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Unit



SECOND PERFORMANCE REVIEW OF THE GREEN CLIMATE FUND

Country case study report

India

March 2023

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GREEN CLIMATE FUND
INDEPENDENT EVALUATION UNIT

Second Performance Review of the Green Climate Fund

INDIA COUNTRY CASE STUDY REPORT

03/2023

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First Edition

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ABBREVIATIONS

AE	Accredited entity
AMA	Accreditation master agreement
APR	Annual performance report
CN	Concept note
CP	Country programme
DAE	Direct access entity
EE	Executing entity
FAA	Funded activity agreement
FMO	Dutch Entrepreneurial Development Bank
FP	Funding proposal
FPR	Forward-looking Performance Review
GAP	Gender action plan
GCF	Green Climate Fund
GDP	Gross domestic product
GGEF	Global Green Economic Foundation
GHG	Greenhouse gas
IAE	International accredited entity
IEU	Independent Evaluation Unit
IFI	International financial institution
IRM	Initial resource mobilization
IRMF	Integrated results management framework
LiFE	Lifestyle for Environment
MoEFCC	Ministry of Environment, Forest and Climate Change
NABARD	National Bank for Agriculture and Rural Development
NAP	National adaptation plan
NAPCC	National Action Plan on Climate Change
NDA	National designated authority
NDC	Nationally determined contribution
NMEEE	National Mission for Enhanced Energy Efficiency
PPF	Project Preparation Facility
PV	photovoltaics
RPSP	Readiness and Preparatory Support Programme
SIDBI	Small Industries Development Bank of India
SPR	Second Performance Review
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States dollar

A. INTRODUCTION

This country case study has been conducted as an input into the Second Performance Review (SPR) of the Green Climate Fund (GCF), as launched by the Board of the GCF through decision B.BM-2021/11. The SPR is being conducted by the GCF's Independent Evaluation Unit (IEU). The SPR focuses on assessing the progress made by the GCF in delivering on its mandate, as well as the results of the GCF, including its funded activities and its effectiveness and efficiency. The SPR is informed by multiple data sources and methods, including country case studies.

The mission was conducted over the period of 28 June to 5 July 2022. The evaluation team consisted of Mr. Matthew Savage (ICF), Mr. Rishabh Moudgill (GCF IEU) and Mr. Nandi Nabaraj (ICF). The mission incorporated visits to New Delhi, Mumbai and Bhubaneswar (Odisha), as well as site visits to projects in Sambalpur, Odisha, and Raigad district.

B. BACKGROUND AND CONTEXT

This section presents background information for understanding India's experience with the GCF. The information covers the broader country (Table 1) and climate finance contexts.

1. COUNTRY CONTEXT

Table 1. Overview of India country context

CATEGORY	COUNTRY
Demographics	<ul style="list-style-type: none"> Total population is 1.406 billion, with 64 per cent in rural areas and 36 per cent in urban areas (Kanwal, 2020; United Nations Population Fund, 2022; World Bank, 2021b). Approximately 4 per cent of India's population lives in extreme poverty (World Data Lab, 2022). India is the second most populated country in the world after China (United Nations Population Fund, 2022).
GCF group status	<ul style="list-style-type: none"> N/A (Green Climate Fund, 2022).
Governance conditions	<ul style="list-style-type: none"> As evaluated on six World Bank governance indicators (2020), India ranks above the median for Government Effectiveness (67th percentile), Rule of Law (54th percentile) and Voice and Accountability (53rd percentile), and just below the median for Regulatory Quality (48th percentile) and Control of Corruption (47th percentile). India ranks lowest for Political Stability and Absence of Violence/Terrorism (17th percentile) (World Bank, 2022c). Fragile and conflict-affected state status: N/A (World Bank, 2022b). Governance: India is a sovereign socialist secular democratic republic. It has a parliamentary form of government that is federal in structure with unitary features. There is a Council of Ministers, with the Prime Minister as its head, that advises the President, who is the constitutional Head of State. India's states also have councils of ministers headed by chief ministers, which advise the governors (India, 2022).
Economic and development conditions	<ul style="list-style-type: none"> Development status: Lower-middle-income country (World Bank, 2022a). Important economic sectors: The services sector accounts for 54 per cent of total national gross domestic product (GDP), the industry sector accounts for 26 per cent of total national GDP and the agriculture sector accounts for 20 per cent of total national GDP (Statistics Times, 2021). India has capitalized on its large,

CATEGORY	COUNTRY
	<p>educated English-speaking population to become a major exporter of information technology services, business outsourcing services and software workers (Central Intelligence Agency, 2022).</p> <ul style="list-style-type: none"> • Outlook: COVID-19 reversed both economic growth and poverty reduction. Almost all sectors have been negatively impacted as domestic demand and exports have sharply decreased since the pandemic. India's GDP shrank by 7.3 per cent in the April–June quarter of 2021 (Mangla, 2021). India's nominal GDP at current prices was estimated to be USD 3.12 trillion in FY2022. India previously set a target of becoming a USD 5 trillion economy by FY2025, but progress towards that target has been impacted by COVID-19. The International Monetary Fund estimates that India will reach this target by FY2027 (Deccan Herald Web Desk, 2022).
Access to finance	<ul style="list-style-type: none"> • India has a private sector led development model, principally driven by the rapid expansion of high-end knowledge-intensive sectors (IT, biotech, business/knowledge process outsourcing, and other similar services) (Ray, 2016). It promotes private sector led investment. In September 2021, India moved up two spots to 46th in the Global Innovation Index 2021 due to successful advancements in services that are technologically dynamic and can be traded internationally. The services sector is a key driver of India's economic growth. Strong overseas demand and new export business opportunities are expected to boost total sales in the country (India Brand Equity Foundation, 2022). • The central government debt-to-GDP ratio was 70.60 per cent in 2010 and rose to 73.95 per cent in 2020 (Reserve Bank of India, 2021). • World Bank Ease of Doing Business Index: India ranks around the median for developing countries, at 62 out of 190 countries (World Bank, 2021a).

2. CLIMATE CHANGE PRIORITIES, POLICIES AND INSTITUTIONS

a. Climate vulnerability

India is among the countries most vulnerable to climate change. According to Germanwatch's *Global Climate Risk Index 2021*, it ranked seventh out of 181 countries, implying an extremely high exposure and vulnerability to climate risks (Eckstein, Künzel and Schäfer, 2021). Notably, extended monsoons, tropical cyclones and heat waves have killed people in the country (Eckstein, Künzel and Schäfer, 2021). The year 2019 was the seventh warmest year on record in India (since 1901), with an annual mean surface air temperature 0.36°C above the 1981–2010 average. India's 8,000 km coastline is characterized by flat coastal terrain, a shallow continental shelf, high population density, particular geographical location and specific physiographic features that, combined, make it vulnerable to cyclones and associated hazards (India, Ministry of Environment, Forest and Climate Change, 2021).

b. National climate change and related policies

India's climate change policies and strategies are summarized in Table 2, including its nationally determined contribution (NDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC). These policies identify the following climate-related priorities for India:

- **A clean and efficient energy system** must be developed to cater to the energy demand of citizens while ensuring minimum growth in carbon emissions. On the generation side, the Government of India is promoting greater use of renewables in the energy mix, mainly through solar and wind power, and shifting towards supercritical technologies for coal-based power plants. On the demand side, efforts are being made to efficiently use energy through various innovative policy measures under the overall ambit of the Energy Conservation Act. The

National Mission for Enhanced Energy Efficiency (NMEEE) aims to strengthen the market for energy efficiency by creating a conducive regulatory and policy regime. It seeks to upscale the efforts to unlock the market for energy efficiency, help achieve total avoided capacity addition of 19,598 MW and make fuel savings of around 23 million tons per year at its full implementation stage.

- **Reduce energy consumption** by performing, achieving, trading scheme established by NMEEE as a regulatory instrument in energy intensive industries. It includes an associated market-based mechanism to enhance cost-effectiveness through the certification of excess energy savings, which can be traded.
- **The transformation and rejuvenation of urban areas** is being addressed through schemes such as the Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation and National Heritage City Development and Augmentation Yojana.

Table 2. India national climate change policies and strategies

STRATEGY	STATUS	BRIEF DESCRIPTION
National climate change policy (2008)	Enacted	<p>India's National Action Plan on Climate Change (NAPCC) was released in 2008. It outlines a national strategy that aims to enable India to adapt to climate change and enhance the ecological sustainability of its development path. It stresses that maintaining a high growth rate is essential for increasing the living standards of the vast majority of people in India and reducing their vulnerability to the impacts of climate change. There are eight missions under NAPCC (India, Press Information Bureau, 2021):</p> <ol style="list-style-type: none"> 1) National Solar Mission 2) National Mission for Enhanced Energy Efficiency 3) National Mission on Sustainable Habitat 4) National Water Mission 5) National Mission for Sustaining the Himalayan Ecosystem 6) National Mission for a Green India 7) National Mission for Sustainable Agriculture 8) National Mission on Strategic Knowledge for Climate Change
NDC (2015)	Submitted	<ul style="list-style-type: none"> • India aims to reduce emissions intensity by 33–35 per cent between 2005 and 2030, by focusing on increasing the use of clean and renewable energy by 40 per cent by 2030 while promoting the efficient use of energy. To do this, India is running one of the largest renewable capacity expansion programmes in the world. The efforts include establishing solar parks and power projects, anchoring a global solar alliance; creating Green Energy Corridors to increase energy generation from renewable energy plants; and implementing the National Smart Grid Mission along with new programmes for increasing energy capacity from wind and waste conversion. • The Ministry of Power, through the Bureau of Energy Efficiency, has initiated several energy efficiency initiatives. One of these is the NMEEE, which aims to strengthen the market for energy efficiency by creating a conducive regulatory and policy regime. • For developing climate-resilient urban centres, the Government of India has launched a number of schemes for the transformation and rejuvenation of urban areas, including the Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation and National Heritage City Development and Augmentation Yojana. • As it endeavours towards a low-carbon economy, India is focusing on low-carbon infrastructure and public transport systems – such as

STRATEGY	STATUS	BRIEF DESCRIPTION
		dedicated freight corridors and energy-efficient railways – to reduce their environmental impact. <ul style="list-style-type: none"> By 2030, India also intends to increase carbon sinks by creating additional capacity equivalent to 2.5–3 billion tons of CO₂ through significant afforestation efforts. As per the latest assessment, forest and tree cover has increased from 23.4 per cent of the geographical area in 2005 to 24 per cent in 2013. The Government of India’s long-term goal is to bring 33 per cent of its geographical area under forest cover eventually.
National adaptation plan (NAP)	Not developed	India does not have a NAP, although a National Adaptation Fund for Climate Change was established in August 2015 to meet the cost of adaptation to climate change for the states and union territories of India that are particularly vulnerable to the adverse effects of climate change (National Bank for Agricultural and Rural Development, n.d.).
Adaptation communication	Not developed	India does not have an adaptation communication.
Long-term strategy	Not developed	India does not have a long-term strategy.
Others as relevant		During COP 27, aligning with the theme of LiFE (Lifestyle for Environment), which was launched by Prime Minister Narendra Modi at COP 26, the Union Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav, emphasized the significance of and need to adopt sustainable and eco-friendly lifestyles. “Showcasing the sustainable practices adopted by Indian civilization for centuries, it underlined cohesive living- an integration of traditional knowledge values and practices in our daily life, which is in harmony with nature” (India Science Wire, 2022).

c. Institutional roles and responsibilities for climate change

The Ministry of Environment, Forest and Climate Change (MoEFCC) is the nodal agency for the climate change portfolio in India. The Government of India has created an Advisory Council on Climate Change, chaired by the Prime Minister, to effectively challenge climate change. It sets out broad directions for national actions with respect to climate change, such as to develop a coordinated national response to climate change issues; to provide oversight for the formulation of action plans in the areas of assessment of, adaptation to and mitigation of climate change; and to periodically monitor key policy decisions. It also advises on matters relating to international negotiations, including bilateral and multilateral programmes for collaboration, research and development.

The Council on Climate Change is supported by two teams. One is the core negotiating team, which includes different ministries: MoEFCC; Ministry for Water Resources, River Development and Ganga Rejuvenation; Ministry for Agriculture; Ministry for Urban Development; Ministry for Science and Technology; Ministries of State (Power, Coal, New and Renewable Energy); Ministry for External Affairs; and Ministry of Finance. The other team has a research agenda and includes the Ministry of Science & Technology and certain units of other ministries (India, Prime Minister’s Council on Climate Change, 2008).

India’s Second National Communication identifies key constraints, gaps and related financial and technical and capacity needs. Gaps include a lack of funding for technology transfer of vulnerability reducing technologies; the integration of diverse scientific assessments and linking them with policymaking; the institutionalization of a multidisciplinary, integrated assessment approach to

combine, interpret and communicate knowledge from diverse scientific disciplines; and institutional networking efforts within the scientific and policymaking establishments (India, Ministry of Environment and Forests, 2012). To build capacities at the state level for implementing policy measures, state and union territory government departments should participate in climate change activities. These measures may include reducing the vulnerability of various sectors and communities, adaptation, energy efficiency improvements, and disseminating and promoting climate-friendly technologies and initiatives. Lastly, technology research and development, technology transfer and technology diffusion in the country also need special attention (India, Ministry of Environment and Forests, 2012).

3. CLIMATE FINANCE CONTEXT

a. Support for readiness

In 2019, India had an ND-GAIN readiness score of 0.363, making it the 121st most ready country for utilizing climate finance.” (University of Notre Dame, 2022).¹

b. Climate investment

Development finance to India that targeted climate change totalled USD 18.8 billion from 2016 to 2019 (Stockholm Environment Institute, 2022). GCF finance in India totalled USD 528.9 million for this period.

Adaptation. Development finance commitments to India targeting climate adaptation totalled USD 5.99 billion from 2016 to 2019. A recent climate fund project (commencing in 2019) includes building adaptive capacities of communities, livelihoods and ecological security in the Kanha-Pench Corridor of Madhya Pradesh (via the Adaptation Fund). Another project implements climate-smart actions and strategies in the north-western Himalayan region for sustainable livelihoods of agriculture-dependent hill communities (also via the Adaptation Fund) (Stockholm Environment Institute, 2022). Table 3 describes these and other adaptation investments in India.

¹ The ND-GAIN Country Index summarizes a country’s vulnerability to climate change and its readiness to improve resilience. It aims to help governments, businesses and communities better prioritize investments to respond to global challenges.

Table 3. Top donors, sectors and instruments for adaptation investments in India (2016–2019)

TOP DONORS		TOP SECTORS		TOP INSTRUMENTS	
Name	USD (M)	Name	Share (%)	Name	Share (%)
International Bank for Reconstruction and Development	2,340	Transport & storage	38.6	Multilateral development bank loans	86.4
Asian Infrastructure Investment Bank	1,390	Agriculture, forestry, fishing	26.4	Official development assistance loans	11.2
Asian Development Bank	1,040	Water supply & sanitation	14	Official development assistance grants	2.3
Germany	670	Other multi-sector / cross-cutting	12.3	Private development finance	0.15
International Development Association	405	Disaster prevention & preparedness	4.1	Multilateral development bank grants	< 0.001

Source: Stockholm Environment Institute (2022). Aid Atlas.

Mitigation. Development finance commitments to India targeting climate mitigation totalled USD 13.7 billion from 2016 to 2019. Recent projects include power generation and grid efficiency improvements in Bengaluru, Bengal and Tripura; rooftop- and utility-scale solar power investments; and support for the Delhi–Meerut Regional Rapid Transit System (Asian Development Bank, 2022). Other past projects include mapping audience perception and opportunities on clean air; Ipriorities for advancing research on the health effects of air pollution in India; analysis needed to identify steps towards making India compatible with the 1.5°C global warming target; electricity market reform in India; and India power sector reform (Stockholm Environment Institute, 2022). Table 4 describes these and other mitigation investments in India.

Table 4. Top donors, sectors and instruments for mitigation investments in India (2016–2019)

TOP DEVELOPMENT PARTNERS		TOP SECTORS		TOP INSTRUMENTS	
Name	USD (M)	Name	Share (%)	Name	Share (%)
Germany	3,100	Energy	47.1	Multilateral development bank loans	63.3
Asian Development Bank	2,710	Transport & storage	40.1	Official development assistance loans	32.6
International Bank for Reconstruction and Development	2,540	Water supply & sanitation	3.5	Official development assistance grants	2.5
European Investment Bank	2,200	Unallocated/ unspecified	2.9	Private development finance	1.1
Asian Infrastructure Investment Bank	1,220	Banking & financial services	2	Equity investment	0.4

Source: Stockholm Environment Institute (2022). Aid Atlas.

c. GCF portfolio

National designated authority (NDA). The NDA in India is located in the MoEFCC.

Accredited entities (AEs). In addition to international accredited entities (IAEs) and direct access entities (DAEs), India has access to five national DAEs, as shown in Table 5.

Table 5. National DAEs for India

NAME OF DAE	DATE OF ACCREDITATION
Yes Bank Limited (Yes Bank)	14 November 2019
IL&FS Environmental Infrastructure and Services Limited (IL&FS)	14 November 2019
IDFC Bank Ltd (IDFC Bank)	20 October 2018
National Bank for Agriculture and Rural Development (NABARD)	27 July 2017
Small Industries Development Bank of India (SIDBI)	6 July 2017

Readiness and project preparation. India has received less readiness support from the GCF than the average amount other Asia-Pacific countries have received.² India has received two Readiness and Preparatory Support Programme (RPSP) grants (see Table 6), approved for a total of USD 0.6 million, all of which has been disbursed. India nonetheless has a well-established climate policy and institutional framework, a core structure of projects and a pipeline targeting paradigm shift which are either in the pipeline or under implementation.

India developed a GCF country programme (CP) in 2018 as part of the readiness grant “NDA strengthening and country programming”. Until early 2022, India had not received support from the Project Preparation Facility (PPF). However, it is understood that PPF applications are now being prepared.

Table 6. RPSP grants to India

RPSP GRANT NAME	DELIVERY PARTNER	APPROVAL DATE	OUTCOME AREAS
India – NDA Strengthening + Country Programming	UNDP	29 December 2015	NDA strengthening, including country programming
India – Green Climate Fund Readiness and Preparatory Support – II	UNDP	24 December 2019	Support for DAEs
India – Green Climate Fund Readiness Preparatory Support Phase III	UNDP	2 December 2022	Support in implementing the third phase of the project and addressing limitations of phases I and II
Readiness Support for the Implementation of the IRMF for Small Industries Development Bank of India (SIDBI)	SIDBI	22 November 2022	Build SIDBI’s capacities in a manner that is fully consistent with the Integrated Results Management Framework

Source: IEU DataLab

² On average, Asia-Pacific countries have received USD 0.7 million in GCF readiness financing. Source: IEU DataLab, RPSP grants approved for 2015 to 2022.

Funding proposals (FPs). India has received more GCF financing than other Asia-Pacific countries have received, on average.³ There are currently four national projects under implementation (see Table 7), for a total of USD 315 million in GCF financing. Furthermore, a fifth national programme, on e-mobility (FP186), was approved at B.32, and two multi-country programmes (Climate Investor Two (FP190) and the Green Guarantee Company (FP197)) were approved at B.33 and B.34, respectively.

India's pipeline includes seven concept notes (CNs) and three FPs.

Table 7. India's funded activity portfolio

FP	NAME	SINGLE/ MULTI- COUNTRY	PUBLIC/ PRIVATE	FOCUS	AE	APPROVAL DATE
FP045	Ground Water Recharge and Solar Micro Irrigation to Ensure Food Security and Enhance Resilience in Vulnerable Tribal Areas of Odisha	S	Public	Adaptation	NABARD	6 April 2017
FP081	Line of Credit for Solar rooftop segment for commercial, industrial and residential housing sectors	S	Private	Mitigation	NABARD	1 March 2018
FP084	Enhancing climate resilience of India's coastal communities	S	Public	Cross-cutting	UNDP	20 October 2018
FP164	Green Growth Equity Fund	S	Private	Mitigation	Dutch Entrepreneurial Development Bank (FMO)	19 March 2021

Source: IEU DataLab

C. KEY FINDINGS

1. COUNTRY NEEDS, OWNERSHIP AND STRATEGY

a. Links of GCF programming to broader climate strategy and finance processes

Currently, GCF programming is substantially linked to broader climate strategy and finance processes in India. India has strong policy and regulatory frameworks for both mitigation and adaptation, into which GCF funds are programmed. The NDA also acts more broadly as a liaison with climate finance partners and engages on a wide range of policy and international commitments, thereby supporting GCF policy integration as well as climate finance alignment (complementarity).

³ On average, Asia-Pacific countries have received USD 104.3 million in GCF financing. Source: IEU DataLab, finance by result area for 2015 to 2022.

The current GCF portfolio and pipeline are well aligned with core Indian climate objectives and targets set in the NDC, NAPCC and associated sector strategies. All proposals support the broader policy framework, as in the following examples:

- **FP045 (Ground Water Recharge and Solar Micro Irrigation to Ensure Food Security and Enhance Resilience in Vulnerable Tribal Areas of Odisha)** is improving the use of solar pumps, as promoted under the National Solar Mission. It also aligns with the National Mission on Sustainable Agriculture, National Initiative on Climate Resilient Agriculture, National Water Mission (particularly conservation and management of groundwater recharge) and Water Mission under the NAPCC and is listed as a key priority under the relevant State Action Plan on Climate Change.
- **FP081 (Line of Credit for Solar rooftop segment for commercial, industrial and residential housing sectors)** is mobilizing more than USD 250 million of capital for solar photovoltaics (PV) to support the delivery of the 2022 target of 40 GW of rooftop solar under the National Solar Mission.
- **FP084 (Enhancing climate resilience of India's coastal communities)** is developing models for integrated climate protection in three states that can inform and be scaled as part of national adaptation and resilience planning. Coastal resilience is a core policy priority given the threat of flooding and storm damage. The programme is directly aligned with priorities outlined in India's NAPCC, the state action plans on climate change and the commitments outlined in India's NDC (2015).
- **FP164 (Green Growth Equity Fund)** is seeking to mobilize more than USD 1 billion of capital for mitigation-related sectors and renewables to support national decarbonization pathways and private sector engagement. The programme is well aligned with India's NDCs and NAPCC as well as various policy and regulatory incentives.

The scale of funds required by a country the size of India means that the GCF is a relatively small contributor to meeting the overall investment needs associated with NDC implementation. The Government of India provides significant budgetary support for delivery of the NDC and other climate strategies.

There was an element of GCF country planning under the first RPSP grant (2016–2019). This sought to help prioritize opportunities under the GCF but was not a comprehensive effort to match GCF funds to NDC implementation for reasons set out in the paragraph above.

The GCF Secretariat has played primarily a reactive yet helpful role in India with respect to the upstream programming process and aligning GCF partners and programmes with national and/or country strategy objectives.

The portfolio and pipeline are developed primarily by DAEs and IAEs in conjunction with the NDA. The GCF is seen as primarily a national fund directed by the Government of India. There is limited consideration of GCF strategy or priorities beyond its broad mitigation and adaptation split. RPSP support through UNDP has been instrumental in providing capacity for the NDA. However, the Secretariat has been less engaged from a strategic planning perspective. The Secretariat is nonetheless seen as helpful, with strong relationships between the NDA and the regional teams, even if processes for access and accreditation are considered more bureaucratic and the operational teams during implementation have less local knowledge.

India's GCF portfolio shows some evidence of complementarity with other climate finance channels.

There is some level of evidence that the Indian portfolio is well aligned with and complementary to broader climate finance activities. Most projects build upon earlier efforts and complement other

ongoing initiatives, and there is some blending of GCF funds with other sources of domestic and international climate finance, as in the following examples:

- **FP045**, formulated by the Department of Water Resources under the Government of Odisha, builds on previous climate and water management interventions implemented at the state level, including the Odisha Integrated Irrigated Agriculture and Water Management Programme (via the Asian Development Bank), Odisha Community Tank Management Programme (via the World Bank) and Integrated Coastal Zone Management Programme (also via the World Bank). It also builds on support from the Japan International Cooperation Agency. It includes a World Bank co-finance loan component of USD 7 million to improve 600 tanks.
- **FP081** does not directly benefit from other climate co-finance or build directly on previous interventions. However, the project aligns strongly with national government priorities (e.g. under the National Solar Mission) and benefits from strategic investment by the International Finance Corporation in the executing entity (EE), Tata Cleantech Capital.
- **FP084** receives public sector co-financing from three states (USD 60 million) as well as from MoEFCC (USD 20 million). In Odisha, co-finance from the Adaptation Fund through NABARD will be used for riverbank protection and creek renovation. It is closely aligned with and complementary to other relevant projects, including the World Bank-financed Integrated Coastal Zone Management Project (with a lower focus on climate risk) and Asian Development Bank-funded Sustainable Coastal Protection and Management Investment Programme (focusing primarily on hard infrastructure), as well as a range of other projects implemented by NABARD, UNDP and others.
- **FP164** is financed by a blending fund between the UK International Climate Fund and other public and private capital. It builds upon existing climate finance support from the Government of the United Kingdom (USD 155 million through its International Climate Fund) as well as from the Government of India (USD 155 million through the National Infrastructure Investment Fund). Additional private funds have been mobilized through Eversource Capital as well as from BP. There is an expectation that GCF capital will support the mobilization of up to an additional USD 950 million.

b. Perceived comparative advantage of the GCF in country

Compared to other climate finance channels, stakeholders in India report that the comparative advantages of the GCF are its scale, country-led focus, concessionality and support for capacity-building activities.

The GCF is seen by stakeholders in India as an important structure in the international climate finance architecture because it is the only instrument designed to be demand-led and that can be directed by national governments (primarily through the NDA and in response to NDC priorities). Its status as a financial instrument of the UNFCCC therefore provides it with a level of credibility and authority that differs from many other sources of climate funds. Stakeholders also noted the scale of the GCF, as well as the concessionality and flexibility of its funding instruments.

The areas where the GCF is perceived as less well positioned in India are the complexity of the accreditation and access processes (particularly for DAEs), the scale of funds available relative to the size of the country and a lack of local presence.

In terms of disadvantages or weaker positioning, the most important is the bureaucracy and resource demands associated with GCF accreditation and access. All stakeholders noted the challenges in engaging with GCF processes, and some contrasted this with less resource-intensive and more streamlined processes among other funders. The lack of flexibility in GCF processes was also identified as a challenge (particularly in implementation and in terms of restructuring projects post-

approval, which increased after the onset of the COVID-19 pandemic). Despite the relatively large scale of funding on offer, some noted that GCF funds remained relatively small in relation to India's overall climate finance needs and would only therefore be contributory rather than catalytic from an NDA perspective. Finally, the lack of visibility of GCF stakeholders in country was also noted, although the NDA and AEs noted good remote working relationships with the Secretariat project and regional teams.

c. Effectiveness of NDA, Secretariat and AE roles and relationship at the country level

NDA staffing and technical capacity in India has improved since the initial resource mobilization (IRM) period; overall capacity is strong. India has developed an increased focus on climate policy and targets over the IRM period. Given the higher levels of political commitment, there has been greater focus on climate finance mobilization. The current NDA has been in post for a relatively short period of time, coordinating across a broader set of climate finance and donor relationships and trying to match contributions to national priorities. Several stakeholders noted that the NDA has become more active over the GCF-1 period, including increasing engagement with AEs and project teams on pipeline development and implementation. However, resourcing remains an issue, with the NDA facing significant demands that reflect India's size and status as a major international power. While the quality of staff is rated as good, the demands placed on the team mean that capacity can be considered stretched, particularly when dealing with an increasing number of AEs and a growing portfolio of projects under implementation.

The NDA's working relationship with the Secretariat has improved since the IRM period.

While India was well positioned for early GCF access due to Board membership, the NDA has taken a more active approach to coordination throughout GCF-1. The relationship between the NDA and the Secretariat is seen as strong, with regular engagement with the regional team and discussions around progress on funding applications and opportunities. However, the NDA has limited capacity to manage relationships between DAEs and the Secretariat, so these are left broadly to the relevant DAE (particularly those from the private sector).

AEs engage regularly with the NDA. Both the NDA and AEs report regular contact and engagement with regard to accreditation, FP development and implementation oversight. Private sector DAEs are encouraged to contact the GCF directly rather than work through the NDA as an intermediary, although NDA-facilitated engagement with state-owned DAEs is more consistent. Engagement has improved over GCF-1 as the NDA becomes more active. There is regular feedback on project progress, and the NDA will often become engaged when there are structural implementation issues (e.g. in FP084 where a different institutional modality was required for project execution). Given the complex institutional landscape of government and the often bureaucratic, slow nature of decision-making in the Indian context, the NDA is often called upon to encourage and unlock action by national counterparts (e.g. around approvals, progress and funding release) where the AE or EE may have little leverage or influence.

Figure 1. Mangrove plantation in Alibaug, Raigadh district of Maharashtra, India (FP084)



Photo credit: Rishabh Moudgill

2. IMPROVING ACCESS TO THE GCF

a. Access to AEs that cover country programming priorities for the GCF

India currently has access to five national DAEs that cover a range of programming priorities for the GCF alongside a range of IAEs that bring significant programmatic capacity. The major gaps are in the accreditation of more DAEs that will allow not only India to scale domestic access to the GCF in line with its increased ambition around climate finance, but will also increase the number of DAEs that can deliver on adaptation where there is a lack of high-capacity domestic institutions (apart from NABARD).

India initially sought to accredit multiple DAEs as the main focus of its GCF access strategy, prioritizing these over IAEs. There have been high-level attempts to align the profile of DAEs with the country's climate priorities, and the NDA has facilitated introductions to the GCF for potential national DAEs (particularly in terms of private sector finance). Two DAEs were able to get full accreditation, while three more are accredited but have yet to fully execute their accreditation master agreements (AMAs). Capacity issues and process bureaucracy have complicated the process of achieving both accreditation and access for DAEs. As a result, the Indian strategy was forced to pivot towards higher-capacity IAEs (e.g. UNDP) as a temporary stopgap while DAE capacity-building and strengthening proceeded. More recently, another IAE has received approval for a national e-mobility financing mechanism. Going forward, the NDA hopes to help expand the number of national DAEs and their access to the GCF.

There are a number of private sector-oriented DAEs (primarily banks and financial institutions) either fully accredited or in the process of accreditation that can support mitigation-focused efforts around market building for renewable energy, energy efficiency and other emerging sectors such as transport. However, there is a deficit of high-capacity national institutions who can act as counterparts for larger adaptation-type programmes.

b. Meeting DAEs' needs for capacity-building to access the GCF

In India, national DAEs' needs for capacity-building to access the GCF are being partially met through GCF support.

The Indian NDA is clear that they would like to have more DAEs and to improve their capacity to access the GCF (reflecting the ambition of the country to focus on national access and supported by increasing political ambition around climate change). However, of the current five DAEs, only two have signed an AMA and only one (NABARD) has successfully accessed project funding (with two FPs). The NDA feels that DAEs have struggled to navigate GCF processes for both accreditation and FP development.

Some DAEs are high-capacity institutions with a long institutional track record and experience working with international funding mechanisms. NABARD is one such example. However, others including SIDBI⁴ and private sector DAEs are much younger institutions or have much more limited experience of navigating donor funding processes and requirements. They have consequently struggled in terms of their capacity to engage with the GCF for the purposes of both accreditation and access.

For example, one private sector DAE discussed how the accreditation process had taken more than four years, with multiple rounds of comments and challenges in updating information as market and institutional realities changed over such long timescales. Another DAE experienced similar

⁴ The state-owned bank and coordination platform for micro-, small- and medium-sized enterprises.

challenges, with significant institutional changes in strategy and ownership during the long accreditation process. Both reported ongoing efforts to get the AMA signed. A third DAE complained that there seemed to be very weak local knowledge among the accreditation team, with many poorly framed and unnecessary questions, feedback that was too generic and a three-month communication cycle.

There are concerns within the NDA that the negative experiences of DAEs in terms of both accreditation and access may create disincentives to proceed with FPs. The NDA is advising DAEs to follow the process to access PPF funds and consultancy support (noting that this process in itself takes time) to ensure that their chances of engagement are higher. Capacity development support from the NDA for DAEs is relatively limited and there are few other options available.

For example, the Global Green Economic Foundation (GGEF) (through its fund manager, Eversource Capital) decided to approach the GCF through FMO rather than directly. FMO already had experience accessing the GCF for a private sector fund model – Climate Investor One – which GGEF thought would be useful, and the accreditation process was of limited use to GGEF, which was in the process of fundraising. There were considerable challenges in achieving approval, necessitating the head of the GCF’s Private Sector Facility to engage directly to help align expectations. There were three different GCF teams engaged during the FP process due to high staff turnover. The NDA was also resistant to having a non-Indian AE, but eventually accepted FMO to expedite the process.

3. PROGRAMMING AND IMPLEMENTATION

a. Meeting country programming needs through GCF readiness support

India has in some ways engaged with the GCF’s RPSF and/or ad hoc support for country readiness.

Readiness support to India has been through two packages of support to the NDA and associated stakeholders. Between 2016 and 2019, UNDP focused on support at the national level to (i) strengthen institutional capacity for the NDA to fulfil its role and (ii) develop the CP document. The capacity of key stakeholders was built through regional workshops. However, it became clear that state governments and subnational actors (including the private sector) required further support to align with GCF funding opportunities. The second-phase RPSF grant further built the capacity of DAEs and state governments to develop FPs and supported engagement with the private sector (businesses and financial institutions). Currently, the NDA is formulating a third package of support. AEs have had limited access to the RPSF.

The ideas for RPSF grant requests are primarily being driven by the NDA. India’s NDA needs appear to be adequately met through GCF and other resources, however some capacity needs remain unmet.

The NDA reports that the GCF is providing sufficient funds for the development of the NDA planning capacity. Despite the size and high levels of capacity within Indian state institutions, grant-type resources for expertise and planning support remain scarce, particularly relative to the scale of obligations that India is responsible for within international climate policy.

RPSF support to date has been limited to national planning and programming and awareness-raising needs for the NDA. Other stakeholders have not benefited from RPSF funding (beyond indirectly engaging through NDA-organized stakeholder workshops and awareness-raising activities). As a key emerging economy with large emissions and adaptation deficits, India is well supported by climate finance activity from both donors and international financial institutions (IFIs).

Examples of top reasons for not engaging with the GCF further include the narrow focus by the NDA on its own priorities, concern over the bureaucracy of GCF application processes, and a lack of capacity among DAEs to meet GCF requirements.

Generally, from the NDA perspective the RPSP has been predictable and structured over each GCF period. It has been supplemented by ongoing and ad hoc support from the regional desks. The NDA manages and centralizes RPSP activity and has focused efforts on delivering packages of assistance for central strategy development, rather than for individual DAEs. The NDA indicated that it was encouraging DAEs to engage directly with the GCF, but experiences with accreditation had led to perceptions that RPSP processes might be as long and complicated as those for FPs. For example, SIDBI had been instructed by the NDA to work with the GCF to access readiness (via the PPF) as part of its proposal development. Some DAEs appeared to lack a strong understanding of GCF processes and expectations around quality.

b. Effectiveness of funding proposal origination, development and appraisal in meeting the country's needs

The Indian NDA works with IAEs and DAEs to jointly identify and promote concepts and FPs that might potentially be supported by the GCF. While there were some early successes in FP development and approval, the number of concepts and FPs during the IRM remained low relative to what might have been expected of a country of India's size and capacity. Stakeholder experience with the CN development process is that it is relatively slow and that the timing and efficiency of concept development and submission might be improved. It is worth mentioning that out of the five national DAEs, three (Yes Bank, IDFC Bank and IL&FS) have produced few proposals due to internal restructuring issues and economic externalities hindering their operations.

More recently, there has been a concerted push to increase the number of CNs and FPs. For example, NABARD now has an additional five CNs alongside its two projects under implementation. DAEs operate somewhat independently of the NDA, but there are varying levels of coordination (depending on whether they are public or private). The NDA and the DAEs then work together to try to facilitate access.

Of the several DAEs now accredited, some of the private sector institutions are only just turning to developing ideas for their FPs. These ideas consist mostly of financing facilities for mitigation-oriented technology solutions (renewables, electric and clean mobility) and are aligned with the NDC but do not appear to be part of a coherent delivery plan developed in conjunction with the NDA. Rather, they reflect market opportunities. For the publicly owned institutions (e.g. SIDBI), the level of engagement with the NDA is more structured around priority NDC areas.

Examples of top reasons for not submitting more FPs to the GCF include the complexity of GCF processes, a lack of capacity within DAEs to develop FPs proposals and an only recently increased focus on scaling climate finance at the highest political level. Over the last two years, India has significantly increased its political focus on increasing ambition and scaling domestic climate action. As part of this, it has developed a renewed focus on ensuring that sufficient concessional resources are available for domestic institutions to deliver on climate policy and targets. The focus on both the RPSP and FPs during the IRM was more limited than might be expected for a country of India's size and importance, but this has changed during GCF-1.

Nonetheless, it was noted that challenges remain in terms of the complexity and bureaucracy of processes associated with accessing GCF funding, particularly given India's desire to see climate finance flow predominantly through domestic institutions and DAEs.

India is only rarely seeking PPF support for FP development. To date, India has not received support through the PPF for FP development, but it was indicated that DAEs (e.g. SIDBI) would be

encouraged to apply for this, recognizing the challenges that they have faced from a capacity perspective in preparing proposals to meet GCF expectations. A lack of familiarity with available PPF support and complex application processes may have discouraged greater use.

Currently, stakeholders find the submission through appraisal process cumbersome but possible. Generally, all stakeholders have experienced the appraisal process to be cumbersome and slow. Challenges appeared to be that comments received from the Secretariat were often left until the last moment and were sometimes contradictory and that the same information would be requested by different teams, indicating an uncoordinated appraisal process within the GCF.

The country stakeholders' feedback on the approval to funded activity agreement (FAA) stage under GCF-1 is that it is about the same as previous experiences. Stakeholders indicated that in their view the FAA process remained relatively bureaucratic and slow.

c. Sufficiency of funded activity implementation and supervision processes

The GCF has had limited engagement with DAEs during implementation to identify and manage risks and results. Currently, there is only one DAE (NABARD) managing projects under implementation, of which one has been significantly delayed. It reported no issues with GCF supervision processes and has had limited overall engagement on risk. Results reporting processes were seen as relatively straightforward. IAEs, however, raised questions over the efficiency of the reporting process – particularly regarding the timing of feedback and the annual performance report (APR) process, which reduced their utility.

One EE team indicated that there were issues around the suitability of certain interventions and a need to change the geographic scope. However, a request for changes was not being formally tabled to the Secretariat because it was considered that this process was too difficult and that it was time-consuming to get Board approval. Instead, a decision had been made to leave any requests for changes until the midterm review, when it was assumed, it would be procedurally easier to refine and redraw the boundaries of the project and results framework.

An IAE implementation team at the local level noted that other international donors would undertake supervision visits on an annual basis, but that they had not seen any GCF supervision since project inception. There was some surprise expressed at the lack of oversight and project engagement by the Secretariat and the level of self-reporting by the AEs and the NDA.

The GCF has supported adaptive management where this has addressed roadblocks for project implementation (e.g. around the use of UNDP for project management, rather than state governments, in FP084).

The NABARD has processes for regular, structured supervision of its GCF projects that could be comparable to those in public international entities.

There is only one DAE that operates two projects: NABARD. As a relatively mature public institution with experience in donor management, it has relatively high levels of capacity and well-developed project management systems, but a more detailed review was not undertaken.

Generally, the wider systems for monitoring and tracking project processes, and for understanding implementation risks at the subnational level, are relatively weak and highly dependent on APR processes and self-reporting.

One EE and an IAE noted that the process of handover from the proposal team and the Private Sector Facility to the supervision team was not very elegant, with a need to bring the new GCF operations team up to speed with aspects of the Fund's operations. The operations team is seen as very bureaucratic and box-ticking, and all the institutional knowledge from the origination team has been lost.

4. PROGRESS TOWARDS RESULTS AND IMPACT OF GCF INVESTMENTS

a. Evidence that intended outputs and outcomes have been achieved/are likely to be achieved

GCF-funded activities are behind plan to deliver expected results in India. Generally, the delivery of results has been somewhat slower than envisaged in the results frameworks, although this varies by project. There have been significant delays in several projects, particularly FP045 and FP084.

- **FP045** had significant delays in FAA effectiveness and first disbursement, mainly due to several deadline extension requests by the AE. The FAA effectiveness deadline was extended twice, for a total of 211 days, and the FAA eventually became effective on 21 September 2018. The deadline of the first disbursement was extended four times, for a total of 651 days, to ensure sufficient time to process a request to change the EE, amend the FAA, make the FAA amendment effective, and process the first disbursement accordingly. The first disbursement of USD 1.4 million was therefore only made on 12 January 2021, approximately three years late. The AE submitted a waiver request for the APR for 2020 and another for the 2021 APR with a proposed deadline of 31 May 2022. Accordingly, the 2021 APR was submitted and is currently under review by the Secretariat.
- **FP081** received the first disbursement in the amount of USD 50 million from NABARD in March 2019. No further disbursements have been requested by NABARD since then. The 2021 APR reports that due to the severity of the COVID-19 pandemic in India in 2020, the demand for power contracted and construction activity across the country stalled, leading to implementation delays. The project has created a strong pipeline of subprojects from the very beginning, but disbursements were slow in 2019 and 2020; however, disbursements accelerated in 2021. For further details about FP081, see Box 1, below.
- **FP084** experienced several delays in relation to early implementation. These were primarily procedural and bureaucratic in nature, with the main challenges being COVID-19 (which caused significant delays across all project activities, especially the field activities, which were at a complete standstill due to the countrywide lockdown for most of 2020). There were delays in appointing designated nodal officers at the state level and in developing the project management units. In 2021, the newly appointed NDA proposed a change to the funding mechanism under the project (with UNDP making direct cash payments to the target states). This resulted in a delay in the first tranche of funds transfers. In addition, it was decided that a national project management unit would be established, and this procurement process took longer than expected. Nonetheless, institutional arrangements are now in the process of being finalized and field activities have now started.
- **FP165**, while only approved in 2021, is a vehicle that has been operational for longer. GCF capital was aimed at leveraging additional investment into the parent vehicle by taking a risk mitigation tranche to protect other investors. Fundraising efforts remain ongoing and new investors have been brought in. There has been significant progress in developing investment platforms, with large investments in renewable energy (targeting one GW of operation), environmental services (incorporating IL&FS, another Indian DAE) and an electric vehicle platform.

Other recently approved projects remain at early-stage implementation. These include FP186 and the two multi-country projects, FP190 and FP197. Table 8 summarizes the outcomes of GCF investments.

Table 8. Summary of evidence of outcomes

OUTCOMES	EVIDENCE FROM GCF-FUNDED ACTIVITIES
Reduced GHG emissions	FP081 reported that a total of 204,768 tCO ₂ e has been mitigated, and the project has led to the creation of 4,000 direct and indirect green jobs as of December 2021. The lifetime mitigation potential is 8,171,986 tCO ₂ e. However, the APR reports that mitigation targets for emissions are expected to be behind the lifetime mitigation target, predominantly because of lower-than-expected generation from rooftop plants.
Increased resilience*	FP084 is making early-stage progress in resilience-oriented activities (e.g. mangrove planting). Odisha and Maharashtra have begun to delineate project landscapes and identify villages and target beneficiaries. States have set up state- and district-level project coordination structures for the implementation and monitoring of project activities. Mangrove nurseries have been established in four project districts in Maharashtra. In addition, state-level trainings have been initiated for livelihood support for crab farming, oyster farming and ornamental fisheries. Significant outcomes are not yet available.
Enabling environment**	FP165 has built a blended finance vehicle and engaged the Government of India towards more integrated public-private finance approaches for climate-relevant developments.
Co-benefits	FP081 is delivering significant economic and supply chain benefits (e.g. jobs, skills) around the solar PV market. FP165 is developing sector-scale platforms to support market development.
Other notable outcomes	FP084 aims to foster the empowerment and capacity-building of women beneficiaries from villages in Raigad, Maharashtra.

Source: APR reports 2021 and SPR interviews.

Note: * Such as number of beneficiaries, value of physical assets, hectares of natural resource areas/land.

** Such as strengthened institutional and regulatory frameworks, technology deployment/dissemination/development/transfer/innovation, and market development/transformation at sectoral, local or national level.

Key drivers influencing the non-achievement of the intended project-level outputs and outcomes are COVID-19, macroeconomic instability, complex bureaucracy and institutional relationships:

- **COVID-19:** The pandemic has significantly impacted project implementation timelines across all funded activities, both directly (lockdown, ease of travel, subnational activities) and indirectly (e.g. through private sector impacts in reducing the capacity and willingness of companies to borrow).
- **Macroeconomic stability:** India has been subject to significant market shifts in climate-related disruption (especially from 2018 to 2019), which led to many DAEs being impacted (including through bankruptcy) and also affected investment in climate-related markets (e.g. the energy sector). More recent global changes in inflation, energy prices and interest rates, together with a strengthening USD are creating challenges for borrowers and investors.
- **Institutional relationships:** India operates under a complex institutional structure with power at both the national and state levels in the federal system. Projects can therefore be dependent on large, multilevel groups of stakeholders for their delivery. For example, under FP084, delivery was highly dependent upon state governments and the delivery mechanism had to be restructured (with UNDP becoming an EE) and a new project management unit put in place.

No unintended consequences associated with GCF-funded activities were identified in India.

Box 1. FP081. Line of Credit for Solar rooftop segment for commercial, industrial and residential housing sectors

Under FP081, the DAE, NABARD, received a USD 100 million concessional loan from the GCF, which it blended with USD 50 million in equity and USD 100 million of debt from Tata Cleantech Capital, also the EE. The programme aims to develop the market for solar rooftop financing to meet the Government of India's ambitious target of 40 GW of rooftop solar power by 2022. It provides upfront financing for a broad range of consumers (commercial, industrial, and residential) for the procurement of roof-mounted solar systems, to which beneficiaries make a 20 per cent initial contribution.

Despite the challenges faced during the slowdown in 2019, the COVID imposed lockdowns in the country in 2020, a stagnant rooftop solar market and a changing regulatory landscape, Tata Cleantech Capital had by the end of 2020 approved 118 MW of rooftop solar capacity. Power purchase agreements and energy procurement construction contracts had been signed for the entire amount. Of this, 51.67 MW had been commissioned by the end of December 2020, and a target of 100 MW was expected to be achieved by the end of 2021.

Approved installations were expected to lead to the creation of around 3,300 direct jobs and result in lifetime mitigation of more than 3 million tCO₂e. The mitigation targets are slightly lower than expected despite achieving the target MW capacity, primarily due to lower-than-expected power generation from rooftop plants, which has in turn required a 15 per cent increase in the target installed capacity.

The programme is having a significant impact on market transformation. When the facility was launched, there were very few opportunities for financing of solar installations in the market. At the time of evaluation, it was estimated that there were at least nine new market entrants. Other private sector DAEs undergoing accreditation have also indicated their interest in developing similar types of facilities.

Source: Interviews with the AE and EE. Review of APRs and the NABARD reaccreditation proposal.

b. Progress of funded activities towards paradigm shift

All projects demonstrate a strong degree of paradigm shift in their design and ambition, with some emerging signals of transformation in results. However, there is a high degree of variability in the timing of progress of the GCF-funded projects within the India portfolio, with several only beginning over the last two years and two more recently approved. Further details are set out below:

- **FP045**, while delayed in terms of implementation, has a strong paradigm-shift potential. The project seeks to support the enabling framework and strengthen the capacity of the grass-roots-level water institutions to ensure climate-resilient development in crop water management using decentralized tank systems and solar pumps. The project itself is at relatively large scale but also carries the potential for replication at the state and national levels. There are no emerging signals of transformation yet, due to delayed implementation.
- **FP081** was an early mover in PV financing at a time where there were few other financiers engaging in the market in the context of an ambitious national target of 40 GW under the National Solar Mission. Its paradigm-shift potential is both through replication and scale (i.e. by demonstrating and building the market and supply chains for other providers) as well as by supporting the wider policy and regulatory ecosystem (through its technical assistance and knowledge-sharing activities). The evidence is that the project has had a strong influence on market dynamics, with at least nine financial institutions now operating in the same market, thereby creating the enabling conditions for market-driven delivery at scale. Other GCF DAEs have expressed interest in similar financing vehicles for solar PV and other technologies (e.g. waste, water, storage).
- **FP084** supports the Government of India to enhance the resilience of vulnerable coastal communities to climate change through ecosystem-based adaptation. The project is demonstrating new practices and building integrated models for state officials, local bodies and communities. Although it is being implemented in three states, lessons are being transferred to other large-scale efforts (e.g. the World Bank Integrated Coastal Zone management project).

Best practices are being transferred to policymakers, and an interdepartmental platform is being created to help integrate ecosystem and community-based measures for the 13 coastal states of India into policies, plans and budgets. Part of the government co-finance of Odisha mobilized during the reporting period is being channelled towards the preparation of the Target Landscape Integrated Management plans as a core state-level planning process.

- **FP164** represents the largest national equity investment supported by the GCF. It has seen the Government of India blend equity finance with finance from the GCF and others (e.g. the Government of the United Kingdom) to make sector-scale investments in renewable energy and associated areas (e.g. waste, water, transport). This has supported a shift in the approach to private sector finance provision by the Government of India, which is looking to work with other public and private capital providers to create sector-scale platforms that can act as a market-level demonstration, particularly in less commercial climate areas (e.g. power waste, water, storage).

More recently, **FP186** has been approved. While in early implementation, it is expected to mobilize significant private capital into electric vehicle ownership and operation (including ancillary) areas that has the potential to bring down the cost of electric vehicles to be comparable to conventional vehicles at a sector scale. This is the GCF's first private sector transport programme in the e-mobility sector. Table 9 summarizes evidence of paradigm shift.

Table 9. Summary of evidence of dimensions of paradigm shift

DIMENSION	EVIDENCE FROM GCF-FUNDED ACTIVITIES
Scale* and replicability**	<p>FP081 has already managed to help kick-start the market for commercial finance models. There are reportedly already nine other IFIs providing similar financing products for household, commercial and industrial procurement of building-scale solar. Other DAEs are looking at replicating these types of models.</p> <p>FP084 is developing a set of interventions at the community level that have the potential to be replicated more broadly within national coastal development policy and supported through other climate finance and IFI programmes.</p> <p>FP164 has made good progress in delivering sector-scale platforms across a range of climate-related sectors (renewable energy, energy efficiency, energy storage, e-mobility, resource conservation and associated value chains) that have the potential to energize and demonstrate the viability of commercial and bankable investment models. It is also operating at scale (seeking >USD 1 billion in equity co-financing).</p> <p>FP186 seeks to invest at scale (>USD 1 billion) in e-mobility and to create a finance market (e.g. around e-vehicle leasing).</p>
Sustainability	<p>FP081 has created a sustainable business model that is now being replicated on a commercial basis by the broader solar finance supply chain.</p> <p>FP045 and FP084 are both closely integrated with national- and state-level agricultural and coastal development planning, with a view to embedding technology approaches and best practices into government programmes that can be maintained and replicated over time.</p>

Source: APR reports 2021 and SPR interviews.

Note: * Degree to which there has been a significant increase in quantifiable results within and beyond the scope of the intervention. This could include a situation where the GCF is scaling up earlier demonstrations or a GCF project will be scaled up outside project bounds.
** Degree to which the GCF investments exported key structural elements of the proposed programme or project elsewhere within the same sector as well as to other sectors, regions or countries.

c. Women and other vulnerable populations, including indigenous peoples

In India, GCF-funded activities under implementation include women and vulnerable groups in capacity-building and training activities regarding decision-making and sharing of benefits.

Women and vulnerable populations are being included in capacity-building and training activities and can be expected to receive benefits from GCF-funded programmes. Examples are provided below:

- **FP045** has developed a gender action plan (GAP) that seeks to ensure benefits and inclusive engagement with women, who represent more than 50 per cent of the marginal workers in the agricultural labour force. Investments in downstream productive activities (e.g. backyard poultry, mushroom and food processing) for the landless are also expected to benefit women disproportionately. Early implementation means that benefits are not yet realized.
- **FP081** is primarily a mitigation and market-focused project but has developed and is delivering a GAP, with a focus on ensuring opportunities for uses of new and improved renewable energy sources (e.g. for downstream productive use). Focus is on skills and jobs effects as well as support for women-led business in procurement. Monitoring is ongoing.
- **FP084** focuses on vulnerable coastal communities. The project has mainstreamed gender into its tools, frameworks and reporting. The field activities are only just being initiated, so there is a delay in results, but the GAP (community engagement, sharing in downstream benefits) is being implemented. A gender-sensitive vulnerability assessment study is being undertaken to inform the extent of risks and vulnerabilities of the coastal communities in the 13 coastal states of India, with an aim to develop a gender-sensitive decision support tool.
- **FP164** is promoting gender opportunities through its GAP and seeking to mainstream thinking into the downstream platforms in which it invests (e.g. water, waste, energy, transport) as well as to promote social and gender benefits within and alongside its projects (e.g. participation, access to infrastructure). A core part of the fund is mainstreaming best practices into the platforms in which it invests.

More recently, **FP186** aims to mainstream gender in transport policy, including the design of electric vehicle infrastructure and promoting economic opportunities that are enabled by electric vehicles.

Figure 2. Evaluation interviews with the women beneficiaries (FP084)



Photo credit: SPR team member

d. Catalysing public and private finance

The GCF appears to be catalysing some level of public and private finance across the India portfolio, although many projects are too early in implementation to assess broader mobilization effects. Adaptation-focused or mixed projects at the local level (e.g. FP045, FP084) are less likely to mobilize finance beyond co-financing. However, there are a number of private sector-oriented programmes that are mobilizing significant finance, as in the following examples:

- **FP045** is being co-financed for approximately USD 125 million by State Government of Odisha, alongside a USD 7 million World Bank loan. It is expected that the activities will further support market development for solar pumps, leading to downstream investment (although this has not yet occurred).
- **FP081** is co-financed with USD 150 million of private capital from Tata Cleantech Capital. In addition, private sector and household-level beneficiaries are partially co-financing the upfront cost of PV rooftop systems (although there is no reporting on private sector mobilization).
- **FP084** has public sector co-finance committed for the project – a total of USD 86.9 million from the governments of the three states of Andhra Pradesh (USD 20 million), Maharashtra (USD 26.9 million) and Odisha (USD 20 million) – as well as contributions by the Government of India at the national level through the MoEFCC (USD 20 million). It is primarily focused on the public sector, and there is limited private sector engagement envisaged.
- **FP164** is seeking to use concessional GCF capital to provide risk protection for other public and private capital into the equity investment vehicle. It is expected that USD 890 million of

equity co-investment will be raised alongside of USD 2.9 billion of debt at a platform level to meet follow-on financing needs.

- **FP186** aims to mobilize significant sums of private capital, including USD 205 million of investor equity alongside GCF funds and an additional USD 1.1 billion of private debt from financial institutions to support e-mobility investments.

In addition, two multi-country programmes (Climate Investor Two and the Green Guarantee Company) include India as target countries and will mobilize significant public and private capital, but the scale of their operations in India are not yet well defined.

The mobilization of private capital (e.g. into GGEF) has been significantly impacted by wider economic development challenges such as COVID-19 and market stress.

e. Knowledge management and learning efforts within GCF-funded activities

GCF-funded activities under implementation show some evidence of knowledge and learning efforts. At the national level, all projects have mechanisms for identifying lessons learned and best practices and for building these into knowledge products and holding seminars with key stakeholders (both national and local) to share these as they are generated, including with the NDA. However, mechanisms for sharing these in a systematic way with the GCF (beyond reporting and the APR process) are not clear. There are national-level workshops with the NDA using RPSP resources that allow for programme-level knowledge-sharing and feedback loops. Stakeholders have also been invited to attend GCF Asia-Pacific knowledge-sharing events.

D. EMERGING LESSONS FOR THE GCF

The following emerging lessons for the GCF can be drawn from the India case study:

- India is a large and rapidly growing economy, and the GCF, while offering a major source of concessional finance, represents only a small part of the financial flows necessary to effect systemic change in the country, increasing the need for catalytic programming. Therefore, its ability to work alongside much larger government budgetary support and private capital flows is key to the GCF delivering influence and impact.
- Despite the relative size and level of development of the Indian economy and government machinery, NDA capacity remains stretched. The demands placed on the NDA are large, reflecting a broader set of global institutional responsibilities and relationships. GCF RPSP funds remain an attractive source of financing support for MoEFCC, which otherwise has limited recourse to self-directed funds.
- India operates as a federal system, with decision-making authority residing at both national and state levels. This creates a level of complexity in terms of design and delivery and can act as a barrier to smooth implementation. For GCF it is important to have strong political and economic awareness and be able to operate at multiple levels to ensure effective project outcomes.
- India has a strong focus on the use of DAEs for the channelling of GCF funds and seeks to use the GCF as a way of strengthening domestic climate finance capacity. However, GCF accreditation and FP processes have proved challenging, leading to the NDA having to rely on IAEs and their capacity to navigate GCF processes as an interim solution. The challenges of DAEs receiving accreditation and developing successful FPs is a barrier to national-level climate finance delivery planning. The GCF is yet to strongly recommend other financing

modalities such as the PPF and the simplified approval process in India, which is not using those routes much.

- There is likely to be a significant scaling of CNs and FPs from India to the GCF over the next replenishment period of GCF, given increased government ambition and activity. Expectations need to be managed around the shape and availability of GCF funds, including any potential constraints of priorities, so that the NDA can work with AEs to plan accordingly.

Appendix 1. LIST OF INTERVIEWEES

NAMES	FUNCTION	AFFILIATION
Dhanpal Jhaveri	CEO	Eversource Capital
Mehak Bhuta	Chief of Staff to CEO	Eversource Capital
Rupali Gupta	Managing Director	Eversource Capital
Ranabir Basu	Senior Vice-President	Everstone Group
Dorien Lobeek	Fund Manager	FMO
Edilberto Baquero	Senior Associate	FMO
Ashish Kumar	Head, Financial institutions Group	IDFC Bank
Gagan Nigam	Senior Manager, Policy, Advisory and Strategy	IL&FS
Saba Kalam	Programme Specialist	ISA
Rajasree Ray	Head of Climate Finance Unit	MoEFCC
Dr. Subrata Bose	Director – Climate Change Division, NDA	MoEFCC
C.S.R. Murthy	Chief General Manager, FSDD	NABARD
G.S. Vaidyanath	Assistant General Manager	NABARD
Muhammed Raneef	Project Manager	NABARD
Ravi Parmar	Project Manager	NABARD
Robinson Raja	Assistant Manager	NABARD
Rohit Wadhwa	Project Manager	NABARD
Sukanta Kumar Sahu	Deputy General Manager, FSDD	NABARD
Rajiv Bhawan	Project Director	OCTDMS
Pawan Kumar	Manager	SIDBI
Pranav Priush	Assistant General Manager	SIDBI
Rajiv Kumar	General Manager	SIDBI
Mudit Jain	Head of Research	Tata Cleantech Capital
Rupin Patel	Head of Credit Underwriting – Cleantech Finance	Tata Cleantech Capital
Siddhi Girkar	Credit Manager	Tata Cleantech Capital
Swati Bhardwaj	Head of Strategic Partnerships	Tata Cleantech Capital
Dashrath Sirsat	District Coordination Officer, Raigarh	UNDP
Neha Pai	GCF Readiness	UNDP
Nupur Sharma	Gender Officer	UNDP
Pooja Verma	Technical Officer, GCF Readiness	UNDP
Pradnya Shinde	Project Associate, Fisheries	UNDP
Rajat Choudhary	Project manager, Odisha, GCF Coastal	UNDP
Ridhima Gupta	Programme Associate, GCF Coastal	UNDP
Rohit Sawant	District Coordination Officer – Maharashtra	UNDP
Ruchi Pant	Programme Manager	UNDP

NAMES	FUNCTION	AFFILIATION
Sahil Sharma	Endogenous Tourism Project	UNDP
Shubham Kanure	Project Associate, Forestry	UNDP
Urjaswi Sondhi	Programme Associate, GCF Coastal	UNDP
Vikram Jalindar Yadav	Social, Economic and Livelihood Associate	UNDP
Kriti Kuksal	Vice-President	Yes Bank
Nitesh Chandra	Executive Vice-President	Yes Bank

Note: Due to legal and ethical considerations, we are not permitted to identify or list any agencies who have applied for but not yet received accreditation. These agencies are therefore not listed.

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