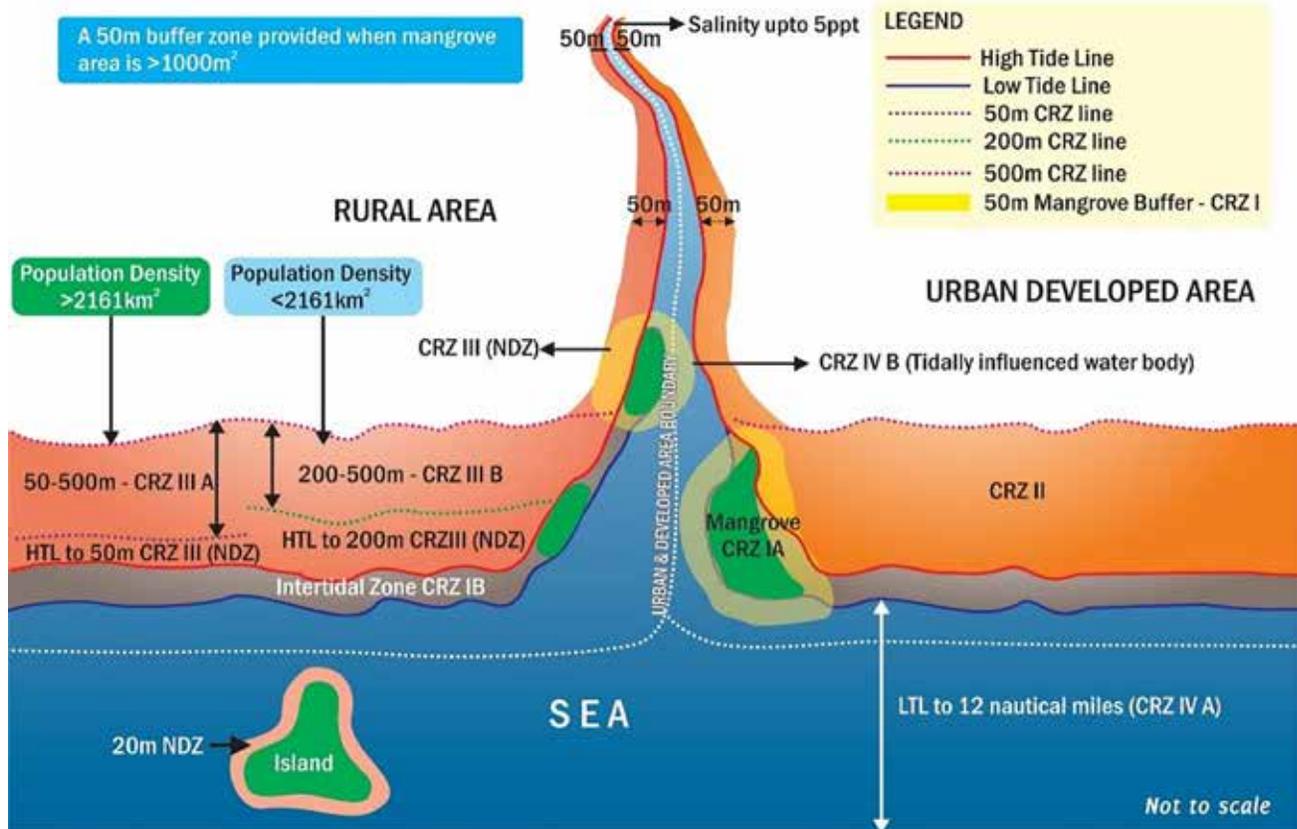
CRZ Classification as per 2011 Notification

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 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 viz. CRZ Notification, 2018 in supersession of CRZ Notification, 2011 was issued in April, 2018 for inviting comments from 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 has approved the new Coastal Regulation Zone Notification on 31/12/2018 and finally issued

vide G.S.R 37(E), dated 18/01/2019. This new CRZ Notification is expected to go a long way in 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 have 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 CZMP as per CRZ Notification, 2019, has been approved for State of Odisha, Karnataka and Maharashtra.



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

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 provision of the new notification. The ICRZP as per ICRZ Notification, 2019 has been approved for Great Nicobar Island and Little Andaman Island.

Progress/Achievements

A. Policy Decisions: -

- S.O.2903(E) dated 03/07/2023 regarding amendment in CRZ Notification, 2011 regarding extension of Validity of Environment Clearance and CRZ Clearance and transfer/splitting and name change.
- Amendment in Reconstitution of Goa Coastal Zone Management Authority issued vide notification S.O.3581 (E) dated 10/08/2023
- Reconstitution of Daman and Diu Coastal Zone Management Authority issued vide notification S.O.4571 (E) dated 31/10/2023.
- Reconstitution of Andhra Pradesh Coastal Zone Management Authority issued vide

notification S.O.4798 (E) dated 03/11/2023

B. Implementation of CRZ Notification 2019:-

- One NCZMA meetings was held under the Chairmanship of Secretary MoEFCC during the period.
- Approval of Coastal Zone Management Plan (CZMP) as per CRZ Notification, 2019 of 5 district of Maharashtra namely Raigad, Ratnagiri, Sindhudurg, Thane and Palghar issued *vide* letter No.12/10/2021-IA.III dated 25/08/2023.

- Approval of rectification of CRZ Classification on CZMP Map No. OD 90, Sheet No.F45-P6/SW covering areas of Subarnarekha Port-amendment in CZMP of Odisha as per CRZ Notification, 2019 issued *vide* letter No. 12/9/2021-IA.III dated 25/08/2023

C. EAC (CRZ) / CRZ Clearances: -

- Total of **33 CRZ clearances (from 1/1/2023 to 07/11/2023)** have been issued by this Ministry for various developmental activities/projects permissible in the CRZ areas.



CHAPTER - 5

CONSERVATION –
BIODIVERSITY

5.1 Biodiversity

a Brief introduction, objectives and functions of the Division

Convention on Biological Diversity (CBD)

- 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, several steps were initiated to meet the commitments under the Convention, and to realize the opportunities offered by the Convention. India enacted the Biological Diversity Act in 2002 to give effect to the provision of this Convention. India has also prepared a National Biodiversity Action Plan (NBAP) in 2008, and an Addendum to NBAP was prepared in 2014 with 12 National Biodiversity Targets, developed in line with the 20 global Aichi biodiversity targets. India also submits a National Report to CBD providing an update on progress in National Biodiversity Targets.
- 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. 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. The Nagoya Protocol is being implemented at national level *inter alia* through the Biological Diversity Act.
- Intergovernmental 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.

- **National Legislation:** Biological Diversity (Amendment) Act, 2023
- In pursuance to CBD, India enacted the Biological Diversity Act in 2002, and notified the Biological Diversity Rules in 2004. 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 is implemented through a three-tier institutional mechanism: National Biodiversity Authority (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 during the reference period (i.e. 1/1/2023-up-to 23.11.2023).

Convention on Biological Diversity:

- The Ministry celebrated the “International Day on Biological Diversity (IDB)” on 22nd



of May 2023. The theme of IDB 2023 celebrations was “From agreement to action: build back biodiversity”. During the celebrations, a Biodiversity Exhibition with a special focus on Millets in conjunction with Mission LIFE (Lifestyle for Environment) was inaugurated. Further, a brochure on “Biodiversity Heritage Sites of India” and “Other Effective Area based conversation measures” was also released.

- The Ministry of Environment, Forest and Climate Change, along with the National Biodiversity Authority, Govt. of Goa and the Goa State Biodiversity Board flagged off the National Campaign for updating cum verification of Peoples’ Biodiversity Registers on 23rd of May 2023 in Neura Village, Tiswadi District, Goa. The campaign achieved the target of updating and verifying more than 10,000 Peoples’ Biodiversity Registers prepared across the country for the purpose of documenting the natural wealth and associated traditional knowledge available in the respective local bodies.

c Progress/Innovations for the reference period especially can be highlighted prominently

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. The Protocol further requires that Parties make information on the permit or its equivalent available to the ABS Clearing House for it to constitute an Internationally Recognized Certificate of Compliance (IRCC). Since October 2015, 3496 approvals granted by India to users

of biological resources in the ABSCH website for generating IRCCs, of which 800 IRCCs generated during the reporting period.

d Important Cumulative achievements.

- So far, 277688 BMCs have been established in 28 States and 8 Union Territories across India. So far, 268031 PBRs have been prepared by recording the local biodiversity and associated traditional knowledge.
- Out of 44 Biodiversity Heritage sites declared so far in 16 States, 13 sites have been notified in this reporting period

e. Promulgation of new Acts/ Rules, along with the details with major amendment/deletions.

The Biological Diversity (Amendment) Act, 2023 was passed in the Lok Sabha on 25th of July 2023 and Rajya Sabha on 01st August 2023 respectively, and received the assent of the President on 03rd of August 2023. The Biological Diversity (Amendment) Act, 2023 shall come into force from 1st April 2024. The amendments sought to:

- Reduce the pressure on wild medicinal plants by encouraging cultivation of medicinal plants
- Encourage Indian system of medicine
- Facilitate fast-tracking of research, patent application process, transfer of research results while utilizing the biological resources available in India without compromising the objectives of United Nation Convention on Biological Diversity and its Nagoya Protocol
- Decriminalize certain provisions
- Bring more foreign investments in the chain of biological resources, including research, patent and commercial utilization, without compromising the national interest.

f. **Conferences organized in India/**

- The Ministry of Environment, Forest and Climate Change along with the National Biodiversity Authority organized the National Consultation Meeting on the updation of National Biodiversity Strategy and Action Plan (NBSAP) and the adoption of National Biodiversity Targets (NBTs) in alignment with the Kunming-Montreal Global Biodiversity Framework (KMGBF) on 28-29 November, 2023 at the Indian National Science Academy, New Delhi
- The consultation meeting was attended by representatives of line Ministries/ Departments, Member Secretaries of State Biodiversity Boards and Union Territory Biodiversity Councils, Members of Working Group on NBSAP, Special Invitees, Subject Matter Specialists, Observers, Supra-national and National Organizations, Community-led organizations, Members of the Authority, Private sector and finance experts, Young Professionals and UN Volunteers.

2. **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 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.

3. **Grant-in-aid**

Name of Organization	Purpose	Total Amount Released	Status of third-party evaluation	Re-remarks
National Biodiversity Authority	As per the provisions in the Biological Diversity Act, 2002	Rs.14.1 crores in the current financial year	Conducted by CAG	

5.2 **Biosafety:**

- a **Brief introduction, objectives and functions of the Division**
- The Division handles the activities related to Cartagena Protocol on Biosafety



- (CPB) to the Convention on Biological Diversity (CBD), Nagoya Kuala Lumpur Supplementary Protocol on Liability and Redress (NKLSPLR), and the Genetic Engineering Appraisal Committee (GEAC).
- CPB to CBD is an international agreement which aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. It was adopted on 29th January 2000 and entered into force on 11th September 2003.
 - NKLSPLR aims to contribute to conservation and sustainable use of biodiversity by providing international rules and procedures in the field of liability and redress relating to living modified organisms. The Supplementary Protocol was adopted on 15th October 2010 at the CoP-MoP-5 held in Nagoya, Japan, and entered into force on 5th March 2018 as a supplementary agreement to CPB. The tenth meeting of the Conference of the Parties serving as the meeting of the Parties (COP-MOP) to the Cartagena Protocol on Biosafety was convened in December 2022 in Montreal, Canada.
 - 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 **Important activities undertaken during the reference period (i.e. 1/1/2023-23-11-2023):**
- From 01.01.2023 to 23.11.2023, GEAC has given following recommendations, which have been approved by the Competent Authority:
 - Environmental approval to genetically modified (GM) organisms for commercial production-01; Import of GM products-04; Permissions to conduct BRL-I/BRL-II Trials-01; Permissions to conduct Event Selection Trials (EST)-04; Permission to conduct clinical trials of recombinant vaccine-01; Other items-01.
 - Consultative workshop was held on April 19, 2023 at MoEF&CC towards preparation of project documents for below mentioned national and multilateral biosafety capacity building projects supported by GEF:
 - (1) National GEF UNEP project: “Mainstreaming of Biosafety and Institutional Capacity Building to strengthen effective implementation of Cartagena Protocol on Biosafety”.
 - (2) Multilateral GEF-UNEP project: “Promoting the safe application of biotechnology through Multi country Cooperation in the implementation of National Biosafety Frameworks in Asia”.
- Genetic Engineering Appraisal Committee (GEAC)**
- The Genetic Engineering Appraisal Committee (GEAC) was reconstituted on 13.07.2022 for a

period of three years. For the period 01.01.2023 to 23.11.2023, three meetings of GEAC had been held quarterly, wherein the Committee has recommended following key proposals in respect of genetically modified (GM) organisms:

- Confined field trials of GM cotton, GM brinjal, GM pigeon pea, GM rubber
- Clinical trial of recombinant dengue tetravalent vaccine
- Import of three strains of GM yeast for commercial production of ethanol
- Import of two recombinant veterinary vaccines for use in chickens and dogs
- Import of GM product for use in pharmaceuticals dosage formulation

c **Conferences** Officials of the division participated in the online discussions of the Open-Ended Online Forum on Risk Assessment from 21 to 25 August 2023 to review the draft of the detailed outline with a view to facilitate the work of the Ad Hoc Technical Expert Group on Risk Assessment

d **MEAs, Agreement with Countries, International Organizations, Compliance:**

- A multilateral project “Promoting the safe application of biotechnology through Multi country Cooperation in the implementation of National Biosafety Frameworks in Asia” to support the implementation of the Cartagena Protocol on Biosafety South Asia has been approved by GEF through UNEP.
- A national project on “Mainstreaming of Biosafety and Institutional Capacity Building to strengthen effective implementation of Cartagena Protocol on Biosafety” project has been approved by GEF through UNEP.

5.3 Zoological Survey of India (ZSI):

a **Brief introduction, objectives and functions:**

Zoological Survey of India (ZSI) is a 108-year-old organization functioning under MoEF&CC and dedicated for surveys, exploration and taxonomical studies of faunal communities since its inception in the year 1916. ZSI Headquarters is located in Kolkata and has 16 Regional Centres spread across the country. The primary and secondary objectives are as follows:

Primary Objectives

- Exploration, Survey, Inventorisation and Monitoring of faunal diversity in various states, some selected ecosystems and protected areas of India.
- Taxonomic studies of all faunal components
- Status survey of Threatened and Endemic species.
- Preparation of Red Data Book, Fauna of India and Fauna of States.
- Bio-ecological studies on some important communities/species.
- Preparation of database for the recorded species of the country.
- Maintenance and Development of National Zoological Collections.
- Training, Capacity Building and Human Resource Development.
- Faunal Identification, Advisory services and Library Services.
- Publication of study-results, including documentation of Fauna of India and Fauna of States



Secondary objectives

- GIS and Remote Sensing studies for recorded animal diversity as well as for selected threatened species.
- Chromosomal Mapping and DNA finger printing.
- Environmental Impact Studies.
- Maintenance of Museums at Headquarters and Regional Centres.
- Development of ENVIS and CITES Centres.
- Research Fellowship, Associate ship and Emeritus Scientist Programme.
- Collaborative research programmes on Biodiversity with other Organizations.
- All India Coordinated Project on Taxonomy (AICOPTAX)

Functions/ Strength of ZSI:

- **Maintaining National Faunal Repository:** One of the largest repositories of the world with 6.3 million faunal specimens.
- **Scientific Expertise:** Robust taxonomic expertise from Protozoa to Mammalia.
- **Database:** Holding up to date database on faunal Diversity of India.
- **New Discoveries:** Updating the data on new species from different ecosystems of the country.
- **Museums at HQ & RCs:** ZSI is maintaining faunal museums of different ecosystems of the country
- **Taxonomy trainings:** 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 on 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, IWPA, CITES, DGQI etc.**
- b. Important activities undertaken during the reference period (i.e.1/1/2023-up to 23.11.2023)**
 - **Faunal Surveys, Collections and Identifications:** A total of 103 surveys have been completed during the period, of which 33 surveys were undertaken to different Protected Areas; 6 surveys of States and Union Territories; 22 to different ecosystems; 15 status surveys of endangered species; 15 surveys for Taxonomic studies; 4 to Deccan Peninsula; 3 surveys for behavioural studies and 5 surveys for miscellaneous studies. Altogether 1,41,752 specimens belonging to 6150 species have been identified under different faunal groups from Protozoa to Mammalia.
 - **New Discoveries:** A total of 178 new discoveries have been published of which 97 are new species whereas 81 are new record to Indian fauna.
 - **Digital Sequence Information (DSI) on Indian Fauna:** A total of 1521 DNA barcodes of 353 species have been submitted on BOLD and GenBank



Malabar Grey Hornbill, *Ocyrceros griseus* (Latham,1790)



Greater One- Horned Rhino, *Rhinoceros unicornis*
Linnaeus, 1758

which includes 1042 barcodes for Mammals, 1 for Birds, 34 for Reptiles, 55 for Amphibia, 147 for Fishes, 81 for Lepidoptera, 77 for Arachnida, 22 for Odonata, 16 for Coleoptera, 15 for Diptera, 10 for Brachiopoda, 9 for Crustacea, 6 for Cnidaria, 3 for Hymenoptera, 2 for Mollusca and 1 for Hemiptera,

- **Publications:** A total of 454 publications were completed during the period and it includes 17 Books, 4 books in Hindi, 102 papers published in SCI journals, 174 papers in peer-reviewed National and International journals, 114 Book chapters, 14 popular articles, 16 popular articles in Hindi, 3 online checklists and 10 issues of E-Newsletter.
- **Capacity Building:** Outreach activities were conducted in both online as well as offline mode. This year about 79 webinars/ trainings/ workshops were conducted to disseminate knowledge on various topics of biodiversity and its conservation to more than 7060 students and researchers.
- **Identification and advisory services:**

Identification and Advisory Services on a regular basis is provided by ZSI and this year material received from 123 Institutes/colleges and identified 3769 specimens and 14 photographs belonging to 922 species.

- **Wildlife Forensics and Crime Control:** ZSI scientists also provide identification for wildlife forensics and crime control and this year, identification include 436 specimens and 13 photographs belonging to 65 species including many scheduled species received from 60 departments.
- **Role in Policy interventions**
 - ZSI has supported the Ministry in revising the list of faunal species listed among the various schedules of the draft WPA (1972) amendment bill.
 - Data on fauna provided for GIRG portal.
- **Mission LiFE Campaign**

A total of approximately 3000 events were organized by ZSI throughout the country covering all ecosystems from the



Himalayas to the Oceans and from Desert to the green grasslands.

• **Swachhata Campaign 3.0**

As part of Swachhata campaign, ZSI weeded 5766 files, disposed more than 200 numbers of obsolete office Furniture, 300 E-waste, 4547 sq. ft. space restored and Rs. 3,53,886/- has been generated.

c. Progress/innovations for the reference period:

- 97 new species have been discovered by the scientists of ZSI.
- Translocation of over 15466 colonies of corals achieved.
- Tagging of 3143 and recapture of 183 Olive Ridley Turtles and 181 tagging of Leatherback Turtles.
- ISO certificate received by two Regional Centres, ANRC-Port Blair and CZRC-Jabalpur.

d. Achievements

- **Species Identifications:** During the reference period a total of 6150 species have been identified by the scientists of ZSI Headquarters and Regional Centres.
- **Publications:** During the reference period, 454 publications have been made.
- **Digital Sequence Information (DSI) of important Taxa:** ZSI is playing major role in enriching the information on DNA barcodes and solving many taxonomic queries and generated 10,869 barcodes including 1521 barcodes generated during the reference period.
- **Training and Extension:** Outreach activities are being provided regularly and this year 79 webinars/ workshops /trainings were conducted to disseminate the knowledge on various topics.

- **Digital ZSI:** Achievements include Digital Archive of Publication 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 services were provided to 123 Institutes/ colleges and identified 3769 specimens and 14 photographs belonging to 930 species.

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/International

- Animal Taxonomy Summit (ATS) 2023 from 1st to 3rd July, 2023
- Protected Schedule Animals of India from 22nd to 25th August 2023
- Methods in Faunal Collection, Preservation and Identification from 2nd to 10th May, 2023
- Insect Diversity of Trans Himalaya 21st September 2023
- Marine Biodiversity and Conservation with special reference through DNA Bar-coding techniques on 26th February 2023



Release of the book "Animal Discoveries 2022" by Honorable Ministers on ZSI day (1st July 2023)



Swachhata hi Sewa by Honourable Minister at GPRC, ZSI-Patna on 2nd October 2023



As part of "Save the Glacier " an awareness program was organized at Mana Village in Uttarakhand at a height of 3200 metres

As part of "Save the Glacier " an awareness program was organized at Mana Village in Uttarakhand at a height of 3200 metres

g. MEA's agreement with countries, international organizations and compliance:

ZSI has signed MoU with seven Universities/ Institutes, namely,

- 1 National Museum of Natural History, New Delhi
- 2 Patna University, Patna

- 3 Vikram University, Ujjain, Madhya Pradesh
- 4 University of Burdwan, Burdwan
- 5 Indian Institute of Technology, Jodhpur
- 6 Department of Forests and Park Services, Royal Government of Bhutan
- 7 Banda University of Agricultural Technology (BUAT) Banda, Uttar Pradesh

h. List of major publications brought out-brief purpose of each:

- Fauna of Assam (Part II) Vertebrates



- Fauna of Assam (Part I) Invertebrates
- Faunal Diversity of Puducherry
- Faunal Ecology and Conservation of the Great Nicobar Biosphere Reserve
- 75 Endemic birds of India
- Animal Discoveries 2022: New Species and New Records
- Fauna of India: 108 Barcodes
- Soft Corals (Malacalcyonacea: Octocorallia) of Andaman and Nicobar Islands (Families Cladiellidae, Sarcophytidae and Sinulariidae)

5.4 BOTANICAL SURVEY OF INDIA (BSI)

a. Brief introduction, objectives and functions

Introduction

Botanical Survey of India (BSI) is the apex research organization under MoEF&CC. It carries out the taxonomic/floristic studies on wild plant resources of the country with an objective to explore the plant resources of the country. Established on 13th February 1890, Botanical Survey of India is serving the nation through its incessant survey and exploration of the plant wealth of the nation for last 130 years. Presently, BSI has 11 regional centres and 5 units, with its headquarters at Kolkata and actively engaged in inventorying the floral resources of wide array of ecosystems from coastal sea to high mountain ranges of Himalayas covering all the states and union territories.

Objectives and functions

Primary objectives

- Survey and exploration, inventorisation and documentation of phytodiversity; publication of National, State and District Floras.
- Identification of Red list Species and species rich areas needing conservation; *ex situ* conservation of critically threatened taxa in botanical gardens.
- Survey and documentation of traditional knowledge (ethnobotany) associated with plants.
- Develop a National Database of Indian plants including herbarium and live specimens, illustrations, botanical paintings, etc.

Secondary objectives

- Revisionary / Monographic studies on selected plant groups.
- Qualitative studies of nutritive value of ethno-food plants and other economically useful plants.
- Capacity building in plant taxonomy through refresher courses and post M.Sc. certificate course.
- Environmental Impact Assessment of areas assigned to BSI for study.
- Develop and maintain Botanical gardens.
- Preparation of Seed, Pollen and Spore Atlas of Indian Plants.

Mandate

Survey, collection, documentation (including the traditional knowledge associated with plants) and *ex situ* conservation of wild plant diversity.

b. Important activities undertaken during the reference period:

- **Survey and Exploration:** BSI scientists were involved in 66 Annual Research Projects under various thematic areas of plant resources of the country and undertook 105 field exploration tours and collected

about 4918 plant specimens.

- **Documentation of Phytodiversity:** Till date, BSI has documented 55,387 taxa of plants, belonging to 22108 taxa of angiosperms; 83 taxa of Gymnosperms; 1,319 taxa of Pteridophytes; 15,701 taxa of Fungi; 9035 taxa of Algae; 2,819 taxa of Bryophytes and 3,044 taxa of Lichens towards the complete inventory of floral resources of the country.
- **New Discoveries:** BSI published the Plant Discoveries, 2022 which enumerated 9 new genera, 170 new species and 16 infraspecific taxa as new to science from India. It also includes 4 new genera, 149 new species, 4 infraspecific taxa as new records for Indian Flora. 21 new taxa have been assessed as Critically Endangered (CR), 05 as Endangered (EN), 03 as Vulnerable (VU) category following the IUCN category and criteria.
- **Azadi ka Amrit Dharohar:** BSI has surveyed and documented the floristic wealth of 75 Ramsar Sites throughout India.
- **Research and Publication:** Scientists of BSI have published 201 research publications and 10 books and periodicals. (Plant Discoveries, Nelumbo, Vansapati Vaani, Annual Reports and Annual Research Programmes). The official journal of BSI i.e., *Nelumbo* (The Bulletin of Botanical Survey of India), has been included in the UGC Care-list of journal and also in NAAS scoring list journal.
- **Outreach activities:**
 - BSI has conducted 1191 awareness campaign, sensitized more than 1,36,330 people and installed 20 selfie stands across country covering different sections of society under

Mission LiFE campaign.

- An awareness campaign was conducted among the public on eco-friendly lifestyle to nudge individual and community action to protect and preserve the environment such as **Campaign to avoid the use of single use plastic** and introduced an eco-friendly re-usable drinking straw made up of bamboo.
- **Special lectures were organized for forest officers and staffs, school children, college and university.**
- **Swachhata 3.0:** Across the different regional centres of BSI, a total 1449 files were reviewed out of which 1257 files were identified for weeding and were subsequently shredded and sold to the local vendor for recycling. This led to the conversion of 12.5 ton of waste to wealth of 4.66 lakhs and it freed total space of 2341 sq. feet.
- Under DST-SERB funded scheme, BSI organized “SERB Vritika Research internship workshop from 6th December to 3rd January 2023 at BSI, CNH, Howrah which was participated by 60 students.
- BSI, NRC, Dehradun organized a “Botanical Nomenclature Course” at BSI, NRC, Dehradun from 6.02.2023 to 10.02.2023.

c. Progress/Innovations for the reference period:

- **New Discoveries:** BSI has discovered 10 angiosperm taxa and 4 fungal taxa as new to science. Besides, BSI has also reported 7 angiosperm taxa, 2 bryophyte taxa, 2 algae taxa and one Pteridophytes taxa as new



records for India.

- **Development of Nature Trail:** A 'NATURE TRAIL' spreading over an area of 15 acres with a trail span of nearly 2.2 km has been developed in AJCBIBG, which was inaugurated by Ms. Leena Nandan, IAS, Secretary, MoEF&CC on 10th August, 2023. The trail has the repository of 307 plant species and it provides a unique experience of tropical forest to the visitors, which is a rare sight of its own kind in a Metro life.
 - The Botanical Survey of India, Sikkim Himalayan Regional Centre, Gangtok, established and inaugurated a medicinal plants garden on 8th September, 2023. BSI maintains the national floral repository of the country and is the custodian of more than **3 million herbarium specimens** that forms the basic reference material for taxonomic/ floristic research worldwide.
 - BSI maintains the online digital platforms like "Indian Virtual Herbarium" (<https://ivh.bsi.gov.in/>), 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 important online resources for the Botanical fraternity and promoting taxonomic research in the country. It has had more than 200000 visitors on average during the reference period.
- d. Important Cumulative achievements:**
- **Ex-situ Conservation:** A total of 429 species including 37 species of endemic, 16 species of vulnerable, 6 species of Endangered and 4 species of critically endangered are

introduced in the garden of which 233 are newly added to AJCBIBG. **24** cultivars of *Nelumbo*, **20** cultivars of *Nymphaea* and **25** different species of aquatic plants were maintained in the 12000 sq. ft. **Aquatic plant section** at AJCBIBG. The **Rosarium** with 300 cultivars, **Bougainvillea** with 16 cultivars and **Hibiscus** section with 75 varieties were also maintained. In addition, 23765 plants of 96 species were multiplied in various gardens of BSI.

• **Awards and Honours:**

Dr. A. A. Mao, Director, BSI received the Prof. V. Puri Medal Award 2023 by the Indian Botanical Society.

Dr. Kanad Das, Scientist – F, BSI-CNH, Howrah received the **Prof K. S. Thind Medal 2020** from the Association for Plant Taxonomy, Dehradun on 18.01.2023

Dr. S. S. Dash, Scientist – F & In charge, BSI-HQ received the prestigious **M.B. Raizada gold Medal 2022** by the Association of Plant taxonomy and **Dr. T.M. Hynniewta Biodiversity Gold Medal 2022** by East Himalayan Society for Spermatophyte Taxonomy (EHSST).

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

The following committees are functioning in BSI:

1. The Research Advisory & Monitoring Committee (RAMC) of Botanical Survey of India (BSI) convened the 12th meeting at BSI-Northern Regional Centre (NRC), Dehradun, Uttarakhand.
2. Expert committee of Assistance to Botanic Gardens convened the 5th review meeting of the expert group on the assistance to botanic garden (ABG) scheme.

3. Director, BSI continued as a member of the Research Advisory & Monitoring Committee (RAMC) of NBRI, BSIP, Lucknow, IBSD, Imphal, National Council for Science Museums and as a Chairman Regional Plant Resource Centre, Bhubaneswar
4. XXIV meeting of Joint Committee of Management (JCM) of A.J.C. Bose Indian Botanic Garden was held on 13th June, 2023 under the chairmanship of honourable Chief Secretary, Government of West Bengal, with Director/BSI as member secretary and H.o.O, AJCBIBG as member to discuss several agendas for development of AJCBIBG.
5. IN BGIR a steering committee constituted to oversee the development of Botanic Garden for its phase wise development.

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

1. 2nd International Symposium on Plant Taxonomy, Ethno-Botany and Botanic Gardens (BSI ISPTBEG-2023) organized on 13th and 14th, February, 2023 at the Bhasa Bhawan Auditorium of National Library, Kolkata.
2. BSI, ISIM organized two days International conference on 'Science, Humanism and making of Modern India: the role of E.K. Janaki Ammal' in hybrid mode on 9th & 10th January 2023 in collaboration with University of Sussex, UK.
3. Atwo days national workshop on Herbarium Techniques and Plant Nomenclature was organized on 11th & 12th April, 2023 by BSI-CNH by collaboration with Vedanta College, Kolkata.

4. Dr. A. A. Mao, Director, Botanical Survey of India attended and represented the Indian Flora in the 26th meeting of the CITES Plants Committee from 5th – 9th June 2023 at Centre International de Conference (CICG) at Geneva, Switzerland.
5. Northern Regional Centre, BSI along with FSI & ZSI conducted a four-days training program from 8th to 11th August, 2023 for the identification of Plant, Animal, and Hands-on Training for Zonal Staff of FSI under the NIRANTAR vertical of MoEF&CC, New Delhi.

g. MEAs, Agreement with countries, international organizations, compliance

BSI signed MoU with National Digital Library of India, IIT, Kharagpur, National Trust for Art and Cultural Heritage (INTACH), New Delhi and Atlanta Botanic Garden, Georgia, USA, University of Delhi and Roxburgh International Hub, UK towards collaborative research.

h. List of major publications brought out- brief purpose of each, wherever necessary:

BSI has published 10 books such as Flora of India Vol 17 and Vol 24; The genus *Calanthe* R.Br. (Orchidaceae) in India; The Flora of Buxa Tiger Reserve, West Bengal; Mangroves of India – A Pictorial Field Guide; Rhododendrons of Sikkim and Darjeeling Himalaya; Pteridophytes of Goa; Pteridophytes of Meghalaya – A Pictorial Guide; Flora of Manipur- A Pictorial Guide 2023; Russulales of Sikkim. Botanical Survey of India, Kolkata.

5.5 ASSISTANCE TO BOTANICAL GARDENS (ABG)

Introduction and Objective of ABG Program:

Assistance to Botanic Garden is a flagship programme of MoEF&CC initiated in 1992 which provides one-time financial assistance to



Hibiscus rosa-sinensis L. cv. *Krishna's radiance*
Chakraborty, J. Swamy, D. Singh



Impatiens laticornis C.E.C. Fisch. (Balsaminaceae)



Hibiscus rosa-sinensis L. cv. *Krishna's radiance*
Chakraborty, J. Swamy, D. Singh



Impatiens laticornis C.E.C. Fisch. (Balsaminaceae)

organizations/Universities maintaining Botanical Gardens for strengthening their infrastructural facilities, facilitating 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 also to ensure maintenance of plant population. Till now, more than 350 Small Botanic Gardens and 18 Lead Botanic Gardens have benefitted by this scheme.

In 2020, the programme was changed into a non-scheme and funding thereafter was provided from the budget of BSI directly. All the data pertaining to endangered, threatened and endemic species, standard herbarium information, population status, habitat characteristics and uses of plants etc., generated from the project shall be archived in a data bank of Botanical Survey of India and shall be made available to the public based on laid down terms and conditions of use.

The objectives of the scheme include;

1. Ex-situ conservation and multiplication of selected threatened and endemic plants of the region.

2. Ex-situ conservation of selected wild-relatives of crop plants.
 3. Development of nurseries for mass multiplication and development of species-wise plant propagation techniques.
 4. Improvement of identified infrastructure facilities, equipment for conservation, and manpower for maintenance of gardens.
 5. Distribution/exchange of multiplied plant material to other Botanic Gardens/Institutes.
 6. To promote education and public awareness on plant diversity, threatened and endemic species by means of organizing seasonal events and theme-based activities.
- v. Fresh advertisement "Call for Proposal" for setting up new Botanic Garden advertised and 60 new project proposal received. One expert group committee meeting was convened on 29.11.2023 for preliminary scrutiny of the proposals.

Progress/Achievements made during 2023-24 along with photographs.

During the year 2022-23, an amount of 25,08,888/- was released in favour of six Organizations/Universities towards the different instalments under ABG programme. Seven projects namely Barapani Botanic Garden, ERC, Shillong; BSI, SRC Yercaud; Yogi Vemana Univeristy, Kadappa; BSI, NRC, Dehradun; Sylvan Botanic Garden, FEEDS, Manipur; Udayagiri Mahavidyalaya, Lattur Dt., Maharashtra; and Shivaji University, Kolhapur, Maharashtra have successfully completed their tenure. Under these programmes, many interesting sections such as Asparagaceae section, Tupistra Section, Rhododendron section were developed in Barapani; Medicinal Plant section, Cactarium, Ornamental section developed in Y.S. Parmar University, Solan. 3541 visitors visited the 87 outreach programmes wherein more than 5000 seedlings were distributed to different institutions. Udaygiri Mahavidyala, Maharashtra was able to develop self-reliant irrigation facilities under the program.

Progress/Achievements both cumulative and for the reference period.

- i. Funds worth 75 lakh approved by Ministry for ongoing botanic gardens already established in different phytogeographic region.
- ii. Expert Group Committee meeting on Assistance to Botanic Garden (ABG) program held on 28.01.2023 for preparing the road map for ABG program.
- iii. Revised Guidelines for Assistance to Botanic Garden program approved by Ministry, with emphasis on threatened plant species conservation with 70 % grant and expenditure of only 30% on infrastructure development in Botanic Garden.
- iv. A compendium (Vol 1) prepared for Threatened plant species conserved in various Botanic Gardens as per the target sps., approved by Expert Group Committee on Assistance to Botanic Garden Program.

5.6 BIOSPHERE RESERVE

1. Introduction:

Biosphere Reserves (BRs) are internationally designated landscape/seascape units under UNESCO's flagship programme viz. "Man and the Biosphere (MAB)". The Biosphere Reserves represent characteristic ecosystems in different biogeographic regions and consider human communities as their integral component. The broad objective of Biosphere Reserve include amongst others: (i) ensuring a holistic



approach for *in-situ* conservation (at all levels of biodiversity ranging from genes to ecosystems) in totality as part of wider ecosystem; (ii) widening the understanding (through research and monitoring) each of the components of ecosystems; and (iii) achieving integrated development (by improving quality of life for indigenous communities living in and around) of the area. The Biosphere Reserves are therefore, sites for experimenting with and learning about Sustainable Development. Over half-century of its existence the programme has contributed significantly towards building a harmonious balance between the human activities and ecosystem conservation.

The concept of Biosphere Reserves, especially its zonation, into Core Area(s) (dedicated to conservation), Buffer Area(s) (for sustainable use) and Transition Area(s) (for equitable sharing of benefits) were broadly adopted under the Convention on Biological Diversity (CBD) and entered into force on 29th December 1993. The Network of Biosphere Reserves comprising of a dynamic and interactive landscapes of excellence and has emerged as one of the international tools to develop and implement sustainable development approaches in a wide array of context. Over the years, with experience from different regions of the world, the Biosphere Reserve concept has been refined considerably.

India, with an area of 329 million hectares, is the seventh largest country in the world. The diverse topography marked by mountainous regions covering an area close to 100 million hectares, arid and semi-arid zones spreading over 30 million hectares and long coast line of over 7500 kms, coupled with varied precipitation provides a rich landscape diversity. All these features and many more, have resulted in diversity of habitats which harbour and sustain immense biological diversity at all levels. With only 2.4% of world's land area, India accounts for 11% of recorded species of the

world. In India, the National Biosphere Reserve Programme was initiated during 1986 under the aegis of Ministry of Environment, Forest & Climate Change. The Indian National Man and Biosphere (MAB) Committee identified and recommended potential sites for designation of Biosphere Reserves, following the UNESCO's guidelines and criteria.

Biosphere Reserves in India and their year of designation:

1) Nilgiri, Tamil Nadu-Kerala-Karnataka *; 1986	10) Dehang-Dbang, Arunachal Pradesh; 1998
2) Nanda Devi, Uttarakhand *; 1988	11) Pachmarhi, Madhya Pradesh *; 1999
3) Nokrek, Meghalaya *; 1988	12) Khangchendzonga, Sikkim *; 2000
4) Great Nicobar, Andaman & Nicobar Island *; 1989	13) Agasthyamala, Tamil Nadu-Kerala *; 2001
5) Gulf of Mannar, Tamil Nadu *; 1989	14) Achanakmar-Amarkantak, Madhya Pradesh-Chhattisgarh *; 2005
6) Manas, Assam; 1989	15) Kachchh, Gujarat; 2008
7) Sundarbans, West Bengal *; 1989	16) Cold Desert, Himachal Pradesh; 2009
8) Similipal, Odisha *; 1994	17) Panna, Madhya Pradesh *; 2011
9) Dibru-Saikhowa, Assam; 1997	18) Seshachalam, Andhra Pradesh; 2011

**included in the World Network of Biosphere Reserves (green coloured)*

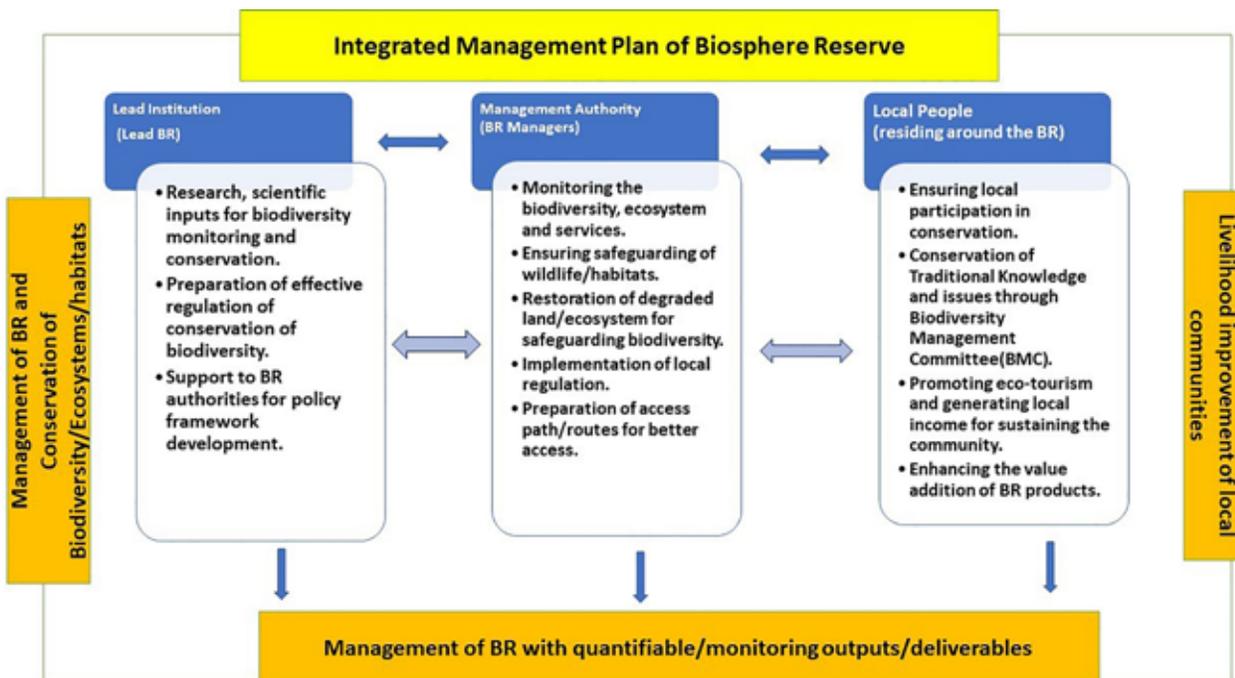
Objectives:

- Conservation of large landscapes, ecosystems and genetic diversity, including management and conservation of floral and faunal diversity and cultural diversity;
- Foster socio-culturally and ecologically sustainable economic and human development;
- Facilitate research, education, and training;

- Exploring livelihood options for local communities etc.
- 3. Five Year Period Integrated Management Plan:** The Ministry of Environment, Forest & Climate Change administers the Biosphere Reserve (BR) scheme, which is a sub-scheme under the ongoing umbrella scheme “Conservation of Natural Resources and Ecosystems”. The Ministry has decided to continue with the Scheme with new changes and it was approved in the Standing Finance Committee meeting held for the financial years 2021-26 that “Biosphere Reserve Integrated Management Plan” for the five years’ period needs to be prepared for all the Biosphere Reserves in the country, in place of the Annual Plan of Operation, which has been the practice so far. The proposed Five Year Period Integrated Management Plan has three components namely, (i) Management authority, (ii) Lead institution, and (iii)

Local people with effective monitoring, sustainable utilization and conservation of bio resources (*diagram representation provided below*)

To begin with, the Integrated Management Plan is being implemented as pilot project in four identified Biosphere Reserves viz. (a) Dihang–Dibang Biosphere Reserve in Arunachal Pradesh, (b) Agsthyamalai Biosphere Reserve in Kerala and Tamil Nadu, (c) Nandadevi Biosphere Reserve in Uttarakhand; and (d) Pachmarhi Biosphere Reserve in Madhya Pradesh. For better co-ordination and effective implementation of the Integrated Management Plan, the Ministry in July, 2023 has issued State Level Steering Committees in the pilot States, which are headed by the concerned Addl. Chief Secretaries / Secretaries / Principal Secretaries of the States. In addition, District Level Committee have also been constituted, which are headed by the concerned Divisional Commissioner where the Biosphere Reserve is located. The executive Orders issued for the constitution of these Committees have



Biosphere reserve management plan



specifically defined the functions of these Committees. Based on the outcome of the pilot projects, the Integrated Management Plan will be improvised and replicated amongst the remaining Biosphere Reserves.

4. Work ahead:

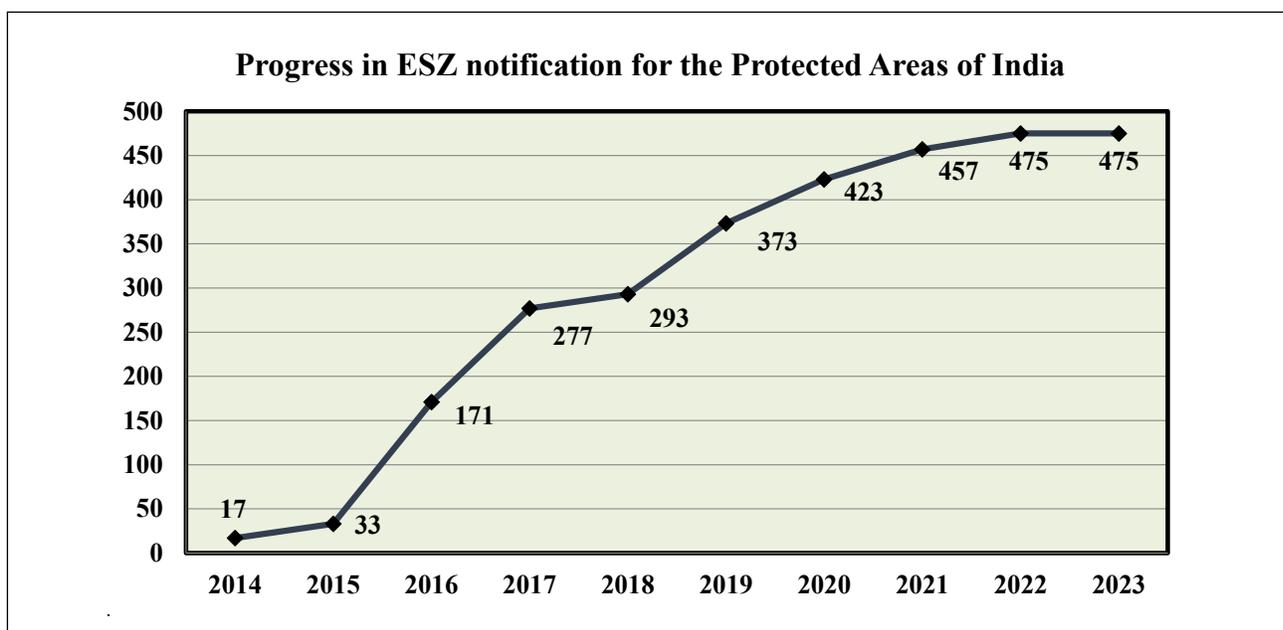
Based on the proposals furnished by the State Government of Madhya Pradesh, the Indian National Man and Biosphere Reserve Committee have deliberated extensively and are in the process for recommendation of two new sites for designation as Biosphere Reserves viz. Pench and Kanha areas in Madhya Pradesh. The MAB Committee is also in the process to consider inclusion of Manas Biosphere Reserve in UNESCO’s World Network of Biosphere Reserves. Identification of possible sites for designation as a Biosphere Reserves is also under process.

5.7 Eco-sensitive Zone:

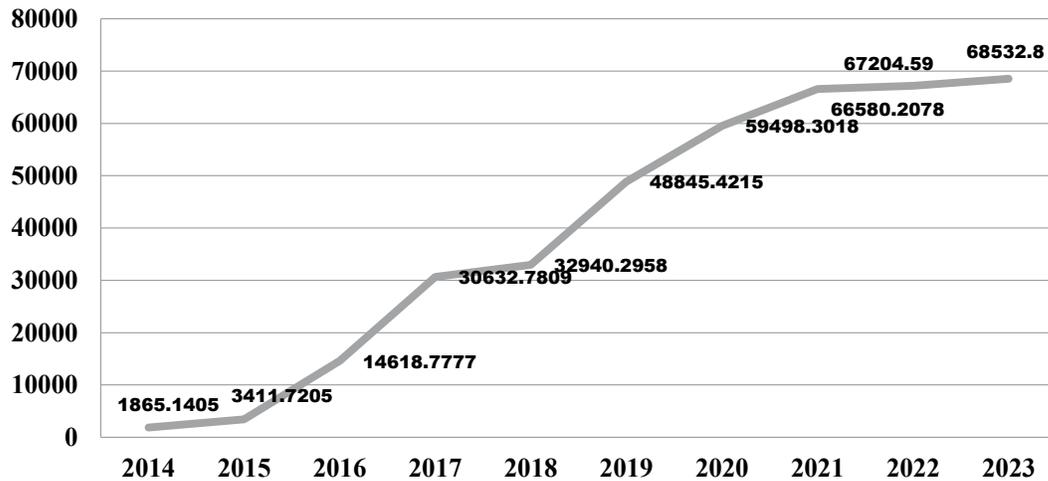
1. The purpose of declaring Eco-Sensitive Zone (ESZ) is to create some kind of “Shock Absorber” for specialized ecosystems such as Protected Areas, which include National Parks and Wildlife Sanctuaries. The ESZs act

as a transition zone for areas requiring high protection to areas where development may be permitted. There are a total of 677 National Parks and Sanctuaries (Protected Areas) declared in the country.

2. Notifying Eco-Sensitive Zones around the Protected Areas is an important objective of the MoEF&CC for sustainable development and for conservation of Wildlife and Biodiversity around Protected Areas. 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 with the purpose of creating a buffer as an added layer of protection around Protected Areas.
3. Whereas, on the other hand, Ecologically Sensitive Areas (ESA) are “areas with identified environmental resources having incomparable values which require special attention for their conservation”. The ecologically sensitive areas notified by the Ministry are Doon Valley, Dahanu Taluka,



Progress in ESZ Area of India (in sq km)



ESZ and their cumulative area around Protected Areas.

Aravalli Range, Mahabeshwar-Panchgani, Matheran, Mount Abu and Bhagirathi.

A graphical representation on the progress of declaration of ESZs around Protected Areas since 2014 onwards and the areas in sq.kms covered under ESZ regulations are given below.

- Prior to 2016, the ESZ notifications prescribed that the State Government shall prepare a Zonal Master Plan (ZMP) within two years from the date of the publication of the notification and got it approved by the Central Government. Later, with the objective aimed at decentralisation of

powers, the Ministry has delegated the power of approval of the Zonal Master Plan to the State Government and have also made required amendments in a number of ESZ notifications published prior to 2016 by way of empowering the concerned State Governments, who is the custodian of the land in the state and its management, for approval of the Zonal Master Plan/ Regional Plan / Development Plan etc. for enforcement and implementation of the ESA notifications. Similar, delegation of powers has also been carried out in respect of Eco Sensitive Areas notifications.

- The ESZ Division in the Ministry also

Table 1: Final ESZ Notifications Published in the Year 2023

S. No.	State	Name of Protected Area for which final ESZ Notification published	Date of Publication
1.	Karnataka	Gudekote Sloth Bear Sanctuary	27.10.2023
2.	Madhya Pradesh	Ralamandal Sanctuary	02.11.2023
3.	Maharashtra	Nagzira , New Nagzira , Koka , Navegaon and Navegaon WLS, Maharashtra	20.09.2023
4.	Meghalaya	Nokrek National Park	03.07.2023



administers and handles matters related to providing Grants-in-Aid to Dahanu Taluka Environment Protection Authority, constituted under the Order of the

Hon'ble Supreme Court for protection and conservation of Dahanu Taluka. The financial assistance extended in the year 2023 as on 07.11.2023 is as follows:

Table 2: Financial assistance of Dahanu Taluka

S. No.	Name of Organization	Purpose	Total Amount Released as on 07.11.2023	Status of third-party evaluation	Remark
1.	Dahanu Taluka Environment Protection Authority (DTEPA)	Functioning of Authority	Rs. 53,00,000/- (Including carry forward of Rs. 13,84,121/- from last FY)	NIL	The funds were 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 2022-2023 (Plan) from the budget head of PL-Division.



CHAPTER - 6

WETLANDS & COASTAL
ECOSYSTEM



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

The Wetlands Division of 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 under 4 broad categories i.e., Implementation of National Plan for Conservation of Aquatic Ecosystems (NPCA), Capacity building, Regulatory frameworks, and Implementation of Ramsar Convention in the country.

Major activities

1. World Wetlands Day was celebrated during 2nd to 4th February 2023 at Goa. On this occasion, the Hon'ble MEF&CC launched a year-long 'Save Wetlands Campaign' for spreading mass awareness about the conservation and management of wetlands in the country.
2. Three regional workshops were organised in Goa (for Western states), Kochi (for Southern states) and Imphal (for Northeastern states) under the *Sahbhagita* mission.
3. Faunal inventory of all the 75 Ramsar Sites has been completed and published by ZSI in collaboration with Wetlands division. Floral inventory for all the Ramsar Sites is currently under development by BSI.
4. *Amrit Dharohar* implementation strategy was launched during World Environment Day 2023.
5. "India Wetland Coalition (IWC): Workshop on Developing Partnership and Convergence for Wetlands Conservation with Special Reference to *Amrit Dharohar*" was held on 30.06.2023 at Mumbai in collaboration with CII and the Govt. of

Maharashtra for involving industries in wetlands management and conservation.

6. A national workshop was held for the Strategic Planning for 2-Step Integrated Management Planning of Wetlands & Implementation of *Amrit Dharohar*' from 13th-15th July 2023 in Bhopal. During the workshop, the structure for a Framework Management Plan (FMP) was finalized in consultation with the representatives from the states.
7. Guidelines for strengthening nature tourism and developing interpretation centres at the Ramsar Sites have been prepared and shared with the Ministry of Tourism.
8. Training courses for nature guides for Ramsar Sites has been developed by EIACP. 5 sites have been identified for imparting training by MoEF&CC and MoT to forest officials and Wetland *Mitras*.
9. NBA is currently preparing PBRs for all the 75 Ramsar Sites.

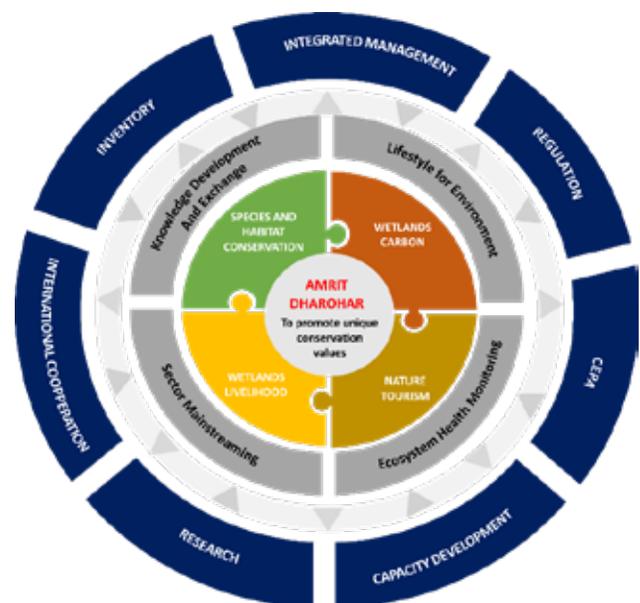


Figure 1: The implementation approach of Amrit Dharohar

- Under the 'Save Wetlands Campaign' a cleaning drive was conducted across Ramsar Sites of the country during the 'Swachhata Pakhwada' from October 2nd to October 30th, 2023.

Important cumulative achievements:

- On the 75th Year of Independence, the division facilitated the designation of 26 more Ramsar Sites to take the total number of Ramsar Sites in the country to 75. NCSCM is assessing Carbon stocks and sequestration for 25 of the 75 Ramsar sites. A Standard Operating Procedure is developed for assessment of carbon stocks and sequestration in wetlands.
- In 2022, Mission *Sahbhagita* was launched, and a standard operating procedure was developed for the same to initiate participatory management of wetlands across the country.
- MoU signed between MoEF&CC and Confederation of Indian Industry (CII) for involvement of industrial communities in participatory management of wetlands including wise use.
- 87 wetlands have been notified under the Wetlands (Conservation and Management) Rules, 2017.
- 'Wetlands of India' portal is developed in collaboration with GIZ. The portal is an initiative to provide a single point access system that synthesizes information dissemination regarding wetland sites of the country, projects, initiatives and trainings. It also provides a platform for the people of the country to learn more about wetlands and get involved in their conservation and management.
- Applied for Ramsar Wetland City Accreditation of three cities namely Indore, Bhopal, and Udaipur.

List of major publications:

India's 75 Amrit Dharohar: A factbook of the 75 Ramsar Sites of India was released by the Hon'ble Union Minister of EF&CC during the World Wetlands Day 2023 celebration. The factbook is a one-stop resource of information on our 75 Ramsar Sites, including their values, threats they face and management arrangements.

Managing Climate Risks in Wetlands - a Practitioner's Guide: It was launched by the Hon'ble Union Minister of EF&CC during the World Wetlands Day 2023 celebration. The practitioner's Guide on Climate Risk Assessment was developed under the MoEF&CC-ICI-BMUV project 'Wetlands Management for Biodiversity and Climate Protection' with GIZ. It provides stepwise guidance on assessing the site-level climate risks and integration of adaptation and mitigation responses into the wetland management plan.

Cultural Significance of Indian Wetlands: Hon'ble Union Minister of EF&CC released a book titled 'Cultural Significance of Indian Wetlands'. This book was prepared by the MoEF&CC in collaboration with the ICI-BMUV funded 'Wetlands Management for Biodiversity and Climate Protection' Project with GIZ. The book is a compilation of stories that are emanated from the centuries-old deep cultural connection of local communities with different wetlands across 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 June to December 2022.



Release of half-year newsletter by Honourable Minister.

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:

In the year 2023-24, funds earmarked for the conservation and management of wetlands (including lakes) from 01.01.2023 to 31.03.23 is **Rs. 15.16 cr** and from 01.04.2023 to 30.11.2023 is **Rs. 10.64 cr** released for 19 important wetlands namely **Wullar, Pushkar, Patna, Chandotaal, Saman, Sarsai nawar, Soor Sarovar, East Kolkata Wetlands, Gurudongmar, Chilika, Amrit Sagar, Lakh Bahosi, Nawabganj, Sandi, Sita Sagar, Samaspur, Tamdil, Yaral Pat and Pala**. A total of **Rs 25.80 cr** has been released for conservation of wetlands in 8 states and **60 Lakhs** for one externally aided project (EAP) with WISA (IMWBES Project) during 01.01.2023 to 30.11.2023.

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

Name of Organisation	Purpose	Total Amount Released	Status of third-party evaluation	Remarks
NCSCM	Holistic Conservation and management of wetlands in India	3 cr	-	Project is ongoing

Externally Aided Projects (EAP):**Project Progress of Integrated Management of Wetland Biodiversity and Ecosystem Services (IMWBES):****a) The following knowledge and outreach products were prepared**

- i. A Fact book on Ramsar Sites of India has been prepared for release during World Wetlands Day 2023. <https://indianwetlands.in/wp-content/uploads/library/1683182884.pdf>.
- ii. A Factsheet on Coastal Wetlands for dissemination during World Wetland Day (https://drive.google.com/file/d/1jiEykhSFHD_8nGMLinfyvytrvhCQjBYg/view?usp=drive_link)
- iii. The second and third issue of the six-monthly newsletter of MoEFCC have been developed and shared on the national wetlands portal (www.indianwetlands.in).
- iv. Brochure on Implementation Strategy of Amrit Dharohar, available at <https://indianwetlands.in/wp-content/uploads/library/1686133937.pdf>
- v. A poster on High Altitude Wetlands to showcase the uniqueness, values and threats. https://drive.google.com/file/d/1H_6ixnaHwXDpN8_X9_fTGYID4ryJCfs/view?usp=sharing
- vi. A video on Amrit Dharohar, presented during the launch of Amrit Dharohar by the Hon'ble Prime Minister, is prepared and available at <https://twitter.com/moefcc/status/1665659031795519489?s=20>

b) Demonstration of integrated wetland management

As part of Integrated and multi-sectoral wetland management approach, to

facilitate learning and develop best practices for up-scaling and broader implementation, Integrated Management Plan for the Gokul Jalashay wetland in the Buxar district of Bihar was prepared.

c) Second meeting of NPSC

The second meeting of NPSC of the IMWBES project, chaired by the Joint Secretary, was held on April 25, 2023, at the MoEF&CC, Indira Paryavaran Bhavan, New Delhi, to share the project progress and seek approval to the alignment of project activities with the Amrit Dharohar in the existing work plan.

GIZ-BMUV-IKI 'Wetlands Management Biodiversity and Climate Protection' project during 2023

- a) On the occasion of World Wetlands Day 2023 celebration in Curchorem, Goa, a project publication titled, 'Managing Climate Risks in Wetlands: A Practitioner's Guide' was launched by Shri Bhupender Yadav, Hon'ble Minister of EF&CC, GoI. The document is a stepwise guidance on assessing site-level climate risks and integration of adaptation and mitigation responses into the wetland management plan.
- b) An expert consultation on 'Developing a climate co-benefit assessment methodology for wetlands', was organised on 26th April 2023 in New Delhi under the chairmanship of Dr. Sujit Kumar Bajpayee, Joint Secretary, MoEF&CC focusing on the exchange and stock-taking of existing wetland carbon storage studies in India including mangroves, seagrasses and inland wetlands. Discussions also revolved around assessing and measuring climate change adaptation and disaster risk reduction benefits of wetland conservation.



- c) Hon'ble Minister EF&CC, released a project publication titled 'Cultural Significance of Indian Wetlands' during a regional workshop for the North-Eastern states at Imphal, Manipur organised by MoEF&CC. The book explores the stories of the deep socio-cultural connection of the local communities with different wetlands across the country.
- d) The project in collaboration with MoEF&CC organised a National Workshop on 'Strategic Planning for 2-Step Integrated Management Planning of Wetlands and Implementation of Amrit Dharohar'. The workshop was held in coordination with Environmental Planning and Coordination Organisation (EPCO) where a two-step approach was presented with introduction of Framework Management Plan (FMP) that provides basic framework for less resource-intensive prioritised actions and can lay the groundwork for IMP preparation. Additionally, it offers an opportunity to expedite the implementation of the *Amrit Dharohar* initiative in Ramsar Sites.
- e) Taking forward the *Amrit Dharohar* initiative of the Wetlands Division (MoEF&CC), the project organised Eco-Guide Training and Assessment in Bhitarkanika National Park in collaboration with the Mangrove Forest Division, Rajnagar and The Naturalist School. The training specifically targeted selected tourism facilitators from the region, including boat owners, forest personnel, boat drivers, and homestay owners primarily from villages around Bhitarkanika National Park.
- f) Under the ambit of Save Wetlands Campaign, GIZ has collaborated with Mangrove Forest Division, Rajnagar, Odisha and Action for Protection of Wild Animals (APOWA), to engage with around 900 school students and teachers in Kendrapara district to raise awareness on Bhitarkanika Ramsar Site as well as Human-Crocodile Conflict.
- g) From May to September 2023, the Tamil Nadu Forest Academy in collaboration with the Tamil Nadu State Wetland Authority and the GIZ wetlands project conducted a series of multistakeholder trainings with more than 400 participants for wetlands conservation, ecosystem services and integrated management of wetlands at site and state levels targeting towards saltpan workers, aquaculture farmers, fisher cooperatives, DFOs and Wildlife Wardens, Forest Rangers, and CBOs/NGOs.
- h) Integrated management plans for Pong Dam and Renuka Ji, which were prepared under the project for Govt of Himachal Pradesh and the same were under active consideration in the Ministry for financial assistance under NPCA scheme.
- i) As part of the Save Wetlands Campaign, the MoEF&CC-GIZ implemented project supported Himachal Pradesh government to host a Green Renuka Ji International Fair in November 2023 with technical support from Waste Warriors Society. In the runup to the fair over 500 people were sensitised as part of a pre-fair awareness campaign. The Renuka Fair culminated with a mass cleanup event on 4th December with overwhelming support of local stakeholders. By the end of the fair, over 4500 kgs of mixed dry waste was successfully collected and diverted from the Renuka wetland ecosystem to a *Swachhta Kendra* (Material Recovery Facility).
- j) The project organised a workshop in December 2023 on IMP Strategy of

Bihar and initiated the development of an integrated management plan for Debkhal Chaur, Samastipur. The workshop facilitated a knowledge exchange on wetland management, drawing on experiences from the Kabartal Ramsar Site and Gokul Jalashay. In an innovative move, panchayat members from Samastipur and local stakeholders, including fisherfolk and farmers, contributed grassroots perspectives on wetland use and conservation.

6.2 Sustainable Coastal Management (SCM):

Introduction:

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

- i. National Coastal Mission
- ii. Scheme on Coral and Mangroves
- iii. Matters related to Society of Integrated Coastal Management (SICOM) and National Centre for Sustainable Coastal Management (NCSCM)
- iv. Matters related to Marine Spatial Planning and Blue Economy.
- v. Marine litter
- vi. Potential Externally Aided Projects on Sustainable Coastal Management Division

The mandate for the Division is sustainable development and environment management of coastal regions such as conservation of coastal and marine resources, coastal pollution abatement measures and alternative livelihood of coastal communities, adaptation strategies for climate resilience in coastal States/Union Territories of India.

The main roles and responsibilities are as follows:

1. To take measures for conservation, protection and management of coastal ecosystem and marine environment such as the mangroves, coral reefs, etc.
2. To improve resilience of coastal and marine ecosystems and its services.
3. To address climate change challenges on coastal and marine ecosystems and communities through a combination of adaptation and mitigation measures which include strengthening natural shields against extreme weather conditions to protect shorelines, assets and communities.
4. Conservation and Management of Ecologically sensitive areas (Mangroves, Coral reefs, etc.)
5. To undertake research and development activities for coastal ecosystem and communities.
6. To prevent, abate and control pollution of coastal and marine waters from land-based sources and developing infrastructure for environment protection.
7. Development of Coastal Marine Spatial Planning and Integrated Coastal Zone Management works.
8. To enable climate resilient development of blue economy activity with adequate safeguard for coastal ecology and marine environment with demonstrative and pilot scale projects.
9. To create awareness among stakeholders on climate change challenges and promote adaptation and acceptance of mitigative measures.

Activities undertaken including celebrations for Azadi Ka Amrit Mahotsav.



- To promote “Jan Bhagidari” and to sensitize local communities about the importance of clean beaches and pollution free oceans, mass beach cleaning drive was organized on 21st May 2023 between 0700 – 0900 AM, across 9 coastal states and 4 Union Territories of India under India’s Presidency of G20. The event was participated by approximately 20,000 participants. The Beach Cleaning campaign was joined by fourteen G20 countries and six countries across the world.
- Upscaling of ongoing National Coastal Mission scheme for promotion of climate resilient Blue economy activities were prepared.
- Statutory Audit of Books of accounts of Society of Integrated Coastal Management (SICOM) has been completed. Application for de-register of SICOM from the Registrar of Societies, NCT has been submitted.
- First General Body Meeting of National Centre from Sustainable Coastal Management (NCSCM) was held in March, 2023.
- Draft Adaptative Management Plan for externally aided Enhancing Coastal Resilience of Indian Coastal Communities (ECRICC) project by Green Climate Fund prepared.

Scheme/Programme under the Division

Conservation and Management of Mangroves and Coral Reefs, a central sector scheme, has been implemented. Under the Scheme, 38 mangroves and 4 coral reef sites have been identified for on-ground intervention (Annexure I). During the financial year 2022-23, the Ministry has provided financial support in the ratio 60:40 to the Forest Departments of the Coastal States/UTs Govts.

Objectives

- Conservation and Management of Mangroves and Coral Reefs.
- Eco-restoration and afforestation in potential and also in degraded coastal areas.
- Maintenance of genetic diversity especially of threatened and endemic species.
- Creation of Awareness on importance of these ecosystems leading to their conservation.
- Livelihood improvement of people in coastal areas.

Progress/Achievements

- a. 17 proposals have been approved out of 20 received for grant of financial support under Conservation and Management of Mangroves and coral reefs for the year 2022-23.
- b. 10 Blue Flag beaches have applied for renewal of Blue Flag certification.
- c. Blue Flag certification for the environmentally sound beach infrastructure and operating measures.
- d. Beach Development work at Sonapur, Odisha is completed and is in progress at Tannirbhavi, Karnataka. Both these beaches have applied for Blue Flag Certification.

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) was established under the aegis of MoEF&CC in February 2010 with the objectives of developing into a leading institution for the management of coastal and marine areas

with adequate human resources and research infrastructure. It will support the management of coastal and marine areas in India in an integrated and sustainable manner and provide guidance to the national and State governments, and other relevant stakeholders, on matters of policy and science related to Integrated Coastal Zone Management (ICZM).

Vision: To promote sustainable coasts through increased partnerships, conservation practices, scientific research and knowledge management for the benefit and wellbeing of current and

future generations.

Mission: To support integrated management of the coastal and marine environment for livelihood security, sustainable development and hazard risk management by enhancing Knowledge, Partnerships and Network, Research and Advisory Support and Coastal Community Interfacing.

The first General Body meeting of NCSCM was held in March 2023.

4. Grants-in-aid released to Institutions/organisations including NGOs

S. No.	Name of Organization	Purpose	Total amount released (in lakhs)
1	Forest Department of Gujarat	Conservation & Management of Mangroves and Coral Reefs (2022-23)	23.3919
2	Forest Department of Kerala		19.6015
3	Forest Department of Odisha		56.4954
4	Forest Department Tamil Nadu		48.4387
5	Forest Department of West Bengal		88.51456
6	Forest Department of Karnataka		16.59225
8	National Centre for Sustainable Coastal Management	Preparation of Mangrove Zonation Community Atlas of India	39.06
		Beach cleaning activity under the ambit of G20 presidency for 29 beaches	39.87
		Study visit of Public Accounts Committee to Mahabalipuram	10.92
		For Beach infrastructure development	400

Annexure I

States/Union Territories	Mangrove and Coral Reefs Sites
West Bengal	1. Sunderbans
Orissa	2. Bhitarkanika
	3. Mahanadi
	4. Subarnarekha
	5. Devi River Mouth
	6. Dhamra
	7. Mangrove Genetic Resources Centre
	8. Chilika



States/Union Territories	Mangrove and Coral Reefs Sites
Andhra Pradesh	9. Coringa 10. East Godavari 11. Krishna
Tamil Nadu	12. Pichavaram 13. Muthupet 14. Ramnad 15. Pulicat 16. Kazhuveli
Andaman & Nicobar	17. North Andamans 18. Nicobar
Kerala	19. Vembanad 20. Kannur (Northern Kerala)
Karnataka	21. Coondapur 22. Dakshin Kannada/Honnavar 23. Karwar 24. Manglore Forest Division
Goa	25. Goa
Maharashtra	26. Achra-Ratnagiri 27. Devgarh-Vijay Durg 28. Veldur 29. Kundalika-Revdanda 30. Mumbra-Diva 31. Vikroli 32. Shreevardhan 33. Vaitarna 34. Vasai-Manori 35. Malvan 36. Thane Creek
Gujarat	37. Gulf of Kachchh 38. Gulf of Khambhat 39. Dumas-Ubhrat
Coral Reef Sites	
Gujarat	1. Gulf of Kachchh
Tamil Nadu	2. Gulf of Mannar
Andaman & Nicobar	3. Andaman and Nicobar Coral Reef
Lakshadweep	4. Lakshadweep

6.3 NCSCM:

Introduction

NCSCM is an institution established by the MoEF&CC to support the protection, conservation, rehabilitation, management, and policy advice of the coast. NCSCM provides knowledge support to the Government, stakeholders and General Public with reference to the coastal areas on HTL, LTL, ESA-CVCA, preparation of CRZ, CZMP, etc. as stipulated in the CRZ Notification, 2011 and 2019. NCSCM also undertakes R&D activities on sustainable coastal management, and holistic conservation of wetlands.

Important activities undertaken

- Prepared 2000+ Coastal Zone Management Plan (CZMP) maps and Coastal Regulation Zone (CRZ) maps for various states/ UTs and other stakeholders to support the implementation of CRZ Notification 2011 and 2019.
- NCSCM organized about 150 beach, coastal and wetland clean-up and sensitization activities along with the local communities and Governments to promote the principles of LiFE Mission. About 8000 people were sensitized on Mission LiFE.
- As a primary knowledge partner, NCSCM is developing knowledge networks and assessments of wetlands of India under the project “Holistic Conservation and Integrated Management Plan of Wetlands” funded by the Wetlands Division of the MoEF&CC.
- NCSCM conducted a Joint study along with CSIR-CMSCRI and ICAR-CMFRI on “Seaweed Cultivation Potential and Ecological Safeguards in the Gulf of Mannar, Tamil Nadu” to enhance local livelihoods funded by the Ministry of Fisheries under the PMMSY Scheme.
- To reduce micro plastic pollution and

to limit litter in the ocean a project on “Circular Economy Solution Preventing Marine Litter in Coastal Ecosystems” is being executed.

- To protect, conserve, and manage the Bhitarkanika’s coastal environment, NCSCM is executing the OFSDP funded “Long Term Monitoring Plan for Ecosystem-based Conservation Management for Bhitarkanika Conservation Area - Phase II” for the Odisha Forestry Sector (OFSDP II) project.

Progress/Innovations

- Mangrove mapping at the community and species level enables the creation of a detailed inventory of mangrove forest biodiversity and supports coastal ecosystem management. Using Spectral Reflectance of various mangrove species in mangrove forests, NCSCM has prepared Mangrove Community Zonation Atlas of India which has been verified by Ground Truthing to support community and species-level management in the mangrove forests.
- NCSCM has conducted a carbon stock assessment study in Indian mangrove and seagrass ecosystems to demonstrate the carbon sequestration capacity.
- Ecosystem health report cards have become increasingly more important tools for communicating the environmental state and assessing progress towards management goals. NCSCM has prepared the third Ecosystem Health Report Card for the Bhitarkanika Conservation Area (BCA) for the year 2022-23.
- For the first time, a Coral Reef Health Report Card for Kadmat Island, Lakshadweep was prepared.

Important Cumulative achievements



NCSCM provides knowledge support for the restoration and enhancement of coastal mangrove cover, and demonstration of carbon sequestration to encourage an increase in mangrove cover as climate change mitigation. The Centre has developed methodologies and provided details on ecosystem health using health reports, monitoring, and development tools for sustainable management of coastal areas. NCSCM developed methodologies and made macro-level and a few site-specific assessments to estimate the equivalent economic benefits of eight ecologically sensitive areas such as mangroves, coral reefs, seagrass, salt marshes, sand dunes, turtle nesting grounds, nesting grounds of birds, sand dunes of India. NCSCM prepared the CZMP and CRZ maps to support the implementation of the CRZ Notification, 2011 and 2019.

Promulgation of new Acts/ Rules, if any, along with the details along with major amendments/ deletions.

- NCSCM is the member to review, and amend, 'The Coastal Aquaculture Authority (Amendment) Act, 2023'.

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

- NCSCM Scientists are the Members of several NGT technical committees to provide inputs for the NGT cases.

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

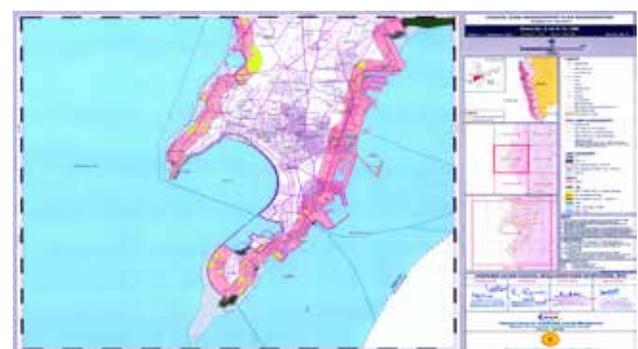
1. NCSCM organised a meeting to discuss the highlights of Maan Ki Baat National Seminar on Marine Litter – Best Management Practices on 27th April 2023
2. NCSCM in association with MoEF&CC have organised G20 Mega Beach Clean Up in the Coastal States of India in Mumbai on 20th

& 21st May 2023. About 10000+ people and Officials of various departments in coastal States and UTs participated.

3. NCSCM conducted an awareness campaign in Pattinampakkam Beach, Chennai on "Say No to Single Use Plastics and Reduce Waste" on 21st June 2023. About 500+ persons participated or visited the campaign.
4. To reduce pollution and create awareness of the circular economy NCSCM organised the "Introducing Refillable Vehicle & Pay with your Plastics Campaign" was organised on 22nd June 2023.
5. Co-organised the Ridge to Reef - 10th South and Central Biosphere Reserve Network Meeting (SACAM) on 1st-3rd November 2023 along with the BR & ESZ Division, MoEF&CC and UNESCO.

List of major publications brought out- brief purpose of each, wherever necessary.

Published 12 research publications in peer reviewed journals (April to December 2023), with a cumulative impact factor of 65.062. The publications are the outputs from various scientific studies undertaken by the scientists of NCSCM in addition to the regular reports of the project activities.



Sample Map of Approved CZMP as per CRZ Notification 2019, Maharashtra



CHAPTER - 7

CONSERVATION-FOREST



7.1 Forest Conservation

Forest Conservation Division of the MoEF&CC implements the provisions of Forest (Conservation) Act, 1980 to ensure sustainable development in the country. Forest (Conservation) Act is a regulatory frame work which ensures development and ecological security to the citizens of the country.

The proposals seeking prior approval of the Central Govt. for using forest land for non-forestry purposes are analyzed with due diligence and every effort is made to avoid the use of forest land or to keep it at bare minimum. Wherever the use of forest land is unavoidable, the same is allowed to be used subject to raising of Compensatory Afforestation and payment of Net Present Value as per norms. 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 stipulated on case-to-case basis

Progress/Innovations

- i. **Notification of the FC Amendment Act, 2023** : To remove the ambiguity of the applicability of the FC Act, the Ministry has notified the Forest (Conservation) Amendment Act, 2023 on 04.08.2023 which will be in force from 01.12.2023.
- ii. 27 number of guidelines/clarifications were issued to streamline process of approval under FC Act, 1980.
- iii. Stabilization of FC module of PARIVESH 2.0"

Important Cumulative achievements:

During the period from 01.01.2023 to 08.11.2023, the Ministry has accorded 'in-principal' in 22 proposals which accords to 4084.47 ha of forest land and has accorded Stage-II/final approval in

35 proposals which accords to 12191.60 ha of forest land. In lieu of the above mentioned Stage-I FC-11/1/2021-FC I/58728/2023 approvals the Ministry has stipulated an area of 6583.53 ha of land (degraded 5788.57 ha and non-forest land- 794.96 ha) for Compensatory Afforestation and 12489.29 ha of land (degraded -2692.42 ha and non-forest land- 9796.87 ha) for Compensatory Afforestation w.r.t to Stage-II/final approval.

Continuing committees

- i. In exercise of powers conferred under Section 3 of the Forest (Conservation) Act, 1980 read with Rule 3(1) of the Forest (Conservation) Rules 2003 and Forest (Conservation) Rules 2022, Advisory Committee (AC) was constituted by this Division.
- ii. From 01.01.2023 to 20.10.2023, eleven Advisory Committee meetings were held. 121 proposals were discussed in Advisory Committee meetings held in between 01.01.2023 to 20.11.2023.

7.2 Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

Introduction

The Compensatory Afforestation Act, 2016 (CAF Act 2016) was enacted on 3rd August, 2016. The CAF Rules, 2018 were notified on 10th August, 2018 and the date of coming to effect of CAF Act and Rules is 30.09.2018 enabling the creation of the compensatory afforestation fund as a special fund under the Public Account of India. The monies deposited in the National fund are non-lapsable and interest-bearing. The CAF Act, 2016 also provides for State Compensatory Afforestation Fund under the Public Account of the respective State/Union Territory (UT). The CAF Act has brought transformational changes in forest and wildlife management in the country.

The CAMPA funds are being utilized by the States/UTs to carry out compensatory afforestation projects and improve the quality of forests, strengthen forest protection infrastructure and improve wildlife habitats. CAMPA Funds are utilized as per provision of CAF Act, 2016 and CAF Rules, 2018 for carrying out Compensatory Afforestation for compensating the loss of forests and trees during diversion of forest land, improvement of quality of forest, biodiversity and wildlife habitat, protection and conservation related activities including control of forest fire, soil and moisture conservation activities etc. The monitoring and evaluation of CAMPA activities is carried out both internally by the State Forest Department as well as external 3rd party monitoring and e-Greenwatch at national level by Forest Survey of India.

National Authority takes up schemes/pilot scientific research projects in areas of national and regional importance pertaining to conservation of forest, wildlife, biodiversity and enhancement of ecosystem services through its National Fund. Some of the important Schemes supported by National Authority are conservation of Endangered Species Recovery programme such as Great Indian Bustard, River Dolphin, Dugong, Manipur's brow antlered Deer (Sangai) by Wildlife Institute of India; National Tiger Conservation Authority (NTCA) for carrying out estimation of Tiger and introduction of Cheetah; Indian Council for Forestry Research and Education (ICFRE) for conservation and development of Genetic resources in forestry, estimation of economic loss of forest due to forest fire; Forest Survey of India (FSI) for Satellite survey of encroachment areas and e-Green Watch etc.

National Authority is contributing in large scale urban greening through Nagar Van and School Nursery Yojana in various cities across the

country. The Ministry has also recently launched Mission MISHTI for afforestation and restoration of mangroves in 540 sq. km area along the 7,500 km coastal belt of the country under the funding from the National Authority.

Objectives: To ensure the following activities are carried out in the States/UTs from the CAMPA funds to compensate the developmental activities in terms of compensatory afforestation using the monies deposited by the user agencies-

- (i) Assisted natural regeneration
- (ii) Artificial regeneration
- (iii) Silvicultural operations in forests
- (iv) Protection of plantations and forests
- (v) Pest and disease control in forest
- (vi) Forest fire prevention and control operations
- (vii) Soil and moisture conservation works in the forest
- (viii) Voluntary relocation of villages from protected areas
- (ix) Improvement of wildlife habitat



Mangrove Plantation at Rajnagar WL Division, ODISHA



- (x) Planting and rejuvenation of forest cover on non-forest land in wildlife corridors
- (xi) Wild animal rescue centre and veterinary treatment facilities
- (xii) Wood-saving cooking appliances in forest fringe villages
- (xiii) Management of biological diversity and biological resource



Development of sandalwood and rosewood estates and management of sandalwood reserves in Karnataka

Provisional Status of CAMPA activities in States/UTs for the year 2023-24 is as follows:

State/UT	Compensatory Afforestation (CA)				NPV				Interest Component				Remarks
	Target		Achievement		Target		Achievement		Target		Achievement		
	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	
Andaman & Nicobar	56.16	1.49	36.56	0.682	*	5.32	*	3.29	0	0	0	0	*32 lakhs fruit bearing seedlings raising and planting, Achievement-26,78,732 (seedlings)
Andhra Pradesh	2276.75	51.74	845.04	7.22	3960.00	50.04	3594.00	30.56	0	0	0	0	
Arunachal Pradesh	4459.20	25.36	4458.67	25.36	6215.63	37.996	6063.60	37.030	0	0	0	0	
Assam	467.452	13.86	0	8.90	1323	46.44	450	56.82	0	0	0	0	
Bihar	1321.09	21.797	1321.09	13.613	31.87	0	0	13.33	0	8.42	0	4.72	191.75 Km 19,27,634 Nos. CA Target 162.0 Km 18,63,794 Nos. CA achievement
Chandigarh	0.14	1.56	0.14	1.56	0	0	0	0	0	0	0	0	Maint. 89.49
Chhattisgarh	2634.357	50.95	485.912	0.80	2697.00	35.60	1475.00	8.30	0	0	0	0	
Delhi	71.95	14.60	70.58	5.53	0	0	0	0	0	0	0	0	
Goa	420	5.25	299.00	3.0891	385	2.88	385	2.7580	0	0	0	0	
Gujarat	4629.97	86.81	4629.97	86.81	4279.91	67.73	4279.91	67.73	0	0	0	0	Target:4986688 No. of Plants CA Achievement: 4986688 No. of Plants NPV Target: 4297532 No. of Plants NPV achieve- ment: 4297532 No. of Plants
Haryana	2306.12	100.63	1608.83	52.29	1200.00	35.00	1005.12	19.46	0	0	0	0	
Himachal Pradesh	1024.00	5.09	886.00	4.78	979.00	12.69	979.00	7.10	0	0	0	0	

State/UT	Compensatory Afforestation (CA)				NPV				Interest Component				Remarks
	Target		Achievement		Target		Achievement		Target		Achievement		
	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	
Jammu & Kashmir	1537	14.14	1288.00	9.58	16054.00	256.44	9160.35	161.27	0	0	0	0	
Jharkhand	6327.67	28.63	3202.83	11.91	15649.00	26.856	13988.00	19.13	0	0	0	0	
Karnataka	376.73	3.22	376.73	2.92	10940	38.86	10915	37.29	382.20	1.04	382.20	1.04	786511 No. of Plants achievement CA 3282000 No. of Plants Target NPV NPV achieved: 3274500 No. of Plants Interest target: 228690 No. of Plants Interest achieved: 228690 No. of Plants
Kerala	241.5	2.55	65	0.19	1243.5	13.68	130.90	7.56	Ls	0.81	Ls	0.48	NPV target: +27565MM NPV achieved: +3265MM
Madhya Pradesh	6364.61	106.81	6286.41	78.69	31058.00	203.67	32280.70	199.03	0	0	0	0	
Maharashtra	246.405	2.32	182.278	2.61	2694.00	25.95	2704.00	22.47	0	0	0	0	
Manipur	0	0	0	0	2540.00	5.9848	2540.00	5.9848	0	0	0	0	
Meghalaya	199.522	2.214	58.445	0.80	895.50	12.54	326.50	3.165	0	0	0	0	Maintenance: CA: Phy Target 633.059 ha Phy. Achievement: 354.728 NPV: Phy. Target: 1592.68 Phy. Achievement: 195 ha
Mizoram	5146.8	7.26	0	0	0	0	0	0	0	0	0	0	
Odisha	6263.509	80.39	4665.5579	74.73	56411.00	554.92	55820.00	450.07	0	0	0	0	13250 Nos Phy. Achievement of CA
Punjab	864.127	14.91	800.383	11.50	5022	32.95	4574.00	24.84	0	0	0	0	
Rajasthan	700.35	3.83	444.79	18.11	10400.00	12.47	10267.00	11.98	0	0	0	0	CA target: 655264 No. of Plants CA achieved: 349867 No. of Plants NPV target: 2080000 No. of Plants NPV achieved: 1949050 No. of Plants



State/UT	Compensatory Afforestation (CA)				NPV				Interest Component				Remarks
	Target		Achievement		Target		Achievement		Target		Achievement		
	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	Physical (in Ha.)	Financial (in crores)	
Sikkim	94.67	6.06	94.67	6.06	565	2.84	564	2.62	0	0	0	0	
Tamil Nadu	146.38	4.93	82.57	4.031	0	0	0	0	0	0	0	0	
Telangana	2799.414	72.20	2052.71	39.56	11555.64	211.570	12399.02	156.807	0	0	0	0	
Tripura	685.14	6.85	566.40	1.41	23.50	0.16	23.50	0.14	0	0	0	0	
Uttar Pradesh	1559.35	17.74	1538.98	14.95	38212.00	105.54	38212.00	105.52	0	0	0	0	72138 Nos. of Phy target of CA & 65701 Nos. of Achievement
Uttarakhand	2415.00	49.73	2415.00	39.48	985.50	39.65	979.00	29.48	0	0	0	0	NPV target: 492750 Nos. NPV achieved: 489500 Nos.
West Bengal	397.54	4.15	130.3248	0.88	200.00	1.77	170.50	0.553	0	0	0	0	
Total	56032.91	807.07	38892.87	528.05	225520.05	1839.55	213286.10	1484.29	382.20	10.27	382.20	6.24	

Schemes supported under the CAMPA Fund for the year 2023-24.

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 the National Authority are supported by the CAMPA Fund. Following is the update on the schemes:

- 8 projects have been completed
- 15 schemes are approved by Hon'ble Minister during the year 2023-24
- 28 are ongoing schemes/ projects. The following table contains list of all ongoing schemes/projects:

ON-GOING SCHEMES/PROJECTS

(Rs. in crore)

S. No.	Scheme/Project name	Project Period	Project Cost	Fund Released	Implementing Agency	Programme Division	Starting Year
Indian Council of Forestry Research (ICFRE), Dehradun							
1	Strengthening Forestry Research for Ecological Sustainability and Productivity Enhancement	6	313.67	131.357	ICFRE	RT Division	2019-20
2	Estimation of Economic Losses in Real Term Per Hectare Basis Due to Forest Fire in Uttarakhand and Madhya Pradesh.	2	3.79	3.4	ICFRE	FP Division	2020-21
3	Proposal for preparation of detailed project report for Rejuvenation of Damodar and Suvernalekha rivers through forestry Interventions	2	1.17	0.8795	ICFRE	NAEB	2021-2022

S. No.	Scheme/Project name	Project Period	Project Cost	Fund Released	Implementing Agency	Programme Division	Starting Year
4	Mapping monitoring and management of <i>Lantana camara</i> through utilization for improving livelihood of people in forest fringe villages of India	5	14.49	14.49	ICFRE	RT Division	2023-24
Forest Research Institute (FRI), Dehradun							
1	National Collaborative Scheme on Forest Fire Management	4	22.31	3.81	FRI	Forest Protection Division	2022-23
2	Renovation & Modernization of Xylarium of Forest Research Institute	2	1.25	1.25	FRI	RT Division	2023-24
3	Strengthening of National Forest Library and Information Centre for Education and Forestry Research-FRI	1	1.63	1.63	FRI	RT Division	2023-24
Wildlife Institute of India (WII), Dehradun							
1	Endangered Species Recovery Programme (ESRP)- Development of Conservation plan for Gangetic River Dolphin	5	23	20.60	WII	Wildlife Division	2015-16
2	Habitat improvement and conservation breeding of Great Indian Bustard –ESRP	5	33.85	31.16	WII	Wildlife Division	2015-16
3	Conservation of Manipur's Brow Antlered Deer (Sangai)-ESRP	5	19.95	10.31	WII	Wildlife Division	2015-16
4	Recovery of Dugongs and their Habitats in India-ESRP	5	23.58	13.05	WII	Wildlife Division	2015-16
5	UNESCO Category2 Centre (C2C) on Natural World Heritage Management and Training for the Asia-Pacific Region	3	18.66	15.01	WII	Wildlife Division	2018-19
6	Establishment of National Centre for wildlife forensics (NCWF)	4	82.83	-	WII	Wildlife Division	2022-23
7	PAN India assessment and monitoring of endangered species covered under the 'Integrated Development of Wildlife Habitats (IDWH) scheme of MoEFCC Government of India	2	19.05	11.43	WII	Wildlife Division	2021-2022
8.	Range-wide enumeration of River Dolphin populations in India	1	10.15	10.15	WII	Wildlife Division	2021-22
Forest Survey of India (FSI), Dehradun							
1	Monitoring Protocol for Plantations and Assets created by State Forest Departments (SFDs)	6	13.14	1.30	FSI	SU Division	2019-20



S. No.	Scheme/Project name	Project Period	Project Cost	Fund Released	Implementing Agency	Programme Division	Starting Year
2	Establishment an FSI cell in Each State for Strengthening, Monitoring, and Forest Resource Assessment	1	4.33	-	FSI	SU Division	2021-2022
3	Satellite Survey of Encroachment position of Rejected claims as per Order of Hon'ble Supreme Court in Writ Petitions (civil) No(s) 109/2008 Wildlife First & Others vs. Ministry of Forest and Environment & others	6	48.00	5.66	FSI	SU Division	2021-2022
National Tiger Conservation Authority (NTCA), Delhi							
1	Assessment of Population Status of Tigers, Co-predators, Prey and their habitats in India	1	21.60	10.80	NTCA	NTCA	2022-23
State Forest Development Agency (SFDA)							
1	Nagar Van Yojana	5	415.00	234.74	SFDA	NAEB	2020-21
2	School Nursery Yojana	5	49.50	5.78	SFDA	NAEB	2020-21
Bombay Natural History Society (BHNS), Mumbai							
1	Implementing The Central Asian Flyway National Action Plan with Special Focus on Preparation of Site-Specific Activity Plan, Capacity Building, Developing Bird Sensitivity Map for Setting up of Wind Energy and Species Action Plans	3	3.754	1.61	BNHS	Wildlife Division	2019-20
International Union for Conservation of Nature (IUCN), Switzerland							
1	Enhanced Capacity Building of Stakeholders and State Government on Forest Landscape Restoration and Reporting Mechanism on Bonn Challenge	3.5	5.90	2.95	IUCN	NAEB	2020-21
Central Zoo Authority (CZA), Delhi							
1	Setting up national referral center for wildlife disease monitoring and prevention-CZA	5	3.00	2.08	CZA	Wildlife Division	2022-2025
IMPACT ASSESSMENT DIVISION, MoEF&CC, Delhi							
1	PARIVESH 2.0	5	95.59	24.26	Impact Assessment Division	Impact Assessment Division	2021-2022
National Informatics Centre Services Inc. (NICS), Delhi							
1	Project proposal for the yearly maintenance, Up-gradation and FC module and Hand holding support of PARIVESH- NICS	-	5.96	6.81	NICS	FC Division	2016-17
Institute of Wood Science & Technology (IWST), Bangalore							

S. No.	Scheme/Project name	Project Period	Project Cost	Fund Released	Implementing Agency	Programme Division	Starting Year
1	Roll out and Preparedness of States for using National Transit Pass System	3	4.67	1.209	IWST	RT Division	2023-24
Karnataka State Authority							
1	Development of Sandalwood and Rosewood Estates and Management of Sandalwood Reserves in Karnataka	7	25.65	0.4750	Karnataka State Authority	-	2022-23

7.3 FOREST ESTABLISHMENT (FE):

Introduction:

The Forest Establishment Division (FE) is handling the establishment matters relating to various organizations under MoEF&CC and State Forest Colleges; general references relating to frontline staff of State Forest Departments including court cases, RTI requests and Parliament Matters concerning the above. The list of Organizations under FE are:

1. Indian Council of Forestry Research and Education (ICFRE), Dehradun an autonomous organization under the Ministry which oversees the functioning of the following Institutes/Centres;

- Forest Research Institute, Dehradun
- Tropical Forest Research Institute, Jabalpur
- Arid Forest Research Institute, Jodhpur
- Himalayan Forest Research Institute, Shimla
- Rain Forest Research Institute, Jorhat
- Institute of Forest Productivity, Ranchi
- Institute of Forest Biodiversity, Hyderabad
- Institute of Forest Genetics and Tree Breeding, Coimbatore
- Institute of Wood Science and Technology, Bengaluru

- Forest Research Centre for Skill Development, Chhindwara
 - Forest Research Centre for Bamboo & Rattan, Aizawl
 - Forest Research Centre for Eco-Rehabilitation, Prayagraj
 - Forest Research Centre for Livelihood Extension, Agartala
 - Forest Research Centre for Coastal Eco-System, Visakhapatnam
- 2. Forest Survey of India (FSI), Dehradun** has following four Zonal Offices;
- Central Zone, Nagpur
 - Eastern Zone, Kolkata
 - Northern Zone, Shimla
 - Southern Zone, Bangalore
- 3. Wildlife Crime Control Bureau (WCCB)** has 5 Regional offices and 3 sub-regional offices located at
- Southern Region, Chennai.
 - Eastern Region, Kolkata.
 - Western Region, Mumbai.
 - Central Region, Jabalpur.
 - Northern Region, New Delhi.
 - Sub-regional office – Guwahati



- Sub-regional office – Amritsar
- Sub-regional office - Cochin
- 4. **Director of Forest Education (DFE)**, Dehradun supervises the following Central Academies:
 - Central Academy for State Forest Service, Dehradun (Uttarakhand)
 - Central Academy for State Forest Service, Coimbatore (Tamil Nadu)
 - Central Academy for State Forest Service, Burnihat (Assam)
 - Central Academy of Forest Education, Kurseong (West Bengal)
- 5. **National Zoological Park (NZNP)**, New Delhi
- 6. **Indira Gandhi National Forest Academy (IGNFA)**, Dehradun

Functions:

1. Framing & amendment of Recruitment Rules of technical and Ministerial posts.
 2. Constitution of Screening Committee for appointment of Joint Secretary and above level post in ICFRE.
 3. ACC approval for appointment of Director General, ICFRE.
 4. Consideration of proposals regarding up-gradation of pay scales, creation of posts, merger of posts, cadre restructuring and other establishment matters in r/o frontline staff of Forest Deptt. of States and UTs in consultation with nodal Ministries/ Departments.
 5. Consultation with nodal Ministries in various establishment/service matters of all Scientific/Technical/Ministerial officers/ staff.
6. Recruitment/Promotion/Deputation of Group A & B officers through UPSC.
 7. Appeal against penalty in disciplinary cases of Group 'A' 'B' & 'C'.
 8. Appeal against adverse entries in the ACR/ APAR.
 9. Framing policy regarding various establishment matters of ICFRE as per extant guidelines of Govt. of India.
 10. Nodal for sending requisition to Staff Selection Commission for filling up Direct Recruitment posts in Attached and Subordinate Offices of this Ministry.

Important activities undertaken

- Appointment to the post of Director General in Indian Council of Forestry Research and Education (ICFRE), Dehradun with the approval of ACC, DoPT in November 2023.
- Appointment of 4 Directors in various offices of ICFRE was done in August 2023.
- Appointment of Assistant Director in WCCB was done in September 2023.
- Vide Notification No. **GSR 820(E) dated 3.11.2023** RRs for the post of Lower Division Clerk in WCCB under the Ministry were published.
- Vide Notification No. **GSR 821(E) dated 3.11.2023** RRs for the post of Technical Assistant in WCCB under the Ministry were published.
- Vide Notification No. **GSR 822(E) dated 3.11.2023** RRs for the post of MTS in WCCB under the Ministry were published.
- Two appointment in IGNFA & DFE on the post of Assistant Director (OL) in August, 2023.

- Forwarded dossiers of 28 Candidates nominated by SSC for the post of LDC – SSC, CHSL Exam 2022.
- Forwarded dossiers of 6 Candidates nominated by SSC for the post of SSC, Stenographer Grade 'C' & 'D' Exam 2022.
- As of 08.12.2023 FE Section has dealt with 75 RTI Requests, 9 RTI Appeal, 55 Public Grievances, 16 PG Appeals and 9 VIP/MP references.

7.4 FOREST POLICY

a Introduction:

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.

Important activities undertaken

I. Important Policy decisions:

- (i) A Note for the Cabinet on Draft National Forest Policy 2023 has been submitted to the Cabinet Secretariat and PMO on 16.06.2023 for consideration and approval.
- (ii) MoEF&CC has supported the Memorandum for Expenditure Finance Committee (EFC) for continuation of Sub Mission on Agroforestry (SMAF) under Rashtriya Krishi Vikas Yojana (RKVY) and Krishonnati Yojana over the 15th Finance Commission (2021-22 to 2025-26).
- (iii) MoEF&CC communicated its concurrence on the proposal of UT of Dadra and Nagar Havel and Daman and Diu to the Ministry of Home Affairs regarding the repeal of (i) The Goa, Daman and Diu Wild Animals and Wild Birds Protection Act, 1965 (Act 21 of 1965), (ii) Extension of the Gujarat Minor Forest Produce Trade Nationalization Act, 1979 (Act 7 of 1979) and (iii) Maharashtra State of Trees By Occupants Belonging to Scheduled Tribe (Regulation) Act, 1969 (Act 23 of 1969).
- (iv) Ministry supported the "The Puducherry Prevention of Anti-Social Activities (Amendment) Bill, 2023" received from Ministry of Home Affairs.
- (v) MoEF&CC concurred with the proposal of UT of Ladakh received through Ministry of Home Affairs regarding delegation of Powers to Lt. Governor of Ladakh under the Indian Forest Act, 1927.
- (vi) India hosted Country-led Initiative (CLI) Meeting of UNFF for the first time in Dehradun from 26th October to 28th October 2023. The meeting focused on the important issues of country and region along with global forest policy issues related to sustainable forest management, including Forest and wildfires and Forest Certification, for achieving the UN Strategic Plan on Forests 2030.



II. 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 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. So far 24 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, Andhra Pradesh, Andaman & Nicobar Islands, Rajasthan, Chhattisgarh, Delhi, Haryana, Punjab, Chandigarh, Tamil Nadu, Telangana, Gujarat, Dadra and Nagar Haveli and Daman & Diu, Maharashtra, Himachal Pradesh, Goa and Odisha.

III. Implementation of Tree outside Forests in India (TOFI) Programme:

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. Some of the important directions issued by the Ministry include:

- Issued an advisory to all seven TOFI States to constitute a State Level Advisory Committee for implementation of TOFI programme.
 - Issued an advisory dated 10.11.2023 to the Institute of Forest Genetic and Tree Breeding (IFGTB), Coimbatore for development and co-implementation of QPM accreditation system in TOFI States.
 - Issued an advisory to IIFM, Bhopal to work on Indian Forest and Wood Certification Scheme, covering all aspects of Forest Management Certification, TOF and Chain of Custody Certification especially for TOFI States.
- IV. Ministry actively engaged and directed all its subordinate bodies/ institutions along with the State Forest Departments for celebration of 3rd Janjatiye Gaurav Diwas 2023.

Promulgation of new Acts/Rules, MoEF&CC has notified the amendment made in the provisions relating to the Indian Forest Act, 1927 under the Jan Vishwas Act, 2023 to come into force from 15th November 2023. Under the Jan Vishwas Act 2023, certain provisions relating to the section 26 and section 33 of the Indian Forest Act 1927 have been decriminalized by removing the punishment of imprisonment for certain minor offences and restrict punishments for such offences to fines only.

Important conferences organized in India/ international

(I) International Day of Forests 2023:

- The Ministry has observed and celebrated

the International Day of Forest, 2023 on the theme “Healthy Forest and Healthy People”. On the occasion, the Ministry launched the Aravalli Green Wall programme, an initiative for restoring about 1.50 million hectares of lands in the Aravalli hill ranges in north western India for reducing desertification and to create a barrier from sand and dust being blown into agriculture and urban landscapes. The Ministry also launched a massive plantation drive for restoration of Yamuna floodplains to reduce run-off and soil erosion along the river banks.

- Further, India participated in a high-level session organized by Food and Agriculture Organization (FAO) on the occasion of International Day of Forest 2023, whereby, India highlighted the positive impacts of forests on mental and physical health, need for integrating forests into urban landscapes & planning and the importance of non-timber forest produce as source of forest-based livelihood. Further, India also highlighted the role played by the forest ecosystem in Ayurveda and other traditional medicinal systems.
 - The Ministry under various Centrally sponsored schemes including the Green India Mission and development of wildlife habitats have been undertaking awareness generation among public on the role of forests and the ecosystem services.
 - The Ministry released a booklet on agroforestry to guide farmers and tree growers on best practices regarding tree farming.
- (II) Ministry has organised a National Level Meeting of the PCCF&HoFF of all States/UTS under the chairmanship of HMEFCC on 19.08.2023 at IIFM, Bhopal on various

agenda like implementation of NTPS, cadre review of IFS, personnel issues of State Filed officials related to recruitment, promotion and post retirement, CAMPA plantation activities, MISTHI, status on CAMPA activities, notification of NFL, VAN system, adoption of 1000 acres to support conservation initiatives in the country etc.

(III) Participation at UN Forum on Forest meetings:

- Delegation from MoEFCC participated in the Expert Group Meeting of UN Forum on Forests from 11-13 January, 2023 at UNESCAP HQ, Bangkok, Thailand and reviewed the assessment report on UNFF contribution to 2023 agenda involvement of regional entities and major groups.
 - Delegation from MoEFCC participated in the CPF –Organisation led Initiative (OLI) Meeting organised by UNFFS and FAO from 22 to 23 February 2023 at FAO headquarters in Rome, Italy to take part in the OLI to review and discuss the assessment report on Section C- Actions related to the Collaborative Partnership on Forests (CPF).
 - Indian delegation led by DGF&SS participated in the 18th session of UNFF meeting at New York. MoEFCC announced hosting of Country Led Initiative Meeting in India.
 - Delegation also attended the Ad Hoc Expert Group Meeting of UNFF in Vienna from 10-13 October 2023 and made important interventions for mid-term review of international arrangement on forests.
- (IV) MoEFCC hosted a UNFF-Country led Initiative (CLI) meeting at FRI Dehradun from 26-28 October 2023 wherein the HMEFCC and Hon’ble Forest Minister of Uttarakhand



addressed the delegates participating from 40 countries and 20 international organizations. The meeting was chaired by DGF&SS and Co-chaired by Director, UNFF and ADG(WL).

- (V) An International training session to the delegates from 27 Countries was organised on 23.01.2023 by Forest Policy Division of the Ministry in collaboration with National Institute of Labour Economics Research and Development (NILERD), under the aegis of NITI Aayog.
- (VI) Indian delegation participated in the 30th Session of Asia Pacific Forestry Commission at Sydney, Australia from 2-6 October, 2023 to put forth the India's views on various agenda.
- (VII) A team of officers from Ministry and State Forest Departments undergone for the study tour to Costa Rica under Forest PLUS 2.0 Programme from 17-27 September 2023 on eco-restoration and PES.
- (VIII) The first Technical Workshop on "Traceability of Forest Products" under India-UK Forest Partnerships was organized in the Ministry of Environment, Forest and Climate Change on 6.12.2023 to discuss the step by step process followed in UK and India for ensuring sustainability and legality of forest products and to address barriers for traceability and certification.

7.5 FOREST PROTECTION

Introduction

The Forest Protection Division handles matters pertaining to forest protection, such as unlawful tree cutting, deforestation, encroachment into forest lands, and forest fires. The division also looks into matters pertaining to disaster management. The Division is responsible for overseeing the Centrally Sponsored Forest Fire

Prevention & Management Scheme (FPM).

Objective and Functions of the Division

- Nodal Division for issues pertaining to forest fires.
- Putting the National Action Plan on Forest Fires into implementation
- Concerns regarding protecting forests, such as stopping illegal tree-cutting, deforestation, and the encroachment of forest land.
- 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.
- Other matters concerning parliamentary matters, forest preservation, etc.
- Nodal Division for issues pertaining to disaster management.

Important activities undertaken

The Forest Survey of India, Dehradun 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.

1. The State Forest Departments and other registered cell phone users receive satellite-based forest fire notifications from Forest Survey of India, Dehradun, an organization within the Ministry, whenever a forest fire is detected. About 2.14 lakh people have registered to receive FSI forest fire notifications currently.
2. All State Nodal Officers and PCCFs

receive comprehensive analytical information along with the forest fire alerts.

3. 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.
4. Ministry of Environment, Forest and Climate Change has prepared a Disaster Management Plan with the collaboration of National Institute of Disaster Management (NIDM).
5. The study “Estimation of Economic losses in Real Term per Hectare Basis due to Forest Fire in Uttarakhand and Madhya Pradesh” was conducted by the Indian Council of Forestry Research & Education (ICFRE), Dehradun, in association with the Forest Survey of India, Wildlife Institute of India, National Institute of Hydrology, and GB Pant National Institute of Himalayan Environment & Sustainable Development.
6. A continuous advisory is being sent to all states and 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.
7. Advisory on removal of encroachment on Forest Land and to submit quarterly status report on area eviction carried out by the State Forest Department is issued to all State/ UTs,

Progress/Innovations:

1. The Forest Protection Division is using the FSI Van Agni Geo-Portal to monitor large forest fires in various States and UTs throughout the 2022–2023 forest fire season, which ran from November 1–June 30, 2023.
2. The Ministry and the Forest Survey of India (FSI) have been working well together to detect forest fires and notify the State and Union Territories of them. Research conducted by ICFRE 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.

Important Cumulative achievements

1. 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, Burnihat and Coimbatore.

Continuing committees

1. In total Six Screening Committee meeting has been conducted for the FY- 2023-2024.
2. 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”



The division provides financial support for various forest fire prevention and management methods, the scheme aids in the efforts of State Governments and UT Administrations in the prevention and control of forest fires.

Long Term Objectives

- a. To reduce the frequency of forest fires and assist in restoring productivity of forests in affected areas.
- b. To formally establish a collaboration with forest fringe communities and the conservation of forests.
- c. To support the overarching objective of preserving the stability of the environment.
- d. To create a forecasting system for forest fires and a method for grading the hazard of fires.
- e. 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
- f. To increase understanding of the dynamics and effects of forest fires.

Progress/Achievements

As of November 17, 2023, an amount of Rs. 36.67 crore has been released to State/UTs under the Forest Fire Prevention and Management Scheme for the Financial Year 2023–2024.

7.6 SURVEY AND UTILIZATION:

Introduction:

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. FSI is responsible for Remote Sensing and Field

Inventory based assessment and monitoring of the forest resources of the country on regular basis. In addition, it is also engaged in imparting training to the State & UT Forest Department personnel, and research & extension services in the forestry sector. Established on 1st June 1981, FSI succeeded the “Pre-investment Survey of Forest Resources” (PISFR), a project initiated in 1965 by Government of India with the sponsorship of FAO and UNDP. After a critical review of activities undertaken by FSI, Government of India redefined the mandate of FSI in 1986 in order to make it more relevant to the rapidly changing needs and aspirations of the country.

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:

Important activities undertaken

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, seventeen cycles of forest cover assessment have been completed from 1987 to 2021. The results of 17th cycle Forest Cover Mapping (FCM) were published in ISFR 2021, and currently the work of 18th Cycle FCM, for ISFR 2023 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 2021, there is an increase of 1,540 sq km (0.22%) in the forest cover and 721 sq km (0.76%) in the tree cover as compared to the last assessment, ISFR 2019. Thus, there is an overall increase of 2,261 sq km (0.28%), forest cover and tree cover put together at national level.

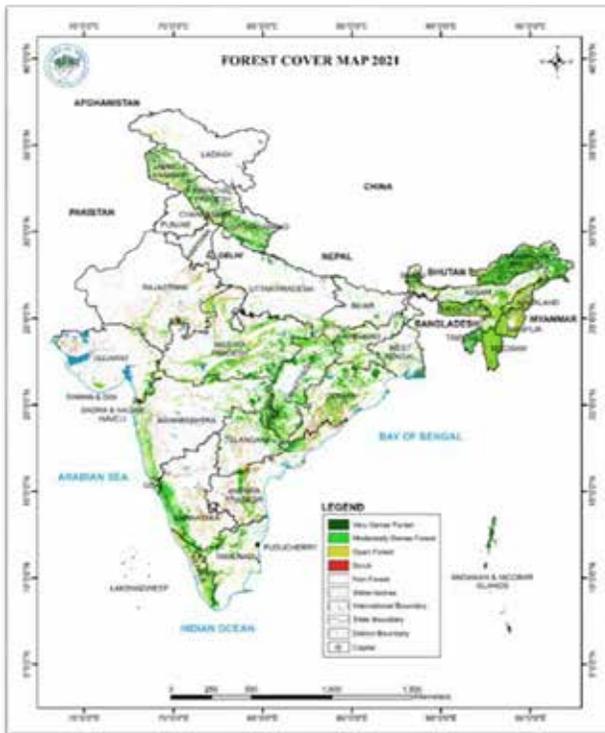


Fig.1 Forest Cover Mapping

For the 17th Forest Cover Mapping cycle, scenes from LISS-III sensor of Indian Remote Sensing Satellite (IIRS) have been procured from NRSC, Hyderabad. Fully ortho-rectified satellite data is being used for forest cover mapping, which improves the positional accuracy of the data. Ground truthing has been carried out by FSI across the country at 4,662 locations. Additionally, the State Forest Department personnel carried out validation visits to 3,749 change points nationwide to ensure precision and reliability of the forest cover estimates. The summary of various targeted tasks for the biennial forest cover mapping exercise are summarized as under:

B. FOREST FIRES

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 Spectroradiometer) sensor on-board Aqua and Terra Satellites of NASA since 2004. A new faster, quicker and more robust version of FSI Forest Fire Alerts System (Version 3.0) was launched in 2019 by adding several new features to the earlier Version 2.0.

The number of near real-time forest fire detections and Large Forest Fire are in the table given below:

Near Real-Time Forest Fire Detections

Sensor	(Nov. 2020 - June 2021)	(Nov. 2021 - June 2022)	(Nov. 2022 - June 2023)
MODIS	52,785	29,675	31,145
SNPP-VIIRS	3,45,989	2,23,333	2,12,249

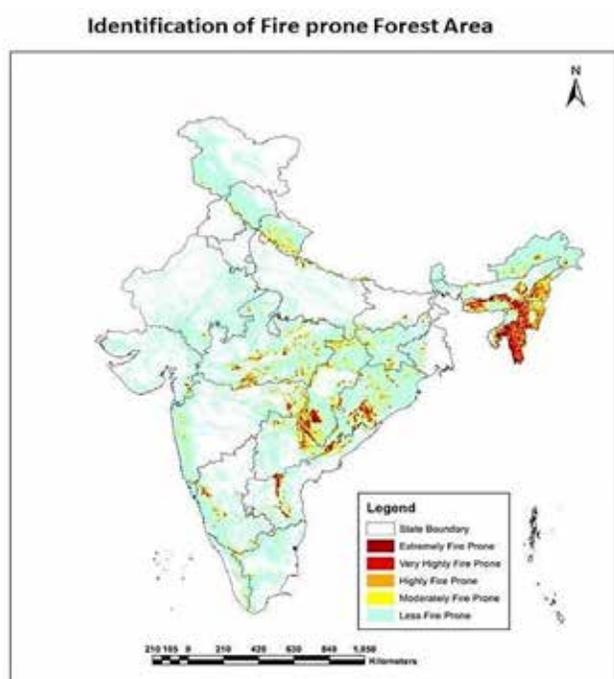
Large Forest Fire Detections

(Nov. 2020 - June 2021)	(Nov. 2021 - June 2022)	(Nov. 2022 - June 2023)
21,142	13,555	12,506



S. No.	Name of Indicator	Target	Achievement from 01/01/22 to 17/11/23
1.	Procurement of cloud free satellite data for entire India	311 Ortho-rectified Satellite Scenes (LISS III Resource sat I/II) for the extent of 393 One-degree X One-degree (SCALE 1:250,000) Topographic sheets (Survey of India)	305
2.	Image registration of 18thcycle (ISFR 2023) ortho-rectified satellite data	393 One-degree x One-degree (SCALE 1:250,000) Topographic sheets (Survey of India)	393
3.	Interpretation (Classification) of satellite data for Forest Cover Mapping of 18thcycle (ISFR 2023) through Digital Image Processing (DIP) techniques	393 One-degree x One-degree (SCALE 1:250,000) Topographic sheets (Survey of India)	393
4.	Ground-truthing / Ground Verification	36 State & UTs (642 Districts)	542
5.	Incorporation of Post Field Corrections as per the ground verification	36 State & UTs (642 Districts)	542
6.	Change detection and Change Polygons preparation for ISFR 2023	36 State & UTs (642 Districts) Total polygons = 4,359 (sent to SFDs)	4,662
7.	Quality Control/Quality Assurance (QA/QC) Exercise	36 State & UTs (642 Districts)	36
8.	State wise, District wise area calculation for ISFR 2023	36 State & UTs (642 Districts)	In-progress

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

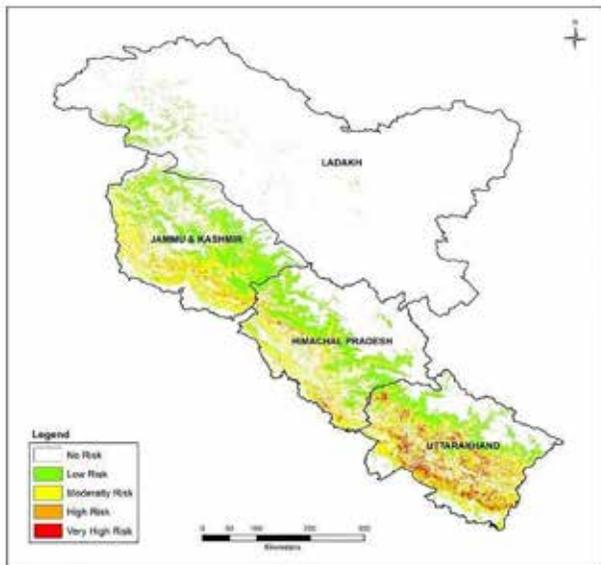


FSI carried out a study based on spatial analysis of forest fire points detected by FSI in the last 17 years to identify fire prone forest area in the country. Extent of forest cover under different fire prone classes (Extremely fire prone, very high fire prone, highly fire prone, Moderately fire prone and Less fire prone) has also been determined for each State/UT.

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. 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.



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.

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 has worked on creation of Metadata on National level, Creation of Web Map Service (WMS) for the FSI-Forest Cover and Forest Type for the entire country.

D. DECISION SUPPORT SYSTEM (DSS)

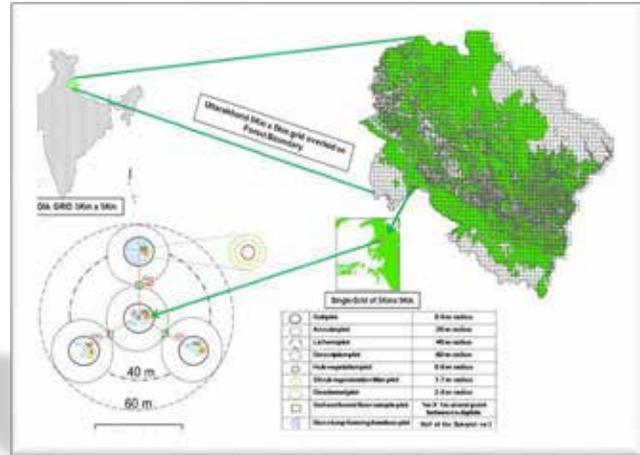
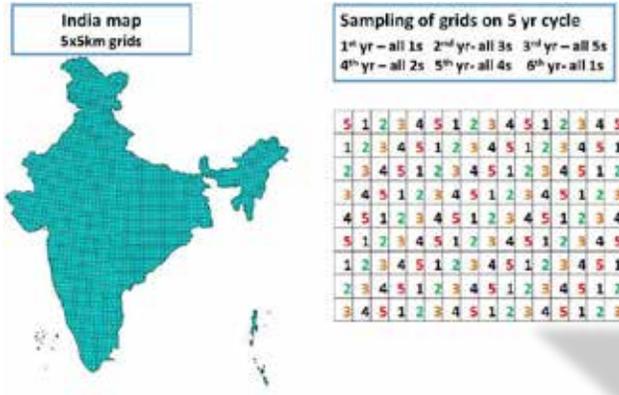
The Decision Support System (DSS) was launched in 2014. It is a web based GIS tool, developed by Forest Survey of India (FSI), which provides qualitative, quantitative & administrative characteristics of forests, which help in informed, unbiased and expeditious decisions on management of forest. This system uses Rule based algorithm, which in turn uses several parameters derived from the spatial layers (given in the table) for identification of Inviolable and Not Inviolable areas.

E. e-Green watch

With its genesis in the order of 10th July, 2009 of the Hon'ble Supreme Court of India, the e-Green Watch portal was developed by NIC in consultation with the MoEF&CC, FSI and State Forest Departments. The e-Green watch portal helps in keeping a track of all plantation and other activities being carried out by the State Forest Departments (SFDs) using CAMPA funds. The project was initiated with 5 pilot states viz. Andhra Pradesh, Karnataka, Madhya Pradesh, Sikkim and Tripura in nearly mid of 2012.

At present 32 States/ UTs are linked to the e-Green Watch portal. The application is capable of monitoring of five categories of CAMPA activities: Compensatory Afforestation (CA) Lands, Diverted Lands (DL), CA Plantations, Other Plantation Works (OPW) and Assets.

Till October, 2023, FSI has analysed 2,11,441 polygons under fresh category and 1,21,029



NFI Grids of 5 km x 5 km and Plot configuration

under revisited category, from 32 States/UTs. Out of the total no. of polygons, 45,425 are under the correct category, 94,128 under the incorrect category and 71,888 under the unascertainable category.

F. Forest & TOF Inventory

(i) National Forest Inventory:

National forest inventory is a major activity of FSI. Since 1965, forest inventory was carried out in different parts of the country in different time periods, thus it was not possible to generate the national level estimates of growing stock.

FSI redesigned the National Forest Inventory (NFI) programme from district based approach to grid based approach after the previous NFI design which continued till 2016. 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. In 5 years period about 33,000 forested and 1,00,000 grids in TOF will be covered under the new NFI design. In forest inventory about 7,000 and in TOF inventory 10,000 plots will be surveyed in a year.

FSI has also taken steps to modernize the National Forest Inventory by switching over from manual data collection in prescribed formats designed

for NFI followed by data entry of to PDA based data collection and entry which is transmitted in real time to the Zonal & Central Servers for analysis. This system will help reducing the time and manpower and improve the efficiency of the work.

(ii) Trees Outside Forest Resources in India:

A new methodology has been developed to



Map showing sample plots of NFI during 2016-20

Training courses during the period 01 December, 2022 to 30 October, 2023

S. No	Theme	Date	Venue	Total Participants
1	Application of Drone/DGPS in forest survey & Demarcation	05.12.2022 to 09.12.2022	FSI	34
2	“One Week Customized Training Programme for Officials of Chhattisgarh State Forest Department”	09.01.2023 to 13.01.2023	FSI	21
3	“DSS, e-Green Watch & Forest Fire”	23.01.2023 to 25.01.2023	FSI	12
4	Special Training course for IFS officers of MCTP (IGNFA) on “Forest Cover Mapping, Forest Fire, Carbon Dynamics, DSS & e- Green Watch Portal (One & half day)	15.02.2023 to 16.02.2023	FSI	61
5	“Application of Drone/DGPS in forest survey & Demarcation”	13.03.2023 to 17.03.2023	FSI	15
6	Training on ARC GIS at FSI Hq Dehradun	26.04.2023 to 28.04.2023	FSI	29
7	Application of GIS & Environment Statistics	19.06.2023 to 23.06.2023	FSI	27
8	Forest Survey & Assessment (Forest Cover Mapping & Forest Inventory)	31.07.2023 to 04.08.2023	FSI	4
9	Carbon Stock Estimation and Other parameter	07.08.2023 to 09.08.2023	FSI	13
10	Four Days training Programme for Zonal Staff of Forest Survey of India	08.08.2023 to 11.08.2023	FSI	22
11	Three Days training Programme for Zonal Staff of Forest Survey of India	16.08.2023 to 18.08.2023	FSI	20
12	Assessment of Forest Resource & Carbon Inventory for preparation of working plan	21.08.2023 to 25.08.2023	FSI	18
13	Forest Fire Monitoring & Damage Assessment	11.09.2023 to 13.09.2023	FSI	14
14	Application of Drone/DGPS in Forest Survey & Demarcation of Forest Blocks	18.09.2023 to 22.09.2023	FSI	25
Total				315

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.

A total of about 27,917 plots have been inventoried in forest areas and nearly 62,074 plots have been inventoried in TOF area.



G. Training of Forestry Personnel:

(i) 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



Hon'ble Minister Shri. Bhupendra Yadav Visit to FSI, Dehradun

H. Financial Budget of FSI:

The above activities are being carried out since 2016 as per the availability of funds. Regular budget of FSI during the last five financial years is as follows:

(Rs. In Crores)

S. No.	Financial Year	Budget
1	2019-20	34.0
2	2020-21	26.0
3	2021-22	33.1
4	2022-23	34.0
5	2023-24	37.0

I. 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 has estimated forest biomass and carbon stock change between 1984 and 1994 for India's Initial National Communication (INC) submitted to UNFCCC in 2004.

For Second National Communication (SNC) to UNFCCC, FSI conducted 'Greenhouse gas inventory in Forest Land Remaining Forest Land & Land Converted into Forest Land for the period 1994 to 2004' under 'Land Use, Land-Use Change and Forestry (LULUCF)'.

For Third National Communication, FSI has undertaken the following projects:

1. Estimation of Soil Organic Carbon (SOC) in TOF. This report has already been submitted to Ministry within proper deadline.
2. Developing volume equations for important 30 species in forest and TOF
3. Estimation of carbon stock in Mangrove Eco-system.

Centre for Forest Carbon Assessment (CFCA)

(i) Background

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.

- 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.

(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 analysis of nearly 3500 soil and forest floor samples 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.

7.7 FORESTRY RESEARCH:

Research & Training Division (RT) is a nodal division for a major central sector plan schemes namely "**Forestry Training and Capacity Building**". This division looks after the administrative, financial and other matters of the research & training institutions viz. Indian Council of Forestry Research & Education (ICFRE) - Dehradun, Indian

Institute of Forest Management (IIFM) – Bhopal, Indira Gandhi National Forest Academy (IGNFA)-Dehradun and Directorate of Forest Education (DFE)-Dehradun.

A. Indian Institute of Forest Management (IIFM)

Indian Institute of Forest Management (IIFM) was established to provide comprehensive training in Natural Resource Management (NRM), climate change, sustainability, and management, aiming to prepare individuals for effective forestry management. The institute emphasizes the paramount importance of conservation in managing natural resources and instills an understanding of the crucial ecological role of forests. Additionally, IIFM strives to meet the informational needs of India's forestry and forest-related industries through education, research, consulting, and publications, fostering the development of forestry in the country. In its 42nd year, IIFM continues to excel in consistent placement and academic achievements, driven by applied research, consulting, training, and high-quality educational activities.

Objectives of IIFM:

- Provide training in management and related subjects for persons from the Indian Forest Service, Forest Departments, Forest Development Corporation and Forest-related industries with a view to equip them to practice the art and profession of management of forestry development.
- Inculcate an appreciation in those selected for training, that conservation is of overriding importance in the management of living natural resources and that the primary role of forests is the vital ecological



and environmental purpose they serve.

- Select and prepare outstanding and talented young persons for careers leading to management responsibility in forestry and the forest-related system.
- Meet the needs of Indian forestry and forest-related industry and commerce with respect to up-to-date information on forestry management through research, consulting and publication.
- Assist, institute and carry out research in matters concerning the use of management and allied techniques and methods conducive to the development of forestry in the country.
- Institute awards, scholarships, fellowships, prizes and medals in accordance with the rules and bylaws.
- Create partnerships, affiliations and other classes of professional or honorary membership or office, as the society may consider necessary.

Major publication brought out: During the year, 23 research papers/books/popular articles etc. have been published in various National/International Journals by IIFM, Bhopal.

B. **Directorate of Forest Education (DFE), Dehradun**

Directorate of Forest Education (DFE) was created in 1953 under the FRI and Colleges to assist the President, FRI. Subsequent to reorganization of Forest Research Institute and Colleges and creation of Indian Council of Forestry Research and Education (ICFRE) as an autonomous organization, under the Ministry of Environment and Forests in the year 1991, the Directorate of Forest Education was delinked from the Forest research Institute and Colleges.

The Directorate ensures “Standard and Quality” of forestry training in the country and in its current form, functions under direct administrative control of the MoEF&CC, Government of India to take care of all aspects of training of SFS officers and FROs. Located in the scenic Forest Research Institute campus at Dehradun, the Directorate is headed by the Director who is a senior Forest Officer drawn on deputation basis.

Vide order No. 15-15/2018-RT dated 03.02.2022, integration / unification of all Forestry Training Academies in the country has been carried out, Subsequently DFE, 03 Central Academy for State Forest Services (CASFOS), Dehradun, Burnihat & Coimbatore and Central Academy for Forest Education (CAFE), Kurseong have been brought under the single command of Director, Indira Gandhi National Forest Academy (IGNFA) as administrative head.

Important Activities undertaken/Training imparted:

- One (01) new batch of State Forest Service Officers for induction training
- Four (04) batches of State Forest Service Officers are undergoing induction training
- One (01) batch of State Forest Service Officers have passed out induction training
- Three (03) new batches of Range Forest Officers for induction training
- Six (06) batches of Range Forest Officers are undergoing training
- Ten (10) batches of Range Forest Officers have passed out Organized one-week theme based Workshops / General Refresher Courses for In-service State Forest Service Officers and Senior Forest

Range Officers

- Organized three days training under “Forestry Training and Capacity Building” conducted during 2023-2024 in the constituent Academies under Directorate of Forest Education
- Organized two-weeks training on ‘Forest Fire Prevention & Mitigation Strategies’ for National Disaster Response Force (NDRF) funded by the National Management Authority, Gol New Delhi
- Organizing five days training under National Collaborative Scheme on “Forest Fire Management” (CAMPFA) for Frontline Staff Organizing training / workshop for IFS officers

Functions of the Division: Education, Research, Training, Consultancy and Outreach Activities

C. Indira Gandhi National Forest Academy (IGNFA)

Indira Gandhi National Forest Academy (IGNFA) was constituted in the year 1987 by renaming the erstwhile Indian Forest College, which was originally established in 1938 for training senior forest officers. IGNFA is currently functioning as the Staff College for the officers of the Indian Forest Service (IFS). The primary mandate of the Academy is to impart knowledge and skills to the professional foresters and help them to develop competence for managing the country’s forest and wildlife resources on a sustainable basis.

Important activities:

- 67 IFS Probationers of 2021-23 Course (53rd RR) completed professional forestry training at IGNFA.
- 102 IFS Trainees of 2022-24 batch (54th

RR) completed Term I of Phase I of training course.

- 114 IFS Trainees of 2023-25 batch (55th RR) joined in 14th December 2023 for professional forestry training at IGNFA.
- Commencement of Post Graduate Diploma in Environment Science (PGDEL) for IFS (P) of 2021-23 Course by NLSIU, Bangalore.
- Total 36 IFS officers have attended the Senior Foresters’ Workshop (30 Years) held on 19th-30th April 2023.
- Mid-Career Training MCT Phase-V (19), Mid-Career Training MCT Phase-III (12) & Mid-Career Training MCT Phase-IV (14) Programme for In-service IFS Officers was organized and total 141 IFS officers have attended the MCT programme.
- One-week Training on “International Convention on Forestry, Climate Change and Environment” organized on 21th – 25th August 2023 and 20 officers have attended the Workshop.
- Total 46 IFS officers have attended Professional Skill Up-gradation Course (PSUC) held on 28th August – 27th October 2023.
- 66 IFS Probationers of 2021-23 Course (53rd RR) completed Post Graduate Diploma in Environment Science (PGDEL) Course by NLSIU, Bangalore.
- Total 46 State Forest Service officers have completed 35th Professional Skill Up-gradation Course (PSUC) and promoted from State Forest Service into IFS.

Important Cumulative achievements:

- **Professional Forestry Training for IFS Probationers**



- Till 2023, 53 IFS professional training Courses (since 1968) have been completed and 3365 Officers trained.
- **Professional Skill Upgradation Course (PSUC)**
 - 35 PSU Course have been conducted and 970 inducted officers trained.
- **Mid Career Training (MCT)**
 - Started in 2009 for All India Services as part of civil service reforms by DoPT and replaced the Advance Forest Management (AFM) Course
- **Conducted for IFS officers with**
 - 7 to 9 years of service for 4 weeks (Phase-III)
 - 14 to 16 years of service for 4 weeks (Phase-IV)
 - 26 to 28 years of service for 2 weeks (Phase-V)
- Till 2023, 95 AFM Courses and 45 MCT have been conducted and 4981 IFS Officers trained.

Promulgation of new Acts/Rules:

- IFS Probationers (training & Evaluation) Rules 2023 to be enhanced soon.

Continuing committee/commissions-their work during the year and present position:

- Annual PCCFs & HoFFs meeting held on 10.10.2023.
- Eighth Academic Council meeting held on 30.10.2023.
- FC (Amendment) Act 2023 dissemination workshop on 29.09.2023

Important Conferences organized in India or International Organizations

- Training Programmes on ‘National Project on Forest Fire Management’ for NDRF. The Workshop would aim at introducing the NDRF senior functionaries to the overall outlook and perspectives pertaining to forest fire management.

D. Indian Council of Forestry Research and Education (ICFRE):

ICFRE is 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 forestry 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.

Important activities undertaken:

- Shri Bhupender Yadav, Hon'ble Minister, MoEF&CC chaired 29th Annual General Meeting of ICFRE Society at ICFRE-FRI, Dehradun on 20.05.2023. Released Forest Soil Health Card for Madhya Pradesh, Haryana, Delhi, Ladakh, Chandigarh and Pondicherry and a technology for manufacturing plywood panels using waste plastic as a binding agent giving an economic value to single use plastic waste.
- Shri Bhupender Yadav, Hon'ble Minister, MoEF&CC inaugurated the Centre of Excellence on Sustainable Land Management (CoE-SLM) in the presence of Shri CP Goyal DGF&SS, DG, ICFRE & other

members of ICFRE society at ICFRE-FRI, Dehradun on 20.05.2023.



Centre of Excellence on Sustainable Land Management inaugurated at ICFRE-FRI, Dehradun by Hon'ble Minister, EF&CC, Govt. of India on 20.05.2023

- Under CoE-SLM, following activities were carried out:
 1. Prepared and published the G20 presidency document on the "Restoration of mining-affected areas" in collaboration with UNCCD, UNDP and UNEP and National and International institutes working in the field of Mine Restoration.
 2. Participated in the G20 summit in the first ESWG meeting and exhibited a Pavilion with the theme "Land Restoration", showcasing the work undertaken by ICFRE institutes on the Restoration of degraded land
 3. Published the G20 presidency document on the "Restoration of forest-fire affected area" compiled by IIFM, Bhopal.
 4. To commemorate World Day to Combat Desertification & Drought under the theme "Her Land. Her Rights" workshop by CoE-SLM, ICFRE was inaugurated by Shri C P Goyal DGF&SS, MoEF&CC.



- Smt. Leena Nandan, Secretary, MoEF&CC, Govt. of India visited ICFRE and ICFRE-FRI, Dehradun on 13.6.2023 & reviewed the activities.
- A Green Credit Cell (GCC) has been established at ICFRE for the operationalization of Green Credit Programme in the Country. ICFRE would function as administrator.
- Detailed Project Report (DPR) on Development of Green Belt around refinery site of 'HPCL Rajasthan Refinery Limited' HRRL Pachpadra was released by ICFRE-AFRI, Jodhpur on 09.04.2023.



Tree Growers Mela at ICFRE-AFRI, Jodhpur

- The XXIII Meeting of the Research Policy Committee (RPC) of ICFRE was held during February 2023. 23 new Projects were approved for implementation at ICFRE institute under Plan funding.

• **Regional Research Conferences:**

- Regional Research Conference 2023 on “Improvement in productivity of forest and generation of livelihood through degraded land management” was organized by ICFRE-IFP, Ranchi in association with ICFRE-IFB, Hyderabad on 04.08.2023.
- Regional Research Conference (RRC), 2023 on “Nursery Technology for Propagation of Difficult Tree Species” was organized (Hybrid Mode) by ICFRE- Tropical Forest Research Institute Jabalpur on 18th August, 2023.
- ICFRE-Rain Forest Research Institute, Jorhat (Assam) organized 4th Regional Research Conference (RRC) on “Climate Change Impacts, Adaptations and Vulnerability: Northeast Indian Perspectives” on 11.07.2023.
- ICFRE-AFRI organized Tree Growers Mela on 17.03.2023 at ICFRE-AFRI, Jodhpur. More than 400 farmers, Forest Department Officers & Environmentalists participated in the event.



- Under HRD plan, 03 trainings conducted for Scientists in which 21 personnel participated. 01 training was conducted for technical staff

with 30 participants. 02 trainings were conducted for administrative staff with 105 participants.

- Under Ecosystem Services Improvement Project funded by the World Bank in Madhya Pradesh and Chhattisgarh, organised 27 trainings on Measurement of Forest Carbon Stock for JFMCs and 16 trainings on Scaling up of Sustainable Land and Ecosystem Management (SLEM) best practices for local communities. Under Scaling up of SLEM Practices, Azolla Cultivation for Integrated Farm Development was scaled up targeting 7000 beneficiaries, Micro Irrigation System for Enhancing Water Use Efficiency and Productivity targeting 5264 beneficiaries and Biopesticides and Biofertilizers Preparation for Sustainable Land Productivity targeting 20000 beneficiaries.
- ICFRE and its Institutes/Centres organized 98+ Webinars/Seminars/Trainings for different stakeholders including women, farmers, scientist and SFDs etc on various topics.
- Under Mission Life, ICFRE and its institutes have conducted various activities like cleanliness drive, awareness campaigns, Drawing competitions, Quiz competitions, Bicycle rallies, Seminar, Conferences and Important Days. Conducted 5747 activities from January 2023 to October 2023 and 98536 people participated in these events.



Honourable Union Minister of MoEFCC, Shri Bhupender Yadav released the awareness posters highlighting LIFE Mission conceived by IFGTB-EIACP during the national level workshop at MoEF&CC, New Delhi

- Under Azadi ka Amrit Mahotsav, from January, 2023 to 15th August, 2023, ICFRE and its institute/centres conducted 214 activities to decimate awareness amongst public.
- **Rajbhasha Activities**
 - During the year 2023, a total of 19 workshops were conducted in ICFRE HQ and its institutes in which a total of 96 officers and 383 employees were trained and 29 meetings of the Official Language Implementation Committee were held.
 - In September, 2023, Hindi Pakhwada was organized in ICFRE HQ and in all ICFRE Institutes.

Progress/Innovations:

- Released five varieties of three medicinal plants; *Picrorhiza kurroa* (2 varieties), *Valeriana jatamansi* (2 varieties) and *Sinopodophyllum hexandrum* (1 varietie), exhibiting high yield and active ingredient content and stability under different environmental conditions for the hill temperate region of Himanchal Himalaya.



- Developed mycorrhizal biofertilizer based product “HIM MRIDA SANJEEVANI-1” and this product got registered with Directorate of Agriculture, Himachal Pradesh for production and sale.
- Developed two Biopesticide products from Native plant extracts of *Boenninghausenia albiflora* (Pissumar) shrub in liquid and powder formulation i. e “HIM-ALBIWASH” and “HIM-BIOKIL-1” to manage insect pests of forests in NW Himalaya.
- Vegetative Multiplicative Garden (VMG) of three clones of *D.sissoo* (AFRI-DS-1, AFRI-DS-2 and AFRI-DS-4) was established at ICFREAFRI, Jodhpur.
- Through two eddy covariance-based carbon flux towers established in the states of Madhya Pradesh and Chhattisgarh it was found that Northern mixed deciduous forest of Madhya Pradesh and Southern mixed deciduous forest of Chhattisgarh act as net carbon sink with a net carbon uptake of 4.96-5.47 tC ha⁻¹y⁻¹ in MP and 4.15-4.66 t C ha⁻¹y⁻¹ in Chhattisgarh. The total forest carbon stock of project areas of MP and Chhattisgarh was increased by 9.38% over the baseline forest carbon stock.
- Developed a technology for manufacturing plywood panels using waste plastic as a binding agent.
- Released the Forest Soil Health Cards for Madhya Pradesh, Haryana, Delhi, Ladakh, Chandigarh and Pondicherry.
- Two novel barcodes identified for species authentication of red sanders
- Protocols have been developed for extracting natural dyes from two noxious weeds, *Stevia ovata* and *Eupatorium adenophorum*, and applying them to silk, wool, and cotton fabrics.
- A fire retardant door that can withstand a fire rating of 120 minutes was successfully developed and demonstrated at industrial scale
- An adhesive system to bond the veneers for plywood production using lignin a material of bio origin has been developed.
- Developed the technology to replace the wood particle by the scrap currency notes upto the extend of 20%. The technology has been implemented on commercial scale in 2 units.
- License agreement signed with five commercial labs for mass production of tissue culture teak, Bebzini Seedlings, Saharanpur, Uttar Pradesh to extend propagation rights of released varieites of *Melia dubia* and 7 farmers/nursery growers of Bihar for mass multiplication of poplar clones.
- Under Policy Research Studies 02 studies have been completed on ‘Popularization of the use of wood and wood substitutes as per the National Forest Policy and Modalities for facilitating industries for its optimum utilization’ by NCCF, New Delhi and ‘Grazing Policies in different state and Formulation of grazing policy guideline for states’ by SRPDR, Bhopal.
- The ENVIS Centre of Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore, launched an interactive, real-time mobile application called ‘Forest Seed Science and Technology’.
- **Patent Granted:** A patent titled “A process for obtaining phytoecdysteroids from *achyranthes aspera* for the synchronized maturation of silkworm (Patent no.

440485) has been granted to the FRI, Dehradun.

Important Conferences organized in India or International Organizations.

- ICFRE, GSFD & RO-MoEF&CC organized workshop on Carbon Credits & Accredited Compensatory Afforestation under Changing Legal Scenario at Gandhi Nagar on 26.09.2023.
- ICFRE organized workshop on Sustainable Land Management for Combating Degradation & Collaborative Development of Training Modules at CoE-SLM, ICFRE Dehradun on 11.09.2023.
- ICFRE-FRI, Dehradun conducted an interactive workshop on screening and production of quality raw material for Indian Pulp, Paper and Panel Industry (jointly organized by Central Pulp and Paper Research Institute, Saharanpur, UP and FRI, Dehradun) on 20th October, 2023.
- ICFRE-IWST, Bengaluru organized first meeting of advisory committee of ICFRE-WINCOIN at ICFRE-IWST, Bengaluru on 24.07.2023.
- ICFRE organized National Training on “RS-GIS application in Land Resources Assessment from 18-22 September 2023.
- ICFRE-TFRI organized National Conference on Value Addition & Marketing of Non-Timber Forest Produce/ Medicinal & Aromatic Plants for Livelihood Security from 03-04 May 2023.
- ICFRE organized National Workshop on Agroforestry and Farm Forestry for Sustainable Land and Ecosystem Management from 5-6 January 2023.
- ICFRE organized International Workshop on ‘Enhancing Ecosystem Services by Improving Forest Quality and Productivity, and SLEM Knowledge Dissemination’ from 22-24 March 2023.
- 62nd IUFRO Annual Board Meeting hosted by ICFRE during 27-28 March, 2023.
- The IUFRO-SPDC sponsored Knowledge Sharing Workshop on “Mainstreaming Landscape Thinking in Natural Resources Management Education for Restoration Impact in BIMSTEC Region: The Way Forward” in collaboration with Global Landscapes Forum (GLF), ICFRE and IGNA from 31 March to 1 April 2023 in Dehradun.
- ICFRE-IFGTB, Coimbatore organized Symposium on Forest Genetic Resource Conservation and Utilization at the 59th Annual Meeting of the Association for Tropical Biology and Conservation (ATBC 2023), Coimbatore on 03.07.2023 and it was attended by Researchers, students, conservationists, academicians.
- ICFRE-IFGTB, Coimbatore organized training workshop on Assessing the availability of tree seed sources for forest and landscape restoration from 28 November to 2 December 2022.
- ICFRE organised “Sensitization workshop on Sustainable Land Management” from 11-12 September 2023 for collaborating development of training modules.
- ICFRE-TFRI, Jabalpur organized four-one day, workshops on “Roadmap of QPM delivery and Scope of TOF expansion” in Tamil Nadu, Rajasthan, Haryana, and Andhra Pradesh under TOF

MEAs, Agreement with countries, international organization, compliance:

ICFRE has signed MoUs with National and



International Organizations for collaboration in the field of forestry research, education and extension:

- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur.
- Rubber Research Institute of India (RRII), Kerala
- Faculty of Forestry, Kasetsart University, Bangkok, Thailand
- National Centre for Biological Sciences-Tata Institute of Fundamental Research (NCBS-TIFR), Bangalore
- Alliance of Bioversity International and CIAT, Italy
- ICFRE Institute signed MoUs with:
- ICFRE-IFGTB with University of Copenhagen, Denmark
- ICFRE-IFGTB with Odisha Forest Department
- ICFRE-IFGTB with NCBS -TIFR, Bangalore
- ICFRE-IFGTB with M/s Tribal Co-operative Marketing Federation Of India Ltd (TRIFED)
- ICFRE-IFP, Ranchi with Central Tasar Research and Training Institute, Ranchi
- ICFRE-IFB, Hyderabad with ICFAI Law School, IFHE, Hyderabad.
- ICFRE-IFB, Hyderabad with Professor Jayashankar Telangana State Agricultural University (PJTSAU), Hyderabad
- ICFRE-IFB, Hyderabad, with **Centre for Forest and Natural Resource Management Studies (CEFARM)**, Hyderabad
- ICFRE-IFB, Hyderabad with Dr. Reddy's Foundation, Hyderabad

- ICFRE-TFRI, Jabalpur with Guru Ghasidas Vishwavidyalaya, Bilaspur
- ICFRE-TFRI, Jabalpur with R&D Global Consultants Pvt Ltd, Thane, Maharashtra

List of major publications brought out:

During the year, 413+ research papers/books/popular articles etc. have been published in various National/International Journals by ICFRE personnel.

1. Technical Paper on Pathway to achieve LDN in India
2. CoE-SLM provided Inputs toward the preparation of NAP to Combat Desertification and Land Degradation Through Forestry Interventions 2022
3. Archives of UNCCD-COP Documents
4. FAQs on Agroforestry (Hindi and English)
5. Special issue of Indian Forester on "Sustainable Land Management Practices to Prevent Land Degradation"
6. Compendium of Sustainable Land Management Practices
7. Technology for Manufacturing Plywood using single use plastics as a binding agent
8. SOP for Seed Collection and Handling; Nursery Techniques (Odisha); Plus Tree Selection; Seed Collection & Handling; Nursery Techniques; Plantation Techniques and Post Plantation Techniques
9. Transplantation of Trees - An Informative Manual for fresher's

Forest Research Institute (FRI):

Important Cumulative achievements:

- In Uttar Pradesh the areas affected by *Prosopis juliflora* and *Lantana camara*

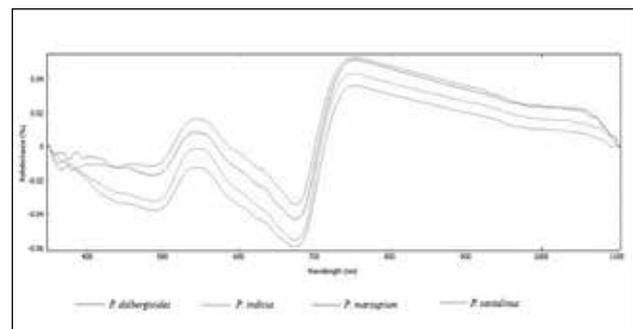
were estimated at 44,467.09 km² and 31,310 km² respectively. Four site-specific treatment models were prescribed for addressing the problem of *L. camara* and six models for *Prosopis juliflora* in UP. Specific recommendations were provided for restoration of degraded forests of Bundelkhand and Vindhya region in the state.

- A valuable technical database with comprehensive botanical, chemical, and medicinal information on 50 Lesser Known Forest Plants was created, serving as a resource for bioprospecting of these plants and providing directions for future studies.
- Developed protocol for isolation of a dark brown colorant in 28.04% yield from wild grown *Punica granatum*. The colorant exhibited excellent colour pay off, deposition, and even colour distribution in the desired substrates and found to be stable and resistance to fading after exposure to heat, durable and suitable for long-term use without causing irritation in cosmetic products.
- Management of Sal seed borer– *D. leptalis* was done under lab and field conditions. Fumigating the Sal seeds in laboratory with EDB + CCl₄ 0.02 ml/kg for 48 hours followed by EDB, PDCB and CS₂ at the same dose and duration for the maximum control of borer. In field, recommendation is to use Imidacloprid 19.87+ Beta cyfluthrin 8.49% OD at optimum concentration of 0.08% followed by Imidacloprid 17.8% SL and Cartap hydrochloride 50% SP at same concentration to obtain maximum percentage of control of the Sal seed borer.
- Under insect pest management of poplar using bio-pesticides, effect of artificial defoliation on poplar trees was assessed under field conditions. The results revealed a significant decrease in tree height, viz. 18.41%, 31.78%, 46.11%, and 60.01% at 25%, 50%, 75%, and 100% defoliation levels compared to the control. Tree volume increment loss reached up to 65.57% from July to October. This loss assessment depicts the economic loss of the poplar growth due to defoliation. To mitigate this loss, screening of 88 clones of *Populus deltoides* (poplar) was conducted. Among these, thirteen clones were found to exhibit relative superiority against the poplar defoliator.
- Eighty-nine rhizospheric soil samples were collected from Sonipat, Haryana and cultured. Four *Trichoderma* isolates were identified based on microscopic features through growth rate trials on different saline concentrations (50, 100, 150, 200, 250 & 500 mM), identified two isolates (SW1 & FB) having maximum salt tolerance.
- Assessed ecosystem functions of a limestone mine area in Chunakhala on Dehradun-Mussoorie road, restored 30 years back, in comparison to its adjoining natural forest. Higher diversity (Diversity index of 2.35, 2.55, and 2.81 respectively, for trees, shrubs, and herbs compared to 1.68, 2.05 and 2.26 in adjoining natural forest) was recorded in restored mine area. Annual litter production (5020.25 kg ha⁻¹y⁻¹), and soil microbial biomass (0.18 mg g⁻¹) in the restored mine area were comparable with that of the natural forest. The total above-ground and below-ground biomass estimated for the restored mine areas was far less compared to the adjoining natural forest at Chunakhala.



Institute of Forest Genetics & Tree Breeding (IFGTB), Coimbatore

- The bio-pesticide Hy-ACT developed using the tree borne seed oil of *Hydnocarpus pentandra* supplied to IWST for the management of *Hyblaea puera* in Mangroves areas in Mumbai Metropolitan Region reported significant reduction of the insect incidence.
- Prediction of suitable habitat mapping of *Anogeissus latifolia* through MaxEnt Model was developed.
- Developed rapid protocol for evaluating EcHKT1;1 gene edits in Eucalyptus using composite plant strategy.
- Eucalyptus composite transgenic expressing artemia CIC and NaKA genes were tested for salt tolerance. An improved salt tolerance in terms of survival of plants was observed in CIC expressing composite transgenics.
- For Red Sanders developed micro and micropropagation methods for mass multiplication of Red Sanders germplasm. The draft genome of red sanders and evidence of whole-genome duplication in the Eocene period with expansion of drought responsive gene families was documented. 51,713 consensus gene set were predicted with 31,437 annotated genes. Two novel barcodes identified for species authentication of red sanders
- *Prosopis juliflora* invasion in various districts of Tamil Nadu and habitat suitability for *P. juliflora* under current climate scenario were assessed. An extent of 4,70,48600 ha of the country is highly vulnerable for *Prosopis* invasion. By 2050, the very high suitability habitat in the country for *P. juliflora* has been predicted to increase by 24% (584,499 sq.km) under RCP 2.6.
- An *Azospirillum* sp. (nitrogen-fixing beneficial bacteria) was identified as a Zn solubilizer isolated from the *Tectona grandis*, rhizosphere soils also serves as a Zn biofertilizer for plants.
- Described a new species of the genus *Kalidasa* sp. nov. Latern bug (Hemiptera: Fulgoridae) and deposited in Zoo bank urn:lsid:zoobank.org:pub:5869955F-7F1D-4E27-BFBA-0E3D08D6F789 (IFGTB/Hem/28).
- The potential of leaf spectral signatures to distinguish the four *Pterocarpus* species (i.e., *P.santalinus*, *P. marsupium*, *P. indicus* and *P.dalbergioides*) was assessed and the results revealed that the red-edge region of the visible spectra showed the highest potential to discriminate the above species. This can be applied in mapping the species diversity using airborne high spatial resolution imaging spectroscopy.



Mean reflectance factor spectra of *P. dalbergioides*, *P. santalinus*, *P. indicus* and *P. marsupium*

- The near complete chloroplast genome *Dalbergia latifolia* was assembled from leaf transcriptome data. The genome was 158,966 bp long containing 116 genes. Phylogenomics study conducted with 27 *Dalbergia* species clustered *D. latifolia* with *D. cochinchinensis* and *D. obtusifolia*.

- The efficacy of the biopesticide Tee PAL^H has been evaluated on teak, mahogany and pongam and showed 70 – 80 % efficacy.

Rain Forest Research Institute (RFRI), Jorhat

- ICFRE-RFRI, Jorhat reported a macro fungus named *Galiellarufa* from the institute campus which is a new distribution record for Assam.
- A low-cost Pyrolysis System for Thermal Decomposition of Biomass was designed, indigenously developed and successfully tested. Test result showed that slow pyrolysis (5-6 hours) of composite necromass of tropical trees resulted in slightly higher than 3:1 conversion/recovery ratio for feedstock to biochar which is at par with the Lambiotte double-reactor system.
- Assessed the population of threatened rattans *Calamus acanthospathrus*, *C. nambareinsis* and *Plectocomia assamica* in Assam, Mizoram, and Nagaland. 10 populations of *Calamus acanthospathrus* and 8 populations of *C. nambareinsis* were explored from Mizoram and one population of *C. nambareinsis* was explored from Nagaland. 8 populations of *Plectocomia assamica* and 3 populations

of *C. nambareinsis* were explored from Assam. Produced seedlings of threatened rattans-*Plectocomia assamica* (50 nos) and *Calamus nambareinsis* (200 nos) at RFRI nursery, Jorhat for enrichment plantation in natural habitats and conducted sensitizing meeting with field staff.

- To assess the socioeconomic status and their dependency of forest resources of Manas Tiger Reserve, a total of 758 households comprising of population of 3687 persons in 40 forest fringe villages were surveyed. 47% of surveyed households revealed that they are collecting part of their fuelwood from Manas Tiger Reserve. There are 16.22% of households which either are sending their cattle inside the boundary of Manas Tiger Reserve for grazing or collecting fodder. Only 5% of total households were getting their partial livelihood from tourism activities.
- Studied the soil carbon pools under different land uses of Assam. A total of 451 collected soil samples from different rubber, coffee, tea gardens and reserved forests were analysed for pH, bulk density (BD), moisture content and SOC pools and TOC. The mean values of analysed samples



Double-Barrel Pyrolysis System



for BD are $1.37 (\pm 0.62)$, while the mean value of soil pH is $4.58 (\pm 0.19)$. Moreover, the mean value of SOC content in collected samples was 0.88%.

- Total 10,500 seedlings of important 23 native forest trees were planted in the degraded coal mined area. The survivability rate resulted is 84.75%. Seed balls were prepared and plantation through dribbling method was done.

Himalayan Forest Research Institute (HFRI), Shimla

- A study was conducted to investigate the field growth performance of male and female genotypes of *Populus ciliata* provenances viz., Khanola, Pahnala, Nashala, Solangnala and Gaganshil. Maximum GBH (56.01 cm) was observed for Khanola provenance, however highest total height (19.04 m) and clean bole height (6.34 m) were recorded for Gaganshil provenance. Solangnala provenance demonstrated largest crown width (5.60 m) and survival percentage (75.00 %). Females performed better for GBH (54.70 cm), total height (17.83 m), crown width (4.40 m) and males performed better in terms of clean bole height (6.10 m) and survival percentage (63.33 %).
- Documented different traditional agroforestry systems and species grown by local communities in 41 selected villages of Lahaul & Spiti and Kinnaur districts of H. P. and Kargil and Leh districts of Ladakh UT. Raised 5000 seedlings in total of preferred agroforestry species viz., *Populus nigra*, *Salix alba*, *Elaeagnus angustifolia*, *Prunus armeniaca*, *Juniperus polycarpus* raised at Model Nursery, Baragaon, FRS, Tabo and FRS, Leh.
- Carbon Stock potential and Carbon dioxide sequestration by *Salix alba* populations at Gue 1, Gue 2 of Lahaul & Spiti distt. Ladang and Gulling, H.P. were analyzed and maximum Carbon dioxide sequestration was observed at Gue 1 site.
- Mass inoculum of *Trichoderma* species was successfully produced on pine needles and utilized for the treatment of diseased Shisham trees.
- In *Salix* insect pest infestations were recorded for *Nematus povidus* and *Tuberolachnus salignus* in the field trials and analysis revealed significant resistance in genotypes G1T2, G2T3, G2T13, PT1, G2T11, GU2T2, and GU1T2 of *Salix* as compared to control and other genotypes.
- Meta-genomics analysis of mycorrhizal roots of *Abies pindrow* revealed 188 fungal genera associated with the roots; among these 26 were ectomycorrhizal. Ectomycorrhizal fungi were the most abundant among all the associated fungi, with *Tuber* having the highest abundance value.
- Prepared People Biodiversity Register (PBRs) of 152 panchayats of Kinnaur, Shimla, Solan, Sirmaur, Hamirpur and Bilaspur, districts.



Agri-Horticulture System, PohVillage Agri-Horticulture System, Hurling Village

Tropical Forest Research Institute (TFRI), Jabalpur

- In study of climate driven effects on Indian forests through long term monitoring, tagging and enumeration of 10 ha permanent plot at Kanha Tiger Reserve (KTR) was undertaken. *Terminalia tomentosa* was reported as the most common tree species with 364 individuals followed by *Diospyros melanoxylon* (293), *Ougeinia oojeinensis*(247), *Lagerstroemia parviflora*(169), *Cassia fistula* (103) and *Syzygium cumini*(113).



Installation of AWS at Kanha Tiger Reserve

- Evaluation trials of *Melia dubia* has been initiated in Central India and five sites viz. Morena, Chhindwara, Nagpur, Amravati and Durg were selected and 50 genotypes were planted. 80-90 % survival were recorded at initial stage of planting.



A view of *M. dubia* trial & collection of growth data

- Value Added Products developed from NTFPs like Mahua chocolates, Mahua

wound healing cream, Mahua handwash gel, etc. to utilize NTFPs and generate livelihood opportunities for tribal population.



- For Genetic improvement and conservation of Chironji (*Buchnanania cochinchinensis*) in Central and Eastern India, selected 139 phenotypically promising trees in three different categories i.e. Spreading, Semi-spreading and Upright in Betul, East Chhindwara, West Chhindwara, Katni forest divisions of Madhya Pradesh and Marvahi, Chhattisgarh. Data as per DUS (Distinctness Uniformity and Stability) guidelines notified.

- For development of Package of practices on *Gmelina arborea* (Khamer or Gamhar) in selected agroclimatic regions of India, total 340 CPTs were selected 210 in Jharkhand & Bihar and 130 in Chhattisgarh (70), Madhya Pradesh (45) and Maharashtra (15). Established 6 Progeny trials and 3 Seed Orchard (CSOs at: HRS, Kahikuchi, Assam, RARS, Diphu, Assam & SSO at: SRS, AAU, Buralikson, Golaghat). Established 06 *G. arborea* based agroforestry systems in the selected regions of India viz. *Gmelina* + *Brassica campestris* at TFRI, *Gmelina* + *Zea mays* at TFRI, *Gmelina* + Banana at Vadakadu, Pudhukottai, *Gmelina* + Papaya at Kangeyam, Thiruppur, *Gmelina* +



Casuarina + Groundnut at Soolakal, Pollachi and Gmelina + Chilly at IFB Hyderabad

- Processed *Cyprus rotundus* rhizomes and extracted essential oil by hydro-distillation from 113 accessions of 12 populations and the yield percentage was found in the range of $0.29 \pm 0.06\%$ to $0.7 \pm 0.01\%$.
- Tubers of *Curculigo orchioides* (Kali Musli) were collected from 11 MPCAs (Medicinal Plants Conservation Areas) of Madhya Pradesh. Tubers from Budhni, Sehore (M.P.) had high curculigoside content ($0.372 \pm 0.017\%$). Propagation through tubers revealed that apical buds of tubers showed early and higher germination rate (70-80%) than segments (40-50%). Multilocational trials were established at 03 places i.e. Narsinghpur, Mandla & Jabalpur to study the performance, growth attributes, chemical content and stability characters.

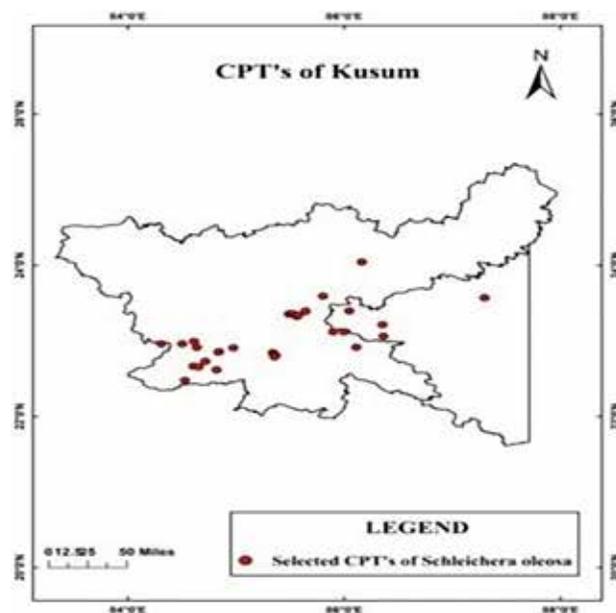
Institute of Forest Productivity (IFP), Ranchi

- In progeny of *Petrocarpus marsupium* established trial at Chandwa, Jharkhand 92% survival was recorded and the family collected from Arabari, West Bengal had maximum height of 7 feet. In the progeny trail at Arid village, Ranchi 56% survival and maximum height of 12 feet in Arabari family was recorded. First time progeny trial of the species has been established in eastern India.



Progeny trial in Chandwa, Jharkhand

- For selection of CPTs of Kusum, survey was conducted in different districts of Jharkhand and West Bengal and 63 CPTs have been selected. An average of 32-35% oil content was observed from the collected seed samples of Kusum CPTs. The CPTs selected from Simdega Division, Jharkhand exhibited highest oil content in terms of percentage compared to others.
- Nursery has been established from identified genotypes of poplar at Jadua Hajipur for raising ETPs. Four Clonal field trial of poplar has been established at Muzaffarpur (1), Nathpur Araria (1) & Jhakhra (2).
- Poplar based agroforestry models viz. Poplar-Litchi, Poplar-Wheat and Poplar Maize have been established at Mujaffarpur, Gaya and Araria for estimating the economics of the model. At Nathpur, Araria Poplar-Jute model established. In Barnihar, Narkatiyaganj, Poplar-Sugarcane model has been established. Poplar-Rice agroforestry model has been established at Jhakhra, Pipra Kothi, East Champaran in Kharif season of 2023.



Selected CPTs of Kusum across the study area

- For five productive clones of Poplar and its hybrids nonexclusive license was given to seven farmers and nursery growers for mass multiplication of released poplar clones of ICFRE-IFP, Ranchi. The nursery has been raised through stem cutting of released poplar clones.
- Flemingia based agroforestry model viz. Flemingia-cabbage, Flemingia-cauliflower, Flemingia-Chili, Flemingia-Tomato, Flemingia-Maize, Flemingia-Faba-bean etc. have been established at Roro, Khunti.
- In the mined-out areas and waste dump at Meghataburu planting of 8.50 hectare has been achieved by planting 1.50 and 7.00 hectare in the year 2022-23 & 2023-24 respectively. A total 12162 seedlings of 21 tree species and 7055 seedlings of 07 shrubs and grasses species were planted.
- In Rajrappa OCP mines Miyawaki plantation has been carried out in an area of 1.50 hectare and 2.00 hectare of overhead dumps plantation. Under Miyawaki plantation a total number of 19500 seedlings of 15 trees species and 9750 seedlings of 3 shrubs species were planted. Under overhead dumps plantation a total number of 1728 seedlings of 12 trees species and 864 seedlings of 04 shrubs species were planted on 2.00-hectare land.



Miyawaki plantation in Rajrappa

- The mortality suitable habitat of Sal (*Shorearobusta*) in Jharkhand using

MaxEnt species distribution models have been identified as “Highly suitable area” in term of sal mortality was predicted 7574.96 sq. km (9.50 %) of the total geographical area, which is a very good sign for forest health. Field survey analysis depicts some of the significant factors that could be responsible for Sal mortality including Staghead (dieback), Lightning, Waterlogging, Anthropogenic stress, Soil erosion, and Injury.

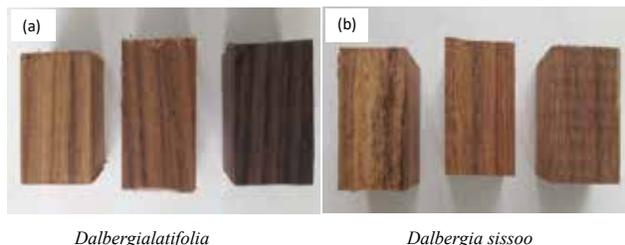
- After three years of clonal trial of Casurina at Chandwa and Arid, 76% and 30% survival were recorded respectively. In Chandwa, Clone no. CJ9 and CES recorded maximum survival of 81.94% and 84.02% and Clone CJ9 recorded maximum height of 29 feet and maximum girth of 46.30 mm. In Arid, Clone no CH-2 and CH-3 recorded maximum survival of 45% and 40% respectively with 20-22 feet of height after six months.
- Selected CPCs from different areas/regions is being maintained in the rhizome bank at ICFRE-IFP, Ranchi. Clonal wise plantation of 323 plants of 19 different bamboo species at FRC, Mandar has been successfully completed in 0.5 hectare of area. ICFRE-IFP, Ranchi distributed 500 *Dendrocalamus hamiltonii* seedlings for the plantation drive at Pahari mandir, Ranchi (in collaboration with Team GREEN)
- The seeds of 150 accessions of 15 populations of *Pithecellubium dulce* have been collected from 7 districts of Jharkhand. The fatty oil content in 07 populations varied from 13.62 to 18.46 %. Essential oil extraction from 100 accessions of *Cinnamomum cecidodaphne* of 10 populations, content varied from 1.67 to 1.03 %. In 23 populations of *Schima wallichii*, 230 accessions Kurseong (5.40 %) Panijhora (5.26 %), and Chelka 1 (4.58



- %) were found to be chemically superior populations of for dye extraction.
- For *Dalbergia latifolia*, progeny trials have been established at Chandwa, Ranchi, Jharkhand and vill- Harhad, Hazaribagh, Jharkhand. Progeny DLA 2-3 performed better under field trial with recorded average plant height 117.10 cm and average CD 12.08 mm.
- Field gene-bank was established in IFP nursery with 568 saplings of 6 species (*Buchanania cochinchinensis*, *Haldina cordifolia*, *Petrocarpus marsupium*, *Litsea glutinosa*, *Sterculia urens*, *Boswellia serrata*). Another field trial was established in Chandwa, Latehar, Jharkhand with 293 seedlings of 4 species, i.e. *Buchanania cochinchinensis*, *Petrocarpus marsupium*, *Litsea glutinosa*, *Sterculia urens*.
- Raised 47500 plant saplings and supplied plants and provided technical know how on the cultivation of medicinal plants to different stakeholder through farmers meeting and field visit. More than 1200 saplings has been distributed through “Ayush Aapke Dwar”

Institute of Wood Science and Technology (IWST), Bengaluru

- An integrated approach to distinguish *D. latifolia* and *D. sissoo* wood using TLC, UV-Vis., NIR spectroscopy and DNA barcoding along with anatomy has been developed. These analytical tools are suitable for distinguishing wood from two timber species i.e., *D. latifolia* and *D. sissoo*.



Dalbergialatifolia

Dalbergia sissoo

- Suitability of four hardwood species (*Hevea brasiliensis*, *Melia dubia*, *Grevillea robusta* and *Eucalyptus* hybrid) as well as their combinations has been evaluated for manufacturing cross laminated timber (CLT). The prepared CLT from these short rotation plantation timbers, including their combinations, met the European standard (EN 16351 -2015) requirements.



CLT prepared from plantation grown hardwood species

- Nano-emulsion of linseed oil (30%) with 2% zinc oxide nano-particle was found to provide excellent UV resistance to wood surface.



- Four number of Vacuum pressure treatment units were established in Manipur at four location viz., Sowmbung, churachandpur, Khangsime and Noney. At Sowmbung a Vacuum pressure treatment unit -22 feet length and 3.3 feet diameter was installed and at other three locations

Vacuum pressure treatment unit -22 feet length and 2.3 feet diameter were installed.

- An adhesive system to bond the veneers for plywood production using lignin a material of bio origin has been developed. The technology for the manufacture of phenol lignin formaldehyde resin adhesives for plywood was formulated for achieving Boiling water resistance grade plywood with 30%, 40% and 50% replacement of lignin for phenol in the resin preparation. Replacement of phenol by lignin minimizes the resin cost.
- Developed a non-destructive technique for estimation of heartwood of trees using Electrical Resistivity Tomography

Institute of Forest Biodiversity (IFB), Hyderabad

- One *Pterocarpus santalinus* progeny trial was established at Nelhal, Karnataka.
- Germplasm bank of *Madhuca longifolia* was established in IFB campus with grafted plants made of scion materials collected from phenotypically superior trees selected in Andhra Pradesh, Odisha and Telangana.
- Potential habitat suitability maps for *P. santalinus* have been generated for Andhra Pradesh and whole of India. 58 plus trees have been selected and their progenies raised. Vegetative propagation of *P. santalinus* through air layering of coppice shoots optimized.
- Three multi locational trials laid with *Eucalyptus camaldulensis* second generation clones in Telangana. (First MLT at Mulugu - 152 clones; Second MLT at Mulakalapally - 162 clones; Third MLT at Parsapalle - 152 clones). Growth assessment was done in first MLT and top fifty clones were identified for second level of trials.
- Data base for the distribution pattern of *Soymida febrifuga* (38 population), *Buchnanianaxillaris* (16 population), *Gardenia resinifera* (12 population), *C. speciosus* (15) and *G. superba* (16) have been generated and mapped. Germplasm bank of *Soymida febrifuga* (02 population), *Gardenia resinifera* (01 population), *C. speciosus* (15), *G. superba* (16) and *Pimpinella tirupatiensis* (04) established.
- Identified the 07 promising population of *S. febrifuga* (KNC-329, KNC-328, NUP, NM, RM, MA, and EK) for dye yield (32.11 to 29.13%) and 01 population of *B. axillaris* (Lenkagadda) for dye yield (30.38%) from Telangana. Identified promising populations of *G. resinifera* (04) viz. Moddulakudum (12.40%), Ankhoda (12.47%) Peddapally (12.57%) and Peddabanda (12.80%) based on total flavonoid content using Quercetin standard.
- Developed a novel herbal hair gel formulation using *S. febrifuga* bark dye in association with R&D Global Thane, Maharashtra which was found to be stable over a period of three years and gave a golden blonde colour with reddish tint to the hair upto seven washes. The hair colorant gel tested in-vivo and found suitable for human uses.
- Recorded data for 18 villages harvesting, post harvesting and procurement data of prioritized 10 major NTFP species/parts of Telangana were recorded which revealed *Strychnos nux-vomica* seed was the major harvested NTFPs followed by *Madhuca longifolia* flower/fruit/seed, *Decalepis hamiltonii* root and *Terminalia chebula* fruit and GCC, Govt. Telangana purchased from them at MSP.
- Recorded data for 14 villages traditional



knowledge for treatment of four chronic diseases which showed that plant parts especially leaves and bark from trees was used for preparation of formulation for application on affected area. It has also been observed that *Gymnema sylvestre*, *Kalanchoe pinnata* and *Andrographis paniculata* are the widely used species to cure Diabetes while *Terminalia arjuna* is widely used species for heart related diseases.

- Identified in transcriptome data sequences of novel deltapartitviruses in *Neolamarckia cadamba* and novel cholivirus in *Gymnema sylvestre*.
- Permanent research plot of 10 ha area has been installed in the Dry deciduous forests of Narsapur Reserve Forest for monitoring the impact of climate change on forests.
- A total of 200 mangrove seedlings were planted in 4 block plantations at two locations (142 at Appikonda and 58 at Bheemili)
- The technique called REM (Riley encased methodology) developed and successfully implemented for the purpose of establishing mangroves along high-energy shorelines of Gosthani river confluence, Visakhapatnam. Results indicate that seedlings planted within PVC encasements had the highest survival (91.66%) because of their protection from waves and currents.

Scheme on “Strengthening Forestry Research for Ecological sustainability and Productivity Enhancement” Funded by National Authority CAMPA (2019-2025)

- A. **Component-1** on 31 All India Co-ordinated Research Projects - 13 species-based projects on Teak, Poplars, Casuarina, Eucalyptus, Tamarind, Bamboo, Sandalwood, Redsanders, *Dalbergia sissoo*, *Madhuca longifolia*, *Dalbergia latifolia*, Neem & *Gmelina arborea* and 18 theme

based projects of Nano technology, NTFP, biopesticide, bio fertilizers, climate change and soil etc.

- In species-based project location selection, germplasm collection from natural populations, Mass multiplication, clonal trail, progeny trials, breeding programs and field demonstration has been achieved:
 - In *Casuarina* established 05 clonal trials in 09 locations.
 - Out of 450 CPCs of several bamboo species, macro- propagation of superior germplasm of selected bamboo species has been carried out and Rhizome bank of different bamboo species have been established at FRI, IFGTB, HFRI, and IFP Ranchi.



Germination of tubers of kali musli under natural shade

In Sandalwood, established one field trial (1 ha) with 7 seed sources at Kanasar village Bap Tehsil, Jodhpur district.



Conal trial of Teak at ICFRE-IFP, Ranchi, Jharkhand

- In Eucalyptus, established 04 Multi locational trails for Eucalyptus (Birsa Agriculture University Farm, Kanke Ranchi; Harhad, Hazaribagh; Jaisalmer and Prayagraj).
- In Teak, clonal trials established in Tamil Nadu, Kerala, Karnataka and Chhattisgarh. About 7 lakh plants have been provided to the Chattisgarh forest department for planting in farmers fields. Initial survival reported is 90 to 95%.
- For Mahua, Vegetative Multiplication Garden (Clonal Orchard) & Seedling Seed Orchard established at Guru Ghasi Das University campus, Bilaspur, Chhattisgarh.

In *Gmelina arborea*, progeny trials of 14 selected progenies have been raised in Seothi and Bithmera, Haryana. Seeds of *Gmelina arborea* have been collected from 9 identified CPTs from Bihar, 15 identified CPTs from West Bengal and 26 identified CPTs from Jharkhand.

- For *Azadirachta indica*, in ACZ 13 the lowest and highest values of *Azadirachtinin* ppm units were found to be 174.12 and 2412.67, respectively. Likewise, for ACZ 14 the lowest and highest values were found to be 114.93 and 2052.11, respectively. Oil content from 100 seed samples for ACZ 14 (Rajasthan) ranged from 25.03 and 52.17%. For ACZ 13 (Gujarat), the oil ranged between 21.16% to 48.1%.

- Developed Seed germination protocol for 27 species.
- Developed techniques for propagation through seeds and vegetative parts for mass multiplication for *Semecarpus*

anacardium, *Flacourtia indica*, *Limonia acidissima* and *Pithecellobium dulce*.

- Developed bio-fertilizers such as *Azospirillum lipoferum*, *Azotobacter chroococcum*, Phosphobacteria, Potash Mobilizer and *Trichoderma viride* to be used in *Gmelina arborea*, *Melia dubia*, *Santalum album*, *Dalbergia sissoo* and *Capparis decidua* across ICFRE institutes. Biopesticide Tree PAL^h tested at multi locations (7 locations) across the country against insect pests of commercially important tree species showed significant results.
- Fire sample tool kits (Kit-1 hand tools (15 sets) and Kit-2 safety clothing (06 sets)) has been sent to SFDs of Uttarakhand, Odisha and Kerala for testing in actual field conditions.
- Chemical composition of *Punica granatum* peels derived dye using LC-QTOF-MS was established. Processes for preparation of a herbal hair colorant using *Woodfordia fruticosa* flowers derived dye and cookies from *Pithecellobium dulce* seeds were developed.
- Value added products of *Ficus palmata* (Himalyan Fig Jam, Himalyan Fig Candy, Dried Himalayan Fig, Fig Squash) prepared.
- The forest soil health card for Ladakh (2) & MP (63) released and for Puducherry (2), Haryana (22), Delhi (4), Chandigarh (1) has been prepared.
- In wood industry-based projects “Pilot scale microwave vacuum dryer” and “Microwave based moisture meter system” for wood drying designed, fabricated and installed. Eco-friendly wood preservatives/coating of linseed oil emulsion embedded with zinc oxide (ZnO) and cerium oxide (CeO₂) nanoparticles embedded developed for wood industry.



- Design & developed a bending testing machine capable of testing bamboo up to 40 feet length as per new Indian standard IS:6874(2008) and International standards ISO:22157 (2004/2019).
 - To monitor the impacts of climate change on Indian forests, ICFRE in 46 permanent research plots in different forest types with an area of 152 ha studied the biodiversity of the respective areathrough its nine institutes. A total of 1,84,361woody individuals above 1 cm DBH have been measured, mapped and tagged with unique numbers so far covering 84 ha following CTFS (Center for Tropical Forest Science) protocol. A book titled “Floral diversity of Kanha Tiger Reserve (Sarhi Range)” has been published.
- B. **Component II:** Programme for Conservation and Development of Forest Genetic Resources (FGR).157 FGR species documented from Forest divisions of 9 states. Regeneration status studied for 27 species. Eco-distribution mapping was done for 84 species. Prediction mapping was done in 2 FGR species. Seeds collected from 96 species. Viability testing was performed in 20 species. Genotyping of 11 species was carried out. Raised seedlings of 7 species from different populations.
- C. **Component-III:** Under Policy Research Studies 02 studies have been completed on ‘Popularization of the use of wood and wood substitutes as per the National Forest Policy and Modalities for facilitating industries for its optimum utilization’ by NCCF, New Delhi and ‘Grazing Policies in different state and Formulation of grazing policy guideline for states’ by SRPDR, Bhopal.
- D. **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.



Seedlings raised at nursery for establishing field gene-banks: (a) *Litsea glutinosa*, (b) *Boswellia serrata*, (c) *Haldina cordifolia*; (d) *Pterocarpus marsupium*; (e) *Sterculia urens*; (f) *Oroxylum indicum*

- E. **Component V:** In Operationalization of Human Resource Development Plan of ICFRE Under this component total 325 participants have been trained in scientific, technical and administrative aspects.
- F. **Component VI:** Under Operationalisation of Forestry Extension Strategy and Action Plan of ICFRE; Established 01 VVKs, organized Two Tree Grower Melas/Kisan Melas, conducted 44 Trainings under VVK, 07 trainings under DV, produced 12

documentaries, developed 04 mobile apps and established demonstration plot of 10 Poplar clones at Trewa Arnia, RS Pura, Jammu in collaborations with KVK Jammu, Four Agroforestry demonstration plot for *Melia dubia* at Sambhalkha, Ambala (Harayana), Birampur, Garhshankar (Punjab) and at Baro, Prayagraj (Uttar Pradesh) with area coverage of 1 ha and 0.15 ha of VMG of *Calophyllum innophyllum* at Panampally, Kerala.

Environmental Knowledge and Capacity Building: Forestry Training and Capacity Building (CS)

FINANCIAL OUTLAY (Rs in Cr)	OUTPUTS 2024-25			OUTCOMES 2024-25		
	2024-25	Output	Indicators	Targets 2023-24	Outcome	Indicators
11.43	1.1 Creation of pool of IFS officers equipped to handle new technologies, new ideas	1.1 No of officers trained	2084	1. Build-up of pool of specialized officers	1.1 % of trainees applied new skills acquired through training	100
		1.2 No of training/ refresher courses held	101			

Bengal, Uttarakhand & Uttar Pradesh for carrying out the afforestation activities over 20944 ha and livelihood improvement activities of forest dependent communities.

- Various livelihood improvement activities like fish farming, Mahua collection, Lac cultivation,

a. Progress/Achievement

S. N.	Name of Scheme / Programme	Objective/ Outcome	BE 2023-2024 (Amount in Crores)		Quantifiable Deliverables / Physical Outputs	Projected Outcomes	Pro-cesses/ Timelines	Remarks / Risk Factors
1.	Capacity Building in Forestry Sector, Directorate of Forest Education (State Forest service and Rangers college) Central Scheme (CS)	1. Induction training of State Forest Service (SFS) Officer and Forest Range Officers (FRO) Short-term Workshops / GRC for in-service SFS Officers and FROs Training under "Forestry Training and Capacity Building" for Other Stakeholders and Personnel of Other Services Training on "Forest Fire Prevention & Mitigation Strategies"	BE Revenue – Rs. 17.00 Cr Capital-Communication – Rs. 2.10 Cr Capital- Buildings - Rs.18.90 Cr Total- 38.00 Cr	Exp. Revenue – Rs. 10.00 Cr Capital-Communication – Rs. 1.00 Cr (upto 16.11.23) Capital- Buildings – Rs. 5.24 Cr (upto 31.10.23)	1. New SFS induction training 2. Undergoing of SFS induction training Passed out induction training New FROs induction training Undergoing of FROs induction training Passed out of FROs induction training One-week Workshops / GRC for in-service SFS Officers & FROs Organizing three	01 batch 04 batches 01 batch 03 batches 06 batches 10 batches 03 courses 09 training 01 training 04	----	All the activities will be undertaken as per General Rules and Financial Rules and orders Moreover this is also subject to audit. On demand



S. N.	Name of Scheme / Programme	Objective/ Outcome	BE 2023-2024 (Amount in Crores)		Quantifiable Deliverables / Physical Outputs	Projected Outcomes	Pro-cesses/ Timelines	Remarks / Risk Factors
		for NDRF funded by the NDMA Training under National Collaborative Scheme on "Forest Fire Management" (CAMPA) for Frontline Staff Organizing training / workshop for IFS officers Refresher Courses for in-service Deputy Rangers / Foresters / Forest Guards of the States / UTs and one-week workshop for FROs. Courses on Forestry for Sister & other organizations on request			days training under "Forestry Training & Capacity Building" Training on "Forest Fire Prevention & Mitigation Strategies" for NDRF funded by the NDMA Training under National Collaborative Scheme on "Forest Fire Management" (CAMPA) for Frontline Staff Organizing training / workshop for IFS officers Forestry skill development certificate courses on different themes	training 01 training 2 workshop ---		

Name of the Scheme/Programme

Directorate of Forest Education, Dehradun

Capacity Building in Forestry Sector, Directorate of Forest Education (State Forest Service and Rangers College) Central Scheme (CS)

7.8 NATIONAL AFFORESTATION AND ECO-DEVELOPMENT BOARD (NAEB):

In order to promote afforestation, tree planting, ecological restoration and eco-development activities in the country, the National Afforestation and Eco-Development Board (NAEB) were set up in August 1992. Special attention is also given by NAEB to the regeneration of degraded forest areas and lands adjoining forest areas, national parks, sanctuaries and other protected areas as well as the ecologically fragile areas like the Western Himalayas, Aravallis, and Western Ghats etc.

The following are projects/schemes operated in NAEB:

1. Nagar Van Yojana

The Nagar Van Scheme was initiated during June, 2020, by revamping the Nagar Van Udyan

Scheme (2015) during 'World Environmental Day Celebrations. The implementation of the revamped "Nagar Van" Scheme aimed to develop 'Nagar Vans/Vatikas' across the country. The Scheme focuses on peoples' participation, and is to be implemented in collaborative mode by various agencies. The primary objective is to create forest/green spaces in urban areas by developing Nagar Van/Vatikas, with a view to protect forest land within cities/towns or its fringes from degradation and encroachment. NVY envisages developing 1000 Nagar Vans/Vatikas in the country during the period of 2020-21 to 2026-27 with the Central grants of Rs.1535 crores from funds under National Authority of CAMPA. 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.

Progress: Total 421 projects are sanctioned and First installment of Rs. 28603.81 Lakhs has been released.

2. School Nursery Yojana

The Ministry is implementing School Nursery

Yojana' in the country. The School Nursery Yojana aims to provide an environment for the students to understand and appreciate the significance of plants in maintaining and sustaining the natural eco-system. Around 5000 school nurseries are proposed to be developed in five years from 2020-21 to 2024-25. The scheme is being funded from CAMPA. An amount of Rs.49.50 crore has been allocated tentatively for the period of five years (2020-21 to 2024-25) for implementation of SNY in the country.

The Scheme will be implemented for a period of five years and all public and private schools recognized by State Boards /Central Government Boards shall be eligible to implement the scheme. Every year 1,000 schools will be selected and each school will raise 1000 seedlings.

Progress: So far, Ministry has approved sanction and release of Rs. 5.78 crores to 743 School Nursery projects in 21 States of the country.

3. Eco Development Forces(EDF)

Eco-Development Forces Scheme was established in 1980s as a scheme implemented through Ministry of Defence for ecological restoration of terrains, rendered difficult either due to severe degradation or remote location or difficult law and order situation.

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 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 nuclear core of the force is constituted of regular servicemen. Presently there are six ETFs operating in 4 states of India. So far, an amount of Rs. 54.20 Crores

has been released under the scheme by the Ministry in the year 2023-24.

4. National Afforestation Programme (NAP)

NAP has been merged with Green India Mission (GIM). And the committed liabilities are to be given under Green India Mission (GIM).

7.9 NATIONAL GREEN INDIA MISSION:

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.

Activities undertaken GIM activities were started in year 2015-16 and so far, a sum of Rs. 836.36 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. 86.86 crore has been released to ten states namely Haryana, Karnataka, Madhya Pradesh, Manipur, Mizoram, Punjab, Sikkim & West



making of incense sticks, computer trainings, driving, Sitafal processing, Sewing, bee keeping, poultry, Processing and packaging of NTFPs, etc. has also been taken up by members of JFMCs.

Continuing committees/commissions

- The National Executive Council (NEC) has approved Annual Plan of Operations (APOs) for carrying out the GIM activities in 17 States (including Uttar Pradesh) and one Union Territory for the FY 2023- 24 and balance work of FY 2022-23.
- The 1st Meeting of the National Governing Council of the Green India Mission was held under the chairmanship of Hon'ble Minister wherein the review of the Implementation of the Green India Mission was done and suggestions were made for enhancing the impact and the outreach of the interventions being done under the Mission.

Progress/Achievements

A sum of Rs 836.36 Crore has been released to seventeen states and one union territory from the year 2015-16 to 2023-24 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:

State-wise funds released for afforestation

S. No.	Name of the State	Creation of Plantation (Area in ha .)	Funds Released (Rs. in crore)
1	Andhra Pradesh	1433	6 . 19
2	Arunachal Pradesh	-	34.7 1
3	Chhattisgarh	19128	72.75
4	Haryana	1301	14.74
5	Himachal Pradesh	-	17.09

6	Jammu & Kashmir	1066	32 .22
7	Karnataka	2722	18. 67
8	Kerala	12297	25.47
9	Madhya Pradesh	26597	99.65
10	Maharashtra	5223	10.3
11	Manipur	14432	62.66
12	Mizoram	19643	160.2 1
13	Odisha	207 11	75.78
14	Punjab	6568	26 .95
15	Sikkim	6567	30.49
16	Uttarakhand	14836	132. 10
17	West Bengal	2606	10.95
18	Uttar Pradesh	-	5.43
Total		155130	836.36

(4) Grant-in-aid

Funds released to the State Forest Development Agencies (SFDA) for carrying out the GIM activities during the FY 2023-24 under the Green India Mission (01.04.2023 to till date):

Funds released to State Forest Development Agencies

S. No.	Name of Organization	Funds Released (Rs. in Crore)
1	SFDA, Haryana	5.19
2	SFDA, Karnataka	2.33
3	SFDA, Madhya Pradesh	8.62
4	SFDA, Mizoram	21.13
5	SFDA, Manipur	8.91
6	SFDA, Punjab	5.38
7	SFDA, Sikkim	7.5
8	SFDA, West Bengal	0.76
9	SFDA Uttarakhand	21.6 1
10	SFDA, Uttar Pradesh	5.43
Total		86. 86



CHAPTER - 8

**CONSERVATION-
WILDLIFE**



8.1 Wildlife Conservation:

For the conservation of wildlife in the nation and dealing with its policy, legal and finances, the Wildlife Division of the Ministry of Environment, Forest and Climate Change act as a Nodal Division. The Wildlife wing 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 also provides financial support to the States/UTs for conservation of wildlife and their habitats through the Centrally Sponsored Scheme-Development of Wildlife Habitats (CSS-DWH).

Activities undertaken:

Matters related to Wild Life (Protection) Act, 1972

- Increase in Protected Area Network in the Country, Project Dolphin & Lion, Human-Wildlife Conflict Management, Indo-German Technical Cooperation Project on Human –Wildlife Conflict Mitigation in India, Wildlife Week, 2023 Celebrations, GoI, UNDP-GEF SECURE Himalaya Project and MoEFCC-GEF funded ‘Small cats Project’

Progress/Innovations:

Enforcement of Wild Life (Protection) Amendment Act, 2022 and framing of Rules:

The Wild Life (Protection) Amendment Act, 2022 has been enforced from 1st April, 2023 and during the period rules have been notified under the Wild Life (Protection) Act, 1972 subsequent to the amendment.

Protected Area Network in the Country:

A considerable magnification in the Protected Areas (PAs) of the nation is observed during the period. The number of the PAs is now extended to 998 in the country. It covers an area of

1,73,629.52 Sq. Km which is 5.28% of the total national geographic area.

Project Dolphin:

The ‘Project Dolphin’ was announced by the Hon’ble Prime Minister in his address on 74th Independence Day on 15th August 2020. The Project Dolphin is envisaged to conserve both the marine and riverine dolphins as well as associated Cetaceans under its conservation programme.

The following progress has been observed during the period along with the incepted activities:

1. States of Assam, Rajasthan, Madhya Pradesh, Punjab and UT of Lakshadweep have identified dolphin hotspots.
2. Species conservation and habitat improvement; monitoring and patrolling; facilities for staff and awareness generation programmes have been initiated as part of Dolphin conservation with financial support from Ministry.
3. A Comprehensive Action Plan for Project Dolphin (2022-2047) has been finalized and shared with the concerned line Ministries with a request to initiate actions.
4. A Joint meeting of the Committees for Scientific research for riverine and marine dolphins was convened to deliberate on matters related to research on dolphins.
5. The population estimation of riverine dolphins is complete and the report is being finalized. A meeting with all coastal and marine dolphin range states and stakeholders was convened.
6. Ministry has re-constituted the Project Dolphin Steering Committee in pursuance of the recommendation of the Committee of Secretaries.

7. The Wild Life (Protection) Act, 1972 has been amended in December 2022, which also provides for empowering the Indian Coast Guards for search, seizure, arrest and detention.
8. The Wild Life (Protection) Amendment Act, 2022 includes Gangetic River Dolphin (*Platanistagangetica*) and Indus river dolphin (*Platanista minor*) as two different species in Schedule I of the Act.
9. During the year 2022-23, an amount of Rs. 241.73815 lakhs and for the year 2023-2024, an amount of Rs. 248.18052 lakhs have been sanctioned to States for Dolphin conservation activities under the CSS: Development of Wildlife Habitats.
10. All concerned states have been requested to associate with the regulations of the International Whaling Commission for Project Dolphin by designating Dolphin Commissionaires for riverine dolphin habitats and Whaling Commissionaires for marine habitats.
11. A Tri-partite meeting with States of Madhya Pradesh, Rajasthan and Uttar Pradesh was held wherein the length of the stretch of the Chambal River from Chambal Bridge, Dholpur area till the Yamuna confluence of the Chambal River (~200 km) within the Chambal Sanctuary in the states Rajasthan, Uttar Pradesh, and Madhya Pradesh was recommended for declaration as Conservation Zone for dolphins by the State Governments for focused activities.
12. A meeting regarding Irrawaddy dolphins was conducted in Odisha in the presence of the Honourable Minister of Environment, Forest, and Climate Change.
13. The Dolphin Steering Committee Meeting was convened on the 6th of September

2023 under the chairmanship of the Secretary, EFCC.

14. The first edition of the quarterly Newsletter for Project Dolphin was launched at the Dolphin Steering Committee Meeting.
15. Representatives of the Ministry participated for discussions on Global Declaration for River Dolphin on 23-24 October 2023 at Bogota, Colombia.

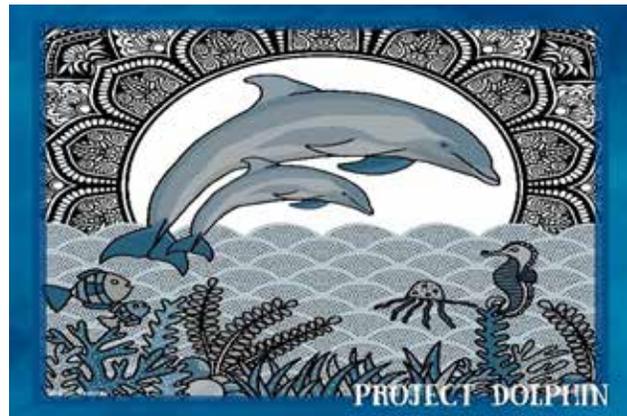
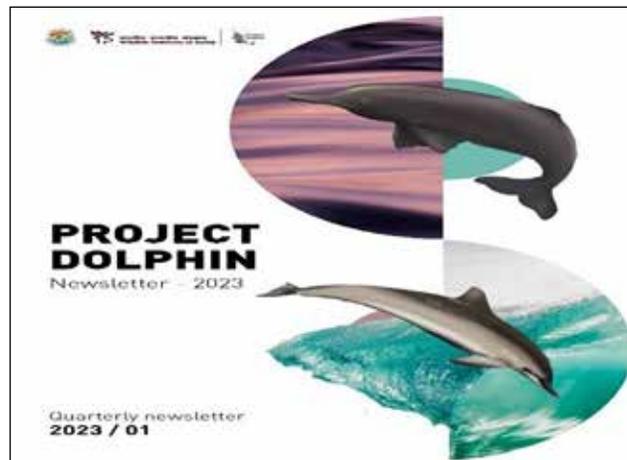


Illustration of Project Dolphin



Project Dolphin Newsletter-2023

Project Lion:

The 'Project Lion' was announced by the Hon'ble Prime Minister in his address on 74th Independence Day on 15th August 2020 for recognizing the best interest of Asiatic Lion for securing their future and proliferation. The Project Lion envisaged a long-term conservation



Launching of the first edition of Newsletter of 'PROJECT DOLPHIN' by Secretary, EFCC in presence of Dolphin Steering Committee

of Asiatic Lions in the nation.

The following advancements have been observed during the period under this project:

1. A Steering Committee meeting for Project Lion has been conducted under the Chairmanship of ADG PT & E.
2. The activities conducted by the Gujarat Forest Department are:
 - a) Habitat improvement; Monitoring through radio-collaring, camera trap, telemetry, SIMBA, and patrolling through e-Guj; Human-wildlife conflict management; Eco-development works; Awareness generation and sensitization
3. Blueprint for Establishment of All India Wildlife Disease Diagnostic Research and Referral Centre has been prepared; and sites identified have been handed over for implementation to the State Forest Department.
4. The document titled 'Project Lion: Lion @47 vision for Amrutkal' has been prepared

and shared with the State Government of Gujarat for further action.

5. A Lion Cell has been created to look after Lion conservation issues.

Human-Wildlife Conflict Management:

During the period the National Human-Wildlife Conflict Mitigation Strategy, an Action Plan (2021-2026) has been developed using the participatory approach to bring a common understanding and consensus among the key stakeholders on the approaches and possible solutions to mitigate human-wildlife conflict in the country. Further, species specific guidelines for mitigation of human-wildlife conflict have also been issued by the Ministry. The regulatory functions for dealing with Human-Wildlife conflict situations is provided by the Wild Life (Protection) Act, 1972.

Indo-German Technical Cooperation Project on Human –Wildlife Conflict Mitigation in India:

An Indo-German Technical Cooperation Project on “Human Wildlife conflict mitigation in India”, has been commissioned by the German Federal Ministry for Economic Cooperation



and Development (BMZ), and implementation by *Deutsche Gesellschaft fur International Zusammenarbeit (GIZ)* in partnership with the MoEFCC, Government of India, and the State Forest Departments of Karnataka, Uttarakhand and West Bengal in June 2023.

Hon'ble Minister, EF&CC has released 14 guidelines to address Human-Wildlife Conflict in the country in a holistic manner, developed with support from GIZ under the project on Human-Wildlife Conflict Mitigation in India.



Guidelines (In bilingual version)

Wildlife Week, 2023 Celebration:

The Hon'ble Prime Minister of India Shri Narendra Modi delivered a message on the occasion of Wildlife Week, 2023. Throughout the nation, various activities like painting competition, webinars, documentaries, Competition on Wildlife Photography were taken place at

different level to create awareness among every group of the citizens.

Achievements in Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

A team of Indian delegates attended the 77th meeting of Standing Committee of CITES held in Geneva, Switzerland, in November 2023 and bagged remarkable achievement as India was removed from the process of Review of Significant Trade (RST) for Red Sanders, under



Do & Don'ts (In bilingual version)

CITES. India was also placed under 'Category-1' for the CITES National Legislation Programme.

GoI, UNDP-GEF SECURE Himalaya Project:

The GEF funded SECURE Himalaya entered into sixth year of implementation. This year marks consolidation and replication of ongoing activities,



as per the recommendations of Independent Mid Term Review conducted in 2022. In Uttarakhand, 10 ha of sea buckthorn plantation on degraded forest land area for restoration purposes was done and a sea buckthorn processing unit is under establishment. The activity is providing the opportunity of income generating livelihood to approx. 400 households in 8 villages. Farmer Producer Organisation working on Apple based product development has been established in the market and received special invitation to participate in Republic Day celebration 2023 from Prime Minister Office.



Products derived from Sea Buckthorn

- i. 180 personnel from different law enforcement agencies were trained with the technical help from Wildlife Crime Control Bureau (WCCB) and TRAFFIC-India.

Forest Department, Himachal Pradesh in collaboration with WCCB notified a high-level Inter-Agency Coordination Committee to improve the interagency coordination for better coordinated efforts to tackle the important issues of wildlife crime and illegal trade in wildlife. Wildlife Information Management System (WMIS) and a Mobile App was successfully set up and deployed in Uttarakhand under SECURE Himalaya Project. The same system has been replicated in Himachal Pradesh for reporting of human wildlife conflict cases, submitting compensation claims, wildlife sighting, occurrence and abundance data collection. Director General of Civil

Aviation certified drone pilot training course was organized for a total number of 10 Forest officials in collaboration with *Indira Gandhi Rashtriya Uran Akademi* and State Government.

- ii. In Sikkim, SECURE Himalaya project successfully demonstrated decentralised food waste management through installation of Organic Waste Composter Machine at an Army transit camp at Kyongnosla, East Sikkim. The installed machine takes the food waste and converts it into compostable soil material overnight. This intervention has been helpful to demonstrate a technology that promotes decentralised waste management and also help reduce feral dog numbers.

The TungkyongDho Lake in HeeGyathang Gram Panchayat was declared as Sikkim's first Biodiversity Heritage Site in collaboration with State Biodiversity Board.

- iii. The SECURE Himalaya project supported the Administration of Ladakh in setting up India's first Dark Sky Reserve in Hanle village cluster, which amalgamates the objectives of wildlife conservation, habitat improvement, and livelihood enhancement and diversification, together. Similarly, in Rong Valley, the project has developed and is promoting responsible, community-led ecotourism in the region offering enriching experience of wildlife, culture, adventure sports, food, and wellness.

The project has been working in the basin of TsoKar, a Ramsar site, on the promotion of sheep and yak wool value chains, to build resilient communities, harmonise human-wildlife conflicts, and improve rangeland management in the region with more than 100 community members to

introduce new technologies, techniques and improved processes to augment the value of these neglected wool fibres at the source. In Gya-Meru village cluster, successful demonstration of Animal Intrusion Detection and Repellent System (ANIDERS) have reduced losses from crop-raiding by blue sheep has proven to be highly efficient.

MoEF&CC –GEF funded ‘Small cat Project’:

The project is supported by Global Environment Facility (GEF), and is being implemented by the MoEF&CC and 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 envisions the inclusion and integration of small cat needs into the existing big cat conservation mandate for the conservation of all wild cats to be considered together. Conservation of nine small cat species from three landscapes in the partner states through a centrifugal approach is envisaged. The focal species through targeted intervention are 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:

Conceptual Framework of the Landscape Master Plan and Population Assessment and Monitoring Protocol: The conceptual structure and design for a landscape-centric strategy and monitoring protocols have been deliberated in workshops held at the three landscapes with relevant

stakeholders from the forest department and subject matter experts. Profiling of the landscape and small cat species distribution therein is underway for the Pakke-eaglenest and Dudhwa landscapes.

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 three partner states, assurance partners, and business houses. The contours of the trust fund structure and strategy for collaborating with business houses were deliberated. The state representatives are now in the process of identifying the key investment areas in the landscapes.

Community awareness for wild cat conservation raised at sub-national levels: Awareness regarding diversity of wild cats in India with their cultural and ecological values has been generated amongst the youth through the organization of a “special wild cats football tournament” with small cats and wildlife species being the mascots for each of the teams. This led to immense outreach and dissemination of information regarding small wild cats, with the youth pledging to protect the species and associated natural resources. Badminton tournament in the Pakke-Eaglenest landscape have also been supported under the project to increase awareness and foster community stewardship. On the occasion of ‘International Clouded Leopard day’ on August 4, a special webinar on the global and national status (both in-situ and ex-situ) was organized for the general public.

Financial assistance under Centrally Sponsored Scheme-Development of Wildlife Habitat:

Financial assistance has been 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.

8.2 Wildlife Crime Control Bureau:

Establishment and Mandate: The Wild Life Crime Control Bureau (WCCB) was constituted by the 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.

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.

Activities undertaken:

- Collection, collation and dissemination of 87 intelligence inputs on wildlife crime and criminals to the Central/ State agencies concerned for operations / joint 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 – 46 Wildlife Crime cases detected in Joint Operations conducted by Bureau with other State/ central Enforcement Agencies during the period.

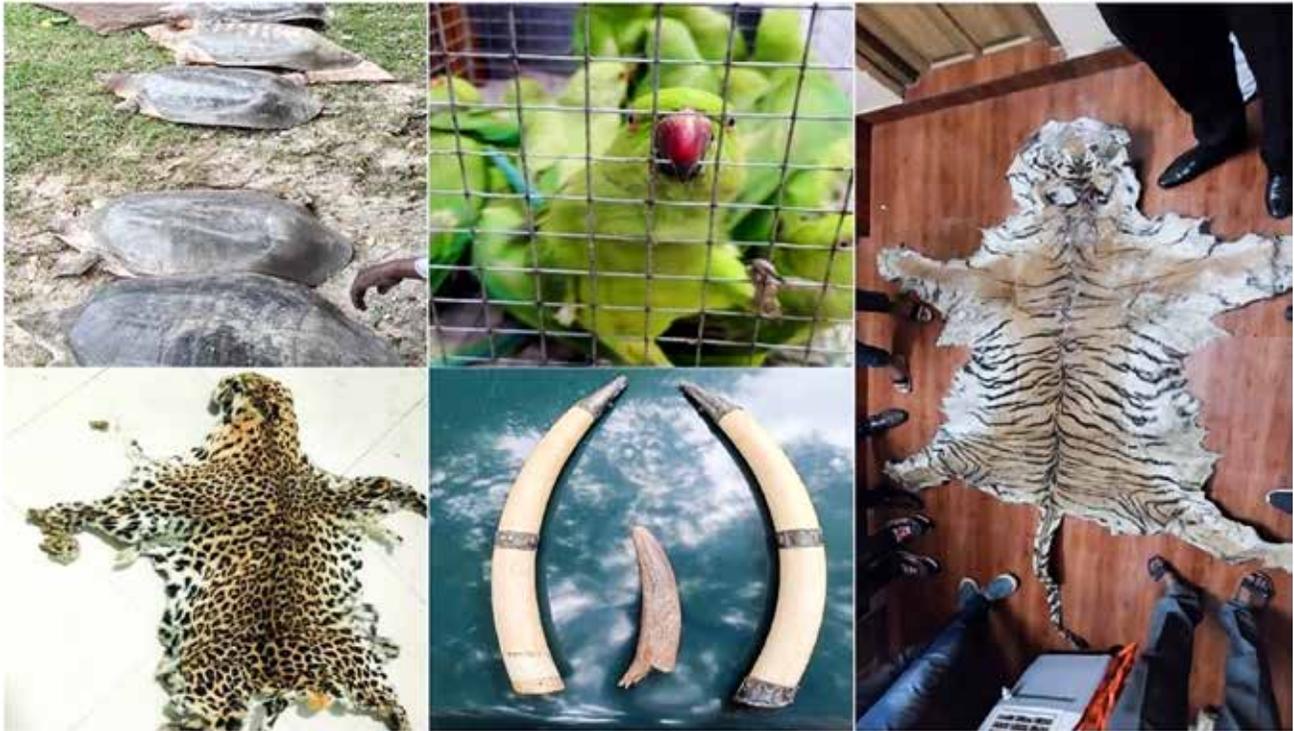
- Assistance in investigation and prosecution of important wildlife offences being investigated by other agencies: Assistance to the State authorities in investigation was provided in 33 new cases during the year.
- Capacity building in dealing with wildlife crimes and investigation of wildlife offences:-
 - Conducted 12 two days capacity building training courses on investigation of wildlife offences and intelligence tradecraft for 539 Police and Forest officials.
 - Conducted 51 Sensitization programmes/ workshops/ online webinars for the Central and State agencies on issues related to wildlife crimes and identification of wildlife articles in which 3224 Officials participated.
 - Conducted 09 PRI Sensitization programmes for the PRI members/ Villagers on issues related to wildlife crimes and protection of wildlife in which 587 PRI members participated.
 - Provided expert resource persons to various training centers and enforcement agencies for sensitization on wildlife and wildlife crime.
- Sensitization and awareness campaigns on wildlife and wildlife crimes to public and other stakeholders.
 - 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: -
 - Conducted 46 Joint operations with other agencies for prevention of wildlife crime.
 - Three Special Enforcement Operations coordinated by WCCB were launched with a focus on specific species related crime as well as on online illegal wildlife trade.
 - ICCA Alumni to attend International Conservation Chiefs Academy (ICCA) Training from 20th to 22nd June 2023 at Bangkok Thailand.
 - Assisted the Customs Department in inspection of consignments in respect of violations of WLP Act, CITES and FTP; also assisted and advised them in identification of wildlife articles and issues related to CITES.
 - Regulate 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 33 WLPA, CITES and EXIM policy violations at various exit points across the country during this financial year.

Collaboration with Online Trade Portals

WCCB swings in action, curbs illegal online trade of Sea Cucumbers, Online wildlife crime patrolling, conducted by WCCB, has started yielding results. Over 300 advertisements for sale of Sea Cucumbers on online portals were detected by WCCB and taken off the website with active intervention of WCCB during 2022.



Photographs of WCCB achievements during 2023:



Detection & seizures

The Introduction of Volunteers

To encourage participation of wildlife enthusiasts, “WCCB Volunteers Scheme” has been initiated where volunteers 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.

WCCB’s participation in the ‘Cheetah Reintroduction’ programme

In a proud moment, WCCB team participated in the historical ‘Cheetah reintroduction’ programme held on 17th September, 2022, to bring Cheetahs back to India and provided support in seamless passage of the big cats to India by acting as Assistant CITES Management Authority. WCCB assisted in import clearance

and also issued necessary CITES Import permit & Wildlife NOC to the import consignment carrying 08 Cheetahs.

Activities related to CITES and e-SANCHIT:

- A. As per the recommendation of the Working Group on National Committee on NCTF on PGA regulations and procedures, WCCB has prepared Questionnaire for Chatbot for trade facilitation for making it functional on the official website of WCCB. A comprehensive Chatbot has submitted to the ADG & MA, CITES for approval.
- B. The Bureau has developed a web based app for printing of CITES Permits and report generation. The app is in the stage of finalization by WCCB.
- C. 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.

- 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, 2021 has been prepared & submitted to the M.A., CITES, New Delhi & also uploaded on the WCCB website.

WCCB Internship Programme

WCCB organized summer Internship Programme for 2023-24 from 3rd June, 2023. The program was inaugurated by Additional Director, WCCB, Sh. H.V Girisha.

Social Media Outreach

WCCB has been optimizing the potential of social media to connect with the society and making

Functions:

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 CZA is undertaking the evaluation of 69 zoos. The 6 zoos have been evaluated physically.
c)	To recognize or derecognize zoos;	The CZA granted recognition/ renewal of recognition to the 20 zoos. Besides, approval for establishment of 6 zoos was provided. At present there are 156 recognized zoos in the country.

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. Face book, Twitter, Instagram, and YouTube.

8.3 Central Zoo Authority:

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.



d)	To identify endangered species of wild animals for purposes of captive breeding and assigning responsibility in this regard to a zoo;	<p>The CZA has identified 74 species of indigenous fauna for focused conservation breeding. This includes 24 species of birds, 46 species of mammals and 3 species of reptiles and 1 species of amphibian. For this purpose, 42 zoos have been identified, of which 29, are designated as the coordinating zoo. It was earlier envisioned that at least 100 genetically, physically, and behaviourally fit individuals of each identified species are established. The goal is to have these populations as an 'insurance' (i.e., maintaining a viable population of the species ex-situ) in case species restoration is planned. The establishment of these populations broadly follows the "IUCN Species Survival Commission Guidelines on the Use of Ex situ Management for Species Conservation (Version 2.0)".</p> <p>The CZA had published the first "Guidelines/Norms for Conservation Breeding Programme of the Central Zoo Authority" in 2011. 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> <ol style="list-style-type: none"> a. Barasingha (<i>Rucervusduvaucelii</i>) b. White-rumped Vulture (<i>Gyps bengalensis</i>) c. Himalayan newt (<i>Tylototritonverrucosus</i>) d. Lion-tailed Macaque (<i>Macacasilenus</i>) e. Stump-tailed Macaque (<i>Macacaarctoides</i>) f. Western Tragopan (<i>Tragopanmelanocephalus</i>) g. Red Panda (<i>Ailurusfulgenssspfulgens</i>) h. Smooth-coated otter (<i>Lutrogaleperspicillata</i>) i. Himalayan Monal (<i>Lophophorusimpejanus</i>) j. Nicobar Pigeon (<i>Caloenasnicobarica</i>)
		<p>Apart from the above the Indian Chevrotain (<i>Moschiolaindica</i>), Cheer Pheasant (<i>Catreuswallichii</i>) and Long-billed vulture (<i>Gyps indicus</i>) have also fared well in captivity. Breeding of Blyth's Tragopan(<i>Tragopanblythii</i>) at Nagaland Zoological Park and Temmnicks'sTragopan(<i>Tragopantemminckii</i>) at Padmaja Naidu Himalayan Zoological Park has continuously been successful in the year 2022-2023.</p>
e)	To coordinate the acquisition, exchange and loaning of animals for breeding purpose;	During the reporting period, CZA has approved 118 animal exchange proposal between Indian Zoos and 38 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 has been prepared for 34 captive animal species which are being updated. During the reporting period, the data is being collected from the zoos in country and accordingly, the Studbooks will be updated. 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 10 zoos and approved the Master Plan of 9 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.
i)	To coordinate research in captive breeding and educational programmes for the purposes of zoos;	During the period, CZA has granted NOC to two research projects that have zoo/ ex-situ linkage.
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. 10.00 Crores during the reporting period out of which CZA has received an amount of Rs. 7.50 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 01 meeting of the Central Zoo Authority, 03 meeting of the Technical Committee of CZA, 01 meeting of Administrative Committee & 03 Meeting of Expert Group on Zoo Designing, CZA to finalize the various Technical and Administrative issues.

b. Activities undertaken

- Implementing the Management Effectiveness Evaluation (MEE) of zoos-pioneer in world
- Focus on emerging infectious diseases & establishment of National Referral Centre for wildlife disease monitoring and prevention; Preparation of Detailed Project Report of National Referral Centre – Wildlife including organising the first stakeholder meeting on March 10, 2023 and second stakeholder meeting on December 22, 2023.
- Implementation of 10-year Vision Plan for up-gradation of 15 zoos to Global Standards.
- Understanding genetic variation and its relevance using captive big cats' from National Centre for Biological Sciences, Bengaluru, Karnataka.
- Capacity Building Programme were organized for Indian zoos professionals.
- LiFE Campaign - #Mission LiFE-Zoos as Plastic free zones.
- Observance of SwachhataPakhwada September-October 2023 in Recognized Zoos.
- Swachhata Hi Seva Campaign- On October 1, 2023 - Cleanliness drive at National Zoological Park, New Delhi. Over 59 registered events that witness a participation of nearly 6500 volunteers. Over 45 recognised zoos in 24 states participated in the event. Over 114 tonnes of waste collected and disposed as appropriate. Over 6500 Swachhata Pledges by volunteers.

c. Promulgation of new Acts/ Rules

Guidelines on placement and management of rescued animals in recognized zoos.

d. National/ International Conferences:

During the reporting period following in-person capacity building programmes, were organized:



Topic	Date of organization	Participation	Participants benefitted
National Conference of Zoo Directors	September 10-11, 2023 at the Nandankanan Zoological Park, Odisha	Zoo Directors from all over country	57
	January 18-19, 2023 at the Sri Chamarajendra Zoological Gardens, Karnataka		59
Capacity Building Workshop for Zoo Zookeepers	October 16-18, 2023 at Van Vihar National Park & Zoo, Bhopal, Madhya Pradesh	Zoo Veterinarians from all over country	35
Capacity Building Workshop for Zoo Keepers	February 21-23, 2023 at the Zoological Garden, Alipore, Kolkata, West Bengal	Region wise Zoo Keepers from all over country	27
	February 27 - March 1, 2023 at the Bannerghatta Biological Park, Bengaluru, Karnataka		29
	March 13-15, 2023 at the National Zoological Park, Delhi		34
	March 16-18, 2023 at the Nahargarh Biological Park, Jaipur, Rajasthan		32
	September 13-15, 2023 at Sakkarbaug Zoological Park, Junagadh, Gujarat		30
	December 06-08, 2023 at Sri Venkateswara Zoological Park, Tirupati, Andhra Pradesh		42
	December 18-20, 2023 at the Assam State Zoo cum Botanical Garden, Guwahati, Assam		24
Capacity enhancement workshops for Zoo Biologists and Education Officers	March 21-23, 2023 at the Greens Zoological Rescue and Rehabilitation Centre, Jamnagar, Gujarat	Zoo Biologists and Education Officers from all over country	51
	February 15-17, 2023 at the VeermataJijabaiBhosaleUdyaan and Zoo, Maharashtra		32
	Aug – 5 to 7, 2023 at the Sanjay Gandhi Biological Park, Patna.	Zoo Biologists from all over country	29
	November 06-08, 2023 at the NawabWajid Ali Shah Zoological Park, Lucknow	Zoo Educator from all over country.	30

e. Major Publications

1. Ex-Situ Updates Vol 3 Issue 2, 3 & 4.
2. Ex-Situ Updates Vol 4 Issue 1.

Grant-in-aid:

Sl.	Name of Organization	Purpose	Total amount released	Status of third-party evaluation	Remarks
1.	Central Zoo Authority	Scientific Management of Zoos	563.00 lakhs	To be taken up	Total Amount received has been utilized as on 29.12.2023
2.		Salary and Operational cost	187.00 lakhs		



National Conference for Zoo Directors, Bhubaneswar, Odisha



Clouded leopard at Sepahijala Zoological Park, Tripura

8.4 Project Elephant:

As the largest of all land mammals, elephants play an important role in balancing natural ecosystems. They are an integral component of the biome and play a crucial role in maintaining forest ecosystems and biodiversity. They are referred as “keystone species” as it disperses seeds and supports large assemblages of invertebrates. Elephants after feeding transport plant material around in their guts and drop them off in their dung several kilometers away

from where the plants were initially eaten. Thus, known as ecosystem engineers, they control resource availability for other species by modifying the physical environment around them and in doing so transform, maintain, and create habitats.

India has 60% of the global population of Asian elephants and as per the last census conducted in 2017, 29,964 elephants were enumerated to be extant in the country. To ensure the long-



term survival of the population of elephants in their natural habitats by protecting them, their habitats and migration corridors, Government of India launched Project Elephant (PE) in the year 1991-92 as a Centrally Sponsored Scheme with the following objectives:

- To protect elephants, their habitat and corridors
- To address issues of man-elephant conflict
- 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, viz. Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Manipur, Madhya Pradesh,

Maharashtra, Meghalaya, Nagaland, Odisha, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh, West Bengal, Rajasthan, Bihar, Punjab, Himachal Pradesh and Haryana (where an elephant rescue centre has been set up supported by Project Elephant). To give a concerted thrust to the conservation of the species, Govt. of India has also declared the elephant as the National Heritage Animal of India. The Project Elephant, Project Tiger were the sub scheme of Integrated Development of Wildlife Habitats (IDWH). During the Expenditure Finance Committee meeting (EFC), Department of Expenditure, Ministry of Finance which was further approved by the Cabinet, it was decided that the Sub scheme of CSS- PE should be merged with CSS-PT and named viz. Project Tiger & Elephant (PT&E).

Activities undertaken:

- **GajUtsav**

The programme was inaugurated by Smt.



DNA sampling of captive elephants

Droupadi Murmu, Hon'ble President of India, on 7th April, 2023.. The inaugural session was held on 7th April, 2023, followed by 18th Steering Committee Meeting of Project Elephant and Plenary Session on "Taking the Elephant Conservation Forward in Modern India".

- Gaj Suchana App was developed for collation of data on captive elephants and their owners.
- So far, 602 samples of captive elephants have been recorded in the Gaj Suchana App. The sample collection process has been completed in the States/UTs of Delhi, Haryana, Chhattisgarh, Uttarakhand, Tripura, Rajasthan and Punjab and partially completed in the States of Tamil Nadu, Bihar, West Bengal, Uttar Pradesh and Odisha.

- **Ground-truthing of elephant corridors**

- The Project Elephant in coordination with the State Forest Departments have ground validated 150 elephant corridors across 15 elephant range states in India.
- A report on Elephant Corridors of India was released during the World Elephant Day, 2023 at Bhubneswar, Odisha by the Hon'ble Minister, EF&CC.
- The report comprises of details pertaining to 150 elephant corridors across India with corresponding maps.

- **Steering Committee meeting of Project Elephant:**

- The 18th meeting of the Steering Committee was held under the Chairmanship of Hon'ble Minister, EF&CC at Kaziranga National Park,

Assam on 7th April, 2023.

- The 19th meeting of the Steering Committee was held under the Chairmanship of Hon'ble Minister, EF&CC at Bhubaneswar, Odisha on 12th August, 2023.

- **Central Project Elephant Monitoring Committee (CPEMC)**

- Fifth meeting of the CPEMC was convened under the Chairmanship of ADG (PT&E/FC) & MS (NTCA) on 6th March, 2023 and Sixth meeting on 21st July, 2023 at MoEF&CC, New Delhi.

- **Captive Elephant Healthcare and Welfare Committee (CEHWC)**

- Second meeting of the CEHWC was convened under the Chairmanship of IGF (PT&E) & Director, PE on 17th January, 2023 at MoEF&CC, New Delhi through virtual mode and the third meeting on 27th July, 2023 at MoEF&CC, New Delhi.

Release of Publications:

- a. The Guidelines for Human-Elephant Conflict Mitigation-Taking a Harmonious Coexistence Approach (2023)



Release of publications:

- b. Human–elephant conflict manual (Assamese version).



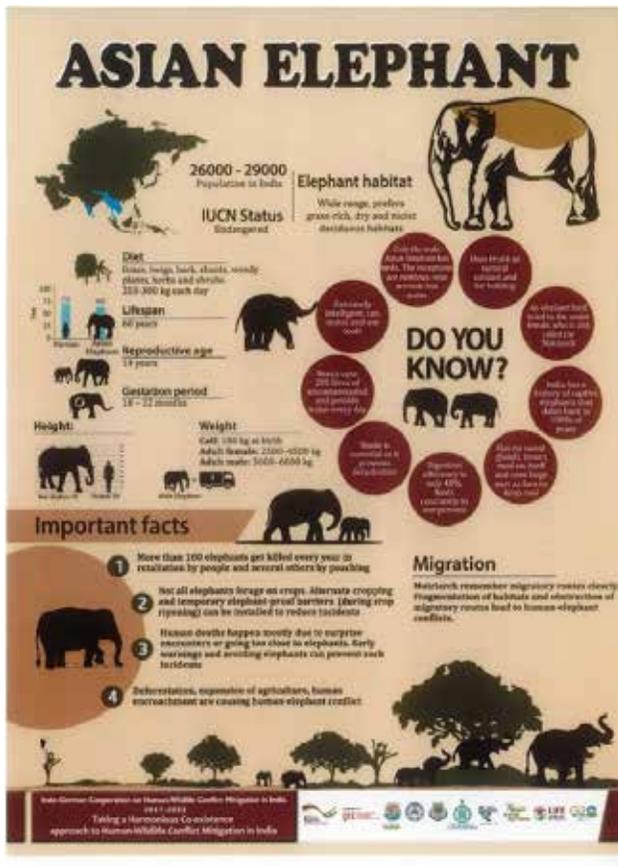
- c. Management Effectiveness Evaluation of the Elephant Reserves in India.
- d. Necropsy and carcass disposal of Asian elephant: Recommended operating procedure.
- e. Trumpet Quarterly Newsletter Volume 3: Issue 1-2, and 3
- f. Elephant Reserves of India – An Atlas-Version-2.
- g. Elephant Corridors of India
- h. Field manual for managing Human Elephant Conflict (Hindi version).

Oxford, United Kingdom from 30th March – 1st April, 2023.

- MIKE and ETIS data of Govt. of India for the calendar year 2022 submitted to CITES and TRAFFIC respectively.
- Presentation by IGF (PT&E) & Director (PE) during the 11th Meeting of the IUCN SSC AsESG held on 14th -17th March, 2023.

Management Effectiveness Evaluation (MEE):

- To streamline management approaches and provide a platform for sharing best practices in managing elephant habitats, the document released during GajUtsav



Guidelines (In bilingual version)



Do & Don'ts (In bilingual version)

Multilateral environmental agreements and international meetings:

- IGF (PT&E) & Director (PE) attended the International Conference on Human-Wildlife Conflict and Coexistence at

titled 'Management Effective Evaluation (MEE) of the Elephant Reserves in India' provided the conceptual, administrative and legal framework for objectively evaluating the elephant reserves.

- The Ministry has completed the pilot 'Management Effective Evaluation (MEE) of 4 Elephant Reserves in India namely. (i) Shivalik Elephant Reserve, Uttarakhand, Northern Region (ii) Kaziranga-KarbiAnglong Elephant Reserve, Assam, North-East Region (iii) Simlipal Elephant Reserve, Odisha, East Central Region (iv) Nilgiri Elephant Reserve, Tamil Nadu, Southern Region.

Capacity building workshops:

- A Capacity Building Workshop on "Minimizing Railway-induced Elephant Mortalities for the Officers of the Indian Railways" was conducted on 1st-3rd February, 2023 at Wildlife Institute of India, Dehradun. A similar program was also conducted 23rd-25th November, 2023 at WII, Dehradun.

GajGaurav Award



Progress/Innovations:

- Capacity Building Workshops on "Mainstreaming Management of The Elephant Reserves" were conducted on 13th-15th March, 2023 28th - 29th and November, 2023 at Wildlife Institute of India, Dehradun.

Progress/Innovations:

- 110 critical stretches across the Railway network in the country that pass-through elephant habitats have been identified. In these critical stretches, multipronged strategies are planned to minimize Railway-related elephant collisions. In these locations measures such as building underpasses, clearing vegetation along the tracks to increase visibility for the loco pilots to avoid collisions, provisioning ramps, and others will also be taken up.



- A joint survey of the critical stretches of railway lines passing through the elephant habitats in West Bengal for suggesting mitigation measures was conducted during 26-31st December, 2023 by the officers/officials of Project Elephant, MoEF&CC, Ministry of Railways and West Bengal Forest Department.
- The survey was conducted in the critical stretches of Alipurduars and Darjeeling Districts of North Bengal region and in Jhargram & Paschim Medinipur Districts of South Bengal region with an objective to identify specific elephant crossing zones on these stretches and to suggest site-specific mitigation measures based on the location and the extent of these crossing zones to mitigate train-elephant hits. The team deliberated on different structural mitigation measures in the identified critical elephant zones intersected by railway tracks such as level crossings, creation of ramps, wildlife underpasses, wildlife overpasses, installation of Distributed Acoustic Sensing (DAS) System etc

Achievements:

- Every year 12th August is celebrated as the World Elephant Day across the globe to reaffirm mankind's collective pledge in conserving one of the most iconic species in the planet. This year, the MoEF&CC has observed the Elephant day in Bhubaneswar with active support and coordination by the Odisha Forest Department.

8.5 Project Tiger/National Tiger Conservation Authority (NTCA)

The National Tiger Conservation Authority (NTCA) was 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.

Objectives:

The main objective is to provide statutory Authority to Project Tiger so that compliance of its directives becomes legal; to foster accountability of centre and states in management of Tiger Reserves; to provide an oversight by parliament and to address livelihood interests of local people in areas surrounding Tiger Reserves.

Functions of the NTCA:

The main function is conservation of tigers and their habitat. Further details of powers and functions of NTCA are given under section 380 of the Wildlife (Protection) Act, 1972, as amended in 2006.

Activities undertaken:

- 12 cheetahs reintroduced to Kuno National Park from South Africa with support from more than 450 "cheetah mitr" for successful acclimatization.
- Rajaji Tiger translocation project boosts tiger numbers in the western region; one tigress reintroduced.
- Project Cheetah was deliberated in the consultative committee of the parliament.
- Global Tiger Day marked with the release of comprehensive tiger numbers at Corbett Tiger Reserve.
- Final report of All India Tiger Estimation 2022 and 5th cycle of Management Effectiveness Evaluation of Tiger Reserves were released.
- Commemoration of 50 Years of Project Tiger was celebrated in Mysuru with a mark of Special Coin and International Big Cat Alliance (IBCA) was launched by the

Honorable Prime Minister.

- Six Tiger Reserves, Kali, Melghat, Pilibhit, Tadoba-Andhari, Nawegaon-Nagzira, and Periyar received Conservation Assured Tiger Standards (CA|TS) awards.
- World Rangers Day celebrated in Kanha and Manas Tiger Reserves.
- Pair of tigers reintroduced to Ramgarh Vishdhari Tiger Reserve.
- Hon'ble President of India inaugurated art exhibition showcasing tribal communities' relationship with wildlife under the title, "Silent Conversation: From Margins to the Centre" in New Delhi.
- MSTRIPES capacity-building workshop held in various tiger reserves.
- Regional Field Directors' Workshop was conducted with a focus on 'Changing Trends in Tiger Reserve Management.'
- World Wildlife Week and World Environment Day celebrated across tiger reserves.
- Empowerment of local communities for wildlife conservation through various capacity building workshop were taken up across Tiger Reserves.
- Successful translocation of 28 Gaur from Kanha to Sanjay Tiger Reserve.
- Corridor conservation planning workshop at Panchmari for Satpura-Melghat-Pench was taken up.
- Mission Life program celebrated in different tiger reserves.
- NTCA orientation program organized for southern states at TN Forest Academy involves 18 officers from 11 tiger reserves.

- Swachhata Pakhwada adopted as a pledge for a brighter future.
- One-year celebration of cheetah reintroduction in Kuno National Park.
- Detailed report on MEE of Tiger Reserves 2022 highlights 12 Tiger Reserves in 'Excellent,' 21 in 'Very Good,' 13 in 'Good,' and 5 in 'Fair' categories.

(a) Progress and Achievements:

Prime Minister inaugurated a ground breaking initiative as India launches the International Big Cat Alliance (IBCA). This alliance marks a significant step toward global collaboration in the conservation and protection of big cats. The inauguration ceremony underscores India's commitment to safeguarding these majestic creatures, emphasizing the importance of international cooperation in preserving biodiversity and fostering a shared responsibility for the welfare of big cats worldwide. The formulation of IBCA and its secretariat is under progress.





Continuing committees/commission:

- As per section 38L of 'The Wildlife (Protection) Act, 1972', the National Tiger Conservation Authority consists of 15-member committee and meets as per the exigencies and reviews the agenda of Technical committee.
- Technical Committee of NTCA takes up the issue of all Tiger Reserves namely Tiger Conservation Plan approval and recommendation, Declaration of New Tiger Reserves etc, translocation of Tigers between Tiger Reserves, new projects etc. So far 04 Technical committee meetings were held. The decision taken in the Technical committee is placed before the committee of NTCA chaired by Hon'ble Minister for approval.

National/ International Conferences:

- During the 50th anniversary celebration of Project Tiger, Hon'ble Prime Minister Shri Narendra Modi released the 'Status of Tigers in India – 2022' report. The Prime Minister highlighted India's success in saving and fostering a thriving tiger population, emphasizing the country's commitment to global big cat conservation. At the International Big Cat Alliance session in Mysuru, he reiterated India's dedication to collaborative efforts against poaching and illegal wildlife trade, showcasing the nation's active role in international wildlife protection.

The President of India, Smt. Droupadi Murmu inaugurated an art exhibition titled, "Silent Conversation: From Margins to the Centre" in New Delhi. This art exhibition is a platform for tribal communities & other forest dwellers to share their centuries old relations with wildlife especially, tigers.

- On September 17, 2022, a historic moment occurred in India's wildlife conservation with the return of the world's fastest land animal after a 75-year local extinction. The one-of-a-kind cheetah translocation initiative from Namibia and South Africa marked its one-year completion on September 17, 2023. To commemorate this success, an event was held at Sesaipura Forest Complex, Kuno National Park, Madhya Pradesh. Officials from MoEF&CC, NTCA, and the Madhya Pradesh Forest Department graced the program.
- NTCA organized a three-day "Orientation/ Refresher course on Active Management of Tiger Reserves" for officers from various Tiger range states in collaboration with WII from August 09 to 11, 2023. Experts emphasized the significance of science, systems, governance, community welfare, and action-oriented management during their discussion.

MEAs, Agreement with countries, international organizations, compliance:

- A delegation from Cambodia visited Panna Tiger Reserve, Madhya Pradesh, to take back key learnings from the successful reintroduction in Panna. NTCA along with the WII and Madhya Pradesh Forest Department facilitated the visit.
- India and Bangladesh convened a bilateral meeting in Kolkata to discuss the conservation of Sunderban tigers and the landscape aiming to reinforce the enduring bonds of conservation and friendship between the nations, with a shared commitment to safeguarding the world's largest mangroves. The collaborative efforts seek to ensure the sustainable livelihoods of the local communities inhabiting this unique ecosystem.

- Representatives from the Land of Leopard National Park in PrimorskyKrai, Russian Far East, engaged in a knowledge-sharing session at NTCA. The visit aimed to foster collaboration and exchange insights on effective management practices for the conservation of tigers and other big cats in India.

Major Publications: All India Tiger Estimation Report

Scheme/Programme: Centrally Sponsored Scheme– Project Tiger

“Project Tiger” is an ongoing Centrally Sponsored Scheme of the Ministry of Environment, Forests & 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 finding of the All India estimation using the refined Scientific methodology.

1. Grant-in-aid:

Grant released to Institutions/organizations from 01.01.2023 to 21.11.2023			
Sr. No.	Name of Organisation/ Institutions	Purpose	Total Amount Released (Rs.)
1.	Global Tiger Forum (GTF), New Delhi	the Project “Preparation of Zonal Master Plan for Eco-sensitive Zone of Buxa Tiger Reserve	523,200.00
2.	Global Tiger Forum (GTF), New Delhi	the Project In-situ capacity building of front line in tiger reserves.	400,000.00
3.	Director, WII	the project “Movement Ecology of Tiger for Conflict Prediction and Landscape Management in Sathyamangalam Nilgiri Biosphere Complex Southern India”.	4,356,800.00
4.	Sankala Centre for Climate & Sustainability	towards research, Outreach and Advocacy Project for Tiger Conservation	2,192,000.00
5.	Global Tiger Forum (GTF), New Delhi	for preparation of Action Plan towards implementing national level action for Tiger @ 2047 “Amrit Kaal Ka Tiger Vision.	1,500,000.00
6.	Bandipur Tiger Conservation Foundation	to organize the international mega event “ Commemoration of 50 years of Project Tiger” from 9 to 11 April, 2023	3,000,000.00
7.	Bandipur Tiger Conservation Foundation	to organize the international mega event “ Commemoration of 50 years of Project Tiger” from 9 to 11 April, 2023	1,300,000.00
8.	Global Tiger Forum (GTF), New Delhi	for co-organising mega event- Commemorating 50 years of Project Tiger” from 1st April, 2023 to 3rd April,2023.	1,548,336.00
9.	Global Tiger Forum (GTF), New Delhi	for co-organising mega event- Commemorating 50 years of Project Tiger” from 9th to 11th April, 2023.	1,032,224.00
10.	Director, WII	For celebrations of the 50 years of the Project Tiger and 1st Indian conservation conference 2023 held at Mysuru, from 9 to 11 April,23	1,500,000.00
11.	Director WII	toorganizingtheinternationalmegaevent“Commemoration of 50 years of Project Tiger” from 9 to 11 April, 2023	1,500,000.00
12.	Director WII	For The project “Study on Cheetah reintroduction- Bringing back the Cheetah to India”.	33,500,000.00
	Total		52,352,560.00



8.6 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.

A. Research

A.1 Research Projects

- **Major Research Projects:** Assessment of Spatial and Temporal Occupancy of Tiger and Elephant in Relation to Habitat Characteristics and Anthropogenic Factors for the Creation of Eco-Sensitive Areas in Sawantwadi and Dodamarg Talukas of Sindhudurg District in Western Ghats of Maharashtra, India
- Management Effectiveness Evaluation of National Parks and Wildlife Sanctuaries in India 2022-23
- Status of Threatened Medicinal and Aromatic Plants and their Use by the Local Community in Niti Valley, Nanda Devi Biosphere Reserve, Uttarakhand
- Development of City Biodiversity Index of Bhopal and Indore Cities of Madhya Pradesh
- Development of a Genetic Database of Captive Elephants Across India for Welfare and Management
- Feasibility Study of Wild Buffalo Reintroduction in Kanha Tiger Reserve
- Gender Advancement for Transforming Institutions (GATI)
- Mitigation Measures for Transportation Network and Mining Activities for Dinesh Open Cast Project, Umred, Maharashtra
- Movement Ecology of Tigers, *Panthera tigris* for Conflict Prediction and Landscape Management in Sathyamangalam-Nilgiri Biosphere Reserve Complex, Southern India
- Securing Habitats for Threatened Mountain Ungulates through Robust Population Assessment and Conservation Planning
- Spatial Mapping of Important Marine Habitats of Malvan Coast for Reorganization of Boundary of the Malvan Marine Sanctuary
- Population Management of Species Involved in Human-Wildlife Conflict
- The fifth cycle of Management Effectiveness Evaluation (MEE) for 51 Tiger Reserves in India during 2022-23
- Designing Canopy Bridge over Railway Line inside Hollongapar Gibbon Sanctuary, Assam
- Scientific Animal Passage and Mitigation Plan for 62 km Stretch of Myajlar-Jaisalmer Road (NH-11) Passing through Desert National Park, Rajasthan
- Economic Loss Assessment of Faunal Diversity due to Forest Fire on Per Hectare Basis in Uttarakhand and Madhya Pradesh
- Uttarakhand State Wildlife Population Estimation for the Himalayan Zone
- Assessment of Disease Prevalence in

Ungulates in Mizoram

- Response to Anthropocene and Climate Change: Movement Ecology of Selected Mammal Species across the Indian Himalayan Region
- Assessment of Wildlife Values and Land Tenure for Planning Rationalization of Boundaries for Changthang and Karakoram Wildlife Sanctuary, Ladakh
- Himalayan Alpine Biodiversity Characterisation and Information System-Network
- Assessing Fine-Scale Distribution Pattern, Population and Habitat Status of Northern Swamp deer, *Rucervusduvauceliiduvaucelii* across Upper Gangetic Plains of North India
- Preparation of Wildlife Management Plan with Special Emphasis on Elephants for the Proposed Naini Opencast Coal Mining Project in Angul Forest Division, Odisha
- Integrated Wildlife Action Plan Comprising of Mitigation and Compensating Measures with Landscape Approach for the Entire Forest Area in Hazaribagh Wildlife Forest Division, Hazaribagh West Forest Division and Koderma Forest Division in the Impact Zone of Koderma Detour of DFCCIL Project
- Basic Study Design of Biodiversity Assessment for Himachal Pradesh
- Ecology and Recovery of Critically Endangered Vulture Species in Pong Dam Protected Area (PA) and its Eco Sensitive Zone (ESZ) in district Kangra, Himachal Pradesh
- Ecological Impacts of Major Invasive Alien Plants on Native Flora in Rajaji Tiger Reserve, Uttarakhand

B.1 Academic Programme

XVIII M.Sc. (Wildlife Science) Course 2022-24

and XIX M.Sc. (Wildlife Science) Course 2023-25

B.2 Training Programmes

XLIII Post-Graduate Diploma in Advanced Wildlife Management Concluded, 1 October 2022 to 31 July 2023



XLIV Post Graduate Diploma in Advanced Wildlife Management Commenced, Dehradun, commenced from 15 September 2023 to 15 July 2024.

XXXVII Certificate Course in Wildlife Management Concluded, Dehradun, 1 December 2022 – 28 February 2023.

The first Certificate Course in Heritage Management was conducted with the aim of equipping participants with the concepts, theories and practices implemented in the multidisciplinary field of heritage conservation. The six-week course included seven officer trainees representing the Government of India Departments of Forest, Tourism and Geological Survey. The course was imparted through interactive presentations and discussions, case studies, management techniques and heritage expert talks. Practical aspects of heritage site management were covered through a field tour to natural and cultural heritage sites in India, including Keoladeo National Park, TajMahal, FatehpurSikri, Jaipur City and monuments along with associated sites.



Six-week Certificate Course in Heritage Management, 7 August – 15 September 2023.

C.1 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:

- Workshop on Making Regional Heritage Global: Focus on the Future, Sundarbans National Park, 17-20 January 2023.
- **State Level Spearhead Training Programme for NCC (National Cadet Corps) on Biodiversity Conservation of Ganga River and its Tributaries, 18-20 January 2023.**
- Bhedaghat-Lametaghat in Narmada Valley World Heritage Nomination Dossier preparation, January-October 2023.
- Conference on Current Research and Management Interventions in Natural and Mixed World Heritage Sites of the Asia and Pacific Region, Bharatpur, 2-3 February 2023.
- **Training on Linkage between River Conservation and Livelihood, Dehradun, 28 February - 3 March 2023.**
- **World Wildlife Day Celebration at HNB Garhwal University, Srinagar, Pauri Garhwal, Uttarakhand, 3 March 2023.**
- **Celebration of 'International Day of Action for Rivers', Dehradun, 14 March 2023.**
- **Awareness regarding Drug Abuse among Youths, Dehradun, 17 March 2023.**
- World Heritage and Climate Change Session at UNESCO Sub-Regional Conference on World Heritage, Bhopal, 17-18 April 2023.
- **National Level Spearhead Training Workshop for Veterinary College Students on 'Handling of Aquatic Species in Distress', Dehradun, 21-23 March 2023.**
- World Heritage Volunteer Campaign, Khangchendzonga National Park, Sikkim, 15-24 April 2023 and 1-7 October 2023.
- World Heritage Day Celebration at WII, 18 April 2023.
- Sensitization Program for the Students of Gurukul Kangri University, Haridwar at Wildlife Institute of India, Dehradun, 19 April 2023.
- Biodiversity Conservation and Management Training for RFO Trainees, Dehradun, 19-21 April 2023.
- Awareness Programs on "Earth Day" 2023, at Different Schools of the Ganga River Basin, 22-26 April 2023.
- Inception-cum-training workshop of the

Gaur Reintroduction Project, Kanha Tiger Reserve, 26 April 2023.

- Two-day Training Workshop on 'Biodiversity & Wetland Conservation', Maldevta, Dehradun, 22- 23 May 2023.
- Mission LiFE Activities conducted by EIACP Programme Centre, WII, May-June 2023: (i) Earthen Pot Installation and Activities Under Mission LiFE, and (ii) Oath Taking Ceremony Under Mission Life.
- Keibul Lamjao Conservation Area, Manipur World Heritage Nomination Dossier preparation, June-October 2023.
- International Tiger Day 2023 is celebrated at WII, Dehradun, 29 July to 7 August 2023.
- Activities of the EIACP Programme Centre (i) Online Quiz on 'Plastic Free July', 2023, (ii) Mission LiFE Programme in 59th Annual Meeting of the Association for Tropical Biology and Conservation Conference 2023, Coimbatore, Tamil Nadu, 6 July 2023, (iii) Release of WII-EIACP Bulletin "An Illustrative Profile of Tiger Reserves of India", Corbett Tiger Reserve, 29 July 2023.
- 34th Annual Research Seminar of Wildlife Institute of India, Dehradun, 21-22 September 2023.
- Outreach Panel at United Nations Forum on Forests, FRI, Dehradun, 26-27 October 2023.
- World Natural Heritage Site Managers Meeting Round-II: Role, Responsibilities and Partnership, Bharatpur, 27-28 October 2023.
- Safeguarding Natural Heritage through Education, Awareness and Network Building among Teachers, Bharatpur, 29 October 2023.



C.2 Major Achievements

- A 'Memorandum of Understanding' (MoU) signed **between the** Export Promotion Council for Handicrafts (EPCH), New Delhi **and** Wildlife Institute of India (WII), Dehradun, **in setting up a 'Pashmina Testing Facility' in WII, Dehradun, 5 January 2023.**
- IUCN Asia Protected Area Partnership Meeting, Dehradun, 27-29 April 2023.
- Successful Translocation of Gaurs from Kanha and Satpura to Sanjay Dubri Tiger Reserve, 26-29 June 2023.



CHAPTER - 9

CLIMATE CHANGE

9.1 Climate Change:

a. Introduction

Climate change is a global challenge and requires collective global action to avert and minimize the impacts of climate change. International efforts to address climate change are guided by the United Nations Framework Convention on Climate Change (UNFCCC) and its two instruments, namely the Kyoto Protocol and the Paris Agreement. As a responsible global player, India is a Party to the UNFCCC and its instruments.

As a part of its overall strategy, India emphasizes the foundational principles of equity and common but differentiated responsibilities and respective capabilities. India's historical contribution to cumulative global GHG emissions is therefore minuscule, despite having a share of ~17% of the world's population. India's per capita annual emissions are about a third of the global average.

The National Action Plan on Climate Change (NAPCC) provides an overarching policy framework for climate actions in the country and outlines a number of steps towards achievement of India's climate change related objectives of adaptation and mitigation. It comprises, inter alia, of focused national missions on climate change in specific areas of solar energy, enhanced energy efficiency, water, agriculture, Himalayan eco-system, sustainable habitat, green India strategic knowledge on climate change and human health. Further, the National Mission on Sustainable Transport is being developed to devise efficient and cost-effective strategies across environmental, social, and economic aspects of transportation.

The Missions are institutionalized and implemented by the respective nodal Ministries. The national missions have a focus on adaptation

in sectors such as Sustainable Agriculture, Water, Sustainable Habitat, Himalayan Ecosystem, Forestry and Human Health. States and Union Territories (UTs) are being supported in respect of their respective State Action Plans on Climate Change (SAPCC). Prepared in line with the strategy outlined in the NAPCC to address State specific actions, these SAPCCs, *inter-alia* indicates regional climate vulnerability and state level actionable strategies for mitigation and adaptation.

In addition, Government has launched many schemes and programs to scale up India's climate action to support projects that builds climate resilience in the priority areas identified under the missions of NAPCC and SAPCCs. Appropriate measures are being taken under these schemes and programs across many sectors including water, agriculture, forest, energy and enterprise, sustainable mobility and housing, waste management, circular economy and resource efficiency, etc.

India updated its ambitious Nationally Determined Contribution (NDC) in August 2022. India has shown impressive achievements to what it committed in 2015, as shown in the figure below.

NDC (2015)	Target (2030)	Achievement
Non-fossil fuel based electric installed capacity	40% cumulative	43.8% (August 2023). Target achieved 9 years ahead of committed time
Reduce emissions intensity of GDP	33-35% over 2005 levels	Reduced by 33 per cent between 2005 and 2019
Additional carbon sink	2.5-3.0 billion tons	1.97 billion tons (2021)

MoEFCC is designated as the nodal Ministry for coordinating India's domestic as well as international actions through its Climate Change Division. As a Party to UNFCCC and its



Paris Agreement, India has to communicate to the Conference of the Parties, through the secretariat, National Communication (NATCOM) and Biennial Update Report (BUR). The Division through its NATCOM Cell undertakes specific studies and submit NATCOM and the BUR to UNFCCC as per the requirements.

b. Activities undertaken

India at COP-28: Major outcomes

The 28th Conference of Parties (COP28) was held in Dubai, United Arab Emirates (UAE), from 30th November to 13th December 2023, where the representatives from 197 countries showcased their efforts to limit global warming and held discussions to prepare for future climate change. The global stocktake is considered the central outcome of COP28. The stocktake recognizes the science and calls on Parties to take actions towards achieving, at a global scale, a tripling of renewable energy capacity and doubling energy efficiency improvements by 2030. The list also includes accelerating efforts towards transition in energy systems, in a just, orderly and equitable manner, with developed countries continuing to take the lead. In the short-term, Parties are encouraged to come forward with ambitious, economy-wide emission reduction targets in their next round of nationally determined contributions by 2025. This was the first time when the countries formally assessed their progress under the 2015 Paris climate agreement.

The COP28 adopted the decision on the operationalization of the new funding arrangements, including a Fund, for responding to loss and damage. The decision was adopted by consensus by all Parties including India. The purpose of the Fund is to assist developing countries that are particularly vulnerable to the adverse effects of climate change in responding to economic and non-economic loss and damage

associated with the adverse effects of climate change, including extreme weather events and slow onset events.

The delegates at COP-28 also discussed the adaptation and mitigation efforts required to achieve significant positive outcomes in the coming years towards tackling climate change. Such efforts are especially crucial for countries that are vulnerable to climate change.

India submitted its Third National Communication on 09 December 2023. As per the report, the emission intensity of its GDP has been reduced by 33 percent between 2005 and 2019.

India's engagements at COP-28

Hon'ble Prime Minister Shri Narendra Modi participated in the inauguration of High Level Segment of COP-28 of Head of State (HoS)/ Head of Government (HoG). During his Special Address, he advocated for equitable climate action based on principles of justice and shared responsibilities. He emphasized to give a fair share to all developing countries in the global carbon budget. He also stated that India's goal is to bring down the emissions intensity by 45 per cent till 2030 and increase the share of non-fossil fuel to 50 per cent. He stressed that the energy transition should be just, inclusive and equitable.



Hon'ble Prime Minister Shri Narendra Modi participated in the COP-28 Presidency's Session on **"Transforming Climate Finance"** on December 1, 2023, in Dubai, UAE. The event focused on making climate finance more available, accessible, and affordable to developing countries. During his address, the Prime Minister voiced the concerns of the Global South and reiterated the urgency of making the means of implementation, particularly climate finance, available to the developing countries to achieve their climate ambitions and implement their NDCs. Hon'ble PM Modi also welcomed the operationalisation of the Loss and Damage Fund and establishment of the UAE Climate Investment Fund at COP-28 and called for the COP-28 to deliver on the issues related to Climate Finance.



Hon'ble Prime Minister Shri Narendra Modi along with Prime Minister of Sweden H.E. Mr. Ulf Kristersson, co-launched the **Phase II of the Leadership Group for Industry Transition (LeadIT 2.0) for the period 2024-26, at COP-28 in Dubai.** India and Sweden also launched the **Industry Transition Platform**, which will connect the governments, industries, technology providers, researchers and think tanks of the two countries. During the event, Hon'ble Prime Minister highlighted that LeadIT 2.0 will focus on inclusive & just industry transition, co-development and transfer of low-carbon technology, and financial support to emerging economies for industry transition. India and Sweden had co-launched

LeadIT at UN Climate Action Summit in New York in 2019.



Hon'ble Prime Minister Shri Narendra Modi together with the President of UAE Sheikh Mohammed bin Zayed Al Nahyan, co-hosted the High-level event on **'Green Credits Programme'** at COP-28, on December 1, 2023, in Dubai. The Green Credit Initiative has been conceptualized as a mechanism to incentivize voluntary pro-planet actions, as an effective response to the challenge of climate change. It envisions the issue of Green Credits for plantations on waste/degraded lands and river catchment areas, to rejuvenate and revive natural eco-systems.



Side events hosted at the India pavilion at the UN Climate Conference COP-28

The India Pavilion at COP 28 showcased more than 45 side events, sharing the perspectives on India's climate action. These events aligned with



the thematic days communicated by the COP 28 presidency. The Pavilion saw the release of a publication on India's Sustainable Cooling and showcasing of India's Climate Action Publication "From Paris to Dubai".

The Pavilion also became a center point for discussions on the pillars of Quad Climate Working Group which India is leading this year. The pavilion's theme of 'Vasudhaiva Kutumbakam' inspired many events which were focused revolving around the Lifestyle for Environment (LiFE). The expert speakers and panelists from the Government Departments and Ministries along with the private sector have participated in the events. The pavilion saw huge participation during COP-28 with visitors numbered around 40,000.



Conclusion

India's engagements at COP-28, led by Hon'ble Prime Minister Shri Narendra Modi, showcased a comprehensive and proactive approach to tackling climate change. Emphasizing the urgency of accessible climate finance for developing nations, Hon'ble Prime Minister highlighted the need to implement Nationally Determined Contributions (NDCs) and voiced concerns on behalf of the Global South. The initiatives launched, including LeadIT 2.0 for industry transition, the Green Credits Programme incentivizing pro-environment actions, and the focus on the Himalayan region's vulnerability,

demonstrate India's commitment to diverse strategies for sustainable development.

India's involvement in the Quad Climate Working Group and the Mangrove Alliance illustrates recognition of the pivotal role played by local communities and regional governments in fostering sustainable lifestyles and holistic conservation efforts. The National Statement by Union Minister Shri Bhupender Yadav emphasized India's comprehensive approach to environmental conservation, addressing not only emissions but also land degradation, ecosystem restoration, and biodiversity enrichment. India's active participation at COP-28 positions the country as a proactive and influential player in the global fight against climate change, showcasing a commitment to collaborative, innovative, and localized solutions.

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

The seventeenth meeting of the National Steering Committee on Climate Change (NSCCC) was held on 23rd March 2023 under the Chairpersonship of Secretary (EF&CC). The revised State Action Plan on Climate Change (SAPCC) submitted by the States of Madhya Pradesh, Tripura, Haryana and Uttar Pradesh were approved by NSCCC.

d. National and International Conferences

Ministry of Environment, Forest and Climate Change in collaboration with the Department of Environment, Forest and Climate Change, Government of Uttar Pradesh organized a two-day "National Climate Conclave 2023" on 10th and 11th April 2023 at Indira Gandhi Pratishthan, Lucknow, Uttar Pradesh. The National Conclave focused on discussing various sources for mobilizing climate finance, Innovative Approaches for localizing climate action, promoting Mission LiFE and enhanced role of Youth in combating Climate change etc.

The Conclave witnessed participation from Senior Government officials from 17 States/UTs. 80 experts and over 100 academicians, researchers and civil society organizations as well as 50 policy-planners have participated and brainstormed on climate change issues.



e. List of major publications

Showcasing of India's Climate Action Publication "From Paris to Dubai": During COP-28, a publication on India's Climate Action Journey from Paris to Dubai has been showcased. The publication highlights the rapid strides the country has made in under a decade since the Paris Agreement. It reinstates India's steadfast commitment to the United Nations Framework Convention on Climate Change (UNFCCC).

f. Multilateral Support:

The Green Climate Fund (GCF) was set up under the UNFCCC at the 16th Conference of the Parties (COP-16) in 2010 to support the shift towards a low-emission and climate-resilient development path by providing support to developing countries in the form of grants, loans, guarantees, equity etc.

The Government of India has been actively engaging with the GCF. So far, nine (09) projects/programmes have been approved to India with a total allocation of USD 542.3 million in diverse areas including water, clean energy, coastal, livelihood and transport. Projects/programmes

increased from three (03) to nine (09) in the last three years (URL: <https://www.greenclimate.fund/countries/india>).

9.2 Ozone layer Protection:

1. Introduction

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 has been recognized as the most successful international environmental treaty in history 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 has 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 has constituted an Empowered Steering Committee (ESC) under the Chairpersonship of the Secretary (EF&CC) for 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 (HCFCs) Phase-out Management Plan (HPMP) Stage II

The HCFC Phase out Management Plan (HPMP) Stage-II project for India was approved by the Executive Committee (Ex-Com) of the Multilateral Fund (MLF) during its 77th meeting held during 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, 4 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 onboarded, 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, 6 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 2022 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, against the target of 35% reduction in the production and consumption of HCFCs from the baseline for the year 2020, India has successfully achieved the reduction in the consumption and production of HCFCs by 44% from the baseline.

The production and consumption of HCFCs for the controlled uses for the year 2022 were very much lower than the compliance target under the Montreal Protocol. Hence, the country was

S. No.	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*

in compliance with respect to the obligation under the Montreal Protocol.

Enabling Activities under HPMP Stage-II

Ozone Cell, MoEF&CC, in association with the UN Environment Programme (UNEP) have been implementing the enabling components (Capacity Building and Awareness creation) of HPMP Stage-II. The following activities have been undertaken as part of the enabling component under HPMP Stage-II.

▪ 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 in the field of import and export of ODSs, through a MoA. The following activities have been implemented:

- i. 3 Supervisor Officers' Workshop to combat illegal trade in ODS under HPMP Stage-II held on 6th -7th February, 2023 at NACIN ZC Chandigarh, 16th – 17th February, 2023 at NACIN ZTI Delhi, 5th -6th April, 2023 at NACIN Faridabad.
- ii. 3 workshops for Training of new Customs and Enforcement Officers held on 3rd – 4th

October, 2023, 11th -12th October, 2023 and 19th – 20th October, 2023.

- iii. 2 Train the Trainers (ToT) on combating Illegal trade in ODS on 4th -6th January, 2023 at NACIN, Visakhapatnam, Andhra Pradesh, 8th -10th February, 2023 at NACIN, Mumbai, Maharashtra,

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 01.01.2020, a special module was introduced in customs trainings. A Country handbook on the national regulations for monitoring and controlling production and use of ODSs in India was updated by NACIN in consultation with Ozone Cell, MoEF&CC.

• Studies on key issues relating to Montreal Protocol implementation:

Following studies have been undertaken:

- i. Booklet on Passive & Low Energy Cooling Strategies for Achieving Thermal Comfort in India's Upcoming Affordable Housing
- ii. Study report on sensitizing building construction community on Passive Cooling design, non ODS, low GWP and energy efficient technologies.



- iii. Study Report on “Sustainable e-commerce cold chain infrastructure”. aims to promote measures for developing e-commerce infrastructure for cold chain which would result in overall development of the cold chain sector in a sustainable manner.
- iv. Study report on “Public Procurement Policies for Hiring Trained and Certified Refrigeration and Air-Conditioning Service Technicians” aims to examine the benefits associated with the utilization of trained and certified technicians, to evaluate the influence of their specialized knowledge not only in improving the performance of the equipment, but also promoting the energy efficiency of the equipment through good servicing practices.
- **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. Approval of Project Proposal for HPMP Stage-III By MLF Secretariat

The Ex-Com of the MLF at its 87th meeting held in June 2021, approved the project preparation funding of US\$ 450,000 for preparation of Stage-III of HPMP for India. United Nations Development Programme (UNDP) is the lead implementing agency for HPMP Stage-III and the agency for the investment component, i.e., technology conversion from HCFC to non HCFC and low GWP

alternative technologies in the refrigeration, air-conditioning and firefighting manufacturing sectors. UNEP is the implementing agency for the enabling activities and GIZ Proklima for the RAC servicing sector along with UNDP.

After approval of the project preparatory funding by the Ex-Com of the MLF, consultant has been on boarded for carrying out sectoral surveys and collect enterprise wise data, conducting awareness workshops, analysis of data and identification of all eligible enterprises to participate in HPMP Stage-III, preparation of sectoral strategy for each manufacturing sector and overarching strategy after integration of the strategies of enabling component and the RAC servicing sector. The sectoral strategies for the enabling component and the RAC servicing sector.

National stakeholder consultation workshop was held on 22nd July 2022, which was attended by about 120 participants comprising representatives from nodal line Ministries/ Departments, CPCB, SPCBs, industry associations and the participating enterprises.

Subsequently, HPMP Stage-III document, submitted to the MLF Secretariat through UNDP, the lead implementing agency for seeking funding. The HPMP Stage III for India was approved in the 91st meeting of the Ex-Com of the MLF to phase out 10,678.87 MT or 579.99 ODP tonne of HCFCs consumption from the starting point, contributing to India’s compliance with the 2025 and 2030 control targets HCFCs under the Montreal Protocol.

The HPMP Stage-III will be the last of the HPMPs for India, for assisting the country 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 Ozone Depleting Substance (Regulation and Control) Rules 2000, as amended in 2014. A total of 48 enterprises in the refrigeration manufacturing sector and 16 enterprises in the air-conditioning manufacturing sector are participating in HPMP Stage-III.

In addition, HPMP Stage-III addresses phase-out of HCFC-22 in the RAC Manufacturing sector, Servicing sector, capacity building, project activities, policy and regulations, enforcement training, etc., for the successful and sustainable implementation of complete phase-out of HCFCs by 2030, with a service tail of 2.5% of the baseline of HCFCs.

Implementation of HPMP-Stage-III will result in net direct CO₂ equivalent emission reductions of 19,239,929 tonnes CO₂-eq. from 2030 onwards.

The meeting of the Local Project Appraisal Committee to consider the approval for implementation of HPMP Stage-III was held on 22 June 2023 under the chairmanship of Deputy Director General, Department of Economic Affairs, Ministry of Finance, Government of India. The Committee after review and discussions, accorded approval for the implementation of HPMP Stage- III.

4. 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 18th 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 27th September 2022.

After ratification, the Kigali Amendment to the Montreal Protocol came into force for India on 26th December 2021. Accordingly, the deadline

for India to establish the licensing system for HFCs was on 26th March 2022. Further, as per Article 7 of the Montreal Protocol, each Party shall provide to the Ozone Secretariat, statistical data for the year during which provisions concerning HFCs entered into force. Accordingly data for 2021 must be reported by India, for which data on import and export of HFCs and blends containing HFCs is needed, for which a licensing system need to be in place.

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



5. Establishment of licensing system for import and export and reporting of statistical data on consumption, production, import and export of HFCs under the provisions of the Montreal Protocol

First stakeholder consultation meeting was held on 20th January 2022 to discuss the issues relating to establishment of licensing system, data reporting and those relating to development of national strategy for phase down of HFCs.

In accordance with Article 4B of the Montreal Protocol, a licensing system for import and export of HFCs has been put in place by DGFT, as per which DGFT revised the import/export policy for HFCs and put HFCs in the “restricted category”. As per DGFT’s policy, import/export of HFCs is permitted only under license issued by DGFT after seeking recommendation of Ozone Cell.

The development of national strategy includes outreach and awareness component, and as part of the awareness and outreach component, 34 workshops comprising 18 workshops through physical mode and 16 workshops through virtual mode are being conducted across the country.

These workshops are being organised in close cooperation with the concerned line ministries and departments comprising DPIIT, DCPC, MSDE, MSME, Ministry of Power including BEE and EESL, DST, CSIR, DRDO, CPCB, State Pollution Control Boards and the concerned industry associations concerned with the Montreal Protocol implementation. Till date, 23 awareness-cum-sensitization workshops have been completed. Sectoral HFC data is also being collected through these workshops.

6. India Cooling Action Plan (ICAP)

The Ministry of Environment, Forest and Climate Change, Government of India has 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. Action points relating to implementation of recommendations of ICAP for the thematic area Space Cooling in building sector has been released on the occasion of the World Ozone Day, 2022.
- 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. Action points relating to implementation of recommendations of ICAP for the thematic area cold chain sector has been released on the occasion of the World Ozone Day, 2022.

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. Action points related to the said thematic area have been released during World Ozone Day 2023.

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. Action points related to the said thematic area have been released during World Ozone Day 2023.

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. Action points related to the said thematic area have been released during World Ozone Day 2023.

Action points for the Transport air-conditioning thematic area is under discussion.

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.

6. 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 2023:

(a) The MoEF&CC, Government of India organized the World Ozone Day 2023 function in Delhi where Secretary (EF&CC) was the Chief Guest for the event. ShriAtulBagai, Head, UNEP India office and Ms. Isabelle Tschan, Deputy Resident Representative, UNDP India were also present during the event. The theme for this year World Ozone day was **“Montreal Protocol: fixing the ozone layer and reducing climate change”**.



- (b) The World Ozone Day 2023 was attended by School Children (more than 500 school students), Industries associated with Montreal Protocol implementation, Service technicians of Refrigeration and Air-conditioning (RAC), Partners associated with Montreal Protocol implementation, think tanks, Refrigerant gas Manufacturers, RAC and foam manufacturing enterprises, implementing agency, technical assistance providers (CIPET) etc.
- (c) Major activities undertaken during the World Ozone Day 2023 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, MoEF&CC for school children across the country with 6152 entries for both the categories.
 - **Release of Awareness Material:**

Winning Poster: The first prize winning entry in poster competition was released by the Chief Guest during the World Ozone Day function.



25th 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 till date.



Booklet on Action Plan for implementation of the recommendations of the ICAP for (a) Domestic Manufacturing and Production Sector – Alternative Refrigerants and technologies, (b) Research and Development and (c) Servicing Sector : In order to operationalize the recommendations of ICAP, the action plan for each of the 3 thematic areas 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.



Stage-III of the HCFC Phase out Management Plan (HPMP), to be implemented from 2023 to 2030 to meet the HCFC phase out compliance obligations of 2025 and 2030. Phase out of HCFCs in manufacturing of new equipment must be completed by 31.12.2024 and complete phase out of HCFCs as on 01.01.2030 for all controlled applications.

Study Report on “Sustainable e-commerce cold chain infrastructure”: This study report aims to promote measures for developing e-commerce infrastructure for cold chain which would result in overall development of the cold chain sector in a sustainable manner.



- **Study report on “Public Procurement Policies for Hiring Trained and Certified Refrigeration and Air-Conditioning Service Technicians”**: The study report aims to examine the benefits associated with the utilization of trained and certified technicians, to evaluate the influence of their specialized knowledge not only in improving the performance of the equipment, but also promoting the energy efficiency of the equipment through good servicing practices.
- **Animation video of messages by Prakriti on Ozone Layer Protection was released.**
- **Documentary film on India’s Success Story on implementation of Montreal Protocol was released.**

ii. **Initiatives taken for Indigenous capacity development including research on low global warming (GWP) chemicals to be used as alternatives to HFCs:**

- (a) In order to promote indigenous manufacturing of low global warming potential chemicals and development of a robust R&D ecosystem the MoEF&CC 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 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), an autonomous organization under Department for Promotion of Industry & Internal Trade, Ministry of Commerce and Industry, Government of India is appointed as an overarching institution for effective implementation of the proposed activities by the IITs.
- (b) The MoEF&CC has also organised a workshop on “Indigenous capacity development including research on GWP chemicals to be used as alternatives to HFCs on 4th August 2023 in Delhi. The objective of



the workshop was to develop a Roadmap along with an action plan for indigenous development, which encourages domestic manufacturing of next generation low GWP refrigerants, cooling appliances along with safety standards and upgradation of skill of the existing manpower for wider adoption of such refrigerants during the phase down of HFCs under the Kigali Amendment. The deliberations from the workshop resulted in specific recommendations towards achieving the said objectives, categorised as short term (up to 3 years), medium term (3-5 years) and long term (above 5 years).



- iii. A meeting with the Directorate General of Commercial Intelligence and Statistics (DGCI&S) and the Directorate General of Foreign Trade (DGFT) was held on 26th May, 2023 and 29th August, 2023 under the Chairpersonship of Economic Advisor, MoEF&CC to discuss issues relating to reporting of data on controlled substances, import and export of Hydrofluorocarbons (HFCs) w.r.t development of a National Strategy for phase down of HFCs for India.
 - iv. The Seventh meeting of the Project Steering Committee (PSC) for the Projects under the Montreal Protocol, being implemented through UNDP as implementing agency, was held on 20th July 2023 through virtual mode under the Co-Chairpersonship of Economic Adviser, MOEF&CC and Deputy Resident Representative, UNDP India office.
 - v. Meeting of the Standing Committee on Monitoring was held on 13th September, 2023 under the Chairpersonship of Chairman, CPCB, in which the Article-7 and Country Program Progress Report (CPPR) data for 2022 were recommended for approval.
 - vi. Two 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.
- Following meetings of each of the thematic working groups were held:
- a. Domestic manufacturing and Production Sector – Alternative Refrigerants and Technologies and Research & Development- 1st September, 2023
 - b. RAC Servicing Sector- 20th March, 2023 and 23rd August, 2023
 - viii. The meeting of the Steering Committee was held on 15th May 2023 under the Chairpersonship of Secretary (EF&CC) to review progress of implementation of action points finalized for Space Cooling in Buildings and Cold Chain Thematic Areas under India Cooling Action Plan.
 - ix. The meeting of the Steering Committee was held on 6th September, 2023 under the Chairpersonship of Secretary (EF&CC)

for finalizing the action points for implementation of the recommendations of the (a) Domestic Manufacturing and Production Sector; (b) R&D Thematic Area, and (c) Servicing Sector Thematic Area.

- x. A National Workshop on “Good Management Practices for Energy Efficient Buildings by introducing Passive Cooling Designs, to reduce operational costs, improve health and comfort and promote use of non HCFC and low GWP alternatives” under HCFC Phase-Out Management Plan in India (HPMP Stage-II) was organized by M/s Construction Industry Development Council (CIDC) in close consultation with the Ozone Cell, MoEF&CC on 21st March, 2023.
- xi. Meeting of Production Quota was held on 14th February, 2023 under the Chairpersonship of Joint Secretary, Ozone Cell, for distribution of production quota of HCFC 22 for non-feedstock applications.
- xii. Review meetings with UNDP to discuss progress of MLF Projects implemented by UNDP were held from time to time.
- xiii. Training, workshops were organized across the country for RAC servicing technicians by GIZ, as part of the activities in the RAC Servicing Sector.
- xiv. Ozone Cell has made available awareness creation material to the public on its website. Instructional training videos for RAC service technicians in 6 different languages have been made.
- xv. Separate QR codes have been generated for the instructional videos for wider dissemination through print medium.
- xvi. 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.

- xvii. CPCB, SPCB’s and other State Government Departments are being regularly updated/informed about the ODS phase-out programme being implemented in the country.
- xviii. The Indian delegation actively participated in the following meetings of the Montreal Protocol:
 - 45th meeting of the Open-Ended Working Group of Parties to the Montreal Protocol held from 3-7 July 2023.
 - 91st and 92nd meetings of the Ex-Com of the MLF for implementation of the Montreal Protocol

7. 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 2022 is as follows:

- 1 For feedstock only
- 2 Recovered/Reclaimed halon



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-113a ¹	0.000	0.000	372.592	372.592	0.000
Total	0.000	0.000	372.592	372.592	0.000
CTC ¹	34367.859	0.000	3741.371	34367.859 (Production) 3741.371 (Imported)	0.000
Total	34367.859	0.000	3741.371	38109.230	0.000
Halon -1211 ²	0.000	0.000	4.000	0.000	0.000
Halon -1301 ^{1&2}	559.140 (feedstock)	280.000 (feedstock)	8.000 (Recovered/ Reclaimed)	279.14 ^b	0.000
Halon -2402 ²	0.000	4.912	0.000	0.000	0.000
Total	559.140	284.912	12.000²	279.14^b	0.000
Methyl Bromide ³	3682.535	2170.367	28.844	0.000	1541.012
Total	3682.535	2170.367	28.844	0.000	1541.012
HCFC-22	79736.032	11170.262 ^c	0.000	62345.217 ^d	6220.553
HCFC-123	0.000	0.000	173.376	0.000	173.376
HCFC-142b ¹	6158.249	576.762	0.000	5581.487	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	25.334	69.590 ^e	0.000	0.000	0.000
Total	85919.615	11816.614	173.376	67926.704	6393.929
Bromofluoro-methane ¹	0.52256	0.52256 ^f	0.645	0.645 (Imported)	0.000
Total	0.52256	0.52256	0.645	0.645	0.000

- 3 for Pre-shipment & Quarantine
- a) a Total production of CTC for feedstock is 34367.859 MT out of which 0.011 MT exported and 34367.848 MT is used within the country for feedstock
- b) b Total production of Halon-1301 for feedstock is 559.140 MT out of which 280 MT exported for feedstock, and 279.140 MT is used within the country for feedstock
- c) c Including 206.910 MT exported for feedstock (106.91 MT exported to Japan and 100 MT exported to United Kingdom.
- d) d Total production for feedstock of HCFC-22 is 62552.127 MT out of which 206.910 MT exported and 62345.217 MT is used within the country for feedstock
- e) e Out of 69.590 MT export , 25.334 MT is from the production for the year 2022

and 44.256 MT is from the previous year balance quantity produced for feedstock only.

- f) f 0.35456 MT export to Singapore+0.168 MT export to United Kingdom (for feedstock).The data with respect to export as reported by producer along with shipping bill details, since BFM covers under ITC(HS) Code-2903 79 00 which is for others and individual data w.r.t BFM is

not available with Ozone Cell.

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)

HFC	Production (MT)	Export (MT)	Import (MT)	Consumption (MT)
HFC-32	9590.20	2391.383	8994.68	16193.497
HFC-23		0	0	0
HFC-125	8754.751	4874.95	122.26	4002.061
HFC-134a	14727.82	6112.542	9125.191	17740.469
HFC-227ea		0.415	263.973	263.558
HFC-152a		4.970	2940.478	2935.508
HFC-245fa		0	1064.839	1064.839
HFC-236fa		0.155	72.584	72.429
HFC-365MFC		0	38.4	38.4
HFC4310mee		0	0.6	0.6
R404A (HFC-125 = 44%, HFC-134a = 4%, HFC-143a = 52%)		227.334	1265.6	1038.266
R407C (HFC-32 = 23%, HFC-125 = 25%, HFC-134a = 52%)		274.371	718.92	812.049*
R-407F (HFC-32=30%, HFC-125=30%, HFC-134a =40%)		0	1.452	1.452
R410A (HFC-32 = 50%, HFC-125 = 50%)		4627.717	3887.67	3814.326*
R-426A(HFC-125=5.1%,HFC134a=93%,HC-600=1.3%,HC601a=0.6%)		0	20	20
R-438A (HFC-32=8.5%, HFC-125= 45%, HFC-134a=44.2%, HC600=1.7%, HC-601a=0.6%)		0	200	200
R-454B (HFC-32=68.9%, HFO-1234yf =31.1%)		0	0.176	0.176
R-454C (HFC-32=21.5%, HFO-1234yf =78.5%)		0	0.073	0.073
R-455A (R-744=3%,HFC-32=21.5%, HFO-1234yf =75.5%)		0	0.8	0.8
R-513A (HFO-1234yf=56%, HFC-134a= 44%)		0	0.684	0.684
HFC-365mfc/HFC-227ea (87%/13%)		0	115.2	115.2
R467A (HFC-32=22%, HFC-125=5%, HFC-134a=72.4%, R-600a=0.6%)		37.800	0	0
Total	33072.771	18551.637	28833.58	48314.387



9.3 United Nation Convention to Combat Desertification:

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.

The Division is:

- The focal point addressing the issues pertaining to the United Nations Convention to Combat Desertification (UNCCD), which was ratified by India on 17th December 1996.
- Co-ordination division for SDG 15.3 (By 2030, 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.
- Co-ordination division for National State Environment Report for information pertaining to land Degradation Status.

Activities undertaken: On the occasion of International Day of Forests 2023, Ministry has announced to revive the Aravalli's through various initiatives like single-use plastic ban, water conservation efforts and natural resources protection which will contribute to green the 5 km buffer area around the Aravalli Hill Range in three states namely Haryana, Gujarat, Rajasthan and parts of Delhi NCR.

The Detailed Project Report has been prepared and further the preparation of state-wise holistic action plan for taking up restoration activities in Aravalli range is under process in consultation with the State Forest Departments, civil society groups, local communities and relevant private sector.

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 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 3.5 years with a total cost of Rs.5.9 crores.



CHAPTER - 10

**INTERNATIONAL
COOPERATION**



10.1 International Cooperation:

The International Co-operation (IC) Division coordinates all issues related to international environmental cooperation and allied areas. The Division also handles bilateral country to country cooperation in the areas of environment protection and 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 (MoEF&CC).

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 India; 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 many Agreements MoUs on various environmental issues and related matters of mutual benefits. Most of the MoUs agreements are operated through the Joint Working Groups (JWGs).

Important multilateral activities

- 1. Shanghai Cooperation Organization (SCO):** The Shanghai Cooperation Organization (SCO) is a multilateral organization, established on 15th 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 9th 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 17th September 2022 onwards, for a period of one year. As part of its responsibilities as Chair, India hosted the regular session of the SCO Council of Ministers for Environment and the meetings of its Expert Working Group in 2023. The agenda items discussed in the meetings included Status and prospects for developing the cooperation in the field of environmental protection; follow-up to realisation of the Action Plan for implementation of the Concept of Cooperation in Environmental Protection of the SCO Member States for 2022-2024, with a focus on the topics of India's chairmanship in the SCO within the track "Environmental Protection"; and Joint Communique. The Fourth Meeting of the Heads of Ministries and Department of SCO Member States Responsible for Environment Protection was held virtually on 18th April, 2023 under the Chairmanship of Union Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav. The meeting resulted in adoption of the Joint communiqué on the outcome of the Fourth Meeting. The Joint Communique was framed on the basis of the SCO Action Plan to implement the 2022-24 concept of cooperation in the field of environment protection.



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.

The sixth session (UNEA-6) will take place

from 26 February to 1 March 2024 at the UNEP headquarters in Nairobi, Kenya. The sixth meeting will be preceded by the Open-ended Committee of Permanent Representatives (OECPR) will take place from 19 to 23 February 2024. The UNEA-6 will be held in-person and the overall theme of UNEA-6 is "Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution".

The Indian delegation also attended the **5th Forum of Ministers and Environment Authorities of Asia Pacific** that took place in Colombo, Sri Lanka from 3 to 6 October 2023. The purpose of the meeting was to discuss the regional environmental priorities and provide regional inputs to the outcome of the 6th session of the UN Environment Assembly (UNEA-6).

3. **BRICS Meetings:** Shri Bhupender Yadav, Hon'ble Minister of Environment, Forest and Climate Change, participated in the 9th BRICS Environment Ministers Meeting, 28th June, 2023, which was held virtually under Presidency of South Africa. The theme of the Meeting was "Advancing Environmental Cooperation Among BRICS towards the attainment of the 2023 Agenda for Sustainable Development". Ministers and delegates from Brazil, Russia and China also participated in the Meeting. The Joint Statement for the 9th BRICS Environment Ministers Meeting was adopted in the Meeting after hectic deliberation among the BRICS Nations. It was preceded by the Senior Officers' Meeting on 27th June 2023 to finalise the Joint Ministerial Statement.

4. **United Nations Environment Programme:** The United Nations Environment Programme (UNEP) is the leading global



authority on the environment. UNEP works closely with its 193 Member States and representatives from civil society, businesses, and other major groups and stakeholders to address environmental challenges through the UN Environment Assembly, the world's highest-level decision-making body on the environment. India is a Member of UNEP and provides annual financial contribution of USD 100,000 to UNEP Environment Fund. This year, the Ministry sanctioned USD 3,00,000 towards its annual contribution for the year 2021, 2022 and 2023.

5. International Union for Conservation of Nature and Natural Resources (IUCN):

Established in 1948, IUCN is an international organization working in the field of nature conservation and sustainable use of natural resources. Mission of the IUCN is to influence, encourage and assist societies throughout the world to conserve nature and to ensure that any use of natural resources is equitable and ecologically sustainable. It was previously called the International Union for Protection of Nature (1948-1956) and the World Conservation Union (1990-2008). IUCN has observer and consultative status at the United Nations, and plays a role in the implementation of several international conventions on nature conservation and biodiversity. It was involved in establishing the World Wide Fund for Nature and the World Conservation Monitoring Centre. IUCN is a membership Union uniquely composed of both government and civil society organizations. This Ministry is nodal for IUCN and supports IUCN in achieving goals of conservation of nature, natural resources and biodiversity.

6. 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 other 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. For SACEP, our Annual Contribution is USD 31,850. The last meeting of the 15th Governing Council was held in Dhaka, Bangladesh from 3-6 November 2019. The Indian Delegation was led by the then HMEFCC.

7. G20: The G20 or Group of Twenty is an intergovernmental forum comprising 19 countries, the African Union, and the European Union (EU). It works to address major issues related to the global economy, such as international financial stability, sustainable development, environmental and climate change issues etc. The 19 countries are: Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom, and United States. The Invitee countries which attended ECSWG meetings

included Bangladesh, Egypt, Denmark, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain, UAE. The International Organizations that attended the meetings include United Nations Convention to Combat Desertification (UNCCD), United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), United Nations Development Programme (UNDP), Food and Agriculture Organization (FAO), United Nations Environment Programme (UNEP), Coalition for Disaster Resilient Infrastructure (CDRI), International Solar Alliance (ISA), World Bank, International Renewable Energy Agency (IRENA), Asian Development Bank (ABD), Green Climate Fund (GCF) and International Union for Conservation of Nature (IUCN).

The G20 Countries represent a spectrum of developed and emerging economies at different stages of growth and development. Collectively, they support 85 per cent of global GDP and 75 per cent of global trade. However, they are also responsible for around 80 per cent of the current annual greenhouse gas (GHG) emissions and facing the detrimental impacts of changing climate and environmental degradation.

India assumed the Presidency of the G20 for the period of one year from 01 December 2022 to 30 November 2023, taking over from Indonesia.

As the largest democracy in the world, and the fastest growing economy, India's G20 presidency played a crucial role in building upon the significant achievements of the previous 17 presidencies. India's presidency focused on the theme of Vasudhaiva Kutumbakam - 'One Earth, One Family, One Future', with the agenda being inclusive, ambitious, action oriented and decisive in nature. The theme affirms the value of human, animal, plant, and microorganisms

and their interconnectedness on planet Earth and in the wider universe.

Under G20 India, there was a Joint WG of Environment and Climate Sustainability, as in the case of G20 Presidency under Indonesia. The Environment and Climate Sustainability Working Group is one of the thirteen under the Sherpa Track, which identified the below thematic priorities for deliberation during the India Presidency.

- Preventing, reducing and reversing land degradation; accelerating ecosystem restoration and halting and reversing biodiversity loss
- Protecting and conserving the ocean, promoting a sustainable and resilient blue/ocean-based economy
- Promoting resource efficiency and circular economy, preventing pollution and minimizing its risks

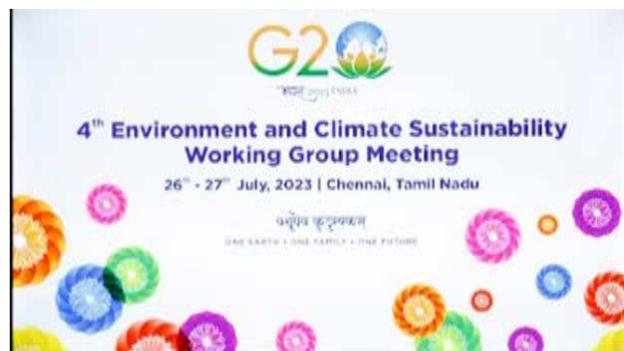
The Indian Presidency also put spotlight on Lifestyle for Environment (LiFE), with an emphasis on environmentally sustainable and responsible choices at both the individual lifestyle and the national development level, with the aim of achieving a cleaner, greener, and bluer future. Accelerating climate action and sustainable lifestyles spotlighting the India led Lifestyle for Environment (LiFE) were cross cutting elements that were mainstreamed across the three thematic priorities.

Cooperation amongst G20 Countries is essential to build economic resilience through resource security, achieve sustainable development, improve ecosystems and biodiversity via conservation and restoration, and combat climate change. The G20 Countries during the proceedings of this working group exhibit a spirit of renewed multilateralism, linking energy,



development, and climate action priorities to deliver jobs, growth, and sustainability. The same was reflected at the Summit wherein the countries unanimously adopted the Green Development Pact, rendering consensus on key matters of climate and environment.

Four Environment and Climate Sustainability Working Group (ECSWG) Meetings were held across India and deliberated on the issues of Promotion of blue economy along with coastal sustainability; Restoration of degraded lands and ecosystems and enhancement of biodiversity; Industry transition of hard to abate sectors; and Strengthening of Circular economy. The Environment and Climate Sustainability Ministers' Meeting was held on July 28, 2023, following the successful conclusion of the 4th ECSWG meeting that was held from July 26th-July 27th, 2023, in Chennai, Tamil Nadu. The details of ECSWG meetings are given in Chapter 2 of this Report .



Under the G20 India Presidency, four meetings were held and ECSWG has demonstrated an unwavering commitment towards ensuring environmental sustainability, which resonates with the vision of the Indian government to tackle the interconnected issues of climate and environment in an ambitious and decisive manner. The outcomes of the ECSWG were included in the New Delhi Leaders' Declaration and Green Development Pact. The deliberations during the four scheduled meetings reached at concrete, implementable action points to foster the sustainable development, climate action and protection of the environment.

8. **G7:**The G7 Summit is an international forum held annually for the leaders of the G7 member states of France, the United States, the United Kingdom, Germany, Japan, Italy, and Canada (in order of rotating presidency), and the European Union (EU). The G7 Ministers' Meeting on Climate, Energy and Environment is one of the ministerial meetings held

in conjunction with the G7 Summit, and its significance is that it forms the basis for discussions at the Summit. India participated as one of the Guest Countries in the G7 Ministers' Meeting on Climate, Energy and Environment under the presidencies of UK and Japan during 2021 and 2023 respectively. For the G7 Ministers' Meeting on Climate, Energy and Environment, 2023, Japan, the Indian delegation was led by Hon'ble Minister of Environment, Forest and Climate Change, Shri Bhupender Yadav. Bilateral meetings were also held on the sidelines of the meeting.

- 9. 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 06 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. The Indian delegation was led by Senior Economic Adviser, Shri Lalsanglur.

- 10. GEF Assembly Meeting:** India is a founder member of the Global Environment Facility (GEF). Set-up in 1991, GEF is a designated multilateral funding mechanism of 185 countries to provide incremental finance for addressing global environmental benefits that are also identified as national priorities. The Ministry of Environment, Forest and Climate Change is India's GEF Operational Focal Point (OFP) responsible for all in country coordination. The Department of Economic Affairs (DEA) is India's GEF Political Focal Point.

India is both a donor and recipient of GEF grants. Total contribution made by India, since 1991 upto GEF-8 is USD 96 million (Pilot Phase-USD 6 million; GEF 1 to 5 cycle-USD 9 million; GEF 6 cycle-USD 12 million; GEF 7 –USD 15 million; and GEF 8-USD 18.75 million). Since the fourth cycle GEF funding is available under broad sectors of Climate Change, Biodiversity and Land Degradation. The sector wise broad categorization of the funding received by India are as follows:

(In USD)

GEF Cycle	Biodiversity	Climate Change	Land Degradation	Total
GEF-4	30,000,000	74,976,990	0	104,976,990
GEF-5	30,580,000	93,390,028	5,073,300	129,043,328
GEF-6	36,873,287	59,080,068	5,832,822	101,786,177
GEF-7	34,016,343	47,237,955	4,357,244	85,611,542
GEF-8	43,779,206	41,654,229	3,890,594	89,324,029
Total	175,248,836	316,339,270	19,153,960	510,742,066



In GEF-7 cycle (2018 -2022), the total allocation to India was USD 85.62 million. GEF-8 cycle (July 2022 to June 2026), India has received USD 89.32 million in STAR allocation, about 4.32% increase over the last GEF replenishment cycle.

GEF has supported implementation of 82 national projects in India. In addition, GEF has also supported 26 regional and global projects. Out of the 82 national projects, 46 projects have been implemented by MoEFCC and about 36 projects have been implemented by other line ministries.

GEF Assembly is the only governing body of the GEF in which representatives of all 185 member countries meet every three to four years and is responsible for reviewing and evaluating the GEF's general policies, the operation of the GEF and its membership. The 6th GEF Assembly were held in Da Nang Vietnam from 27-28 June, 2018. The 7th GEF Assembly meeting was held from 22-26 August 2023 in Vancouver, Canada. Three high-level plenary sessions were held on August 24-25, 2023 and 11 interactive roundtables running across the two days focused on a wide range of topics from closing the nature funding gap, to transforming food systems, building climate resilience, and more.

Important bilateral activities

1. **Japan:** A bilateral Meeting between Hon'ble Minister of Environment, Forest and Climate Change, ShriBhupenderYadav and Hon'ble Minister of Environment, Japan, Mr. Akihiro Nishimura was held on 12th January, 2023 discussing G7/ G20 Collaboration, Focus on Lifestyle, Oceans/Plastic, Adaptation/Disaster Risk Reduction, Article 6/Market Mechanism etc. HMEF&CC also attended the India-



Japan Environment Week, 12-13 January, 2023, New Delhi.

2. **Germany:** A meeting of Hon'ble Minister of Environment, Forest and Climate Change, ShriBhupenderYadav with H.E. Mr. Ralph Brinkhaus for the German-Indian Parliamentary Group of the German Federal Parliament (Bundestag) took place on 31.01.2023 discussing issues like Indo-German Partnership on Green and Sustainable Development, Biodiversity, Wetlands and Water, Forest and Ecosystem Restoration, G20 Presidency and Environment and Climate Change including LIFE.



3. **Sri Lanka:** A meeting was held between Hon'ble Minister of Environment, Forest and Climate Change, Shri Bhupender Yadav and H.E Mr.NaseerAhamed, Minister of Environment, Sri Lanka on 24.02.2023 having discussions on issues such as Financial and Technical Assistance for implementing Sri Lanka National

Environment Action Plan, Investments to reduce emissions specifically in areas such as e-mobility, Renewable Energy etc.

4. **France:** Union Minister of Environment, Forest and Climate Change, ShriBhupenderYadav had a meeting with Delegation of the Parliamentary Standing Committee on Foreign Affairs of the French National Assembly led by Mr Jean-Louis Bourlanges on 13.03.2023 discussing issues like Biodiversity, Waste and Pollution, including Maritime Litter and Plastic, Wetlands and Water (Blue Economy), G20 Presidency, etc.



5. **FIJI:** Union Minister of Environment, Forest and Climate Change, ShriBhupenderYadav met with Hon'bleJovesaVocea, Assistant Minister for Rural, Maritime Development and Disaster Management, Fiji on 03.4.2023, and discussed issues like Project on Solarisation, ISA, CDRI, Mission LiFE.
6. **USA:** Union Minister of Environment, Forest and Climate Change, ShriBhupenderYadav had a meeting H.E Mr. Eric M Garcetti, Ambassador of USA on 11.07.2023 in Indira ParyavaranBhawan, and discussed issues on India-US Bilateral Initiatives and Major Proposals, Mission LiFE, Climate Finance, Carbon Market, Fossil Fuels and Clean Energy etc.
6. **UN Deputy Secretary General:** Union Minister of Environment, Forest and

Climate Change, ShriBhupenderYadav met with Deputy Secretary-General of the UN H.E. Ms.Amina J. Mohammed on 04.07.2023 in Indira ParyavaranBhawan and discussed various issues relating to the SDGs, G-20, social protection, planetary crisis, South-South Cooperation, climate finance etc.

7. **ED UNEP:** In order to discuss the World Environment Day, sustainable lifestyles, LiFE-Lifestyle for Environment, and other related matters of UNEP, a video conference was held on 18th May, 2023 between Mr BhupenderYadav, Hon'ble Minister of Environment, Forest and Climate Change and Ms Inger Anderson, Executive Director, UNEP.
8. **UNICEF:** Union Minister of Environment, Forest and Climate Change, ShriBhupenderYadav had a meeting Ms. Catherine Russell, ED, UNICEF on 02.10.2023. In the meeting, they discussed India's G20 Presidency, UNICEF activities in India, Mission LiFE, UNICEF CPD 2023-2027, etc.



9. **Meetings with Secretary:** Ms. Leena Nandan, Secretary, Minister of Environment, Forest & Climate Change had bilateral meetings with Ambassador of Republic of Cuba Mr. Alejandro Simancas Marin on 02.05.2023; German delegation led by Ms. Christine Toetzke,



Director General, BMZ on 12.06.2023; ADB delegation led by Mr. Kenichi Yokoyama, Director General, SARD on 19.06.2023; Mr. In-Chang Song Korean G-20 Sherpa on 20.06.2023; Danish Ambassador Freddy Svane on 11.07.2023; and Finland Ambassador Mr. Kimmo Lahdevirta on 27.10.2023.

- 10. Canada:** The 1st Meeting of India-Canada Joint Committee on Environment was held on 06.04.2023 at Indira Paryavaran Bhawan on issues like Circular Economy and Plastics Pollution including Marine Plastics, Sustainable Lifestyle for Environment (LiFE), Climate Change, Sustainable Development and Management of Water Resource etc.

10.2 Externally Aided Projects

Externally Aided Projects (EAP) Division of the Ministry deals with Forestry, Biodiversity and Natural resource management related Externally Aided Projects in coordination with the State Governments, donor agencies (JICA, French Development Agency (AFD), GIZ, KfW, World Bank etc.) and other line ministries in the

Government of India such as Ministry of Finance, Ministry of Home Affairs, Ministry of External Affairs, NITI Aayog, Ministry of Development of North Eastern Region, etc.

Objective of these forestry projects are increasing forest cover, biodiversity conservation, rehabilitation of degraded forest areas, Soil & Moisture Conservation measures, augmentation of Agro-forestry component, Capacity Building of Forest Officials and other stakeholders, creation of income & livelihood opportunities to fringe area forest village people, other measures for Sustainable Management of Forest and its resources and climate change impacts for sustainable livelihoods.

At present, there are 17 Externally Aided Projects dealt by this division which are under implementation in 15 States. These are Assam, Sikkim, Manipur, Nagaland, Tripura, Meghalaya, Odisha, Uttarakhand, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Tamil Nadu, Gujarat, Rajasthan and West Bengal.

b. Activities undertaken

- National Conference was organised at

S. No	Name of the Ongoing projects	States	Project Duration	Doner Agency
1.	Uttarakhand Forest Resources Management Project/ Japanese Technical cooperation Project for Natural Disaster Management in Forest Areas of Uttarakhand	Uttarakhand	2014-15 to 2023-24	JICA
2.	Himachal Pradesh Forest Ecosystem Management & Livelihood Project	Himachal Pradesh	2018-19 to 2030-31	JICA
3.	Odisha Forestry Sector Development Project Phase- II	Odisha	2017-18 to 2026-27	JICA
4.	Nagaland Forest Management Project	Nagaland	2018-19 to 2026-28	JICA
5.	Sustainable Forest And Catchment Management in Tripura	Tripura	2018-19 to 2027-28	JICA
6.	Project for Community-Based Forest Management and Livelihoods Improvement in Meghalaya	Meghalaya	2020-21 to 2033-34	JICA

S. No	Name of the Ongoing projects	States	Project Duration	Doner Agency
7.	Tamil Nadu Biodiversity and Greening Project for Climate Change Response	Tamil Nadu	2022-23 to 2032-33	JICA
8.	Sikkim Biodiversity Conservation and Forest Management Project	Sikkim	2010-11 to 2023-24	JICA
9.	Project for Ecosystem Management in Gujarat	Gujarat	2020-2026	JICA
10.	The project for Forest and Biodiversity Conservation for Climate Change Response in West Bengal	West Bengal	2023-2031	JICA
11.	Himachal Pradesh Forest Eco-System Climate Proofing project	Himachal Pradesh	2016-17 to 2020-21 till December 2022. Extension	KfW
12.	Component—Community-based Sustainable Forest Management for Water Resources Conservation in Manipur (COSFOM- KfW)	Manipur	1 September 2018 —31 August 2025 for loan Phase-I	KfW
13.	Climate Resilience of Forest Landscape Ecosystems, Biodiversity and Adaptive Capacities of Forest Dependent Communities, Tripura (CREFLAT): Climate change adaptation in the Himalaya -Component II	Tripura	2020-2027	KfW
14.	Forest and Biodiversity Management in the Himalaya – Nagaland	Nagaland	2018-2027	KfW
15.	Assam Project on Forest and Biodiversity Conservation Phase II	Assam	2019-20 to 2024-25	AFD
16.	Rajasthan Forest and Biodiversity Development Project	Rajasthan	2021-2029	AFD
17.	Sustainable Management of Forest Ecosystem Services	UK, HP, MP and UP	2021-22 to 2023-24	GIZ

Srinagar on “National Working Plan Code, 2023” which was chaired by DGF&SS, MoEF&CC.

c. Progress/ Innovations

- Knowledge Co-Creation Program on **“Sustainable Program on “Sustainable Forest Management and Forest Management and Integrated Watershed Management under Management under Counterpart Training Counterpart training program”** was held in Japan from August 16th, 2023 to September 8th, 2023; A similar senior level program was held in

Japan from 4th Dec to 13th Dec, 2023.

- Exposure Visit to Kruger National Park, South Africa for the Assam Government Officers from 9th September to 18th September 2023 under Assam Project on Forest and Biodiversity Conservation (APFBC) funded by French Development Agency (AFD).
- MOD has been signed between Rajasthan Government, JICA and MoEF&CC dated 14th November 2023 For the Project on **“Rajasthan Climate Resilience Enhancement and Ecosystem Services Improvement Project (RC-ESIP)”** for a



period from 2023-2031. The project total outlay is Rs. 1774.3 crores and will be implemented over a period of 8 years.

d. Achievements

DPR of following projects to be implemented in Meghalaya, Manipur and Punjab have been reviewed and comments have been furnished to the Department of Economic Affairs (DEA)

- i. Protection of Vulnerable Catchment Area in Meghalaya seeking Financial Assistance from KFW".
- ii. Community-based Sustainable Forest Management for water Resources Conservation in Manipur (COSFOM) Phase II" from Government of Manipur to be Funded by KFW.
- iii. Enhancing Livelihood through Community based Watershed Development in Manipur JICA ODA Loan.
- iv. Punjab Biodiversity and Natural Resources Conservation Project with the Assistance of JICA.



CHAPTER - 11

RESEARCH



11.1 Research in Environment

Environmental Research and Development Program (ERDP)

The Environment Research and Development Programme is under the revamped Scheme “Environment Education, Awareness, Research and Skill Development” which was erstwhile known as “Decision Support System for Environmental Awareness, Policy, Planning and Outcome Evaluation”. Under the new revamped Programme, the main objective would be to promote Environmental Research on critical areas/gaps, as identified by the Ministry, through reputed institutions; Government funded institutions and professional organizations (including NGOs) along with the existing thematic areas of R&D Scheme. This would facilitate decision making for policy and planning of the Ministry’s programmes and activities.

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.

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.

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.

Activities/ Progress/ Achievements:

- Organised 01 reconstituted Technical-cum-Financial Appraisal Committee (TFAC) Meetings.
- Technical cum Financial Appraisal Committee has been reconstituted.
- Steering Committee (SC) have also been reconstituted.

11.2 G.B. Pant National Institute of Himalayan Environment

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:

- Coordination of activities (administrative/ establishment matters) for Govind Ballabh Pant National Institute of Himalayan Environment (NIHE) to achieve physical and financial targets.
- 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).

- 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.

Activities undertaken:

NIHE:

- Institute has been implementing demand-driven projects on: (i) assessment of glacier-climate functional relationships across the Indian Himalayan region through long-term network observations; (ii) mainstreaming passive solar heated buildings in the IHR: Integrating science with traditional practices to enhance climate resilience; (iii) Exploring the use of treated wastewater for vegetation cultivation through hydroponics in Ladakh UT; and (iv) Cultivation of medicinal plants for rural livelihood improvement in Hawalbaghtaluk, Almora, from different funding agencies like DST, NABARD, NMHS, etc.
- Initiated developing and implementing working frameworks for climate-smart villages towards sustainable rural development in the Indian Himalayan region.
- Long-term in-situ monitoring of glaciers of Kali Basin (Chipa and Neola Glaciers) and Rulung glacier in the Ladakh region for mass balance, snout dynamics, and hydrology has been initiated.

NMHS:

- The 11th Steering Committee meeting was convened on Dec 15, 2023 under Chairship of the Secretary, MoEF&CC to



review progress of NMHS and approve new projects. The consecutive three (03) meetings, i.e. 19th, 20th, and 21st meetings of Scientific and Technical Advisory Group (STAG) were organized on September 5, November 3, and November 10 in Year 2023-24, which were Chaired by the Joint Secretary, MoEF&CC for assessment and recommendation of new projects as well as mission progress and activities.

- The 7th Monitoring & Evaluation (M&E) Workshop was organized through Hybrid Webinar Mode on August 17–18, 2023. Under the guidance of the Chief Guest the Joint Secretary, MoEF&CC, the invited Chair and eminent members, subject experts evaluated 35 NMHS-supported projects in two technical sessions.

ICIMOD:

- The 54th meeting of Board of Governors of ICIMOD was held during 21-23 May 2023 in Dhaka, Bangladesh with representation from all Regional Member Countries including India. The Annual Progress Report 2022; Draft results framework and funding forecast for MTAP-V; Audit Report 2022; and Annual Plan and Budget 2024 were finalized during the meeting.
- 2nd meeting of the National Coordination Committee on Transboundary Landscape and Hindu-Kush Himalaya (HKH) Call to Action Initiatives was held on 24th August 2023 at Indira Paryavaran Bhavan, MoEF&CC, New Delhi to review ICIMOD's activities in India and to discuss the possible areas of engagement under NMHS and other ICIMOD initiatives.

Progress/Innovations:

NIHE:

- Prepared 13 district-level Environmental

Management Plans for Uttarakhand as per the Hon'ble NGT guidelines and submitted them to the State Pollution Control Board, Uttarakhand.

- A greywater treatment system is installed in the NIHE Kosi campus; it is based on fixed bed experiments and is functional at both lab and pilot levels. This experiment is expected to be beneficial at the commercial level while applying the greywater treatment process.
- A mobile app – 'Jaldhara' has been developed under the Jal Abhayaanya project to have wider applications for in-situ data acquisition of springs and other water sources.
- 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, which has a potential for wider implementation in other parts of the IHR for spring revival studies.
- A new species of Balsaminaceae (*Impatiens rajibgogoi*) from Sikkim was discovered, and 2 new records of orchids, each from Sikkim and West Bengal, India, were recorded. The first report of *Dothiostroma pini* stain DPE01 causing leaf spots on *Ageratina adenophora* in India is reported.
- A sanctuary of 5 species of Berberis and Mahonia (*B. asiatica*, *B. lycium*, *B. jaunsarensis*, *B. Aristat* and *Mahonia jaunsarensis*) has been developed in Surykunj, Almora towards their conservation.
- A custom-made Hydroponics system was developed and successfully installed at

different hotels in Leh.

- Technical support to the Biodiversity Boards of Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttarakhand and Leh was provided to prepare the 75 People Biodiversity Registers.
- The Institute developed Eco-restoration plans for the Gangotri-Govind and DarmaByans landscapes, its campuses like Surya Kunj in Katarmal, MohalKhad and Dohranala in Kullu Valley, Banswara in Kedarnath Valley, etc.
- Re-assessment of GLORIA summits established in western Himalaya (Chaudas and Byas valley, district-Pithoragarh, Uttarakhand) revealed a significant increase of 4.4% in mean species richness and 8.9% in plant cover per m² quadrat. Plant cover for species such as *Danthonia cachemyriana* (Grass), *Juniperus communis* (Shrub) increased by 4.41 and 1.72 percent, whereas it decreased for *Kobresia nepalensis* (Sedge), *Potentilla argyrophylla* by 3.83 and 1.86 percent, respectively.
- The germplasm (seed) of 80 landraces of *Phaseolus vulgaris*, 25 landraces of *Macrotyloma uniflorum* and 30 landraces of *Glycine max* collected from different locations of Uttarakhand. A good diversity has been observed among landraces of target species based on plant morphology and Phyto-chemical traits.

Achievements:

NIHE:

- Various databases have been strengthened, including spring discharge, water quality, rainfall and GIS-based thematic maps of 12 sites of spring rejuvenation covering 32 springs across IHR.

- Towards spring rejuvenation, 1030 water augmentation structures, 5 rooftop rainwater harvesting systems and ~4000 plantations have been done, which shows promising results at 7 sites in Uttarakhand, Sikkim, West Bengal, Meghalaya, Tripura, Arunachal Pradesh and J&K sites in the initial assessment.
- To facilitate spring rejuvenation activities, 1156 para-hydrogeologists were trained through different programmes/training/workshops.
- Sanctuaries of threatened and high-value species like *Berberis* spp., *Zanthoxylum armatum*, *Meizotropis pellita*, and *Pittosporum eriocarpum* developed towards their conservation and large-scale propagation.
- Demand-based technical inputs/guidelines w.r.t. springshed management/spring rejuvenation to Ministry of Rural Development, Jal Shakti, NIH Roorkee, KRC's of JJM and PMKSY for enhancing water security in hilly areas.

11.3 National Mission on Himalayan Studies (NMHS)

Objectives:

- 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.

Progress/Achievements:

- The Biodiversity Park developed at Bhullah, Mandi, Himachal Pradesh by the Nachan Forest Division, Himachal Pradesh under NMHS project was awarded with the “Environment Leadership Award 2021-22”.
- The newly invented, state-of-the-art “Mobile Cold Mixer-cum-Paver (MCMP)” machine, developed under the NMHS-funded project, was handed over to the Border Road Organization (BRO) by the CSIR-IHBT, Palampur, Himachal Pradesh towards facilitating the high-altitude roads pavement in the Indian Himalayan region.
- Through an NMHS-funded project under the thematic area “Handling of Waste”, a “Compost Booster” was supplied to the

Municipal Corporation (MC), Palampur, HP by the CSIR-IHBT, Palampur, HP along with imparting the technical training for proper handling of segregated organic waste and pit-composting for the generation of quality compost Solid Waste Management.

- Overall, Knowledge Products under the Mission NMHS include: Success Stories (25), Technical Reports (15), Policy Briefs (17), Books/Chapters (37), Research Articles (492 with IF 961.26), Newsletter (07), Fliers (123), Manuals (23), Bulletins (17) among other key publications.
- In addition, an extensive database of the IHR is also being updated, inclusive of (i) 6124 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.

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

S.No.	Name of Organisation	Purpose	Total Amount Released
1	NIHE	To fulfil the above mentioned Objectives	Rs. 14.35 crores
2	NIHE (For Implementation of NMHS Scheme)	To fulfil the above mentioned Objectives	Rs. 10.04 crores



CHAPTER - 12

ENVIRONMENTAL INFORMATION,
EDUCATION AND AWARENESS



12.1 Environmental Education and Awareness and Training:

Environment Education Division

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 (EARSDD)'. This Scheme was approved for continuation till the year 2025-26. 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 (EEP) aims to supplement the efforts of the Ministry of Education in the formal education front, through varied pedagogical initiatives to impart non-formal environment education. This programme leverages on the key sectoral strength of Eco-clubs already formed under National Green Corps programme, in addition to targeting Youth Clubs and other such clubs/ units/ groups formed under various programmes/ schemes of the Government. Psychological interventions to behaviour change like education, enablement, incentivization, modelling, persuasion, training, etc. would be the building blocks of this programme laid on the foundation of principles envisaged in the National Education Policy, 2020.

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 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 the Ministry of Education, National Museum of Natural History under this Ministry, Panchayati Raj institutions/ Urban Local Bodies, etc.

Under the programme, Sustainable Lifestyle Workshops/ Projects/ Exhibitions/ Campaigns/ Competitions/ Nature Camps/ Summer Vacation Programmes, etc. are organized by the Implementing Agencies for children/ youth that give target beneficiaries a platform for developing scientific temper and critical thinking, display creativity and nurture values like compassion and empathy, in addition to strengthening of concepts and opportunity to experiment and experience sustainable solutions, which use minimal resources, cause minimal pollution and generate minimal waste. Detailed Guidelines of the Programme were issued in October 2022.

Activities undertaken:

During the LiFE Mass mobilization drive in May 2023, the Implementing Agencies of EEP and Eco-clubs together organized 44,866 action and awareness events with total participants of 19.8 lakh children/ youth. Around 19.5 lakh pledges were also taken during these events.

- **Workshop/ training programs** were organized by various Implementing Agencies of EEP on topics like, zero waste initiatives, Green School programme, reducing plastic waste and Single Use Plastic (SUP), vermi composting, healthy lifestyle, sustainable food system, developing kitchen gardens, eco-friendly Ganesha idol making, etc. These programmes aimed at nurturing the right attitude among students towards environment conservation and developing them as responsible citizens for a greener world.

Students with Idols made up of clay for celebration of Ganesh Chaturthi festival in eco friendly manner.

- **Campaigns :-** World Environment Day, International Day for the preservation of the Ozone Layer, International Coastal Cleanup Day, Earth Day, International Day of Clean Air for Blue Skies, Van Mahotsav, National Wildlife Week etc. were celebrated by the eco clubs across the country by organizing rallies, painting/ slogan/ poster competitions, cleanliness drives, etc. In several States, Eco-clubs celebrated Rakshabandhanas VrukshRakshabandan

by tying Rakhi to trees and by making eco-friendly Rakhi from colourful papers.

- **Nature Camps :-** Under Environment Education Programme, 20 states have been given grants for conducting nature camps during the FY 2023-24. Nature camps aims at creating greater awareness, understanding and empathy among children for the environment.

Budget Allocation and Financial Performance

The total budget allocated for the Financial Year 2023-24 is Rs. 55 Crores (Budget Estimate) and Rs. 53.6 Crores (Revised Estimate). The expenditure till date (15.11.2023) is Rs. 18.18 Crores. The amount is being released in tranches this year to Implementing agencies.



Students of Eco club promoting the significance of ozone layer on Ozone Day in Tamil Nadu



Eco-club students at a nature camp organized at ReiekTlang in Mizoram



Eco-club students at a nature camp organized at ReiekTlang in Mizoram

Table: State-wise release of grant-in-aid under EEP during FY 2023-24 (as on 15-11-2023):

S. No.	State(s)	Funds Released (Rs.)
1	Andhra Pradesh	1,54,19,664
2	Assam	1,78,75,000
3	Bihar	10,21,141
4	Chhattisgarh	1,02,46,250
5	Goa	15,28,244
6	Gujarat	1,05,26,518
7	Himachal Pradesh	39,05,348
8	Karnataka	31,50,382
9	Kerala	68,63,204
10	Madhya Pradesh	2,17,40,000
11	Maharashtra	98,50,000
12	Mizoram	36,72,796
13	Nagaland	20,01,250
14	Odisha	1,71,39,876
15	Punjab	1,35,57,984
16	Rajasthan	91,40,000
17	Sikkim	48,55,000
18	Tamil Nadu	1,03,50,000
19	Telangana	91,40,000
20	Tripura	22,26,940
21	West Bengal	58,70,000
	Total	18,00,79,597

12.2 National Museum of Natural History:

The National Museum of Natural History (NMNH), a subordinate office of Ministry of Environment, Forest and Climate Change, Government of India, was open to public on 5th June, 1978 at Mandi House with an objective 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 to promote environmental awareness.

NMNH, New Delhi has its four Regional Museums of Natural History (RMNH) in different parts of the country viz. Mysuru, Bhopal, Bhubaneswar and RGRMNH, SawaiMadhopur. Another RMNH at Gangtok is under construction to cover the North-East region..

Objectives:

- to develop the NMNH in the country's Capital to achieve the highest level of quality to promote environmental education at the 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 museum and collection based research 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.

Activities undertaken:

- The NMNH and its Regional centres have been undertaking Environmental educational programmes/ activities throughout the year to all sections of the society such as online Summer Vacation Programme, World Wetlands Day, World Water Day, World Forestry Day, Earth Day, International Day of YOGA, International Tiger Day, Van Mahotsav, World Elephant Day, International Day for Disabled, World Environment Day, International Ozone Day, and Wildlife Week, Orientation Workshop for Teachers, Awareness programmes on Mission LiFE, Swachhata Hi Sewa Special Campaign, Cheetah Reintroduction Awareness Campaign, Awareness Programme on Combating Air Pollution from Vehicles, various online/ offline national level competitions like Painting competitions, NukkadNatak Competition, Story Writing Competition, workshops

on Climate Change for MCD Schools, and collaborative programmes with other organisations, etc.

- NMNH and its regional centres set up thematic/temporary exhibitions such as Coral Realm, Life of House Sparrow, Hornbills of India - Social Bird, Meri LiFE – Lifestyle for Environment. The winning entries of the Inter-School Painting Competition were displayed at Juhu Beach, Mumbai during G20 Mega Beach Clean-up and MotaAnaj – Healthy Food, An Exhibition of Paintings at Vigyan Bhawan during celebration of World Environment Day, “Millets – A Healthy Lifestyle”. Selected best Paintings of National Level Painting Competition were also displayed during “Global Tiger Day 2023” Celebration Event at Corbett Tiger Reserve, participation in state level exhibitions and under Exhibit of the month by regional museums displaying different animal species of interest for general public to enhance their knowledge on environmental awareness and sensitisation.

In addition to the above, there was also participation in

- The MoEF&CC Pavilion on #Mission LiFE at “BHARAT PARV 2023” – Red Fort(26th to 31st January, 2023) :
- The National Climate Conclave 2023 at Lucknow (10th& 11th April, 2023) and collaborated with Directorate of Environment, Government of Uttar Pradesh in organizing The Youth Conclave (11th April, 2023)
- Mega Beach Clean-up Event for 3rd Environment and Climate Sustainability Working Group Meeting (ECSWG) at Mumbai on 21st May, 2023



- ‘Ek Tareekh Ek Ghanta EkSaath’ (One Date, One Hour, Together)
- Swachhata Hi Sewa Campaign – Garbage Free India (1st October, 2023)
- Shramdaan for Swachhata

Progress/Innovations:

A total number of 3,08,362 people visited the Regional Centers (Mysore, Bhopal, Bhubaneswar and Sawai Madhopur) during the reference period.

Important Cumulative achievements

- NMNH, and its regional museums located at Mysuru, Bhopal, Bhubaneswar, Sawai Madhopur have organised 18 Temporary/ Thematic Exhibitions, 5 Teacher Training Workshops, 40 Competitions, 54 Talks/ Lectures, 22 Mass Awareness Campaigns, 21 Exhibits of the month, 4 Series of Workshops on Climate Change.

Major publications:

Information Desk Calendar on “Lifestyle for Environment”.



National winners of DhartiKare Pukaar, Nukkad Natak, Kikani Vidhya Mandir, Coimbatore, Tamil Nadu

12.3 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 and issues related to climate change which would in turn facilitate better compliance with environmental regulations.

Objectives:

- Creation of Environmental awareness at all levels.
- Information dissemination about all Environment, Forest and Climate Change programmes and Biodiversity conservation.
- Awareness generation regarding people’s responsibilities towards environment.

Activities undertaken:

A. Celebration of World Environment Day:

Ministry of Environment, Forest and Climate Change celebrated World Environment Day on 5th June, 2023 at Vigyan Bhawan, New Delhi. This year the theme was “Solutions to Plastic Pollution” under the campaign #BeatPlasticPollution.

B. Social Media:

Ministry has social media accounts on Twitter, Facebook, Instagram, YouTube, Koo and LinkedIn.

S. No.	Social Media Handle	Followers on 23rd November, 2023
1	Facebook	2,17,000
2	Instagram	1,00,000
3	X(Twitter)	275000
4	YouTube	10,400
5	Koo	73,200
6	LinkedIn	17,615

Efforts have been made to ensure optimum utilization of social media for spreading awareness about the major achievements/breakthroughs of the Ministry and its Subordinate Offices/

Regional Offices/Autonomous Organisations towards protecting environment.

12.4 Swachh aur Swastha Bharat Cell:

Swachh aur Swastha Bharat Cell- Swachhta Action Plan:

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 behaviour change, construction of household-owned and community-owned toilets and establishing mechanisms for monitoring toilet construction and usage.

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 Swachhta Action Plan.

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 Swastha Bharat (SSB) Cell was established in the Ministry in the year 2017-18.

Initially, 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. A “Grant-in-Aid-General” Object head was created in year 2021-22 and SAP was mainstreamed under the awareness component “Environmental Information, Awareness, Capacity building and livelihood Programme” (EIACP) of the revamped scheme “Environment Education, Awareness, Research and Skill Development”.

Objective of Swachhta Action Plan:

The scope of the program includes building of bio-toilets at National Parks and Sanctuaries to educate visitors regarding Cleanliness. The budget for establishment of Bio-Toilet under the Swachhta Action Plan has been kept at Rs 30.00 lakh (maximum) for each National Park/ Sanctuaries etc. as per the approved guidelines.

• Implementation Plan

In the current financial year, special focus of the Swachhta Action Plan is on:-

- 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.

Activities undertaken:

Swachh aur Swastha Bharat Cell organized an awareness programme under SAP, which was focused on ‘Awareness on curbing the Single Use Plastics’. Under the SAP, following tools of awareness were used during the Swachhta Pakhwada: -

- Cleanliness Drive.
- Slogan Writing.
- Essay Writing.
- Distribution of Copper Bottle with cotton bags.
- Certificate Distribution.



Progress/Achievements: Guidelines of the Swachhta Action Plan have been approved.

An amount of Rs 3.60 Crore has been allocated for setting up of bio-toilets at different Tiger Reserves (TRs). As on date, six (06) numbers of bio-toilets have been constructed in the different TRs.

12.5 Economic Division:

Economic Division in the Ministry is responsible for the following areas of work:

1. 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.
2. 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.
3. 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.
4. Nodal for matters related to DBT including coordination with the DBT Mission, Cabinet Secretariat to on-board/off-board schemes of the Ministry on DBT Bharat portal.

Activities undertaken:

- Prepared comments on various themes of trade and environment of WTO and forwarded to Department of Commerce.
- Provided comments for Pillar-I (Trade) and III (Clean Economy) of Indo Pacific Economic Framework (IPEF), Draft IPEF Ministerial statement, and proposal of India being a member of the Steering Committee for the inaugural Investor Forum etc.
- Furnished comments on United Kingdom (UK) Government's consultation paper on CBAM.
- Prepared comments on pending issues related to Articles X.1 clause a (ii), Article on General Principles and Article X.6 of Environment Chapter, on Services incidental to agriculture and manufacturing and Environmental Services under India-Australia Comprehensive Economic Cooperation Agreement (CECA).
- MoEF&CC prepared a "Non-paper clarifying India's position on supportive measures" and shared it with Department of Commerce in connection with India-Australia CECA.
- Prepared comments on Trade and Sustainable Development/ Environment Chapter for the India-UK, India-EU, India-Australia CECA and India-EFTA TEPA negotiations.
- Prepared 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 India GCC FTA, Environmental Services under India-Peru FTA and Market Access offers in the Trade in Services Chapter of Early Progress Trade Agreement (EPTA), India-Oman FTA Services.

- Prepared comments/inputs on matters relating to tariff lines w.r.t. India-Peru, India-EFTA.
- Furnished comments of MoEF&CC on the Draft Cabinet Notes on Amendment of “The Special Economic Zones Act, 2005, Re-enactment of Explosives Act, 1884, Signing/Ratification of International Coffee Agreement, 2022 ,Draft EFC Memorandum on “THRIVE (Transforming the North East- Holistic Regional Industrial Vision Execution Scheme), 2022” of DPIIT etc.
- Furnished reply to the Questionnaires shared by Department of Commerce in respect of Vision document on India’s Foreign Trade Policy
- Furnished comments of MoEF&CC on Inter-Ministerial Consultation on Investment Liberalization Chapter under Free Trade Agreements to DPIIT.
- Prepared material for Economic Survey 2022-23.
- Reported Monthly Progress and Annual Progress reports on achievements of DBT schemes to DBT Mission, Cabinet Secretariat.

Scheme/Programme:

Environmental Information, Awareness Capacity Building and Livelihood Programme (EIACP) Programme under EEARSD

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 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).

Activities/Events/ Workshops conducted under the EIACP

1. Workshops:

National Workshop on LiFE (NWL): A NWL was organized on January 30, 2023 at the Indira Paryavaran Bhawan, JorBagh, New Delhi. The workshop aimed at orientation and sensitization of EIACP Centres on Mission LiFE. About 60 EIACP Programme Centres from all over India attended a day long workshop. Shri Bhupender Yadav, Hon’ble Minister, EF&CC, inaugurated an exhibition-cum-sale, where the eco-friendly products prepared by trainees under Green Skill Development Programme were displayed. During the inaugural session, HMEFCC released the booklet ‘Lexicon of LiFE - A to Z of Sustainable Lifestyle’, designed and developed in-house by



the EIACP Division. Various knowledge products like Publications, LiFE game, interactive model of water footprint calculator, working models to save energy, and organic products like honey, herbal skin cream, essential oils, vermicompost, best out of plastic waste items etc., were also displayed during the workshop.

- Seminar on Livelihood Opportunities from Climate Resilient Solutions for a Carbon Neutral Ladakh:** TERI-EIACP RP organized a seminar on Green Livelihood opportunities for a carbon-neutral Ladakh in collaboration with Himalayan Institute of Alternatives, Ladakh (HIAL) and G.B. Pant National Institute of Himalayan Environment (GBPNIHE) on September 24-25, 2023. In this workshop, sessions on Policy and Financial Systems for the promotion of Solar Energy, Role of Academic Institutions for Creating

Necessary Skills, Agriculture and Ecology Entrepreneurship Opportunities in Ladakh and Sustainable and Responsible Tourism Opportunities in Ladakh were held. One of the highlights of the seminar was lecture on Livelihood Opportunities from Passive Solar Heated Buildings in Ladakh given by Shri Sonam Wangchuk, Founding Director, HIAL.

- Regional Evaluation Workshops:** Regional Evaluation Workshops were organized in six different regions of India viz. North Zone (Chandigarh), East Zone (Chhattisgarh), West zone (Mumbai), South Zone (Thiruvananthapuram), Delhi based (Mukteshwar) and North-East (Guwahati) in which total 58 centres participated. Various subject matter experts were invited to evaluate the Centres' performance during the last four years i.e. F.Y 2019-20 to F.Y 2022-23.



National Workshop on LiFE at IPB



Glimpses from Seminar on Livelihood Opportunities from Climate Resilient Solutions for a Carbon Neutral Ladakh

The Region wise centres, Participant Centres and number of participants are tabulated below:

Regions	Participant Centres	Total No. of Participants
North Zone	Himachal Pradesh Council for Science, Technology and Environment (HIMCOSTE), Shimla	45
	Wildlife Institute of India (WII), Dehradun	
	Forest Research Institute (FRI), Dehradun	
	Uttarakhand Pollution Control Board (UKPCB), Dehradun	
	G.B. Pant National Institute of Himalayan Environment (GBPNIHE), Almora	
	Institute for Wildlife Sciences (IWS), University of Lucknow	
	National Botanical Research Institute (NBRI), Lucknow	
	Department of Environment – Chandigarh	
	Punjab State Council for Science and Technology (PSCST), Chandigarh	
	Directorate of Environment & Climate Change Department (DoE&CCD), Panchkula	
East Zone	Asian Development Research Institute (ADRI), Patna	35
	Centre for Mining Environment (CME) IIT-Indian School of Mines, Dhanbad	
	Forests & Environment Department, Govt. of Jharkhand, Ranchi	
	Chhattisgarh Environment Conservation Board (CECB), Raipur	
	Centre for Environmental Studies (CES), Government of Odisha, Bhubaneswar	
	Zoological Survey of India (ZSI), Kolkata	
	Botanical Survey of India (BSI), Kolkata	
	Department of Environmental Sciences - Kalyani University (DESKU), Kalyani	
South	Department of Environment, Govt. of Tamil Nadu, Chennai	60
	Centre of Advanced Study in Marine Biology (CASMB), Chennai	
	Department of Zoology - University of Madras (DzUM), Chennai	
	Institute for Ocean Management (IOM), Anna University, Chennai	
	Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore	
	Thiagarajar College of Engineering (TCE), Madurai	
	Amrita Vishwa Vidyapeetham (AVV), Coimbatore	
	CPR Environmental Education Centre (CPREEC), Chennai	
	Salim Ali Centre for Ornithology and Natural History (SACON), Coimbatore	
	Kerala State Council for Science, Technology and Environment (KSCSTE), Thiruvananthapuram	



	Centre for Ecological Sciences - Indian Institute of Science (IISc), Bengaluru	
	Environment Management & Policy Research Institute (EMPRI), Bengaluru	
	Puducherry Pollution Control Committee (PPCC), Puducherry	
	Environment Protection Training and Research Institute (EPTRI) (HUB and RP), Hyderabad	
	Environment Protection Training and Research Institute (EPTRI) (RP), Hyderabad	
	Indian Institute of Chemical Technology (IICT), Hyderabad	
	Department of Environment & Forests – Kavaratti,	
West	Gujarat Cleaner Production Centre (GCPC), Gandhinagar	40
	Gujarat Ecology Commission (GEC), Gandhinagar	
	Consumer Education and Research Centre (CERC), Ahmedabad	
	National Institute of Occupational Health (NIOH), Ahmedabad	
	Bombay Natural History Society (BNHS), Mumbai	
	Indian Institute of Tropical Meteorology (IITM), Pune	
	Rajasthan State Pollution Control Board (RSPCB), Jaipur	
Delhi Based	Central Arid Zone Research Institute (CAZRI), Jodhpur	25
	School of Planning and Architecture (SPA), New Delhi	
	Central Pollution Control Board (CPCB) , New Delhi	
	School of Environmental Sciences Jawaharlal Nehru University (JNU) , New Delhi	
	The Energy and Resources Institute (TERI) , New Delhi	
	World Wide Fund for Nature – India (WWF) , New Delhi	
	International Institute of Health and Hygiene (IIHH) , New Delhi	
Department of Ecology, Environment and Remote Sensing, UT of J&K		
North East	Assam Science, Technology and Environmental Council (ASTECC), Guwahati	25
	Forest and Environment Department, Gangtok, Sikkim	
	State Council of Science and Technology for Sikkim (SCSTS), Gangtok	
	Department of Environment & Forests – Itanagar, Arunachal Pradesh	
	Mizoram Pollution Control Board (MPCB), Aizawl	
	Nagaland Pollution Control Board (NPCB), Kohima	
	Tripura State Pollution Control Board (TSPCB), Agartala	
Directorate of Environment & Climate Change, Imphal, Govt. of Manipur		

2. EIACP Events:

- Programme on Save Wetland under LiFE Mission:** ADRI- EIACP PC RP organized a programme on the subject 'Save Wetlands under Mission LiFE' in Buxar, Bihar. Shri Ashwini Kumar Choubey, Hon'ble MoS, EF&CC graced the event. The event started with LiFEathon Run followed by inauguration of an Exhibition on LiFE and felicitation of winners of LiFEathon. Around 550 participants from different parts of Bihar participated. Similarly, the exhibition on LiFE also saw participation from EIACP Centres located in six states namely Assam, Bihar, Jharkhand, Sikkim, Uttarakhand and Delhi, who displayed various products developed as part of the Green Skill Development Programme (GSDP).



Programme on Save Wetland under LiFE Mission

- Mass Awareness Programme to promote Mission LiFE:** EIACP PC-RPs/Hubs located at Delhi, Uttarakhand and Punjab conducted a five-day mass awareness programme promoting Mission LiFE. The awareness drive at the Clock Tower, wherein the local communities and devotees present on the day were explained about the Mission LiFE and encouraged to take the pledge on LiFE. The day concluded with an awareness March held at Clock Tower, Har-Ki-Pauri. Approximately 50,000 people participated in the event.

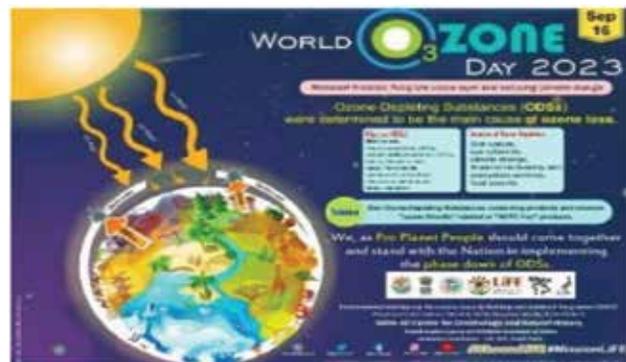


Mass Awareness Programme to promote Mission LiFE

- Youth Parliament:** IIFM, Bhopal conducted the Youth Parliament on LiFE in collaboration with the EIACP Centres in which the university students from all over India participated. The winners were felicitated World Environment Day by the Hon'ble Minister, EF&CC.

3. Celebration of various Environmental Days:

- World Environment Day, 2023 - 5th June 2023:** The pan India network of EIACP Programme Resource Partners and Hubs organized various activities namely mass plantation drive, awareness rally, poster publication, environment quiz, etc.
- World Ozone Day, 2023 - 16th September:** The theme for World Ozone Day 2023 was "Montreal Protocol: Fixing the Ozone Layer and Reducing Climate Change". On this day, EIACP Programme Centres created awareness about Ozone and its importance.



Poster created by the EIACP Centres on Ozone day



Mass Rally in World Environment Day 2023 & Sit & Draw Competition of students

- EIACP Hubs/RPs also celebrated other environmental days like World Wetland Day, World Earth Day, International Biodiversity Day, Wildlife Week, Lion Day, Mosquito Day and conducted various awareness activities on the respective themes assigned for these days etc.

4. Mission LiFE Activities:

Under Mission LiFE, all EIACP PC Hubs/RPs prepared standees and banners to create awareness on ban of identified Single-use plastic items and displayed in the subordinate and attached offices, bodies and organizations of MoEF&CC. Some of the major activities are tabulated below:

Sl. No.	Name of the Activity	EIACP Centre Name	Highlights
1	Awareness campaign on management of Single Use Plastic (SUP)	NPCB, BSI West Bengal, EPTRI, TERI, ICFRE-FRI and MPCB	Awareness campaign to manage the Single Use Plastic Waste and the reuse of Single Use Waste Plastics in the construction of Road, Plastone Block and other useful products.
2	Van Mahotsav	GBPNIHE, EMPRI, IIHH	Plantation drives at various places were organised on the occasion of Van Mahotsav such as in Nanda Van forest (ex-situ conservation site) drive was organized by GBPNIHE, Almora, in which more than 200 plants of 5 species were planted.
3	Awareness workshop on 'Save water' and 'Save energy'	TERI, FRI, BSI, EPTRI	The Centres had conducted awareness workshops on the Mission LiFE with the theme 'Save Water' and 'Save Energy'. Also, information related to disasters (types, causes, and prevention) was provided in these workshops.

4	Lecture session on Adoption of Healthy Lifestyle Practices	CERC, SACON	The centres conducted lecture sessions on Mission LiFE, healthy eating habits and Sustainable food systems for the students. CERC had put up a stall on “Eat Right Millet” in the FSSAI Millet Expo (inaugurated by the Director General of WHO, Dr Tedros Adhanom Ghebreyesus). SACON team briefed A-Z sustainable lifestyle practices and conducted elocution competition to the students.
5	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.
6	Awareness programme on Bird watching	BNHS	BNHS organized an awareness programme on birdwatching for the students of SIES (DR. APJ Abdul Kalam) Memorial High School, Mumbai.
7	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 administered LiFE pledge.

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.



School Students participated in different LiFE Activities

5. Knowledge products released during the year:

EIACP regularly brings out value-added information products relating to Environment, Forest, Wildlife and Climate Change which include theme-based newsletters, special publications, e-newsletters, thematic bulletins, technical reports, mobile apps, thematic maps, etc. Some of the important knowledge products are mentioned below:



Publications:

Sl. No.	EIACP Centre Name	Title	Publication type
1	WII, Dehradun	An Illustrative Profile of Tiger Reserves of India	EIACP Bulletin
2	TCE, Madurai	International Day of Climate Action 2023	Graphical Information Booklet
3	WWF, Delhi	1. Assessing high conservation value areas for rare, endemic and threatened (RET) species: A study in high altitude Changthang landscape of India 2. Prediction of potential habitat suitability of snow leopard (<i>Panthera uncia</i>) and blue sheep (<i>Pseudois nayaur</i>) and niche overlap in the parts of western Himalayan region	
4.	Kerala Hub	The field guide for aquatic plants	Field guide
5.	Tamil Nadu Hub	Ramsar sites in Tamil Nadu	EIACP newsletter

Mobile app - SPA-EIACP PC RP developed 'Precycle X' app during the FY 2023-24. The app was released on 03 July 2023.

6. Grants-in-aid released to Institutions/ organizations including NGOs:

The details of Grants-in-Aid released for mandated activities of EIACP Cell in the Ministry and EIACP Hubs/ RPs during F.Y. 2022-24 (as of 30.11.2023) to various organizations are as follows:

Sl. No.	Name of Organisation	Purpose	Total Amount Released (in ₹)
1	Asian Development Research Institute (ADRI), Patna	Recurring Grant for FY 2023-24	22,79,578.00
2	Department of Environment & Forests – Arunachal Pradesh	Recurring Grant for FY 2023-24	12,02,000.00
3	Assam Science, Technology and Environmental Council (ASTEC), Guwahati	Recurring Grant and Mega Event for FY 2023-24	70,43,110.00
4	Amrita Vishwa Vidyapeetham (AVV), Coimbatore	Recurring Grant for FY 2023-24	13,88,573.00
5	Bombay Natural History Society (BNHS), Mumbai	Recurring Grant and Regional Evaluation for FY 2023-24	19,83,000.00
6	Botanical Survey of India (BSI), Kolkata	Recurring Grant for FY 2023-24	24,04,000.00
7	Centre of Advanced Study in Marine Biology (CASMB), Parangipettai	Recurring Grant for FY 2023-24	16,43,825.00
8	Central Arid Zone Research Institute (CAZRI), Jodhpur	Recurring Grant for FY 2023-24	12,02,000.00
9	Chhattisgarh Environment Conservation Board (CECB), Raipur	Recurring Grant for Regional Evaluation Workshop	39,92,806.00

Sl. No.	Name of Organisation	Purpose	Total Amount Released (in ₹)
10	Consumer Education and Research Centre (CERC), Ahmedabad	Recurring Grant for FY 2023-24	12,03,431.00
11	Department of Environment - Chandigarh	Recurring Grant for FY 2023-24	12,02,000.00
12	Central Pollution Control Board (CPCB), Delhi	Recurring Grant for FY 2023-24	12,02,000.00
13	CPR Environmental Education Centre (CPREEC), Chennai	Recurring Grant for FY 2023-24	24,04,000.00
14	Department of Environmental Science, University of Kalyani (DESKU), Nadia	Recurring Grant for FY 2023-24	24,04,000.00
15	Department of Zoology - University of Madras (DzUM), Chennai	Recurring Grant for FY 2023-24	13,39,031.00
16	Environment Management & Policy Research Institute (EMPRI), Bengaluru	Recurring Grant for FY 2023-24	24,04,000.00
17	Environment Protection Training and Research Institute (EPTRI-Hub), Hyderabad	Recurring Grant for FY 2023-24	12,02,000.00
18	Environment Protection Training and Research Institute (EPTRI-RP), Hyderabad	Recurring Grant for FY 2023-24	12,02,000.00
19	Forest Research Institute (FRI), Dehradun	Recurring Grant for FY 2023-24	12,27,549.00
20	G.B. Pant National Institute of Himalayan Environment (GBPNIHE), Almora	Recurring Grant for FY 2023-24	12,02,000.00
21	Gujarat Cleaner Production Centre (GCPC), Gandhinagar	Recurring Grant for FY 2023-24	12,02,000.00
22	Gujarat Ecology Commission (GEC), Gandhinagar	Recurring Grant for FY 2023-24	13,17,189.00
23	Directorate of Environment & Climate Change Department (DoE&CCD), Haryana	Recurring Grant for FY 2023-24	12,02,000.00
24	Himachal Pradesh Council for Science Technology & Environment (HIMCOSTE), Shimla	Recurring Grant for FY 2023-24	12,02,000.00
25	Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore	Recurring Grant for FY 2023-24	27,66,421.00
26	Indian institute of Chemical Technology (IICT), Hyderabad	Recurring Grant for FY 2023-24	27,51,933.00
27	International Institute of Health and Hygiene (IIHH), Delhi	Recurring and Mega Event Grant for FY 2023-24	53,80,550.00
28	Indian Institute of Sciences (IISc), Bengaluru	Recurring Grant for FY 2023-24	24,04,000.00



Sl. No.	Name of Organisation	Purpose	Total Amount Released (in ₹)
29	IIT-Indian School of Mines (ISM), Dhanbad	Recurring Grant for FY 2023-24	30,34,794.00
30	Indian Institute of Tropical Meteorology (IITM), Pune	Recurring Grant for FY 2023-24	24,04,000.00
31	Institute for Ocean Management (IOM), Chennai	Recurring Grant for FY 2023-24	13,54,320.00
32	Institute for Wildlife Sciences, University of Lucknow, Lucknow	Recurring Grant for FY 2023-24	32,42,672.00
33	Department of Ecology, Environment and Remote Sensing, State Government of J&K	Recurring Grant for FY 2023-24	12,02,000.00
34	Forest & Environment Department, Govt. of Jharkhand, Ranchi	Recurring Grant for FY 2023-24	12,02,000.00
35	School of Environmental Science, Jawaharlal Nehru University (JNU), New Delhi	Recurring Grant for FY 2023-24	12,03,496.00
36	Kerala State Council for Science, Technology and Environment (KSCSTE), Thiruvananthapuram	Recurring Grant for FY 2023-24	21,35,500.00
37	Department of Environment & Forests (DoE&F), Kavaratti, Lakshadweep	Recurring Grant for FY 2023-24	12,62,000.00
38	Directorate of Environment, Dept. of Forests and Environment, Govt. of Manipur, Imphal	Recurring Grant for FY 2023-24	24,04,000.00
39	Mizoram Pollution Control Board (MPCB), Aizawl	Recurring Grant for FY 2023-24	24,04,000.00
40	Nagaland Pollution Control Board (NPCB), Dimapur	Recurring Grant for FY 2023-24	24,04,000.00
41	National Botanical Research Institute (NBRI), Lucknow	Recurring Grant for FY 2023-24	12,02,000.00
42	National Institute of Occupational Health (NIOH)	Recurring Grant for FY 2023-24	14,39,885.00
43	Centre for Environmental Studies (CES), Forest & Environment Department, Government of Odisha	Recurring Grant for FY 2023-24	24,04,000.00
44	Puducherry Pollution Control Committee (PPCC), Puducherry	Recurring Grant for FY 2023-24	12,02,000.00

Sl. No.	Name of Organisation	Purpose	Total Amount Released (in ₹)
45	Punjab State Council for Science and Technology (PSCST), Chandigarh	Recurring and Regional Workshop Grant for FY 2023-24	24,43,657.00
46	Rajasthan State Pollution Control Board, Rajasthan	Recurring Grant for FY 2023-24	20,53,882.00
47	Salim Ali Centre for Ornithology and Natural History (SACON), Coimbatore	Recurring Grant for FY 2023-24	24,04,000.00
48	Forests, Environment & Wildlife Management Department, Sikkim-Hub, Gangtok	Recurring Grant for FY 2023-24	13,01,550.00
49	State Council of Science and Technology Sikkim -RP (SCSTS), Gangtok	Recurring Grant for FY 2023-24	12,02,000.00
50	School of Planning and Architecture (SPA), New Delhi	Recurring Grant and reimbursement for FY 2023-24	29,76,723.00
51	Department of Environment, Govt. of Tamil Nadu	Recurring Grant for FY 2023-24	12,02,000.00
52	Thiagarajar College of Engineering (TCE), Madurai	Recurring Grant for FY 2023-24	15,64,019.00
53	The Energy Resources Institute (TERI), New Delhi	Recurring and Regional Workshop and Mega Event Grant for FY 2023-24	32,14,186.00
54	Tripura State Pollution Control Board (TSPCB), Agartala	Recurring Grant for FY 2023-24	24,04,000.00
55	Uttarakhand Pollution Control Board (UKPCB), Dehradun	Recurring Grant for FY 2023-24	12,42,120.00
56	Wildlife Institute of India (WII), Dehradun	Recurring Grant for FY 2023-24 and Reimbursement for FY 2022-23	32,85,407.00
57	World Wide Fund for Nature-India (WWF), New Delhi	Recurring and Mega Event Grant for FY 2023-24	60,77,802.00
58	Zoological Survey of India (ZSI), Kolkata	Recurring Grant for FY 2023-24	12,02,000.00



7. Other Activities:

- **The Iconic Experience Show (TIES) Exhibition:** TIES organized an exhibition on Sustainability at Hyatt Regency, New Delhi. EIACP PC-HUBs/RPs located at HIMCOSTE,



GBP(NIHE) and ADRI participated as exhibitors in this exhibition. The Centres displayed various products like Organic food products, handicrafts and paintings, which were readily sold out.



Organic food products, handicrafts and paintings displayed by EIACP centres at The Iconic Experience Show (TIES) Exhibition

12.6 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 institutions to strengthen the process of collection, validation processing and interpretation of statistical data.
- Statistics Division also works as SDG coordination Unit in the Ministry. It presents the Ministry's consolidated proposals for SDG indicator refinement- in High Level Steering Committee of MoS&PI (HLSC) in which Secretary EF&CC is a member.
- It is the nodal Division for coordination with the Ministry of Statistics and Programme Implementation on issues relating to data, indicator and methodology for Environmental Accounts and international Classifications (like the System of National Accounts) having implications for GDP

calculations impinging upon environmental aspects.

- It is the nodal Division for preparing the Annual Report of MoEF&CC. The Annual Report of the Ministry for the year 2022-23 was compiled and submitted to the Parliament.

Statistics Division of the Ministry undertakes various tasks as follows :-

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 the SDG Coordination unit-

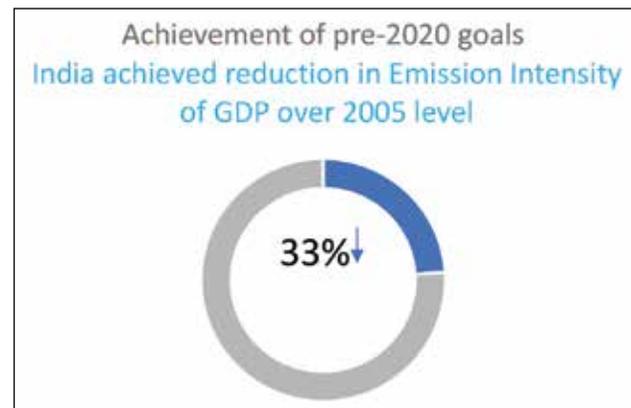
- Coordination with NITI Aayog, MoS&PI and Custodian Agencies of SDG Global

Indicators like the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs).

- ii. The division coordinates with the divisions and various line ministries for the metadata, baseline data and data flow in the field of environmental SDGs
- iii. Works on the data gaps and suggests alternate methodology for computation of various indicators for SDGs.
- iv. Provides technical support for metadata and refinement of indicators.
- v. The following work was undertaken in respect of the National Indicator framework of the SDGs-
 - a. Under goal 6 of the SDGs which aims to “Ensure availability and sustainable management of water and sanitation for all”, the Ministry of Jal Shakti is assigned the task of country reporting to United Nations Environment Program (UNEP) on progress on Integrated Water Resource Management (IWRM) with SDG Indicator 6.5.1. Information was provided on several paras of SDG 6.5.1 survey Instrument to the Ministry of Jal Shakti.
 - b. Inputs were also provided on SDG indicator 6.6.1 on Water Related Ecosystems as a part of third cycle of global data collection to UNEP.
 - c. Comments on proxy sub-indicators proposed by FAO for SDG indicator 2.4.1 were provided to MoS&PI along with the detailed justification stating that the MoEF&CC does not support such indicators:
 - d. Coordinated with the Ministry of Panchayati Raj on environmental

datasets at disaggregated level during the development of Panchayat Development Index by the said Ministry

- e. Provided all required detailed inputs for SDG 14 including state and district indicator framework as required for clarification under Audit of Coastal Ecosystems
- vi. India has shown reduction of 33% in Emission intensity of GDP between 2005 and 2019 as per third National Communication submitted by India to UNFCCC. The corresponding NIF is SDG 13.2.1: Pre 2020 action: Achievement of pre-2020 goals as per country priority (percentage reduction in emission intensity of GDP, over 2005 level)



II. Activities undertaken in respect of Environmental Statistics:

- i. 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.
- ii. The State of Environment Report (SoER) aims to provide concrete guidance for environmental action planning, policy setting and resource allocation for the



- coming decades, based on a sound integrated analysis of the state and trends of the environment. The division coordinates with the States for preparation of SoER for States and UTs and undertakes the process for preparation of SoER at National level. The work of SoER at National level and for Chandigarh UT and states of Uttarakhand and Punjab is under progress.
- iii. 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 (MoS&PI) 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 2023; Volume I. The publication consists of six distinct chapters viz. Environmental Conditions and Quality, Environmental Resources and their Use, Residuals, Extreme Events and Disasters, Human Settlements and Environmental health, and Environmental Protection, Management and Engagement.
 - iv. A committee was constituted by National Statistical Commission (NSC), MoS&PI to examine various surveys being done by Government of India and their redundancies. Division provided information on various surveys and administrative datasets of MoEF&CC to the National Statistical Commission, MoSPI.
- III. Activities pertaining to Environmental Accounting**
- a) 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 MoEF&CC and with other Ministries and UN
 - b) The division supported the Ministry of Statistics and Programme Implementation (MoS&PI) in providing data and information for Environment Accounts in particular Solid Waste Accounts.
 - c) Expert group on Ocean Ecosystem Accounts in India was constituted by MoS&PI for compilation of Ocean Ecosystem Accounting where DDG (Statistics) represented MoEF&CC. Coordination with respective Divisions like Sustainable Coastal Management is under way as regards data etc for these accounts
- 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 upcoming edition 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. In particular, the biasedness in the construction of indicators like “Projected Green House Gas Emissions”, problem with weighting diagram and suggestions for Alternate indicators have been provided to the Publishing Agency.

The analysis for the data sets used in CCPI was done and the points observed were shared with the publishing agency. CCPI 2024 report was released recently and India secured 7th position in the index which is 1 position up from the last edition. 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 4 countries. With India (7th), Germany (14th) and European Union (16th) only three G20 countries are among the high performers in CCPI 2024.

Rank	Rank change	Country
1*	-	-
2.	-	-
3.	-	-
4.	0 -	Denmark
5.	4 ▲	Estonia
6.	6 ▲	Philippines
7.	1 ▲	India ♠
8.	5 ▲	Netherlands
9.	-2 ▼	Morocco
10.	-5 ▼	Sweden

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 Ministry’s score was 3.08 in the beginning of DGQI 2.0 during 2021-22. The score of the Ministry has improved to 4.53 in the fourth quarter of 2022-23 from 4.11 in the third quarter of the same year.

VI. Vision 2047 and Vision 2024 under SGoS-3 (Sectoral Group on Secretaries-Resources) and VIKSIT Bharat.

The Division coordinated with all Divisions of the Ministry through SGoS Cell for finalizing issues related to Draft Vision 2047 in respect of MoEF&CC as part of Vision for Sectoral Group of Secretaries 3 on Resources. The Cell also enabled regular monitoring of Key Performance Indicators of MoEF&CC derived from recommendations of 5 Year Vision 2024 of SGoS-3. The NITI Aayog conducted the Viksit Bharat exercise in August to November 2023 and the SGoS Cell provided detailed inputs clearly bringing out lack of suitability of some indicators and KPIs introduced by NITI when it shared its report with SGoS-3 in November 2023. Alternative indicators were proposed. -The connection with the original Vision of Resources Group and domains of other SGoS groups was carefully analysed to bring out a consistent set of KPIs that may be included in Viksit Bharat Vision 2047 based on SGoS documents of all Groups.

VII. Indo Pacific Economic Framework for Prosperity: Clean Economy Pillar

The Indo-Pacific Economic Framework for Prosperity (IPEF) was launched jointly by the USA and other partner countries of the Indo-



Pacific region on May 23, 2022 at Tokyo. IPEF has 14 partner countries including Australia, Brunei, Fiji, India, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, Vietnam & USA. It seeks to strengthen economic engagement among partner countries with the goal of advancing growth, peace and prosperity in the region.

DDG(S) in coordination with the Economic Division and with the assistance of all concerned Divisions provided the required inputs for negotiations of Clean Economy Pillar of the Indo Pacific Economic Framework for Economic Prosperity from the fourth sub round of negotiations onwards . Important implications of provisions relating to Scope of the Agreement ,Preambular Paras with implications for net zero pathways, Clean Energy Technology Development and Capacity Expansion, Energy Sector Methane Abatement, Sustainable Forest Management, Greenhouse Gas Removal, Strengthening Demand-Side Measures etc. were analysed in consultation with respective Divisions especially the Climate Change Division to arrive at an agreed text that is to be further considered by all stakeholders.

12.7 Non-Governmental Organization (NGO) Cell:

A Non-Governmental Organisation (NGO) Cell has been set up in the Ministry to handle various

policy matters relating to the NGOs working in diverse fields of environment. It may be noted that the Cell does not disburse funds to NGOs as these are expended by respective scheme Divisions of the Ministry.

The basic functions of the Cell is to liaison with the NITI Aayog 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 been approved and first instalment has 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 . 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.



CHAPTER - 13

ADMINISTRATION AND CIVIL CONSTRUCTION



13.1 Administration:

There are three sections in Administration Viz. P-I, P-II and P-III. Section-wise brief description is given hereunder:

P. I – Section

P.I Section of the Administration Division is mandated to do the following tasks:

- Cadre Management of Scientific posts of the Ministry and 19 Regional Offices, creation of Scientific posts of Ministry. Establishment/service matters of all Scientific posts of the Ministry (Main) viz. appointment, promotion, work allocation, court cases, leave, and retirement benefits (only of those posted in Ministry Main).
- Disciplinary proceedings of Group 'A', 'B' and 'C' officials of Ministry other than IFS officers under Central Staffing Scheme of the Ministry;
- Cadre management of Technical Posts of the Ministry viz. creation, appointment, promotion, work allocation, establishment/service matters, Recruitment Rules, court cases, retirement benefits and leave (only of those posted in Ministry Main);
- Cadre management of Canteen Staff of the Ministry viz. creation, appointment, promotion, establishment/service matters, Recruitment Rules, leave cases, retirement benefits, court cases, etc.;
- Maintenance of ACRs/APARs of Group 'A', 'B' and 'C' officials of MoEF&CC but other than IFS officers of the Ministry;
- Processing of LTC, GPF, House Building Advance, Computer Advances of all personnel of the Ministry;
- Issue of Foreign Deputation Orders in

respect of Environment Wing of the Ministry;

- Processing of medical advance and reimbursement cases of Scientific, Technical and Canteen staff;
- Recruitment & Framing of Recruitment Rules of technical posts of the Ministry;
- Internship Scheme of Ministry of Environment, Forest and Climate Change; and Review of services under FR 56(j).
- Updation of data on Representation of Reserved Categories in Posts and Services in GOI (RRCPS) portal

P. II – Section

P.II Section of the Administration Division is mandated to do the following tasks:

- Cadre management of CSSS/CSS/CSCS, Central Staffing Scheme, IES and ISS officers posted in MoEF&CC;
- Establishment/service matters of Secretariat Group 'A', 'B' and 'C' posts (except officers working on the strength of IFS and NAEB) viz. appointment, review cases, leave cases, retirement and retirement benefits, medical claims, tuition fee reimbursement, leave encashment, children education allowance, court cases, etc.;
- Recruitment & Framing of Recruitment Rules of non-technical ex-cadre posts of the Ministry (Environment & Forest) Wing;
- Training Programme of AIS and all Secretariat officers;
- Matters relating to Minister's staff;
- Outsourcing (deployment and policy matters);

- Election work;
- Work allocation among all officers/ staff other than Scientific/Technical officers; and Nodal Division of MoEF&CC of eHRMS.
- Updation of AVMS Portal.
- Monitoring of filling up of vacancies by all organizations of Ministry of Environment, Forest and Climate Change under Mission Mode Recruitment.
- Processing of Pension cases and disbursal of retirement benefits.
- Review/assessment of Group 'A' Scientists in the Ministry including its Regional, Attached and Subordinate Offices for promotion under Flexible Complementing Scheme (FCS) as per the relevant Recruitment Rules.
- Framing/Amendment/interpretation of recruitment rules relating to the Ministry of Environment, Forest and Climate Change, Scientific Group 'A' Posts;
- Personnel Policy of Scientific Group 'A' posts.

(A) Promotion

Total 55 cases of promotion of Scientists of the Ministry including its subordinate offices under Flexible Complementing Schemes as on 1.1.2023 and 1.7.2023 were assessed by the Internal Screening Committees (ISC). Out of 55 Scientists, 38 Scientists were further interviewed by the Departmental Assessment Committees (DAC)/ Departmental Peer Review Committees (DPRC). Remaining 17 Scientists are to be considered by the DPRC/DAC. Details are as under –

Grade	Assessed as on 1.1.2023	Recommended as on 1.1.2023	Not recommended as on 1.1.2023	Remarks
F to G	01	Submitted for approval of ACC		17 Scientists for review as on 1.7.2023 have been considered by the ISC for further assessment by the DPRC and DAC.
E to F	14	12	02	
D to E	03	03	00	
C to D	09	09	00	
B to C	11	11	00	
TOTAL	38	35	02	

(B) Recruitment

Process for filling up of 50 posts of Scientists in various grades in the MoEF&CC and its Subordinate Offices through Direct Recruitment is under process.



13.2 Indian Forest Service (IFS) Cadre Management:

Mandate:

- Ministry of Environment Forest and Climate Change is the Cadre Controlling Authority for the Indian Forest Service (one of the three All India Services).
- IFS division deals with all cadre Management related matters of the service.
- The total authorized cadre strength of the Indian Forest Service (IFS) as on 1st January, 2023 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 is 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 posted on deputation in various Ministries and institutions both in the States and at the Centre.

Activities undertaken:

- Appointment of Direct Recruit IFS 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:

- Indian Forest Service (Probationers' Training and Evaluation) Rules, 2023 have been notified w.e.f. 23-11-2023. The main purpose of these rules is to introduce reorganised structure of training- sandwich pattern, to provide contemporary inputs and orientation for current and emerging challenges, empowering Academic Council to facilitate flexibility, rationalize the weightage of Professional Training at IGNTA vis-a-vis marks in UPSC Examination.

- Relevant provisions of IFS Probation rules was also amended vide Indian Forest Service (Probation) Amendment, Rules, 2023 notified on 23-11-2023 to make it in line with Indian Forest Service (Probationers' Training and Evaluation) Rules, 2023.
- Vacancies for induction of State Forest Service (SFS) officers into Indian Forest Service (IFS) have been determined in respect of 23 cadres during the year 2023.
- Walking and Medical Test of 147 candidates recommended by Union Public Service Commission (UPSC) in Indian Forest Service Examination, 2022 was convened and the offer of appointment were issued to 140 candidates. The Cadre Allocation in respect of Indian Forest Service Examination, 2022 was done timely.
- Cadre review of Indian Forest Service in respect of States of Rajasthan, Tripura, Kerala, Nagaland, Chhattisgarh, Maharashtra, Tamilnadu, and Jharkhand have been proposed which is under consideration in consultation with DOP&T.
- Two Meetings of Joint Cadre Authority of AGMUT have been organized.
- Ministry has decided to prepare Prospective Plan for Indian Forest Service. For this purpose, stakeholder consultation meetings of the Committee constituted to formulate the Prospective Plan for Indian Forest Service was organised.
- 25 IFS officers has been selected at various levels under the Central Staffing Scheme of the Ministry in the year 2023.
- The proposal for revising guidelines of CSS-MoEF&CC Scheme was sent to DoP&T.
- 48 IFS officers were empanelled /appointed at various levels under the Central Staffing Scheme of DoP&T.
- 71 State Forest Service (SFS) officers have been inducted into Indian Forest Service during 2023.
- A total of 169 RTI application and 96 CPGRAM applications were disposed-off during the year 2023.

13.3 Vigilance Division:

- Disciplinary proceedings (involving vigilance angle) against all serving and retired IFS officers of AGMUT Cadre and other Officers and 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 to by 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 and officials (including all IFS officers) under MoEF&CC received from the General Public/Organisations/Central Vigilance Commission (CVC/CVC portal)/ PMO's office etc. During the period 01.01.2023 to 06.11.2023, Approx. 99 complaints were received from CVC/CVC portal and directly in the Ministry and examined and 63 complaints were closed/ filed 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. Two (02) 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.
- 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. Approx. 1128 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 30th October to 5th November, 2023 and the DGF&SS, MoEF&CC administered the pledge on 30.10.2023 in the Ministry. A Debate Competition on the theme "Can Government machinery alone eradicate corruption?" was held on 01.11.2023. Also

a Slogan Writing Competition and a Quiz Competition was held on 02.11.2023.



(The DGF&SS, MoEF&CC administering the pledge on 30.10.2023 during Vigilance Awareness Week 2023).

13.4 Parliament Section:

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 2023, at the end of the Monsoon Session on 11th August, 2023, 648 Parliament Questions were answered by the Ministry pertaining to various aspects of Environment, Forest and Climate Change. In the Rajya Sabha, total 341 Questions were replied, out of which 31 were Starred and 310 were Unstarred. In the Lok Sabha, 307 Questions were replied, out of which 26 were Starred and 281 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 Pollution, Climate Change, Wildlife Conservation, Forest Conservation, Biodiversity, Environment Impact Assessment, Wetlands, Environmental Education, Environmental Health, Hazardous Substances Management etc.

Graphical Representation of the Parliament Questions replied by the Ministry in 2023, during Budget and Monsoon Sessions, both in Rajya Sabha and Lok Sabha is given below in Figure 'A' and Figure 'B':

1. Rajya Sabha:

Question	Budget Session	Monsoon Session	Special Session	Grand Total
Starred	16	15	No Question Hour	31
Unstarred	178	132	No Question Hour	310
Total	194	147	No Question Hour	341

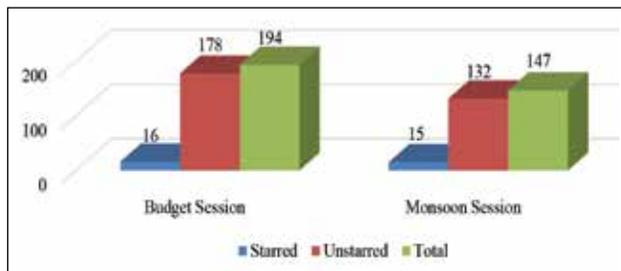


Figure 'A' Number of Questions replied by the MoEF&CC during Budget and Monsoon Sessions of Rajya Sabha during 2023

2. Lok Sabha:

Question	Budget Session	Monsoon Session	Special Session	Grand Total
Starred	14	12	No Question Hour	26
Unstarred	191	90	No Question Hour	281
Total	205	102	No Question Hour	307

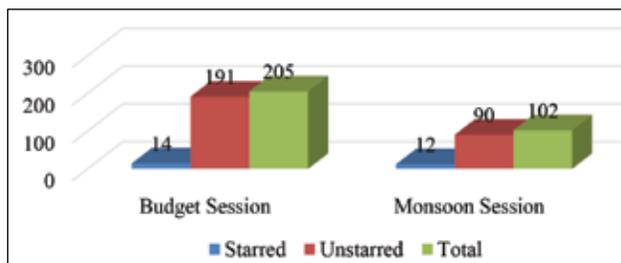


Figure 'B' Number of Questions replied by the MoEF&CC during Budget and Monsoon Sessions of Lok Sabha during 2023

II. Parliamentary Standing Committee and Consultative Committee Meetings:

Parliament Division, during the year 2023, as on 16.11.2023, has coordinated three meetings of the Department related Parliamentary Standing Committee on Science & Technology, Environment, Forest & Climate Change and three meetings of Consultative Committee of the Ministry where following subjects were discussed:

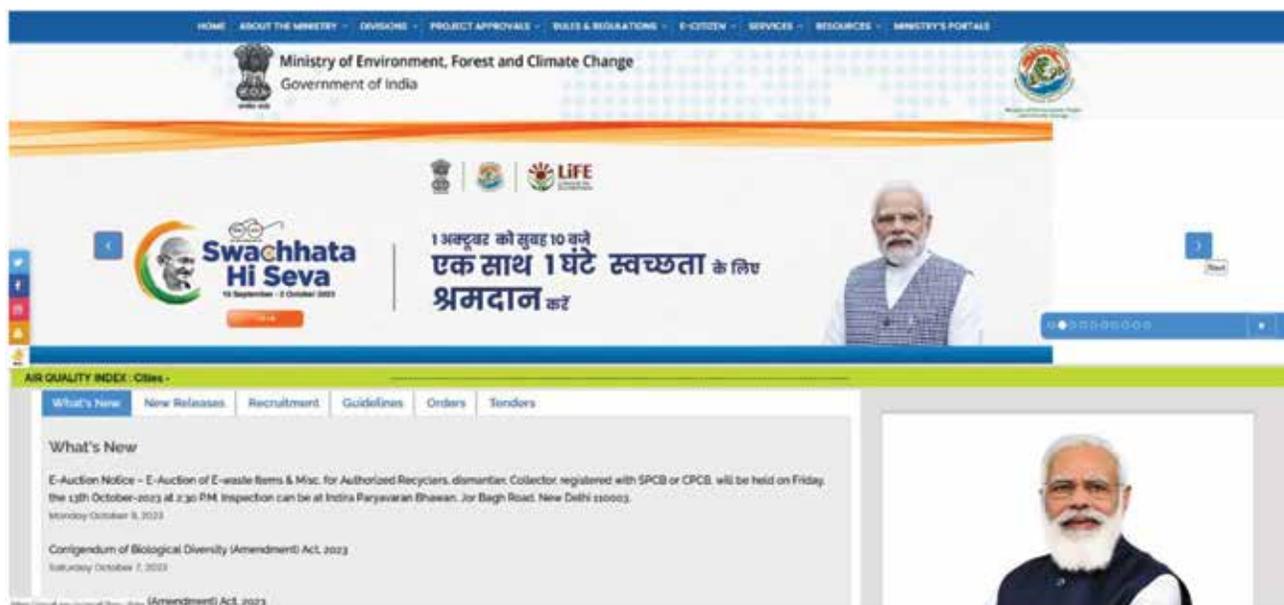
1. Challenges and approaches for sustainable development of National Parks, Sanctuaries, Biosphere Reserves and protection of Marine Bio-diversity
2. Demands for Grants (2023-24)
3. Environment and Public Health: Steps to be taken

The subject matters of three Consultative Committee meetings were: -

1. Project Cheetah
2. 75 @ 75 Ramsar Sites
3. Project Dolphin

13.5 Information Technology and e-Governance:

Government working is based on intensive knowledge and information sharing. Effective communication and sound Information and Communication Technology (ICT) go hand in hand. For speedy implementation and monitoring of various programmes/ schemes and to make most of ICT to secure efficiency in working, Ministry has embarked up on a comprehensive exercise to implement various e-Governance activities/ projects.



Activities undertaken:

- Implemented eOffice in Botanical Survey of India (BSI), Kolkata; Zoological Survey of India (ZSI), Kolkata; Central Academy for State Forest Service, (CASFOS) Burnihat; G.B. Pant National Institute of Himalayan Environment (GBPNIHE), Almora, Uttarakhand; Commission for Air Quality Management in NCR and Adjoining Areas (CAQM), New Delhi and National Centre for Sustainable Coastal Management (NCSCM), Chennai and provided offline/ Online training.
- VPN Access provided all eOffice users in the Ministry and its attached / sub-ordinate offices.
- All meetings are organised through Video Conferencing (VC) including EAC meetings.
- Creation of Meeting IDs and moderated Video Conferencing System using Webex VC System.
- Created email IDs in @gov.in domain for all the users of eOffice.

Progress/Achievements:

- Continued the implementation of e-Office in the Ministry under Digital India Programme (collected details of officers and staff, registered 2664 Users in eOffice portal, Posting and Promotion, Role Post, Setting of Workflow, Updation of Leave Balance details, Provided Training, updation in Notice Board).
- Provided training for Reskilling/upskilling of the existing support Staff under the Increasing Efficiency in Decision making in Government' programme and also provided training on eOffice to 55 officials of NCSCM, Chennai, 11 officials of CASFOS, Burnihat and 10 officials of Commission for Air Quality Management in NCR and Adjoining Areas (CAQM), New Delhi.
- Digital Signature Certificate (DSC) made for 40 Access provided all eOffice user in the Ministry and its attached / sub-ordinate offices.

- Handled IT Related Services in G20 Meetings at Bengaluru, Gandhi Nagar, Mumbai and Chennai.
- 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.
- Continued the Management of Budget Expenditure Management System for IFD, PAO, B&A, PC and other Divisions.
- Continued the Management of Online Stationary Request Management System for submitting the request for stationary.
- Continued the Management of Smart Performance Appraisal Report Recording Online Window (SPARROW) for online submission of APAR of Scientists, IAS, IFS, IES, ISS, IPS, CSS & CSSS Officers.
- Continued the Management of Website of the Ministry.
- Continued the Management of Internship, eSamikSha, PRAYAS, eVisitor and various other portals in the Ministry.
- Assisted for development of Meri LiFE Website and also provided online training on Meri LiFE Portal to all Nodal Ministries, Central and State Government departments, Schools and other organisations.
- Examination of all policy issues pertaining to Information Technology.

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. This system helps the officials of SPCB for online processing of industries application for CTE/CTO, Authorization as well as monitoring of various activities of SPCBs/PCCs.





OCMMS has been implemented in 26 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 and Andaman & Nicobar. The OCMMS is integrated with DIPP/ State Government Single Window System for Sixteen (16) States/UTs viz. Andhra Pradesh, Assam, Chhattisgarh, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Odisha, Puducherry, Punjab, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh and West Bengal. The mobile version of OCMMS is implemented in Twelve (12) States/UTs viz. Andhra Pradesh, Assam, Bihar, Chandigarh, Delhi, Haryana, Jharkhand, Kerala, Punjab, Tamil Nadu, Chhattisgarh 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: 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 MOEF&CC, 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. 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.

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 compliances
 - Leading to the era of Mobile Governance with maximum transparency
- Benefits:**
- a. 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
- b. 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
- c. 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

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

Android and iOS based Mobile Application

“PARIVESH”: The web portal is supplemented by Android and iOS based mobile application named “PARIVESH” to facilitate the user Agencies/ Project Proponents to easily track and view the current status of their proposals, reply the queries of processing authorities, accessing the agenda and minutes of the appraisal meetings as well as accessing to the clearance letters, etc. at their palm.

This app also helps in compliance monitoring by the processing authorities, which can be done by uploading geo-tagged images of the location of the project which would help in appraisal process.

13.6 Right to Information Cell (RTI)

As per the RTI-MIS portal, during a period from 01.01.2023 to 10.12.2023, MoEF&CC has received 3035 RTI applications out of which 2948 applications were disposed of and 280 RTI appeals were received out of which 264 appeals were disposed of under RTI Act, 2005 during the year 2023-24.

The Ministry has 86 Central Public Information Officers (CPIO) and 67 First Appellate Authorities (FAA) to dispose of the above RTI's.

Both online and offline applications/ appeals that are received in the Ministry as well as in 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.

The CPIOs and 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.

During the year, an online training programme was organized on 2nd and 3rd February, 2023 for CPIO's and FAAs on RTI matter.

Directions from the Central Information Commission (CIC) and the Nodal Ministry/Department DoP&T were also circulated to the CPIOs/FAAs to implement the RTI Act.

13.7 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 housed in a new building at Jor Bagh Road, New Delhi which is a green building. It has the unique distinction of getting LEED India Platinum & GRIHA-5 Star Green Building ratings.

Activities undertaken:

- Cleanliness of the premises of Indira Paryavaran Bhawan (IPB) during Special Swachhta Campaign 3.0.
- Online Auction–
 - a. e-waste and obsolete furniture items were disposed off, vacating an area of about 2123 sq ft.
 - b. Six Staff Cars were also e-auctioned through Metal Scrap Trade Corporation Limited (MSTC), vacating an area of about 420 sq. ft.

- Revenue earned through e-auction was Rs. 7.11 lakh.

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.
- About 200 kg of garbage was disposed off vacating an area of about 100 sq. ft.
- Special care was taken on cleaning of entire premises (Washrooms, corridors, atrium, Canteen area, Terrace Garden, Record Room, basement) of IPB.

GeM Expenditure:

- As per the instructions of Department of Commerce to increase the expenditure for procurement through Government E-Market (GeM) place, efforts were made to increase the expenditure through GEM.
- All the Divisions & Officers/ institutions under the administrative control of the Ministry were regularly requested to incur expenditure for procurement through GeM.
- Regular meetings of Standing Committee on GeM were being held to review the progress of expenditure under GeM.

13.8 Public Grievance Cell:

- The Public Grievance Cell has been functioning in the Ministry to attend to the complaints from general public regarding various issues like environment, pollution, wildlife, forestry and other environmental matters.

- During the period 1st January, 2023 to 31st December, 2023 the PG Cell had received total 5,923 Public Grievances. Out of 5923 grievances, 479 cases are bought forwarded from last year and 5444 cases are received during this year.
- During the period, 5,640 grievances have been disposed and only 283 grievances are pending for disposal. As on date, no COVID-19 related grievance is pending in the Ministry.
- During the Period, 748 Appeals have been received in the Ministry out of these 707 Appeals have been disposed off and only 48 Appeals are pending for disposal.
- The rate of disposal of Grievances and Appeals received is 96% (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.
- Weekly review meetings are being conducted regularly by both Hon'ble Minister and Secretary, EFCC for the importance of redressal of all Public Grievances, COVID-19 related case and Appeals raised against disposed grievances received in the Ministry to achieve 100% disposal of Public Grievances and Appeal well within the stipulated time frame.

13.9 Implementation of Official Language Policy:

The Official Language Division of MoEF&CC implements 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. This includes translation of documents and implementation of Official Language policy in the Ministry.

Activities undertaken:

- **Meeting of Official Language Implementation Committee –**

During the 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, 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 10 attached/ subordinate offices of the Ministry of Environment, Forest and Climate Change. Keeping in mind the target set in the Annual Program 2023-24, the officers/ officials of the Official Language Division of the Ministry conducted official language inspection of 07 regional/ 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. 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 71st issue of the Ministry’s ‘Paryavaran’ magazine has been published and articles will be invited for the upcoming issue soon.
- Organization of Meetings of Hindi Salahkar Samiti**

The first and the second meeting of the reconstituted Hindi Advisory Committee of the Ministry was held under the

chairmanship of the Hon’ble Minister of Environment, Forest and Climate Change Shri Bhupendra Yadav on January 04, 2023 and June 20, 2023 at New Delhi. The meetings were attended the Hon’ble Minister of State, Hon’ble MPs and non-official members of the Committee and senior officers of the Ministry along with Heads of Departments and representatives of all the offices under its control.



Meetings of Hindi Salahkar Samiti chaired by Hon’ble Minister, MoEF&CC

- Participation in the 12th Vishwa Hindi Sammelan**

Director (Official Language) participated in the 12th Vishwa Hindi Sammelan organized by the Ministry of External Affairs in collaboration with the Government of Fiji from 15 to 17 February, 2023 at Denarau Island Convention Centre, Nandi City, Fiji and represented the Ministry of Environment, Forest and Climate Change.
- Participation in the 3rd All India Official Language Conference, Pune.**

Officers and employees of MoEF&CC participated in the Conference organized by the Department of Official Language, Ministry of Home Affairs from 14 to 15 September, 2023 at Pune.
- Organisation of Hindi Mah:**

Like every year, this year Hindi Mah was organized in the Ministry from 01.09.2023

to 30.09.2023. During this period, 07 Hindi competitions were organized. Large numbers of officers and employees of the

Ministry and CCU had participated in the Competitions.



Officials participating in Hindi competition during Hindi Mah 2023

13.10 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 the 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:

- i. Planning of work including preparation of estimate in house and vetting of estimate prepared by other PWOs.
- ii. To construct major work in house or getting these constructed through other PWOs.

- iii. 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 BSI, FSI, ZSI, DFE, NMNH, IGNFA, ICFRE, NZP, IIFM, GBPIHED, IPIRTI, CPCB, WII and CZA. Most of the construction works where CCU has its own set up are executed by CCU. However, construction works at other locations are executed through CPWD. The co-ordination and budget management of work executed by CPWD is being done by CCU.



Activities undertaken during 2023-24: -

A. Works Completed:

S.No.	Name of work	A/A & E/S amount (in Lakhs)
1	Construction of National Museum & State of art auditorium in the premises of ZSI/EBRC, Gopalpur.	1343.00
2	Construction of Multipurpose Hall at IGNFA Dehradun.	531.00
3	Construction of (T II-04), (T III-06), (T IV-02) & (T V-02) Nos. residential quarters at AZRC, Jodhpur.	521.00
4	C/o Staff quarters at Rajiv Gandhi Regional Museum of National History, Sawai Madhopur (Raj.)	274.00
5	Construction of visiting scientist hostel and guest house for ZSI at Port Blair.	271.00
6	Improvement of Unfiltered water supply network in National Zoological Park, New Delhi.	198.00
7	C/o Faunal Repository Building of ZSI, Port Blair.	176.00

B. Works in progress:

S.No.	Name of work	A/A & E/S amount (in Lakhs)
1	Construction of Auditorium building at Regional Museum of RMNH at Gangtok, Sikkim	6941.00
2	Construction of New hostel block G + 2 for IGNFA at FRI Campus, Dehradun	5261.00
3	Construction of New Academic Block of IGNFA at Dehradun	1790.00
4	Construction of Ladies Hostel for CASFOS at Coimbatore	858.00
5	Reconstruction of damaged boundary wall from Sundar Nagar Side Entry Gate No.2 towards African Elephant Enclosure at National Zoological Park New Delhi. (Phase-I)	629.00
6	Construction of 12 Nos. Type-II Quarters at National Zoological Park, New Delhi.	474.00
7	C/o campus boundary wall & guard room for the land allotted to Nauni. Solan (HP)	441.00
8	Construction of backside boundary wall in Assam side for the CASFOS Academy Campus at Burnihat, Assam	437.00

9	Remodeling of Regional Office of MoEF&CC at Sector 31 C Chandigarh	387.00
10	Upgradation of office building in the complex of ZSI, Risa Colony, Shillong, Meghalaya	298.00
11	Reconstruction of damaged boundary wall from Bhairon Marg towards beat No. 1 at NZP, New Delhi.	260.00
12	Extension and upgradation of auditorium building of BSI at NRC, Dehradun.	186.00
13	Construction of boundary wall for the Residential Campus (Type-III-10 Nos, Type-V-04 Nos & Type-VI- 01 No. quarters) for CASFOS, Burnihat in Meghalaya side.	180.00





CHAPTER - 14

DEVELOPMENT MONITORING & EVALUATION, BUDGET AND ACCOUNTS

14.1 Development Monitoring & Evaluation Division:

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)

Progress:

NITI Aayog in collaboration with respective Ministry/ Department has been preparing Output-Outcome Monitoring Framework (OOMF) for all CS/CSS schemes, with a view to bring focus on outcomes in addition to output and same has also been institutionalized through its incorporation in Union Budget since Financial Year 2019-20.

- i. To facilitate the monitoring of progress of all Schemes, NITI Aayog had developed a dashboard and its online access had been given to all Ministries/ Departments in May, 2018 to regularly update the progress against the targets.
- ii. DMED coordinated with Scheme/ Programme Divisions and ensured that the progress report of quarterly targets for

FY 2023-24 in respect of schemes under OOMF are updated in the OOMF portal.

- iii. DMED has collected information from Scheme/Programme Divisions for preparation of OOMF for FY 2023-24. The compiled OOMF 2023-24 prepared in respect of MoEF&CC 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.
- iv. The quarterly break-up of targets in respect of schemes of MoEF&CC was coordinated with Schemes/Programme Divisions and sent to NITI Aayog.

14.2 Budget and Accounts

The Office of Chief Controller of Accounts advise and assist the Ministry on matters relating 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, six Sr. Accounts Officers and 64 Drawing and Disbursing Offices (DDOs): 47 CDDOs and 17 NCDDOs.

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 Month/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. In the Financial Year 2022-23, regular audit of 19 units and 1 Scheme Audit was conducted. During the FY 2022-23, a number of 65 audit paras were settled whereas 221 fresh paras were raised. Out of these fresh paras, 25 paras involving non-recovery/ over-payment/ infructuous/ irregular expenditure/irregular purchase/ non-adjustment of contingency advance/ blocking of government money amounting to Rs. 1793.07 crores. Recently six consultants were hired for conducting the Internal Audit of various Organizations/ Offices of Ministry of Environment, Forest & 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 from this Financial Year.

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 2023-24

The Ministry has been allocated an outlay of Rs. 3079.40 crore in the Budget Estimates (BE) for the Financial Year 2023-24.

The financial outlays and expenditure during 2023-24 is given in the following table:

Umbrella Scheme-wise Allocation (2023-24)

(Rs. in Crores)

Sl. No.	Name of the Scheme	BE 2023-24	AE 2023-24 (upto 31.10.2023)
1	Environmental Knowledge and Capacity Building (CS)	92.86	60.01
2	National Coastal Management Programme (CS)	12.50	5.18
3	Environmental Education, Awareness, Research and skill development (CS)	87.40	25.23
4	Control of Pollution (CS)	756.00	376.61
5	National Mission for a Green India (CSS)	220.00	117.09
6	Integrated Development of Wildlife Habitats (CSS)	491.80	165.62
7	Conservation of Natural Resources and Ecosystems (CSS)	47.00	13.04
	Total	1707.56	762.78

Umbrella Non Scheme-wise Allocation (2023-24)

(Rs. in Crores)

Sl. No.	Name of the Scheme	BE 2023-24	AE 2023-24 (upto 31.10.2023)
1	Secretariat	355.44	129.19
2	Attached/ Subordinate offices	558.00	275.44
3	Assistance to Autonomous Bodies	309.00	199.23
4	Statutory & Regulatory Bodies	1021.25	80.48
	Total	1365.84	684.34



List of Pending C&AG Paras (upto 9 November 2023)

(Rs. in Crores)

Sl. No.	Report No. & Year	Para No.	Subject
1	27 OF 2014	6.3	Wasteful Expenditure on hiring of office accommodation.
2	26 Of 2022	2.1 (ii)	Deficiencies in Internal Controls in Central Autonomous Bodies
3	26 Of 2022	2.1 (iii)	Deficiencies in Internal Controls in Central Autonomous Bodies
4	21 Of 2022	5.3	Unfruitful expenditure of Rs. 73.35 lakh on a demonstration project
5	26 Of 2022	2.2 (ii)	Common deficiencies noticed in the accounts of CABs
6	26 Of 2022	2.3.4 (Sl. No. 48)	Current Assets, Loans, Advances: Rs. 83.32 crore
7	4 of 2022	Entire Report	Performance Report on 'Conservation of Coastal Ecosystems'
8	26 Of 2022	2.3.4 (Sl.No. 47)	Current Assets (Schedule 11): Rs. 16.79 crore
9	21 Of 2022	5.4	Short recovery of rent of Rs. 96.72 lakh from a bank
10	21 Of 2022	5.2	Pollution Caused by Plastic
11	26 Of 2022	2.1 (i)	Deficiencies in Internal Controls in Central Autonomous Bodies
12	21 of 2022	5.1	Assistance to Botanic Gardens Schemes



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