

India

The Global Environment Facility (GEF), a multi-lateral environmental fund, has 184 countries as its members and international institutions, civil society organizations, and private sector organizations as partners. The GEF provides financing to eligible countries to support country-driven initiatives that aim to address concerns related to biodiversity, climate change, international waters, land degradation, and chemicals and waste. Since its inception in 1991, the GEF has provided more than \$22 billion in financing for projects and programs and has mobilized \$120 billion in cofinancing.

India is among the countries that have been members of the GEF since its inception. It has been both a donor and a recipient country and has strongly supported GEF activities over the years, notably hosting the very first GEF Assembly in 1998. As a donor country, India has contributed \$100 million in total to the GEF Trust Fund, with \$18.75 million pledged for the GEF-8 cycle.

Given India's high potential to generate global environmental benefits, it has been among the top three recipients of GEF support. Thus far, India has received support for 92 national projects and has participated in 26 regional and global projects. The GEF Small Grants Programme (SGP) has been under implementation in India since 1996.

The GEF Independent Evaluation Office (GEF IEO) has prepared this note to provide an overview of the

performance of GEF-financed activities in India. In preparing this note, the IEO has drawn upon the GEF Portal, terminal evaluation validation data, and its past evaluative work, including the [GEF Country Portfolio Evaluation: India \(1991–2012\)](#).

PORTFOLIO OVERVIEW

Overall, the GEF has provided \$925.7 million to fund 118 projects in India through GEF-7. Most of this funding—\$744.0 million, or about 80 percent—is for national projects, including grants for project preparation and Agency fees but excluding dropped and canceled activities. GEF funding of Indian national projects has mobilized another \$6.6 billion in cofinancing, resulting in a cofinancing ratio of nearly \$9 per dollar of GEF grant—substantially above the GEF's global portfolio average of \$5.50 per dollar of GEF grant. GEF financing has supported implementation of 92 national-level projects in India (table 1). Almost all of this funding is from the GEF Trust Fund, with two national projects supported by the GEF's Special Climate Change Fund: Climate Resilient Coastal Protection and Management (GEF ID 4536, implemented by the Asian Development Bank) and Sustainable Livelihoods and Adaptation to Climate Change (GEF ID 4901, implemented by the World Bank).

The climate change focal area accounts for the largest share of GEF funding and projects in India. The GEF has supported a wide array of environmental themes in India including those that

TABLE 1 India portfolio overview

Characteristic		Number of projects			
		National	Regional	Global	Total
GEF replenishment period	Pilot phase	4	0	1	5
	GEF-1	6	0	1	7
	GEF-2	3	0	3	6
	GEF-3	11	1	3	15
	GEF-4	25	1	5	31
	GEF-5	21	0	1	22
	GEF-6	6	1	4	11
	GEF-7	16	3	2	21
Focal area	Biodiversity	20	3	7	30
	Climate change	47	0	5	52
	International waters	0	1	1	2
	Land degradation	4	0	1	5
	Chemicals and waste ^a	6	1	2	9
	Multifocal	15	1	4	20
Lead Agency	United Nations Development Programme	45	1	6	52
	United Nations Environment Programme	10	2	11	23
	United Nations Industrial Development Organization	12	1	0	13
	World Bank	19	0	1	20
	Other	6	2	2	10
Trust fund	GEF Trust Fund	90	6	20	116
	Special Climate Change Fund	2	0	0	2
Total number of projects		92	6	20	118
Total GEF funding (million \$)		744.0	32.4	149.3	925.7
Total cofinancing (million \$)		6,606.2	87.2	349.8	7,043.2

Source: GEF Portal, accessed November 2022.

Note: Total GEF funding includes project grants, project preparation grants, and Agency fees. Canceled or dropped projects are excluded from this analysis. Parent projects of regional/global programmatic approaches are excluded to avoid double counting.

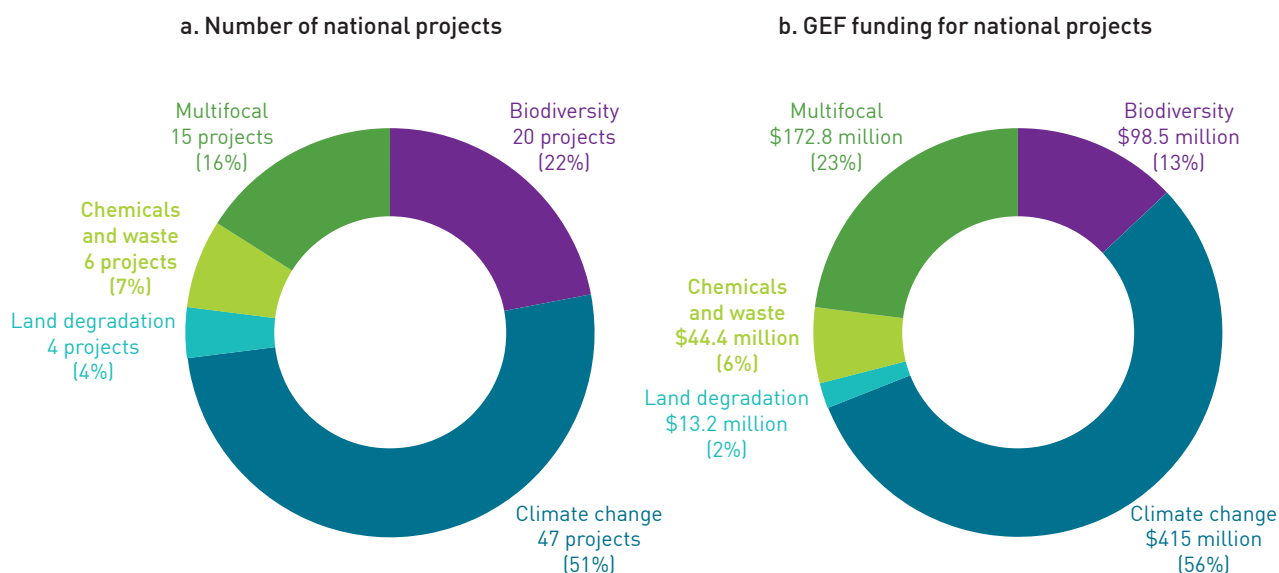
a. The chemicals and waste focal area includes projects approved as part of the pre-GEF-6 persistent organic pollutants and ozone-depleting substances focal areas.

address climate change mitigation, biodiversity conservation, and land degradation. Consistent with India's high potential to generate global environmental benefits related to climate change, more than half (47 out of 92) of the national projects and 56 percent of GEF funding are focused on addressing climate change (figure 1).

Improving energy efficiency and promoting renewable energy are the two main themes supported by GEF investments in the country.

Respectively, these themes account for 37 percent

and 33 percent of GEF funding approved in the climate change focal area. The GEF has supported various mitigation strategies in India, such as improved energy efficiency in industrial sectors, retrofitting buildings, and adopting renewable energy sources like solar and biomass. Eleven of the 15 multifocal area projects also include a climate change component, generally covering the agriculture, forestry, and other land use sector and the transport/urban sector.

FIGURE 1 Distribution of national projects and GEF funding by focal area

Source: GEF Portal, accessed November 2022.

After climate change, biodiversity projects represent a substantial share of the portfolio.

Twenty-two percent (20 out of 92) of national projects were approved in this focal area, accounting for 13 percent of GEF funding, or \$98.5 million. The GEF has also supported 6 national projects in chemicals and waste (\$44.4 million, 6 percent of GEF funding) and 4 national projects in land degradation (\$13.2 million, 2 percent of GEF funding). No international waters project has been in India implemented at the national level.

The vast majority of GEF funding is provided through full-size projects.

Of the national projects implemented in India, 70 (76 percent) are full-size projects, accounting for 96 percent of GEF funding (\$717.3 million) (figure 2). High reliance on the full-size project modality is consistent with India's relatively high share of GEF System for Transparent Allocation of Resources (STAR) funds and consequent opportunities to undertake projects at scale that require larger investments. There are 11 medium-size projects and 11 enabling activities in the national portfolio, each accounting

for 2 percent of GEF funding—\$14.6 million and \$12.0 million, respectively.

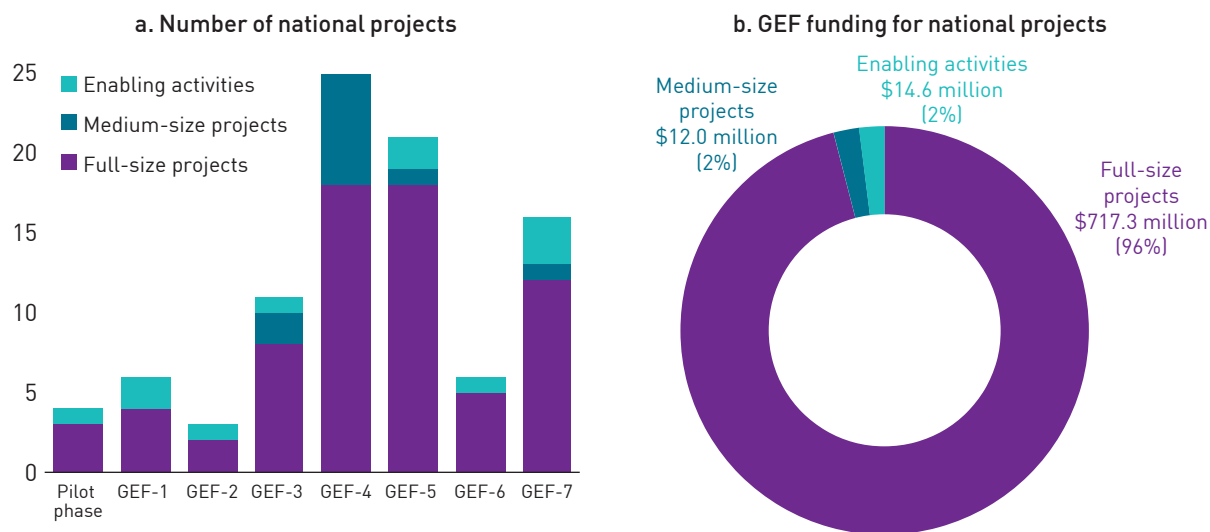
India has participated in 14 GEF programs.

Most recently, these include the [Cities Integrated Approach Pilot in GEF-6](#), the [Global Wildlife Program](#) in GEF-6 and GEF-7, and two [impact programs](#) in GEF-7 focusing on food systems, land use, and restoration (FOLUR), and sustainable cities.

Regional and global projects have provided important support in the country.

In all, 26 regional and global GEF projects have supported activities in India. Major investments include addressing transboundary and sustainable fishery issues in the Bay of Bengal large marine ecosystem; piloting best practices in mercury waste management in the health care sector; and piloting methods for assessing vulnerability and adaptation of mangroves and associated coral reef, seagrass, and upland ecosystems.

The GEF Small Grants Programme has been operational in the country since 1996. The SGP

FIGURE 2 Distribution of national projects and GEF funding by modality

Source: GEF Portal, accessed November 2022.

provides small grants to civil society and non-governmental organizations to address global environmental concerns. India's SGP country program was upgraded in GEF-5 to a full-size project modality supported through funds from India's STAR allocation. Through the SGP, the GEF has provided \$11 million in grants via 382 microprojects, the majority of which address biodiversity or climate change.¹ The SGP in India has not only been a vehicle for using GEF financing for small grants but has also provided the country a platform to channel support for microprojects from other financing sources as well. Overall, the SGP in India has supported a total of 443 projects, including 61 funded exclusively through non-GEF sources.

India has worked with a variety of GEF Agencies based on their comparative advantage to implement GEF-supported activities. The United Nations Development Programme (UNDP) is the implementing Agency for nearly half (49 percent)

of the GEF's projects in India. However, the World Bank accounts for a larger share of total GEF funding for national projects than UNDP—42 percent compared to 27 percent (table 2). Since GEF-5, the share of projects implemented by the United Nations Environment Programme has been growing, increasing from 6 percent (\$8.2 million) to 37 percent (\$38.7 million) in GEF-7. In comparison, the World Bank's share has dropped from GEF-5 onwards.

Among the GEF Agencies that were accredited in the first round of expansion (1999–2006), the Asian Development Bank, the Food and Agriculture Organization of the United Nations (FAO), and the United Nations Industrial Development Organization (UNIDO) are implementing projects in India. The GEF Agencies accredited during the second round of expansion (2013–15) have not yet implemented any GEF projects in the country.

The World Bank is the lead Agency for two GEF-7 programs—FOLUR and the Global Wildlife Program—in which India has participated. The two child projects in India under these programs are implemented by FAO and UNDP, respectively.

¹ Source: GEF SGP website, [India country page](#), accessed October 2022.

TABLE 2 Distribution of national projects and funding by lead Agency

Agency	Pilot		GEF-1		GEF-2		GEF-3		GEF-4		GEF-5		GEF-6		GEF-7		Total	
	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.	Mil. \$	No.
UNDP	14.5	3	10.2	3	14.8	3	35.8	8	43.1	13	31.1	5	13.9	2	39.4	8	202.7	45
UNEP	0	0	0	0	0	0	0	0	7.0	2	8.2	2	0	0	38.7	6	53.8	10
UNIDO	0	0	0	0	0	0	0	0	38.9	4	35.6	6	13.5	1	3.0	1	91.0	12
WB	26	1	75.0	3	0	0	59.9	3	62.1	6	65.8	5	25	1	0	0	313.8	19
Other	0	0	0	0	0	0	0	0	0	0	2.4	3	57.8	2	22.5	1	82.7	6
Total	40.5	4	85.2	6	14.8	3	95.6	11	151.1	25	143.0	21	110.2	6	103.6	16	744.0	92

Source: GEF Portal, accessed November 2022.

Note: UNDP = United Nations Development Programme; UNEP = United Nations Environment Programme; UNIDO = United Nations Industrial Development Organization; WB = World Bank.

PERFORMANCE OF COMPLETED PROJECTS

Data from the validated terminal evaluation reports for completed GEF projects show that projects in India generally perform well. As of October 2022, terminal evaluations for 49 projects in India have been submitted to the IEO. These projects account for \$331.7 million in GEF grants. Thirty-eight of these projects were implemented nationally, 1 regionally, and 10 globally. Of the rated projects, and excluding unrated projects, 85 percent of national projects have satisfactory outcome ratings (table 3); this is slightly higher than the 79 percent GEF portfolio average for national projects. Sixty-seven percent of completed projects in India are rated in the likely range for sustainability, which is higher than the GEF-wide average of 62 percent for national projects. Cumulatively, 83 percent of completed projects are rated in the satisfactory range for quality of implementation, and 84 percent for quality of execution—which are close to the 80 percent and 81 percent, respectively, for the overall GEF average for national projects. For the 11 completed regional and global projects in which India has participated, the number is too low to draw generic inference about their performance. Moreover, project performance is rated at an aggregate level, and it is difficult to disaggregate performance of a given project within India.

Materialization of cofinancing is high for GEF projects in India. For national projects, the average level of materialized cofinancing is 223 percent of the amount promised at project start; and for 45 percent of projects, at least 90 percent of the promised cofinancing materialized. The average materialized cofinancing in the climate change focal area reaches 307 percent. Notably, the Energy Efficiency Improvements in Commercial Buildings project in GEF-4 (GEF ID 3555, implemented by UNDP) mobilized \$480 million in cofinancing from the government during implementation, which is 30 times the promised cofinancing at project appraisal.

The ratio of realized cofinancing to GEF grant funding for national projects in India is higher than the average for the overall GEF portfolio. The ratio for India is 7.8 to 1 compared to GEF-wide average of 6.6 to 1. As pointed out in the [IEO's 2021 GEF Annual Performance Report](#), countries with large GEF portfolios generally achieve higher materialized cofinancing ratios; India is in the same range as other countries in this group.

Performance highlights: climate change projects

GEF-supported climate change projects have contributed to reduced emissions through

TABLE 3 Performance of and funding for completed GEF projects in India

Characteristic		National	Regional	Global	Total
% of projects with ratings in the satisfactory or likely range	Outcomes	84	0	90	84
	Sustainability	67	0	57	63
	Implementation	82	100	88	84
	Execution	79	100	100	84
	M&E design	75	100	90	79
	M&E implementation	63	100	78	67
GEF grants and cofinancing	GEF grants (million \$)	258.9	12.1	60.6	331.7
	Cofinancing to GEF grant ratio at appraisal	4.3	1.6	1.8	3.7
	Cofinancing to GEF grant ratio at completion	7.8	3.8	1.9	6.4
	% of cofinancing materialized	223	246	115	201
Number of projects		38	1	10	49

Source: GEF IEO terminal evaluation review data set, Annual Performance Review 2021.

Note: M&E = monitoring and evaluation.

engagement with micro, small, and medium enterprises (MSMEs) in India's energy-intensive sectors. Many Indian MSMEs are resource intensive, employing inefficient and outmoded technologies that account for 33–75 percent of the country's total industrial energy consumption. As part of its voluntary climate change targets, the government of India released its [National Action Plan on Climate Change](#) in 2008, which covers developing and promoting energy efficient and renewable energy technologies.

One such GEF-supported initiative is the full-size project **Promoting Energy Efficiency and Renewable Energy in Selected MSME Clusters in India** (GEF ID 3553), begun in 2011 and implemented by UNIDO as part of the Programmatic Framework Project for Energy Efficiency in India (GEF ID 3538, jointly implemented by the World Bank, UNDP, and UNIDO). The project works with more than 300 MSMEs to reduce carbon emissions and improve energy efficiency in 12 clusters in the foundry, dairy, ceramic, hand tools, and brass sectors. Quantitative estimates show that by adopting energy efficient and renewable energy technologies and practices, most enterprises reduce their

carbon emissions—and save money from reduced energy consumption.

MSMEs that have shifted to such technologies and practices reported reduced electricity bills and indirect economic and social benefits such as increased productivity, competitiveness in domestic and international markets, and—in some cases—better environmental conditions in the workplace. However, the adoption of energy efficiency and renewable energy technology and practices depends on the economic benefits to the particular sector and enterprise size, as well as to the individual MSME relative to the cost of investment, the payback period, the volume of production, and specific economic and financial circumstances.

Recommendations included strengthening the GEF's engagement with MSMEs by increasing their access to financing; supporting low-cost, appropriate practices and technologies they can easily use; and facilitating regulatory and administrative reforms required to access resources.

Additionally, partnering with local, established organizations may provide long-term support—increasing the likelihood of global environmental benefits being sustained, mainstreamed, or scaled up.

Performance highlights: biodiversity projects

One of the earliest and most critical GEF-supported projects in India's biodiversity conservation journey is the **World Bank–UNDP India Ecodevelopment project (GEF ID 84)**. It played an important role in biodiversity mainstreaming by demonstrating for the first time the significance of involving local communities and government agencies around protected areas to mainstream conservation and sustainable use activities.

The UNDP-implemented **GEF Coastal and Marine Program** is another biodiversity-relevant GEF-funded intervention; it aimed to demonstrate multisectoral approaches to mainstreaming biodiversity conservation objectives into production sectors in two of India's marine ecoregions. One of its two child projects, **Mainstreaming Coastal and Marine Biodiversity Conservation into Production Sectors in the Malvan Coast, Maharashtra State (GEF ID 3941)**, sought to generate a broader set of experiences for further replication by the government through two initiatives. The first of these focused on energy and agriculture-related private industries; the other targeted agriculture, fisheries, and tourism. The project contributed significantly to positive regulatory measures related to aspects of the fishery sector, such as fishing net dimensions; it had less success adjusting the regulatory framework for the tourism sector. The project did also lead to the establishment of district cross-sectoral committees to facilitate coordination. Further, the lead role assumed by the district administration in project implementation appears

to have helped encourage mainstreaming within productive sectors. A Green Climate Fund grant is now scaling up the project.

The second child project, **Mainstreaming Coastal and Marine Biodiversity Conservation into Production Sectors in the Godavari River Estuary in Andhra Pradesh State (GEF ID 3936)**, addressed barriers and threats to mainstreaming environmental management considerations into major production activities affecting the ecosystem. It focused on the Coringa Wildlife Sanctuary, a vibrant coastal mangrove system affected by fisheries, aquaculture, salt pans, tourism, ports, and manufacturing industries (oil and gas, fertilizers, and cement).

The project made important advances in the support of conservation and capacity development. Biological monitoring activities supported by the project reported the stability of populations of critical species, including marine turtles, smooth-coated otters, and fishing cats; this indicates strengthened protection of the Coringa Wildlife Sanctuary and adjacent areas to which the project has contributed.

The project demonstrated that coastal and marine protected area conservation needs a multisectoral approach. Terrestrial and coastal protected areas are very different, with varying law enforcement challenges between the two—given that the former are fenced and demarcated, and the latter are not and heavily depend on community-level interventions and multistakeholder approaches.

The GEF IEO conducted remote sensing analysis to examine the long-term spatial and temporal patterns of vegetation to assess if its project activities in the Godavari estuary had any impact on the local ecosystem. Results suggest that the vegetation in the project area reached a higher level (+0.04) for 2011–15 compared to the preproject period 2007–09. The vegetation condition for 2015 showed an

improvement over 200, likely due to denser vegetation inside the project site.

Although progress toward the project objective was made, full mainstreaming of biodiversity in the production sector in the East Godavari River Estuarine Ecosystem region would need adoption by a broadly representative body of a landscape management plan that accounts for all significant impacts on biodiversity from production sectors.

Performance highlights: land degradation projects

GEF support in combating land degradation in India has delivered multiple environmental and social benefits. One such example is the Sustainable Land and Ecosystem Management Partnership Program (SLEM-CCP; GEF ID 3268), implemented by the World Bank in 10 states and 1 union territory, focused on improving the productivity of land and ecosystems and alleviating poverty.

Launched in 2009, the \$327.8 million SLEM-CCP consisted of six subprojects. The main objective was sustainable land management through a multipronged and tailored approach to diverse contexts and issues in India. Through participatory and inclusive approaches to decision making,

the program targeted poverty alleviation and agricultural innovation; combating desertification and land degradation; and tackling climate change adaptation issues across ecological zones, including dryland, coastal, and mountainous regions vulnerable to degradation of land, water, and forest resources. For example, in Madhya Pradesh, the program sought to rehabilitate degraded bamboo forests. In Uttarakhand, activities centered on 20 microwatersheds, working with Van Panchayats, a village-level traditional community-based forest management body. In Nagaland, the SLEM-CCP focused on sustainable land and ecosystem management in shifting cultivation for sustainable land productivity.

The program contributed to multiple environmental and socioeconomic benefits, generated dozens of best practices, and enabled further investments for scaling up activities in select states. A key lesson was the role of solid government ownership at multiple administrative levels—local, state, and national—for project success. Another important lesson was that private sector involvement and market transformation are critical for sustaining benefits through scaling-up activities that bring positive impact.

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