Demand for Grants 2022-23 Analysis

Environment, Forests and Climate Change

The Ministry of Environment, Forests and Climate Change is responsible for the planning, promotion, co-ordination of, and overseeing the implementation of India's environmental and forestry policies and programmes. This note presents the budgetary allocations to the Ministry for 2022-23, and analyses various issues related to the sector.

In November 2021, the 26th United Nations Climate Change Conference (COP26) was held in Glasgow, Scotland where leaders and representatives from 197 countries met to decide on the actions to be taken to address climate change. At the conference, the Prime Minister of India announced certain targets for India.[1] These include achieving net zero emissions by 2070, and increasing the share of renewable energy in India's energy mix to 50% by 2030. The Economic Survey 2021-22 observed that there is a greater thrust on climate action following these announcements.[2] It stated that climate finance will remain critical to successful climate action by developing countries including India.[2]

Budget speech 2022-23 highlights[3]

Key highlights in the budget regarding environment include:

- Sovereign Green Bonds will be issued for mobilising resources for green infrastructure. The proceeds will be deployed in public sector projects which help in reducing the carbon intensity of the economy.
- A battery swapping policy will be formulated to promote the electric vehicles sector. To achieve the goal of 280 GW of installed solar power by 2030, an additional allocation of Rs 19,500 crore will be made for Production Linked Incentive scheme for manufacturing of high-efficiency solar modules.
- 5-7% biomass pellets will be co-fired in thermal power plants to reduce carbon emissions. Further, four pilot projects for coal gasification and conversion of coal into chemicals will be set-up to evolve technical and financial viability.

Allocation in Union Budget 2022-23

In 2022-23, the Ministry of Environment, Forests and Climate Change has been allocated Rs 3,030 crore, which is a 20% increase over the revised estimates in 2021-22. The allocation to the Ministry is 0.1% of the total estimated expenditure of the union government for 2022-23.

Table 1: Budgetary allocation to the Ministry 2022-23 (in Rs crore)

	Actuals 20-21	BE 21-22	RE 21-22	BE 22-23	Percentage change (Revised 21-22 to BE 22-23)
Total	1,967	2,870	2,520	3,030	20%

Note: BE is budget estimate and RE is revised estimate.
Sources: Demands for Grants 2022-23; PRS.

In 2022- 23, 31% of the Ministry's allocation (Rs 930 crore) is estimated to be on centrally sponsored schemes on environment, forests and wildlife such as National Mission for Green India and Integrated Development of Wildlife Habitats. 10% of the allocation of the Ministry is towards autonomous bodies and about 15% is towards pollution control. Table 2 represents the budgetary allocation for major heads under the Ministry.

Table 2: Major heads of expenditure under the Ministry (in Rs crore)

Heads	2020-21 Actuals	2021-22 RE	2022-23 BE	% change (21-22 RE to22-23 BE)
Environment, Forestry and Wildlife	552	670	930	39%
Control of Pollution	267	390	460	18%
Autonomous Bodies	290	316	287	-9%
National Coastal Mission	68	101	195	93%
Statutory and Regulatory Bodies	125	161	155	-4%
National Authority	89	262	250	-5%
Decision support System for Environmental Awareness, Policy, Planning and Outcome Evaluation	76	108	87	-19%
Environmental Knowledge and Capacity Building (such as Eco-Task Force)	40	65	79	22%
Climate Change Action Plan	20	30	30	-
National Adaption Fund	43	60	60	-
Others	457	579	699	21%
Total	**2,056**	**2,782**	**3,280**	**18%**
Funded from budget	**1,967**	**2,520**	**3,030**	**20%**
Funded from Compensatory Afforestation Fund	**89**	**262**	**250**	**-5%**

Note: Others include, Pollution abatement, among others
Sources: Union Budget 2022-23; PRS.

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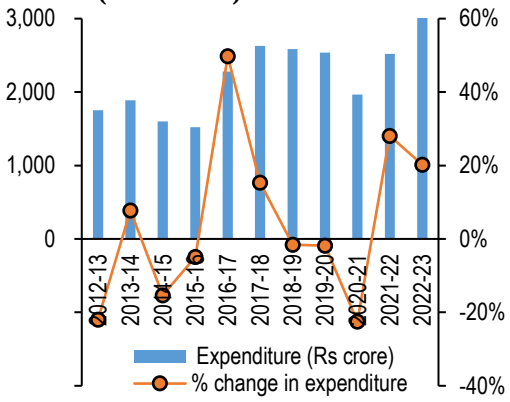
Overview of the financial allocation

Between 2010-11 and 2022-23, the expenditure of the Ministry has seen an annual average growth of 2%. Between 2010-11 and 2021-22, on average, the actual expenditure of the Ministry has been less than the budget estimates for the year. However, the Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2020) had noted that the utilisation of funds by the Ministry in 2017-18 and 2018-19 is satisfactory.[4] The Standing Committee (2021) also highlighted that the utilisation of allocated amount by the Ministry during the last three financial years has been satisfactory.[5]

Figure 1: Expenditure between 2010-11 and 2022-23 (in Rs crore)



Note: Values for 2021-22 and 2022-23 are Revised Estimates and Budget Estimates respectively.
Sources: Union Budgets 2010-11 to 2022-23; PRS.

Table 3 shows the utilisation trend of the funds allocated to the Ministry between 2010-11 and 2021-22.

Table 3: Trend of fund utilisation by the Ministry (in Rs crore)

Year	BE	Actuals	Over/Under Utilisation
2010-11	2,351	2,372	1%
2011-12	2,492	1,982	-20%
2012-13	2,629	1,753	-33%
2013-14	2,630	1,890	-28%
2014-15	2,256	1,599	-29%
2015-16	1,682	1,521	-10%
2016-17	2,250	2,278	1%
2017-18	2,675	2,627	-2%
2018-19	2,675	2,586	-3%
2019-20	2,955	2,538	-14%
2020-21	3,100	1,967	-37%
2021-22	2,870	2,520*	-12%

Note: BE – Budget Estimate; *Revised Estimate; (+) indicates over-utilisation; (-) indicates under-utilisation.
Sources: Union Budgets from 2010-11 to 2022-23; PRS.

In 2021-22, the Ministry was allocated Rs 2,870 crore, which decreased to Rs 2,520 crore (-12%) at the revised estimates stage. This includes reduction in funds towards: (i) Environment, Forestry and Wildlife (reduced by Rs 94 crore), (ii) Establishment Expenditure of the Centre (reduced by Rs 70 crore), and (iii) Control of Pollution (reduced by Rs 193 crore), among others. This may be due to the impact of the COVID-19 pandemic, and a change in spending priorities of the government over the year.

Key issues for consideration

Climate Change

Climate change refers to a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere.[6] Studies indicate that the amount of greenhouse gases including carbon dioxide, methane, and nitrous oxide in the atmosphere have increased rapidly over the last few centuries as a result of human activities.[7,8] The increased concentration of greenhouse gases in the atmosphere has led to a rise in global temperatures leading to other changes in global climate, such as erratic rains, floods, and cyclones.[7,8]

According to the Intergovernmental Panel on Climate Change (IPCC), the average global temperature is estimated to have increased by 0.85°Celsius (°C) between 1880 and 2012.[8] At the end of the 21st century, the increase in global temperature is likely to exceed 1.5°C as compared to pre-industrial levels (1850 to 1900).[8] However, in August 2021, the IPCC estimated that a 1.5°C increase may happen much earlier, by 2040.[9] This could lead to a reduction of the snow cover, increase in heat waves, extreme precipitation, intensification of tropical cyclones and increase in sea levels.

Over the years, several international efforts have been made for global co-operation to address issues of climate change. In 1992, the United Nations Framework Convention on Climate Change (UNFCCC), an international framework for cooperation was established to stabilise greenhouse gas concentrations in the atmosphere.[10] The European Union (EU) has dedicated a modernisation fund to support 10 lower-income EU Member States in their transition to climate neutrality.[11] Further, EU has also proposed that at least 25% of its expenditure will contribute to climate action during 2021-27.[12]

The United States of America (USA) has called for the preparation of a Climate Finance Plan, to focus on international climate finance. USA intends to double its annual public climate finance to developing countries by 2024.[13]

After India's announcement of additional targets at COP26, experts have estimated that India will require over Rs 700 lakh crore to meet its goal of net zero emissions by 2070.[14] Of this, investment of over Rs 600 lakh crore will be required to shift to renewable energy sources.[14] This financing

would require significant actions across all the concerned ministries.

Significant investment needed to finance adaptation and mitigation measures for Climate Change

The Economic Survey (2020-21) observed that India is relying on domestic resources to implement adaptation and mitigation action for climate change.[15] It noted that the financing considerations will remain critical as the country had increased its targets substantially. Preliminary estimates provided by the NDC indicate that India's climate change actions till 2030 will require financial resource of USD 2.5 trillion (at 2014-15 prices). It recommended a clearer assessment of the financial requirement for implementing the NDC for appropriate allocation of resources. Further, the possible sources for meeting these requirements should also be devised.

The Survey noted that availability of adequate financial resources for implementing the NDC goals is a major challenge.[15] It recommended that additional financial resources and technological support to the developing countries (as was committed by the developed countries under the Paris Agreement) should be implemented. The Glasgow Conference Pact noted that developed countries failed to meet their commitment of providing USD 100 billion (over Rs 7.5 lakh crore) per year by 2020 to developing nations to tackle climate change. It urged developed nations to provide the 100 billion dollars through 2025.[16]

Currently, 100% Foreign Direct Investment (FDI) is permitted in the renewable energy sector.[17] Between April 2000 and June 2021, the cumulative FDI equity inflow in the renewable energy sector was USD 10,279.81 million. This was 1.88% of the total equity inflow received in all sectors during this period. The Ministry is estimated to spend Rs 30 crore on the Climate Change Action Plan and Rs 60 crore on the National Adaptation Fund. This is equal to the revised estimates of 2021-22.

National Action Plan on Climate Change needs additional funding and redesigning

The National Action Plan on Climate Change (NAPCP) was launched in June 2008 to deal with issues related to climate change.[18] The NAPCP has eight missions: (i) the National Solar Mission, (ii) the National Mission on Enhanced Energy Efficiency, (iii) the National Water Mission, (iv) the National Mission for Green India, (v) National Mission on Sustainable Habitat, (vi) National Mission for Sustainable Agriculture, (vii) National Mission for Sustaining the Himalayan Ecosystem, and (viii) National Mission on Strategic Knowledge for Climate Change.

NITI Aayog in its report on Strategy for New India (2018) recommended that all eight national missions under the NAPCP should be revised in light of new scientific information and technological advances.[19] Further, new national missions on wind energy, waste-to-energy, and coastal areas should be developed. In addition, NITI Aayog in its report recommended the following to maintain a clean, green, and healthy environment:

- **Changes to regulatory framework**: Stringent civil penalties should be introduced to strengthen enforcement of environment-related Acts. Further, Rules related to waste management should be revised and strictly implemented. These include: (i) Plastic Waste (Management and Handling) Rules, (ii) Bio-Medical Waste (Management and Handling) Rules, (iii) E-Waste (Management) Rules, and (iv) Hazardous and Construction & Demolition Waste Management Rules.
- **Funds**: National Adaptation Fund for Climate Change and other global funds for strengthening resilience against climate change in sectors such as agriculture, forestry, and infrastructure should be utilised. Further, scientific and analytical capacity for climate change related assessments should be strengthened.

In 2015, the Paris Agreement was adopted by the Conference of Parties with the consensus of 197 parties to the convention (including India).[20] The Paris Agreement aims to reduce greenhouse gas emissions globally and limit the increase in the global average temperature to a level between 1.5ºC to 2ºC above pre-industrial levels.

India submitted its Nationally Determined Contributions to the United Nations Framework Convention on Climate Change. It included various targets to be achieved by 2030 such as increasing forest and tree cover by creating additional carbon storage and absorption capacity for 2.5-3 billion tonnes of carbon dioxide and achieving 40% of installed electric power capacity from non-fuel-based energy sources (such as solar, wind, hydropower) with help of transfer of technology and low-cost international finance. Note that India's current share of non-fossil sources based installed capacity of electricity generation is more than 40%.[21]

In December 2020, the Ministry of Environment, Forest and Climate Change constituted a high-level inter-ministerial Apex Committee for Implementation of Paris agreement.[22] The Committee will be the national regulatory authority for carbon markets in India. Its functions include: (i) developing policies and programmes to make India's domestic climate change compliant to

international obligations, (ii) coordinating communications of nationally determined contributions, and (iii) defining responsibilities of concerned ministries for achieving India's nationally determined contribution goals.

India contributes to 7% of world emissions, but this may increase with growing industrialisation and urbanisation

Among all greenhouse gases released due to human activities, CO_2 is the largest contributor to global warming.[23] Sources releasing CO_2 into the atmosphere include: (i) combustion of fossil fuels (such as thermal power generation), (ii) forest burning (for the purposes of land clearance), and (iii) industrial activities. Combustion of fossil fuels is likely to be the dominant contributor of CO_2 in the atmosphere.

The IPCC (2005) observed that power and industrial sectors together dominate the global CO_2 emissions.[23] As of March 25, 2021, power generation from coal, oil, and gas contributed to 40% of global CO_2 emissions.[24] By 2050, these sectors are expected to contribute to about 50% of the total global CO_2 emissions. In 2019, the total CO_2 emissions across the world were 33,622 million tonnes. Table 4 compares India's CO_2 emissions from fuel combustion to that in other countries.

Table 4: Global comparison of CO2 emissions (2019)

Country	CO_2 emissions from fuel combustion (million tonnes)	% of world emissions	Per capita emissions (tonnes CO_2)
China	9,877	29%	7.1
US	4,745	14%	14.4
EU	2,994	9%	5.8
India	**2,310**	**7%**	**1.7**
Russia	1,640	5%	11.4
Japan	1,056	3%	8.4
UK	342	1%	5.1
World	**33,622**		**4.4**

Note: EU is European Union; US is United States of America.
Sources: International Energy Agency; PRS.

In 2019, China was the largest contributor to the world's CO_2 emissions (29%), while the USA had the highest per capita emissions.[25] India is well below the average global emissions per capita. However, with growing urbanisation and industrialisation, India's CO2 emissions will increase significantly unless proper measures are taken now to ensure that any future growth is in a manner that does not indiscriminately increase our emissions.

At the 2021 Glasgow Conference, India announced additional targets to be achieved by 2030.[1] These include: (i) increasing non-fossil energy capacity to 500 gigawatt (GW), (ii) meeting 50% of energy requirements through renewable energy, (iii) reducing total projected carbon emissions by one billion tonnes, and (iv) reducing the carbon intensity of the economy by less than 45%.

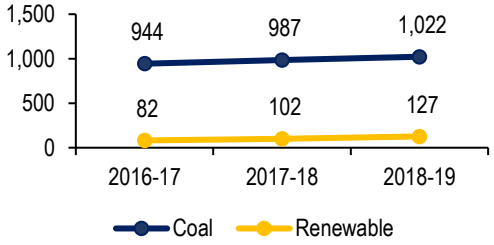
Investing in thermal power generation and subsidising polluting fuels could undo the impact of climate change mitigation

Transition to renewable energy sources (solar, wind, hydro) is one of the ways to reduce CO_2 emissions.[23] The share of renewable energy in global electricity increased from 27% in 2019 to 29% in 2020.[26] According to estimates by the International Energy Agency (2021), the global renewable energy electricity generation will increase by more than 8% in 2021, the fastest one-year growth since the 1970s. China will account for almost 50% of this increase, followed by USA, European Union, and India.[24]

The Glasgow Conference Pact urged all countries to reduce greenhouse gas emissions including CO_2 by 45% (relative to 2010 level) by 2030 to limit global warming.[16] However, the Standing Committee on Energy (2020-21) has noted that despite the significant increase in renewable energy capacity and more addition planned in the coming years, coal will remain the main source of power in this decade.[27] It noted that there may be a 30% increase in the installed thermal power generation capacity by 2029-30.

Further, thermal power plants are currently running at about half of their capacity.[27] However, their capacity utilisation may be increased in the future, leading to an increase in coal requirement. Over the past few years, generation capacity of coal and renewable energy has increased at an annual rate of 4% and 24%, respectively (see Figure 2). Thus, it given the potential demand of coal in the future, it is unclear how the transition to renewable energy will be feasible based on the committed timeline and targets.

Figure 2: Electricity generation (in megawatt)



Source: Central Electricity Authority; PRS.

The 15th Finance Commission observed India's dependence on thermal energy and the consequent effect on emission levels.[28] It noted that about 60% of the country's installed capacity is thermal based (coal based thermal power accounting for the largest share). Further, it noted that while the share of renewables in total power generation has

increased from 6% in 2014-15 to 10% in 2018-19, substantial investment is required in renewable energy. It recommended that a comprehensive energy policy should be framed. It also noted that the prices of coal, natural gas, and kerosene in India are below environmentally efficient levels (which can partly be due to subsidies given for LPG and kerosene to select consumers). It recommended bringing the prices of these fuels closer to environmentally efficient levels, while providing targeted assistance to potentially affected vulnerable households.

The projected changes in climate change pose a major threat for India in particular, given that the national economy is closely tied to climate sensitive sectors such as agriculture and forestry.[29]

Environment Impact Assessment and Clearance process has several issues

Environment Impact Assessment is a planning tool to integrate environmental concerns into the developmental process from the initial stage of planning.[30] The Ministry of Environment, Forests and Climate Change has made Environmental Clearance (EC) for certain development projects mandatory such as certain building, construction, and area development projects.[30]

The Comptroller and Auditor General of India (CAG) (2016) had noted certain issues with the environmental clearance process. Its observations and recommendations include:[30]

- **Delay in process**: The CAG noted a delay in the process of EC (including grant of Terms of Reference, public consultation, and grant of EC by the Ministry). For example, (i) out of 216 projects examined, the Terms of Reference was granted within the prescribed time limit (60 days) to only 14% of the projects, and (ii) the EC was granted within the prescribed time limit (105 days) in only 11% of the cases. It recommended the Ministry to increase transparency in the grant of EC, streamline the processes, and adhere to the timelines given under the EIA Notification.
- **Compliance to Conditions of Environment Clearance**: The CAG noted non-compliance in the 216 sampled projects (ranging from 4% to 56%), in respect of 13 general Environmental Clearance conditions. It recommended the Ministry to grant fresh EC only after verifying the compliance to the earlier EC conditions. Further, it recommended the Ministry to mandate certain other conditions for an EC, including installation of monitoring stations and frequency of monitoring of various environment parameters for air, surface water, ground water, and noise pollution.

Air Pollution

National Clean Air Programme (NCAP): The Ministry of Environment, Forest and Climate Change launched the NCAP in January 2019. It receives funding under the budget head Control of Pollution. The programme sets a national level target of 20% to 30% reduction of $PM_{2.5}$ and PM_{10} concentration levels by 2024, with 2017 as base for concentration levels.[31] The NCAP is implemented in 132 cities, of which 124 cities have been identified based on non-conformity with national ambient air quality standards for five consecutive years. This includes 34 million plus cities / urban agglomerations identified by the 15th Finance Commission. NCAP aims to: (i) prepare comprehensive mitigation actions for prevention, control and abatement of air pollution, and (ii) augment the air quality monitoring network and strengthen awareness activities.

Financing for reducing air pollution

In 2022-23, Control of Pollution has been allocated Rs 460 crore, a 18% increase over the revised estimates of 2021-22. In 2020-21, the allocation for Control of Pollution was reduced by 17% (from Rs 470 crore to Rs 390 crore) at the revised estimates stage.

The Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2020) noted that the NCAP is a programme of utmost importance in the present-day context and controlling air pollution must be given the topmost priority.[4] It recommended that the Ministry must be provided the requisite allocation as sought by it with respect to Control of Pollution at the revised stage.

The Standing Committee (2021) noted Control of Pollution scheme is implemented through various central and state government agencies. It recommended central mechanism for coordination of such agencies. The Committee also recommended that the grant made available by recommendation of 15th Finance Commission for installation of systems to monitor air quality must be prioritised by the Ministry in the smaller cities and towns that are often neglected, and suffer from a lack of quality data on air pollution.[5]

The Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2020) noted that the Finance Minister, in her budget speech (2020-21), announced Rs 4,400 crores for clean air for large cities having population above one million. The Ministry stated that the fund is being made available to the Ministry of Housing and Urban Affairs (MoHUA).[4] However, no allocation has been made for this in MoHUA's demand for grants in 2020.[32]

The Ministry of Environment, Forests, and Climate Change has identified 102 non-attainment cities for utilising this fund under the NCAP. These are cities which do not meet the National Ambient Air Quality Standards (NAAQS) for a period of five years.[33] The Economic Survey (2021-22) stated that the number of cities within the prescribed NAAQS increased from 18 in 2019-20 to 27 in 2020-21. However, an increasing trend in PM_{10} concentration has been observed in 36 cities in 2020.[2]

The Committee (2020) noted that there are 46 cities (with population more than one million), which may be kept out of the non-attainment category.[4] This will help the Ministry of Environment, Forests, and Climate Change to reduce the shortfall of funds for the schemes of pollution control.

The 15th Finance Commission recommended the Ministry of Housing and Urban Affairs be made the nodal ministry for grants to cities with population more than one million to take steps to check air pollution.[28] The Ministry of Environment, Forests and Climate Change may be given a separate grant for installation of systems to monitor air quality.[28] The WHO provides intervention measures for combating outdoor and indoor air pollution.[34] It suggests interventions across seven different areas, namely transport, housing, cities, waste management, industries, agriculture, and power generation. Some of these intervention measures include: (i) implementing stricter vehicle emissions and efficiency standards, (ii) creating green spaces that help remove pollutant matter, (ii) improving urban waste management, such as capturing of methane gas from waste sites, (iii) replacing traditional household fuel with lower-emission cook stoves or cleaner fuels, and (iv) adopting clean technologies that reduce industrial emissions.

NITI Aayog in its report on Strategy for New India (2018) noted certain challenges to reduce the problem of air pollution, including:[19] (i) convincing farmers to discontinue the practice of burning crop residue by providing alternative methods, (ii) lack of awareness of the ill effects of pollution, thereby making it difficult to bring about behavioural change in people, and (iii) ineffective implementation of 'polluters should pay for the pollution' principle (costs of pollution be borne by those who cause it).

It recommended the following:

- **Funds**: A "Clean Air Impact Fund" should be created to provide viability gap funding for long-term projects aimed at reducing air pollution (such as bio-power or bio-ethanol projects).
- **Reward and monitoring at the local level**: A reward scheme for village panchayats with zero burning may be instituted, and a mechanism to monitor farm fires should be devised.
- **Industry Emissions**: Emission and effluent standards for industries should be revised and effectively implemented. Further, a task force should be set up to study and implement measures to control pollution from brick kilns.

WHO also suggests addressing air pollution by monitoring, reporting and spreading awareness about its health impacts. It suggests improving the health sector's capacity to address the adverse health effects from air pollution through training, guidelines, and national action plans.[35]

Among the risk factors of diseases in India, air pollution ranks the second highest (after malnutrition), accounting for 10% of the disease burden, and thus, is one of the leading causes for premature death and disabilities.[36] According to estimates published by the India Disease Burden Initiative, in 2017, 12.4 lakh deaths, i.e., 12.5% of the deaths in India, were attributable to air pollution.[37]

Act to set up a commission for air quality management in NCR

Due to the rising levels of pollution in NCR and the powers of the EPCA being limited to Delhi, the Commission for Air Quality Management in National Capital Region and Adjoining Areas Act, 2021 was passed in Parliament on August 5, 2021.[38] The Act constitutes the Commission for better co-ordination, research, identification, and resolution of problems related to air quality in NCR and adjoining areas. Adjoining areas have been defined as areas in Haryana, Punjab, Rajasthan, and Uttar Pradesh, adjoining the National Capital Territory of Delhi and NCR, where any source of pollution may cause adverse impact on air quality in the NCR. The Act provides for penalties for contravention of provisions of the Act. While these penalties do not apply to farmers causing air pollution by stubble burning, the Commission may impose an environment compensation on such farmers causing pollution by stubble burning.

In August, 2021 the Commission issued directions to Uttar Pradesh, Haryana, and Rajasthan for shifting of industries operating in NCR to cleaner fuels.[39] The Supreme Court noted that these directions were partly compiled by industries. Industries not having cleaner fuels will be allowed to function for up to eight hours during weekdays and will remain closed on weekends.[40] Further the Commission has also constituted an enforcement task force to take punitive and preventive measures against authorities not complying with the directions of the Commission.

Forestry

In India, forests are considered as a part of the natural and cultural heritage. They provide variety of ecosystem services including: (i) absorption of greenhouse gases, (ii) prevention of soil erosion, and (ii) habitat to wildlife. One of the critical challenges faced by forests in the country is degradation of forest cover.[41]

Land Forests

Forest Area refers to area recorded as forest in government records and is also called "recorded forest area". As per the India State of Forest Report 2021, India was the 10th largest country by forest area in 2020. The top five countries were: (i) Russia, (ii) Brazil, (iii) Canada, (iv) United States of America, and (v) China. In India, forests cover 24% of its geographical area, which accounts for 2% of the world's total forest area.[2]

The report noted that India has significantly increased its forest area over the past decade. It ranks third globally in average annual net gain in forest area between 2010 to 2020 (behind China and Australia). India has added around 0.38% of the 2010 forest area every year between 2010 to 2020.

Forest cover comprises all lands, more than one hectare in area, with a tree canopy density of more than 10 per cent, irrespective of ownership and legal status. Such lands may not necessarily be a recorded forest area, and also include orchards, bamboo and palm plantations. India's total forest cover was 7,13,789 square kilometres in 2021, a 3.14% increase over the forest cover in 2011.

The Economic Survey 2021-22 observed that going forward, there is a need to further improve forest and tree cover. It stated that social forestry could play a significant role in this regard.[2]

Green India Mission

Green India Mission (erstwhile National Afforestation Programme) was launched in February 2014. Its objectives include: (i) increasing forest cover by up to 5 million hectare and improving quality of forest cover on additional 5 million hectare of land, (ii) enhancing eco-system services such as capturing and storing atmospheric carbon to reduce global warming, and (iii) increasing forest-based livelihood income of about 3 million households.[42]

NITI Aayog, in its report on Strategy for New India (2018), identified increasing the forest cover to 33.3% of the geographical area between 2021-23 as one of the key objectives for a clean, and healthy environment in India. Between 2017 and 2019, the forest cover across India increased by 0.6% (0.4 million hectares).[43] As of 2019, total forest cover in India accounts for 22% of the total geographical area (71 million hectare out of 329 million hectare).[44] The states with comparatively higher forest cover as share of their geographical area include: (i) Lakshadweep (90%), (ii) Mizoram (85%), (iii) Andaman and Nicobar Islands (82%), (iv) Meghalaya (76%), and (v) Manipur (75%), among others.

Note that, the 14th Finance Commission assigned 7.5% weightage to "forest cover" in its calculation of states' share in the central taxes.[45] The 15th Finance Commission (2020) replaced this by the a weightage of 10% to "forest and ecology".[46] This was done to reward states for the ecological services from the forest cover, and to compensate them for constraints arising from the dense forests in the state.[46]

NITI Aayog recommended promoting afforestation through peoples' participation and the involvement of the private sector, with priority to restoration of degraded forests.[19] Further, it recommended that the public land along railway tracks, highways, and canals should be used for tree plantation.

The Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2018) had noted that despite the overall increase in the forest cover in India, some of the North-Eastern states observed a decline in the forest cover in 2017.[42] These states include Manipur, Arunachal Pradesh, and Mizoram.

The Standing Committee on Science & Technology, Environment & Forests on the 'Status of Forests in India' (2019) also expressed concerns about the decline in the forest cover in the North-Eastern States, which constitute 65.34% of their geographical area in comparison to the national forest cover of 21.54%.[41] It recommended that the concerned state governments and the Ministry of Environment, Forests and Climate Change must take all necessary steps to ensure that the decline in forest cover in these states is stopped at the earliest.[41]

In addition, the Committee noted that no action plan has been prepared by the Ministry for controlling illegal cutting of trees in forests. It recommended the Ministry to take cognizance of the illegal felling of trees in different parts of the country and prepare an action plan for tackling this menace, in coordination with state governments.[41]

Financing afforestation: In 2022-23, the Green India Mission has been allocated Rs 362 crore (an increase of 42% over the revised estimates in 2019-20).

The Standing Committee on Science & Technology, Environment & Forests on the 'Status of Forests in India' (2019) had noted that the budget allocation to National Afforestation Programme has been insufficient. This has affected the achievement of the annual targeted area of afforestation during the last few years. The Committee recommended the Ministry to ensure adequate allocation to the National Afforestation Programme to achieve the targets under the Programme.

The Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2020) noted that the Green India Mission is an important programme.[4] However, there has been under-utilisation of funds in the Mission. In 2021-22, up to the revised stage, 88% of the funds allocated to the Mission has been utilised.

Evaluation: The Standing Committee on Science & Technology, Environment & Forests on the 'Status of Forests in India' (2019) noted that the mid-term evaluation study on National Afforestation Programme conducted by the Indian Council of Forestry Research and Education (ICFRE) in 2008 had highlighted the successful implementation of the programme.[41] However, the Committee observed that more than ten years have passed since the previous ICFRE evaluation and recommended the Ministry to undertake a new study. This will help in assessing the actual impact of the Green India Mission on the forest cover and formulate strategies accordingly.[41]

The Committee also recommended the Ministry to take necessary action for determining the availability of total land for afforestation in the country. This will help state governments in formulating strategies for taking up the afforestation activities at their level.

Compensatory Afforestation Management and Planning Authority (CAMPA) funds

The CAMPA funds were established under Compensatory Afforestation Fund Act, 2016 in August 2016.[47] The Act requires an entity, diverting a forest land towards non-forest purposes (such as mining), to pay for planting forest over an equal area of non-forest land or over twice the area of the degraded forest land. The purposes for utilisation of the fund include: (i) artificial plantations, (ii) wildlife and forest protection, and (iii) forest related infrastructure development.

The Standing Committee on Science and Technology, Environment, Forests, and Climate Change (2020) noted that the CAMPA fund has a huge corpus of Rs 54,394 crore. The funds have accumulated due to deforestation. However, the current guidelines on the utilisation of fund restrict its utilisation for other schemes with similar objectives (such as Green India Mission) under the Ministry.[4]

The Committee recommended the Ministry to explore possibilities of utilisation of fund for schemes with objectives like those defined for utilisation of CAMPA fund. It specified that amendment to CAMPA Act and rules should be also considered for enabling utilisation of the fund for schemes with similar objectives.[4]

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