Meeting of the Board
17 – 20 October 2018
Manama, Bahrain
Provisional agenda item 27(c)

GCF/B.21/Inf.03/Add.01

14 October 2018

Approach and scope for providing support to adaptation activities – Addendum I:

The GCF's approach to adaptation: analysis and implications for the Fund

THE GCF's APPROACH TO ADAPTATION: ANALYSIS AND IMPLICATIONS FOR THE FUND

World Resources Institute (July 2018)

Contents

Key Takeaways

Adaptation Finance Landscape

- Overall, adaptation priorities identified in NDCs are broadly consistent with the priorities described in GCF country programmes and briefs. Agriculture appears as a key sector-specific focus area in NDCs and GCF country programmes and briefs, though human health is a notable point of divergence among the areas most often cited by NDCs.

- Perhaps unsurprisingly, the GCF's sector-level portfolio composition is largely consistent with the sectoral focus areas indicated in the NDCs. In terms of the sectors and activities supported, as well as the geographic distribution of funds, the GCF portfolio and pipeline are largely consistent with those of other funds.

- It is not clear that the GCF should prioritize any sectors at this stage. Further research may be needed to determine why certain priorities, such as human health, are not appearing in the GCF's project pipeline. In relation to the rest of the adaptation finance landscape, the GCF should evaluate when its scarce resources are best used to fill funding gaps, to scale up what other funds are doing, or to depart for the other funds by investing in more innovative and catalytic actions.

Climate Rationale

- The GCF should not examine proposed activities in isolation from the larger development context, or attempt to draw clear distinctions between adaptation and development. Because the "toolbox" of adaptation activities is similar to that of traditional development, separating adaptation and development is unlikely to be a productive exercise.

- A more practical approach is to establish and define, on the basis of robust analysis and data, the causal connection between the proposed activities and context-specific climate risks, impacts, and vulnerabilities. At present, and unlike most of its peers, the GCF lacks clear standards on how to establish a climate rationale for proposals.

- The GCF should consider adopting a three-step framework for establishing climate rationale, presented in this study, and incorporate it into all relevant policies and guidance. A focus on establishing strong climate rationale will improve transparency in GCF decision-making, set clear expectations in project design, strengthen country ownership, and help support robust adaptation planning**.**

Readiness and Project Preparation

- The GCF must evaluate how its readiness and project preparation support can most effectively build enabling environments for adaptation. Stakeholders report insufficient clarity on the roles of its different assistance windows and on criteria for what constitutes effective use of readiness resources. The GCF would be well advised to adopt clearer guidelines and criteria on both.

- Stakeholders report insufficient access to experts on both adaptation and the GCF's processes; additional resources are needed. In expanding its pool of external consultants, the GCF could draw on existing adaptation expertise (e.g. the LDC Expert Group and the Adaptation Committee).

Accredited Entities

- The GCF has a diverse pool of accredited entities, but more than a third of accredited entities have not submitted full funding proposals, which raises questions about accreditation strategy and readiness support.

- Also, there is limited use of non-grant instruments, and very few projects employ subnational executing entities. Further research is needed on when non-grant instruments are suitable for adaptation and how best to engage subnational entities in adaptation.

Cost Approaches

- Although incremental costing can help identify the appropriate role of climate finance in certain sectors, there are significant limitations to this approach. Given the diversity of adaptation initiatives that the GCF supports, the GCF would be better served by adopting a set of approaches that can apply in different situations: total activity cost, incremental cost, and beyond incremental cost.

- If the GCF chooses to adopt a set of approaches, it will need to provide guidance on when those different approaches would apply and what proponents would need to demonstrate in connection with each approach; this study provides a starting point on how to do it.

Private Sector

- There is limited private sector engagement on adaptation to date. Less than a fourth of portfolio and pipeline proposals contain private sector considerations and only two private entities have submitted adaptation-related proposals.

- The GCF may wish to consider active outreach on emerging approaches for private sector engagement in adaptation, including through targeted requests for proposals (RFPs), may help attract more proposals. Approaches include de-risking, venture capital, private equity, risk transfer and insurance, monetization of the resilience dividend, and local-currency lending. It may also be useful to consider appropriate ways of accrediting entities for single projects. However, this should not be limited to the private sector.

Executive Summary

This study responds to the request from the Green Climate Fund (GCF) Board, at its seventeenth meeting, to develop guidance on the GCF's approach to adaptation. Its goal is to inform the GCF Secretariat's work in generating such guidance. As an operating entity of the financial mechanisms of the UNFCCC, Kyoto Protocol, and the Paris Agreement, the GCF plays a vital role in supporting adaptation in developing countries. It is mandated to allocate 50 percent of its resources, in grant equivalent terms, to adaptation efforts and to channel at least 50 percent of those funds for adaptation to Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African countries.

The GCF is entering its third year of approving funding proposals. As of April 30, 2018, the Board had approved 76 proposals, of which 37 were adaptation proposals and 18 were cross-cutting proposals (proposals with both adaptation and mitigation components). Funding for adaptation-only proposals constitutes 29 percent of the total volume of funds committed so far. Estimated attributable funding from approved cross-cutting proposals brings total adaptation-related allocations to approximately 40 percent. Nearly 70 percent of adaptation and attributable cross-cutting funding has been programmed for LDCs, SIDS, and Africa.

Consideration of proposals has raised a variety of questions about the GCF's role in supporting adaptation efforts. These questions include: Which proposed activities can be considered as "development," and which as "adaptation"? Is this distinction useful, and can it be made in practice? Which elements of adaptation proposals should the GCF fund? And does the GCF have the requisite pool of accredited entities to generate a strong pipeline of transformational adaptation projects? Now that the GCF commitments have reached a critical mass, addressing these questions is crucial to ensure that the GCF can finance adaptation effectively.

This study tries to answer some of these questions. It provides a multi-method, comparative analysis of the adaptation finance landscape in which the GCF operates, as well as good practices in establishing climate rationale and adaptation costing approaches. It also examines the role of the GCF's accredited entities in adaptation and provides a preliminary analysis of private sector engagement in adaptation. Researchers reviewed and analyzed the full breath of the GCF's adaptation portfolio, as well as expert literature, reports, and guidance documents from multilateral funding institutions and bilateral agencies, independent evaluations of funds, and UNFCCC reviews and submissions. Findings are supplemented by interviews with adaptation experts. Issues of concessionality, co-financing, and indicators of effectiveness are not within the scope of this study and are being addressed in the context of other mandates issued by the Board.

FINDINGS

Adaptation Finance Landscape

The GCF does not operate in a vacuum but in an evolving architecture of development- and climate-finance, and country adaptation priorities and strategies. It therefore makes sense to examine how the GCF's adaptation finance commitments so far fit into this larger context. This study examined developing countries' adaptation priorities, and public adaptation finance flows.

Based on publicly available data, climate funds, MDBs, and bilateral sources collectively provided approximately US$ 27 billion in adaptation finance from 2011 through 2014. In 2016, the United Nations

Environment Programme (now known as UN Environment) estimated that the annual costs of adaptation in developing countries could be between US$140 billion to US$300 billion by 2030, and between US$280 billion and US$500 billion by 2050.

To examine national priorities, the study examined the adaptation portions of NDCs, which provide a broad indication of national adaptation needs and priorities. It also looked at GCF country briefs and programmes, which provide additional details of countries' adaptation priorities. (A GCF country programme is a living document prepared by a country intending to seek GCF funding; it includes a pipeline of projects that the country would like to develop with the Fund.)

To relate these national priorities to current GCF funding commitments, the study then evaluated the extent to which NDC and country briefs/programme priorities are reflected in the GCF's current adaptation portfolio. It also compared GCF financing trends with those of key entities in the adaptation finance landscape, namely the Adaptation Fund, Pilot Program on Climate Resilience (PPCR), and Least Developed Countries' Fund (LDCF). The research team tagged projects by sector-specific focus areas to see how the GCF's adaptation portfolio compares to that other climate funds.

Expert literature on adaptation, the project-level review, NDCs, GCF country briefs/programmes and requests for adaptation planning support all confirm the importance of enabling environments for effective adaptation. Whether piloting a new technology, upscaling known technologies, or strengthening the capacity of institutions to plan for and implement adaptation, institutional capacity and enabling environments are critical. The majority of NDCs and country briefs/programmes discuss the need for capacity building, governance, knowledge management, or project preparation and planning, and nearly all climate fund adaptation projects also contain these types of activities.

Adaptation investments funded by the GCF and other climate funds include a range of technologies, many of which are not new, to reduce vulnerabilities to climate change. The innovation mostly resides in transferring, disseminating and scaling these in places and to populations that previously lacked access, and combining hard technologies (like drip irrigation systems and drought-resistant seeds) with soft technologies (like institutional capacity building, strengthening women's cooperatives, and farmer filed schools).

Adaptation priorities identified in the GCF country briefs/programmes are largely consistent with those in NDCs, with the notable exception of human health. Both sources include agriculture, freshwater supply, disaster risk reduction, and ecosystem conservation and restoration among their top five most-common focus areas. Health was referenced in over half of the NDCs with adaptation components (ranking fifth) but appeared in just over a tenth of GCF country programmes/briefs. It is unclear at this stage if this is because countries are using other funding sources to finance health activities, whether the linkages health and climate change are still underappreciated, or whether there are other reasons. While there are other sector-specific focus areas that also diverge, health is the only focus area with significant divergence that is also referenced in more than half the NDCs with adaptation components.

In turn, there is broad consistency between the what the GCF is funding in terms of sector-specific focus areas and what appears in GCF country briefs/programmes. There are some relatively minor exceptions. Forests, marine fisheries, and urban areas were all more heavily emphasized in the country briefs/programmes than in the portfolio and pipeline. Climate information services and energy were more heavily emphasized in the portfolio and pipeline than in the country briefs/programmes.

The GCF portfolio/pipeline is largely consistent with the adaptation portfolios of the other climate funds, at least in terms of the sectors and activities supported, and their geographic distribution. MDBs and bilateral sources also follow similar trends. Like other climate funds, GCF has the highest project concentrations in agriculture, climate information services, disaster risk reduction, and freshwater supply. To be sure, other climate funds have different mandates: The AF focuses on concrete adaptation interventions; LDCF focuses on NAPAs, related activities, and NAPs; and PPCR focuses on integrating climate into development planning. The GCF has the flexibility to support a range of diverse approaches. But because these funds are the closest peers to the GCF in terms of providing targeted support for climate adaptation, this comparison is nevertheless instructive.

Establishing Climate Rationale

The review of adaptation projects shows that activities funded for climate adaptation often resemble activities funded by traditional development institutions. Climate change puts stress on economic activity, infrastructure, ecosystems, and human health and livelihoods, all of which have been the focus of traditional development finance for decades. With a few exceptions that are highly climate-specific, such as climate data collection and climate risk modeling, enabling communities to adapt means supporting development activities, but doing so in a way that is informed by an understanding of climate change, its effects, and how to cope with its likely consequences. As a result, because the "toolbox" of adaptation activities is similar to the traditional development toolbox, looking at activities in isolation and attempting to draw clear distinctions between adaptation and development is unlikely to be a useful guide to what the GCF should or should not fund. A more practical approach would be to establish and define, on the basis of robust analysis and data, the causal connection between the proposed activities and context-specific climate risks, impacts, and vulnerabilities over various time horizons (e.g., short- and long-term).

Currently, the GCF lacks clear and consistent standards and guidelines on how to demonstrate that proposed activities to be funded by the GCF address risks from climate change ("climate rationale"). As a result, consensus on what constitutes an acceptable climate rationale for GCF proposals is lacking, both within the GCF and among stakeholders. A review of Secretariat and ITAP reports for adaptation-only projects revealed inconsistencies in how the two evaluate the climate rationale of adaptation activities. Additionally, the quality of the climate rationale in project proposals varies widely. Stakeholders note that the lack of clear guidance results in a variety of challenges, including disagreements between Secretariat and ITAP at late stages of the approval process. As of B.19, the GCF has a mandate to develop guidance on climate rationale, which can help resolve many of these issues.

Readiness and Project Preparation

The NAP process can help countries move from broad priorities to a pipeline of strong proposals, which is a critical step in building national adaptive capacity. Approved requests for NAP support, emphasize national vulnerability assessments, bodies to coordinate adaptation, and capacity to manage climate information and risks. There is less overall emphasis on periodic processes to update assessments and national priorities over time, which would enable more dynamism in assessing, prioritizing, and coordinating adaptation actions. There is also limited reference in the requests to building capacity for long-term planning and transformative adaptation (i.e., adaptation interventions that encourage large-scale systemic changes that address climate impacts that threaten the viability of production systems and livelihoods). Instead, the focus appears to be on addressing immediate, shorter-term climate impacts.

The GCF Readiness Programme and Project Preparation Facility (PPF) are important resources, but stakeholders lack clarity on how the different windows of assistance relate to one another in the case of adaptation and what constitutes effective use of readiness resources. For example, guidance for readiness, NAPs/other adaptation planning, and PPF address different elements needed for developing strong climate rationale, but they do not clearly connect the steps in a way that guides stakeholders to consider how to use resources to build climate rationale. Some stakeholders noted that they are unsure what their strategy should be for approaching the different readiness windows and (at times) have received conflicting advice from the Secretariat about which windows to access. Further, while the GCF has developed criteria for assessing adaptation planning requests, it has not developed comparable criteria for the other GCF Readiness support windows.

There are not enough experts with knowledge of both GCF processes and adaptation to meet demand from countries and entities. Accredited entities and readiness providers report that finding people with the requisite expertise is challenging. The recent review by Dalberg on the GCF's readiness programme recommends increasing Secretariat capacity to effectively manage this programme, and the 2018 work programme for readiness and preparatory support envisions hiring more adaptation experts, both of which could help address issues identified by stakeholders. Stakeholders also noted that the GCF solely operating in English is a barrier to accessing funds.

Accredited Entities

GCF currently has a diverse pool of accredited entities, but more than a third of them have yet to submit any full funding proposals. Also, over half of the adaptation and cross-cutting portfolio has originated from just four entities. As of April 2018, the GCF had accredited 59 entities, representing a variety of types of actors. Yet, 21 entities have yet to submit full proposals of any kind. Four entities—UNDP, World Bank, ADB, and EBRD—account for 28 of the 55 approved adaptation-related projects.

Regardless of the type of entity, previous experience with other adaptation-focused funds is a strong predictor of whether an entity has submitted adaptation proposals to the GCF. Accredited entities that have submitted proposals to the GCF have previously had projects approved by the other adaptation-focused funds. The four entities referenced above also account for significant proportions of Adaptation Fund, PPCR, and LDCF projects. Among national and regional entities, most that have submitted full funding proposals to the GCF have previously had projects approved by the Adaptation Fund.

There is limited use of non-grant instruments for adaptation. While half of the entities that have submitted adaptation proposals are accredited for on-lending/blending, ninety-three percent of adaptation only funding is in the form of grants. Only one entity (Acumen Fund) has an adaptation proposal with a non-grant instrument. There is more diversity in instruments for cross-cutting proposals, however, that is likely due to the mitigation components of those proposals. This is unsurprising as it may be appropriate for the majority of adaptation efforts to be funded with grants. Nevertheless, there is room to explore how non-grant instruments could be deployed to support adaptation activities.

National government entities are the dominant category of executing entities; sub-national governments are largely absent. Adaptation needs are highly diverse and context specific, so robust engagement with local/subnational institutions is important. In the current portfolio, the majority of adaptation and cross-cutting projects have national government entities as an executing entity, and very few have local/sub-national executing entities.

Cost Approaches

Currently, the GCF lacks a clear policy on what costs the GCF should cover when it comes to adaptation projects. The Governing Instrument provides that the GCF can fund full and incremental costs, but does not specify which approach(es) in this range the GCF should apply for adaptation. GCF Board decisions also do not clarify when a given approach should be used, although work is in progress to develop policies to tackle the range of costing issues. Other climate funds, MDBs, and bilateral actors have adopted varying approaches on what to cover and have produced guidance on how to justify adaptation costs, though in practice, covered costs are routinely negotiated on a case-by-case basis, indicating that flexibility may be necessary.

While the incremental-cost approach can be useful in some cases, particularly when it comes to adapting certain kinds of infrastructure to climate change, this approach also has significant limitations. Technical constraints make this approach less feasible in cases where data is not readily available. Also, where communities already face serious development deficits, adaptation and development costs may not be separable because underdevelopment is itself a driver of climate vulnerability. For instance, a community that currently has no access to piped water is more vulnerable to increased drought (as a result of climate change) than a community that has access to piped water. Further, poorer farming communities may be more vulnerable to drought because they cannot easily buy drought-resistant seeds or implement other adaptation strategies. In such situations, activities that increase climate resilience and activities that are good for development are often one and the same (e.g., increase access to piped water, provide access to credit).

Preliminary Analysis of Private Sector Engagement in Adaptation

As in other parts of the landscape, private sector engagement in adaptation at the GCF has been limited. Less than a fourth of GCF adaptation-related portfolio and pipeline proposals contain activities related to the private sector. Only two private entities have sought support from the GCF for adaptation-related initiatives to date. Acumen Fund has one cross-cutting proposal and one adaptation-only proposal approved so far. One other private sector entity has a cross-cutting proposal in the pipeline.

Building strong enabling environments by removing policy barriers and providing reliable climate information is key to fostering private sector participation. Improving regulatory environments and investing in climate information services that provide the information needed to undertake scenario planning and support operations could remove important barriers to private sector engagement in adaptation.

Viable business models that generate reflows to private investors are also critical. Several approaches for private sector engagement in adaptation are beginning to emerge. They include the use of concessional finance to de-risk capital structures; the deployment of private equity and venture capital to support firms innovating in adaptation; the use of risk-transfer and insurance products to address climate risk; and the development of business models that rely on the monetization of adaptation benefits (the "resilience dividend"). As in many other areas, local-currency lending is also critical for engaging domestic private sector in developing countries by reducing currency risk.

Accreditation as it is currently structured is likely not be suitable for many private sector entities seeking to engage with the GCF. While accreditation may be appropriate for some private entities seeking a long-term, strategic relationship with the GCF, others consider it to be overly cumbersome, especially if they are only seeking to fund one project.

IMPLICATIONS AND RECOMMENDATIONS FOR THE GCF

Adaptation Finance Landscape

An open question for the GCF is whether it should prioritize certain sectors in its approach to catalyzing adaptation action, or whether it should focus on strengthening and scaling up environments that enable strong adaptation initiatives in any sector. At this point, it is not clear that the GCF should prioritize certain sectors, though there may be value in researching further whether there are sectors that require more attention, now or in the future. Human health and migration are examples, given the likely disruptions that will be caused by climate change.

The GCF may also want to reflect more deeply on the division of labor in adaptation financing among relevant institutions and funds. Overlap with other institutions and funds may be desirable if the GCF is seeking to add scale to meet existing and future needs, or if it is taking on the roles played by funds that may be phased out in the future. However, to the extent that the GCF's mission and mandates differ from other funds, too much overlap may raise questions about complementarity, coherence, and avoiding duplication. In general, the GCF may take the role of filling funding gaps, scaling up what other funds are doing, or funding more innovative, catalytic action. While all three roles are appropriate in different situations, the GCF should be deliberate about when it choose to take on each role.

Establishing Climate Rationale

The GCF should adopt a three-step framework for establishing climate rationale into all relevant policies and guidance to countries and entities. The steps are: (1) identify anticipated changes in climate, their impact, and the vulnerabilities of affected populations; (2) clearly articulate proposed activities and how they address expected climate impacts and vulnerabilities; and (3) explain how activities connect with the larger policy framework. Table 4 in the study presents a framework for consideration as the Secretariat develops guidance on climate rationale. As climate rationale would implicate multiple divisions of the Secretariat, a cross-cutting work programme could help facilitate incorporation of a framework.

A stronger, more systematic focus on establishing a proposal's climate rationale at the GCF will have important benefits. It will lead to more transparent decision making by the Secretariat and the Board about what gets funded. It will send a clearer signal to project proponents as to what they should consider when designing and presenting proposals for consideration. In addition, it will further strengthen country ownership by creating more space and stronger processes where national and local stakeholders can engage in the design of proposals. Finally, with readiness support, a stronger focus on climate rationale will help build country and stakeholder capacity to undertake robust adaptation planning.

Additional guidance, improvements to the concept note and funding proposal templates, as well as readiness and project preparation support are needed to help project proponents implement the three-step framework. If the GCF adopts the recommended three-step framework, it should integrate the approach into all relevant processes, policies, templates, and guidance documents across all divisions of the GCF and communicate the approach to all relevant stakeholders. Improvements to the concept note and funding proposal templates (currently underway) and accompanying guidance may also be needed to streamline the process, and GCF readiness support and project preparation support may be necessary to address any capacity or resource constraints.

The GCF should provide additional feedback at the concept note stage; this should encourage stronger funding proposals. Upstream support in the form of technical assistance, training and guidance materials, including sector-specific input, can play a valuable role in helping entities develop strong concept notes. Some entities reported receiving unclear feedback on their concept notes or receiving feedback that was later contradicted once the full proposal was submitted.

Readiness and Project Preparation

The GCF should issue additional guidance clarifying the roles and sequencing of readiness and preparation funding, as well as what constitutes effective use of readiness resources. Guidance is needed to direct project proponents to the relevant tools and resources available to support adaptation, particularly with respect to developing strong climate rationale. Similar to the review criteria for NAP proposals, the GCF should develop criteria for other parts of the readiness programme. A theory of change for the Readiness Programme is currently under development; this will help ensure that countries receive consistent feedback and guidance from the Readiness Programme and Project Preparation Facility.

The GCF should identify ways to grow the pool of experts with expertise in both adaptation and the GCF's processes. In building its pool of external consultants, the GCF could draw on existing adaptation expertise. The LDC Expert Group and the Adaptation Committee, for example, offer a wealth of experience and expertise on adaptation. Targeted training materials and programs may be needed to develop knowledge of GCF-specific processes.

Accredited Entities

The possible under-utilization of the full range of GCF accredited entities remains a concern. A sizeable percentage of entities have yet to submit proposals, and a small handful of entities are originating most of the adaptation pipeline. The capacity to deploy sophisticated financial operations is hardly being used for adaptation projects. This raises a question as to whether it is cost-effective to build a large pool of entities at considerable cost if a significant portion will not be accessing GCF funding.

The GCF should further explore opportunities to develop adaptation programs and projects that would benefit from the deployment of non-grant instruments and to engage local/subnational entities in adaptation. Key questions that should be answered include: How can the GCF promote the use of non-grant instruments for adaptation? Why have relatively few projects employed subnational or local executing entities to date, and how can the GCF encourage better engagement with such entities in the context of adaptation? Lessons from the Enhanced Direct Access pilot will be particularly informative in considering how best to engage subnational/local entities.

Cost Approaches

Rather than adopting a "one-size-fits-all" approach, or preserving the current ambiguity and lack of guidance, the GCF should adopt a set of approaches that could apply in different, pre-defined situations. These approaches include: total activity cost, incremental cost, and beyond incremental cost. Each is suitable for different kinds of activities or circumstances. If the GCF chooses to adopt a set of approaches, it will need to provide guidance on when those different approaches would apply and what proponents would need to demonstrate in each case. (In Table 8, we suggest a set of criteria that could apply as a starting point in each case.) The beyond incremental cost approach is perhaps the hardest of the three approaches to define clearly, and thus it may require identifying factors that trigger the approach, such

as historical marginalization or extreme vulnerability of target populations. It is important to recognize, however, that there are data constraints in many developing countries that will require flexibility as well as technical and financial support, regardless of the cost approach involved.

Preliminary Analysis of Private Sector Engagement in Adaptation

The private sector is still largely absent from adaptation projects at the GCF; more thinking is required on how the GCF can best promote private-sector engagement on adaptation. The GCF may wish to consider concrete ways to increase engagement and communication with private sector entities. It should also consider accreditations modalities that enable entities (both public and private) to receive accreditation for single projects, but in a way that is consistent with fiduciary, environmental and social, gender, and indigenous peoples policies.

Active outreach on the emerging approaches for private sector engagement in adaptation, including through targeted requests for proposals (RFPs), may help attract more proposals. Approaches include de-risking, venture capital, private equity, risk transfer and insurance, monetization of the resilience dividend, and local-currency lending. Targeted RFPs designed around each of these themes could help refine these approaches, bring them to scale, and create demonstration/showcase projects that attract further private-sector interest.

Introduction

CONTEXT AND SCOPE OF STUDY

Adapting to the impacts of climate change is an urgent challenge many developing countries face today. As an operating entity of the financial mechanisms of the UNFCCC, Kyoto Protocol, and the Paris Agreement, the Green Climate Fund (GCF) plays a vital role in supporting adaptation in developing countries. It is mandated to allocate 50 percent of its resources, in grant equivalent terms, to adaptation efforts and to channel at least 50 percent of those funds for adaptation to Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African countries.

The GCF is entering its third year of approving funding proposals. As of April 30, 2018, the Board had approved 76 proposals, of which 37 were adaptation proposals and 18 were cross-cutting proposals (proposals with both adaptation and mitigation components). Funding for adaptation-only proposals constitutes 29 percent of the total volume of funds committed so far. Estimated attributable funding from approved cross-cutting proposals brings total adaptation-related allocations to approximately 40 percent. Nearly 70 percent of adaptation and attributable cross-cutting funding has been programmed for LDCs, SIDS, and Africa.

Consideration of proposals has raised a variety of questions about the GCF's role in supporting adaptation efforts. These questions include: Which proposed activities can be considered as "development," and which as "adaptation"? Is this distinction useful, and can it be made in practice? Which elements of adaptation proposals should the GCF fund? And does the GCF have the requisite pool of accredited entities to generate a strong pipeline of transformational adaptation projects? Addressing such questions is crucial to ensure that the GCF can finance adaptation effectively.

At its seventeenth meeting, the GCF Board requested, through decision B.17/10, that the Secretariat develop a proposal for "guidance on Green Climate Fund's approach and scope for support to adaptation activities." To inform this work, the Secretariat commissioned a study to examine:

- Approach and scope for support to adaptation, including types of activities and instruments;
- Main gaps in adaptation projects within and beyond GCF's current portfolio and pipeline;
- Scope and strength of existing accredited entities and incoming pipeline; and
- How to encourage good proposals, including linking readiness and preparation support with development of good projects/programmes.

This study responds to these issues in five main sections: the adaptation finance landscape, establishing climate rationale, readiness and project preparation, accredited entities, and cost approaches. We address approach and scope for support as well as main gaps in projects in the adaptation finance landscape analysis. This analysis involved the application of a typology of adaptation actions to provide an understanding of funded activities and to enable comparisons between climate funds. We address encouraging good proposals and scope/strength of accredited entities in the sections on climate rationale, readiness and preparation support, accredited entities, and cost approaches. We also include a preliminary analysis on private sector engagement in adaptation to complement ongoing work within the Private Sector Facility and the Private Sector Advisory Group. Finally, the study provides recommendations for consideration by the GCF Secretariat. Issues of concessionality, co-financing, and indicators of effectiveness are not within the scope of this study and are being addressed in the context of other mandates issued by the Board.

APPROACH AND METHODOLOGY

The study provides a multimethod, qualitative and quantitative comparative analysis of the adaptation finance landscape, establishing climate rationale, the role of readiness and project preparation support, the scope and strength of accredited entities, and approaches to adaptation costing. Researchers collected information from several sources, including multilateral and bilateral fund and donor annual reports, independent evaluations of funds, and UNFCCC reviews and submissions; and reviewed government, academic, and civil society literature on adaptation activities, including compendiums of climate funds', bilateral, and multilateral development banks' (MDBs) portfolios and programs. Researchers also reviewed the GCF's portfolio/pipeline and guidance to identify key challenges and policy gaps in its approach to adaptation. This study supplemented its literature review with 25 stakeholder interviews and a technical workshop organized by the GCF in March 2018 (see Annex II).

Adaptation Finance Landscape: To understand how the GCF's adaptation portfolio compares to the rest of the adaptation finance landscape, this study conducted a comparative analysis of country adaptation priorities and funding flows from the main sources of public adaptation finance. This study used and built upon the typology of adaptation actions developed by the International Institute for Sustainable Development (IISD) for the Adaptation Partnership[1] to gain insight into what climate funds are supporting, and to enable comparisons between fund portfolios and country priorities. The typology developed by IISD is useful as it provides a comprehensive review of sectors from authoritative sources. Through a detailed project-level review (described below), this study made minor modifications to that typology resulting in 19 sector-specific focus areas.[2] Reviewers also supplemented the typology to include additional detail on the types of adaptation activities funded within the relevant focus areas.

Sector-specific Focus Areas

- Agriculture (general and crop-specific)
- Livestock
- Forests
- Ecosystems Conservation/Restoration
- Freshwater Fisheries/Aquaculture
- Watershed Management
- Freshwater Supply
- River/Lake Management
- Coastal Zone Management
- Marine Fisheries/Aquaculture
- Tourism
- Energy
- Roads and Transport
- Waste Management
- Urban Areas
- Migration
- Human Health
- Disaster Risk Reduction
- Climate Information

[1] IISD, 2011. The Adaptation Partnership was chaired by Costa Rica, Spain, and the United States and served as a platform to catalyze action and foster communications around scaling up adaptation and resilience initiatives globally.

[2] Some of the Adaptation Partnership's sub-sectors were merged for purposes of this review with others because of they shared strong connections between them or overlap. For instance, rather than including a stand-alone fire management focus area, fire management was subsumed under the forests focus area. The ecosystem conservation and ecosystem restoration focus areas were similarly merged, and also captures biodiversity. Additionally, the buildings under the Infrastructure sector has been moved to the disaster risk reduction focus area because proposals support climate proofing buildings to prevent disasters. Trade is captured across other focus areas, such as Tourism and Financial Tools and Economic Activity. The Adaptation Partnership's "multi-sector" was not used because the objective of the analysis was to disaggregate sectors and activities.

Cross-cutting Focus Areas

- Capacity Building
- Governance
- Knowledge Management
- Project Preparation and Planning
- Financial Tools and Economic Activities
- Gender

The full typology, detailing focus areas and examples of activities, is available in Annex IV. It contains 19 sector-specific focus areas and six cross-cutting focus areas. Cross-cutting focus areas capture activities that are supported *across and within* focus areas. For example, capacity building and training activities were funded in multiple focus areas, including agriculture, tourism, and marine fisheries. Types of financing schemes, insurance, and private sector activities are included under financial tools and economic activities. This study also tracked how many proposals support gender-focused adaptation activities. These are concrete gender-oriented activities that go beyond inclusion of sex disaggregated data or including women among the project beneficiaries.

This study relies on Nationally Determined Contributions (NDCs), GCF country programmes and briefs, and requests to the GCF for adaptation planning support (NAP proposals) for information on country priorities. NDCs are useful because they apply to all countries in the context of the Paris Agreement, unlike National Adaptation Programmes of Action (NAPAs), which are specific to LDCs. Further, unlike the National Adaptation Plans (where only a handful have been published on NAP Central), the NDCs are publicly available for analysis. This study reviewed NDCs from 148 developing countries. Of these, 136 NDCs contained specific adaptation components with discussion of priorities. However, the treatment of adaptation in NDCs varies considerably in detail and approach. Some identified priority sectors or described general sector-level goals (e.g. develop a climate-resilient agricultural system), while others described specific interventions within different sectors. It is also unclear if each NDC reflects the totality of a country's adaptation priorities.

To better understand whether and how broad NDC priorities translate into country priorities for GCF funding, the study also analyzed 3 country programmes, 49 country briefs submitted by national designated authorities (NDAs). A GCF country programme is a living document that presents a country's climate change priorities with the GCF, including a pipeline of projects that the country would like to develop with the Fund. Country briefs are early versions of a country programme. Of the 52 documents reviewed, 11 explicitly identified or separated out their adaptation-specific priorities. In all, the country programmes/briefs describe 176 adaptation or cross-cutting project ideas (including some that have already received GCF support), which we analyzed to infer adaptation priorities. Applying the typology described above (and in Annex IV), this study compared priorities identified in NDCs and country programmes/briefs, with activities that have been supported by the GCF. We also reviewed 11 approved NAP/other adaptation planning proposals to understand country priorities with respect to building adaptive capacity.

The study also compared trends in the GCF adaptation and cross-cutting portfolio with those of other key institutions in the adaptation finance landscape.[3] Direct comparisons between the main public funding sources, multilateral climate funds, multilateral development banks, and bilateral agencies, proved challenging due to a lack of standardized data.[4] Therefore, this study conducted a review of climate fund portfolios using the typology described above. The analysis included portfolios of the four largest adaptation-focused climate funds: 232 adaptation projects funded by the Adaptation Fund (2010-2017), the Pilot Program for Climate Resilience (2011-2017), and the Least Developed Countries Fund (2011-2014);[5] and 95 proposals in the GCF's portfolio and pipeline (as of April 30, 2018). Reviewers tagged projects by focus area and activity to enable more in-depth comparisons of the portfolios. This review reflects the numbers of projects containing activities that fall under the typology's focus areas *not* the volumes of financing. Data and resource constraints prevented categorization of bilateral and MDB adaptation activities similarly, but this study uses available data to draw sector-level and geographic comparisons where possible.

Establishing Climate Rationale: Establishing climate rationale is the process through which those seeking adaptation finance explain how the proposed activities relate to and seek to address current and projected climate impacts. To understand current practices on establishing climate rationale, this study reviewed the procedures and policies of the climate funds, MDBs, and selected bilateral agencies. These include policies of the Global Environment Facility (GEF), the Special Climate Change Fund (SCCF), and the MDBs, including the International Finance Corporation (IFC), World Bank (WB), Asian Development Bank (ADB), African Development Bank (AfDB), Inter-American Development Bank (IDB), European Investment Bank (EIB), and European Bank for Reconstruction and Development (EBRD). Researchers also reviewed bilateral and other funding sources, including the United Kingdom Department for International Development (DFID), United States Agency for International Development (USAID), Swedish International Development Cooperation Agency (SIDA), Danish International Development Agency (DANIDA), *Gesellschaft für Internationale Zusammenarbeit* (*GIZ*), German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Irish Aid, and the Nordic Development Fund (NDF). This review, supplemented with examples from the project review, helped establish an understanding of the status quo and of best practices for establishing climate rationale.

Readiness and Preparation Support: To understand how the GCF could best use tools designed to support the development of strong adaptation proposals, this study analyzed guidance for the Readiness Programme and the Project Preparation Facility (PPF), and included an initial review of select NAP proposals (approved as of March 2018), readiness requests (approved requests from countries with approved NAP proposals), and PPF proposals (approved/endorsed as of March 2018). It also included

[3] Unfortunately, similar climate-related project level information is not available for bilateral actors and MDBs and thus a similar review was not conducted. Even if such information was available, this type of review may ultimately be too resource intensive and onerous.

[4] Climate funds and MDBs report adaptation finance annually, but they employ variable sector breakdowns, which makes sector comparisons challenging. Annual data for bilateral sources is available through the UNFCCC biennial reporting process but is only available through 2014; the next update, due in 2018, will provide figures through 2016. Bilateral actors also have different (and not always transparent) criteria for what counts as adaptation financing.

[5] The 2011-2014 period for LDCF proposals was selected for its relatively high concentration of proposals compared to more recent years.

information gathered from experts, representing accredited entities and other relevant stakeholders, on their experiences accessing and utilizing readiness and project preparation support.

Accredited Entities: To investigate the scope and strength of the GCF's pool of accredited entities and its potential to support the GCF's adaptation efforts, this study reviewed key trends in the portfolio of accredited entities and those seeking accreditation approval. It categorizes the 59 accredited entities and 83 applicants at or beyond stage 1 (as of April 30, 2018) based on the type of institutions they represent, their sectoral specialization, whether they have submitted adaptation-related proposals, and their geographic focus. It also reviewed expert literature on the role of different types of entities in supporting adaptation.[6]

Costing Approaches: This study examined institutional guidance (for the MDBs, multilateral climate funds, Irish Aid, and NDF specifically) on determining the costs of adaptation actions. It analyzed whether these guidance documents drew a distinction between the development or business-as-usual baseline and climate-related costs, how such distinctions were made, and if there were other criteria for supporting adaptation activities. This analysis was complemented by published guidance on calculating incremental costs for infrastructure from the ADB. This review was designed to inform the possible approaches the GCF could adopt.

Private Sector: This study provides an initial analysis of the status of private sector activity in the GCF portfolio and pipeline, identifies key barriers for private sector engagement based on expert literature and stakeholder interviews, and maps emerging models of private sector adaptation initiatives, such as those selected by the Global Innovation Lab for Climate Finance.

[6] Examples include: IPCC, AR 5, Chapter 14, Adaptation Needs and Options; IIED, *Delivering Real Change, Getting International Climate Finance to the Local Level* (2017).

The Adaptation Finance Landscape

Understanding global financing priorities and the actions supported by other comparable sources of finance is critical to inform the GCF's approach to adaptation. Based on publicly available information and using the typology described above, this section explores identified adaptation priorities and trends in international climate finance flowing to adaptation. With respect to sources of finance, this study covers dedicated climate funds, multilateral development banks, and bilateral aid agencies, which are the most relevant sources for comparative purposes.

FINDINGS

Review of Adaptation Priorities

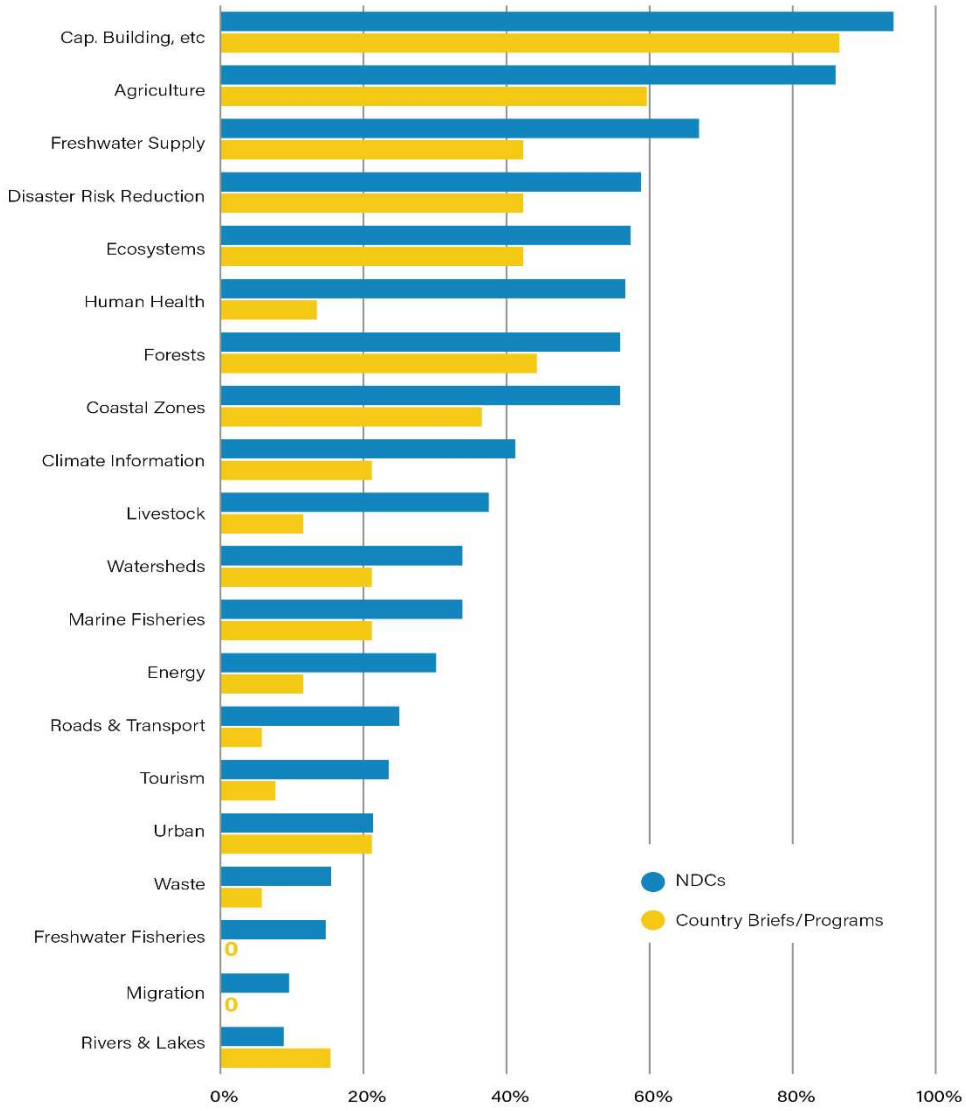
This study seeks to improve understanding of the extent to which international adaptation assistance, particularly dedicated climate funds, are addressing adaptation priorities. To determine priorities, this study draws from the IPCC's Fifth Assessment Report (AR5), NDCs, GCF country programmes/briefs, and NAP proposals.

Expert literature on adaptation, project-level review, NDCs, and country programmes/briefs all confirm the importance of enabling environments for effective adaptation. The IPCC's AR5 is a comprehensive, objective, open, and transparent assessment of climate science. A key message from AR5 Working Group 2 is that lack of capacity building, good governance, knowledge management, and planning are common and important constraints to adaptation action. Good practice and lessons learned suggest that institutional capacity and stronger enabling environments are critical to the success of adaptation initiatives, whether those initiatives are piloting new technological solutions, upscaling known technologies, or strengthening the capacity of institutions to plan for and implement adaptation. Further, the vast majority of NDCs and country programmes/briefs discussed the need for capacity building, governance, knowledge management, or project preparation and planning. The GCF's Readiness Programme, including adaptation planning, can play a critical role in supporting such activities to help generate catalytic project pipelines involving public and private sectors.

National adaptation planning processes can help countries translate higher-level priorities into concrete adaptation actions. The review of approved NAP proposals shows that countries are requesting assistance to strengthen a range of capacities, including assessment processes, prioritization of actions, coordination, information management and climate risk management. Building capacity in these areas will help countries to develop investment plans and strong proposals. Further, it will help with ongoing and longer-term planning, as NAPs are intended to be iterative.

Overall, adaptation priorities identified in NDCs are broadly consistent with the priorities described in GCF country programmes/briefs. As explained in the methodology above, the study compared priorities identified in 136 NDCs with adaptation components with 3 GCF country programmes and 49 country briefs, using the typology contained in Annex IV. We note there are limits to this analysis because NDCs contain broad indicative priorities and country briefs are early indications of countries' GCF priorities. However, the analysis does provide an initial picture of how well priorities are translating across these different planning tools. Figure 1 compares the share of NDCs referencing each focus area to the share of country programmes/briefs referencing each focus area, showing a degree of consistency in overall trends.

Figure 1: Focus Areas in NDCs with Adaptation Components and GCF Country Programmes/Briefs



Source: WRI, based on data as of April 2018

Agriculture appears as a key sector-specific focus area in NDCs and country programmes/briefs. Human health is a notable point of divergence. Nearly 85 percent of NDCs and 60 percent of country programmes/briefs include agriculture as a priority area. Freshwater supply, disaster risk reduction, forests, and ecosystems appear in more than 50 percent of NDCs with adaptation components and over 40 percent of country programmes/briefs.

Health was referenced in over half of the NDCs with adaptation components (ranking fifth in sector-specific focus areas) but appeared in just over a tenth of GCF country programmes/briefs. There are a number of possible explanations for the lack of health-related projects in the country programmes/briefs. It could be the case that some countries have identified alternative sources of funding to address their health-related adaptation needs. It could also be the case that although countries have identified the health-related impacts of climate change as a significant vulnerability going forward, they are not

equipped to translate those concerns into concrete project proposals. Additional research is required to determine why so few health-related adaptation projects are in the pipeline, and what (if any) niche the GCF may have in this area.

While there are other sector-specific focus areas that also diverge (livestock, roads and transport, tourism, energy, waste, freshwater fisheries, and migration), health is the only focus area with significant divergence that is also referenced in more than half the NDCs with adaptation components.

The Paris Agreement recognizes the importance of taking into consideration vulnerable groups and communities, and makes specific reference to using gender-responsive approaches and respecting the rights and knowledge of Indigenous Peoples.[7] Literature also suggests that marginalized groups, such as women and indigenous peoples, can be structurally vulnerable,[8] indicating a potential need for greater prioritization. An initial text analysis of NDCs with adaptation components shows that there is some attention to these issues in adaptation components, but it is not widespread; less than a quarter reference gender or women and less than a fifth reference Indigenous Peoples. Less than a tenth included reference to both gender (or women) and Indigenous Peoples.

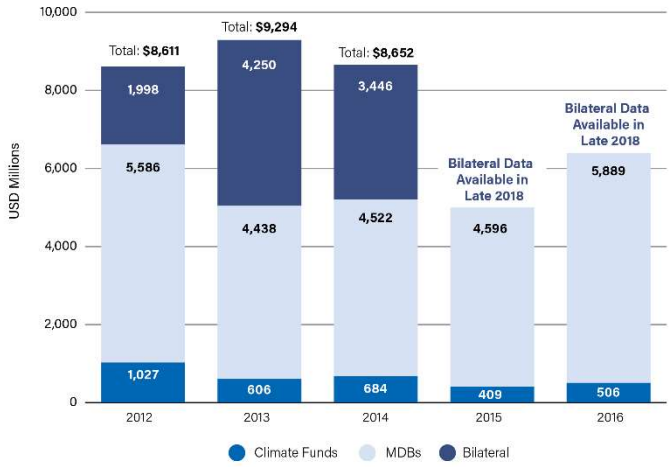
Review of Financing Trends

The lack of standardization in what counts as adaptation funding across bilateral, multilateral, and climate funds hinders a comprehensive understanding of the current financing landscape. Nevertheless, this section provides an analysis of indicative trends in financing based on self-reported figures from climate funds, MDBs, and bilateral donors, standardized where possible to allow for comparability. For climate funds, this study also provides an analysis of a selection of funded projects using the aforementioned typology, to serve as a point of comparison both for identified needs and for the GCF relative to other climate funds.

[7] Paris Agreement, Art. 7.5.

[8] Global Gender and Climate Alliance and UNDP, 2016.

Figure 2: Adaptation Financing 2012-2016



Source: Compiled by WRI; SCF Second Biennial Assessment and Overview of Climate Finance Flows 2016 (Table 2.1; Annex F); 2012-2016 Joint Reports on MDB Climate Finance. Climate fund and MDB totals reflect committed funding for respective fiscal years. For 2015 and 2016, climate funds include GCF.

Collectively, climate funds, MDBs, and bilateral sources provided approximately US$ 27 billion in adaptation finance over the 2011 – 2014 period. Bilateral data is not yet available for 2015 and 2016. In Figure 2, this study assumes similar levels of financing from bilateral sources for those years, pending the latest UNFCCC biennial assessment to be released in late 2018. However, *Roadmap to US$100 Billion* and commitments announced by countries suggest that these numbers could be higher.[9] To contextualize these amounts, in 2010, the World Bank estimated that adaptation costs may be around US $70-100 billion per year. In 2016, a report by the United Nations Environment Programme (UNEP, now UN Environment) projected adaptation finance needs at US $140-300 billion per year by 2030 and US $280-500 billion per year by 2050. This underscores the importance of using scarce public resources wisely to drive sustained impact.

Funding trends for climate funds, MDBs, and bilateral sources are largely consistent with each other. They tend to concentrate funding in the African and Asia-Pacific regions, and in agriculture and water. However, while climate funds and bilateral sources disburse more adaptation finance as grants (88 and 56 percent respectively) MDB adaptation finance is generally disbursed as concessional loans (70 percent). Details of each funding source's patterns are further elaborated in subsequent sections. In climate funds, capacity building, governance, knowledge management, or project preparation and planning appear in most projects. Comparable data is not publicly available for MDBs and bilateral sources.

Multilateral Climate Funds

Multilateral climate funds have institutional mandates to provide targeted funding for climate adaptation, and are thus vital to supporting adaptation efforts in developing countries. While the other climate funds have different mandates, they are the closest peers to the GCF in terms of providing targeted support for climate adaptation. The Adaptation Fund (AF) focuses on concrete adaptation interventions (up to USD 10 million per country). The Least Developed Countries' Fund (LDCF) focuses on NAPAs, related activities, and NAPs (up to USD 40 million per country). The Special Climate Change Fund (SCCF) adaptation window complements LDCF and is open to all vulnerable developing countries. The Climate Investment Funds' Pilot Program on Climate Resilience (PPCR) focuses on integrating climate into development planning. The GCF has the flexibility to support a range of approaches.

[9] Submission to the UNFCCC, 2016; *see e.g.,* DFAT, 2016.

The AF, LDCF, SCCF, and PPCR have committed approximately US$ 2,979 million for adaptation over the 2010-2017 period.[10] In addition, between 2015-2018, the GCF allocated approximately US$ 1,477.60 million (US$ 1,074.17 million for adaptation-only projects and an estimated US$ 403.4 million *attributable to adaptation* in cross-cutting projects), showing the scale it brings to this landscape.[11] Climate fund sector classifications vary considerably across funds, making a direct comparison of funding going to different sectors challenging.[12] In the absence of comparable aggregate sectoral data, this study applied the typology described above to 232 projects from the AF, LDCF, and PPCR, as well as the GCF's portfolio (37 adaptation proposals and 18 cross-cutting proposals) and pipeline (26 adaptation proposals and 14 cross-cutting proposals) as of April 30, 2018.

Adaptation activities funded by the GCF and other climate funds include a range of technologies, many of which are not new, to reduce vulnerabilities to climate change. The innovation mostly resides in transferring, disseminating and scaling these in places and to populations that previously lacked access, and combining "hardware" with good planning, institutional capacity building, training, and other soft- and org-ware. In agriculture, for example, funded adaptation technologies include drip irrigation systems; drought-resistant seed varieties; bio-engineered sea barriers to prevent salt-water intrusion; bamboo-based protective houses for farmers to cultivate high-value crops in protected conditions; development of climate-smart agriculture plans; access to credit and markets; and women's cooperatives. Notably, all GCF projects and nearly 98 percent of AF, LDCF, and PPCR projects reviewed contained activities in one or more of the following cross-cutting focus areas: project preparation and planning, governance, capacity building, or knowledge management. This is consistent with demand from countries and recognition in climate funds that such activities are important for adaptation.[13]

In terms of the sectors and activities supported, as well as the geographic distribution of funds, the GCF portfolio/pipeline is largely consistent with that of other funds. Figure 3 and Figure 4 show that the composition of portfolios based on the number of projects tagged for a sector-specific focus area are largely similar with each other. Most projects included activities in more than one sector-specific focus area, demonstrating the multi-sectoral nature of adaptation interventions. With respect to geographic distribution, climate funds have tended to concentrate adaptation funding in Africa and Asia-Pacific.[14]

[10] Compiled by WRI based on Adaptation Fund reports, CIF investment reports, LDCF, SCCF progress reports.

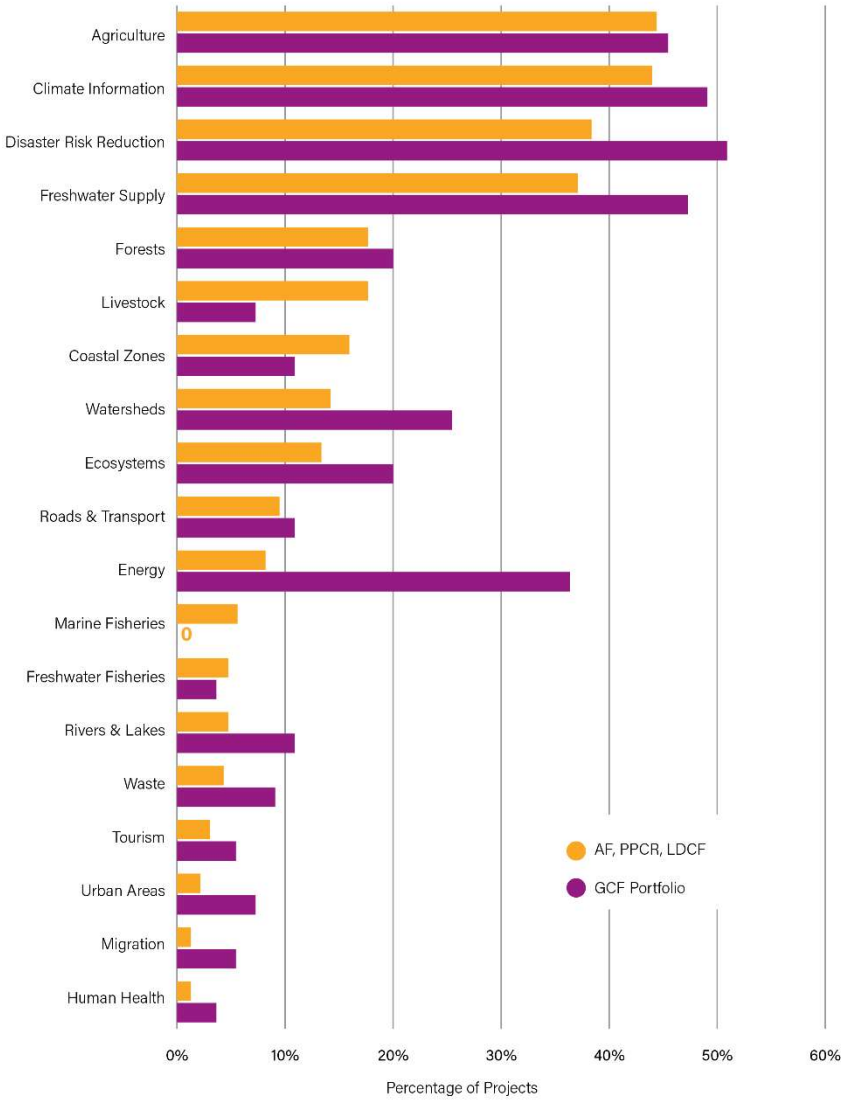
[11] As of April 30, 2018, the GCF has approved 37 adaptation proposals and 18 cross-cutting proposals (55 approvals in total). Total GCF contributions for adaptation-only proposals is US$ 1,074.17 million. Cross-cutting projects include both adaptation and mitigation components. Based on GCF Secretariat estimates of the proportion of project activities attributable to adaptation and applying the simplifying assumption that the proportion of activities roughly equals the proportion of total adaptation finance, the GCF's estimated contribution to the adaptation portions of the 18 cross-cutting projects is US$ 403.4 million.

[12] For example, the PPCR's "Enabling Environment" classification includes capacity development and policy formulation activities which, for other funds, are embedded within the relevant sectors. Similarly, the scope of the AF's "Urban" and "Rural" development sectors could also overlap with other sectors, including agriculture, natural resources management, and other infrastructure.

[13] For example, the AF requires knowledge management in all proposals, LDCF funding supported development of NAPAs, and PPCR is focused on integration.

[14] This concentration is to be expected, given the relative number of more vulnerable countries in those regions. The LDCF provides more than two-thirds of its funding to LDCs in Africa, followed by a third to those in the Asia-Pacific region. Nearly 40 percent of PPCR's portfolio goes to the Asia-Pacific region, with a third going to Africa and a quarter going to the Latin America and Caribbean (LAC) region. The GCF has allocated the bulk of its adaptation funding

Figure 3: Focus Area Concentrations – Comparing Portfolios of the Climate Funds



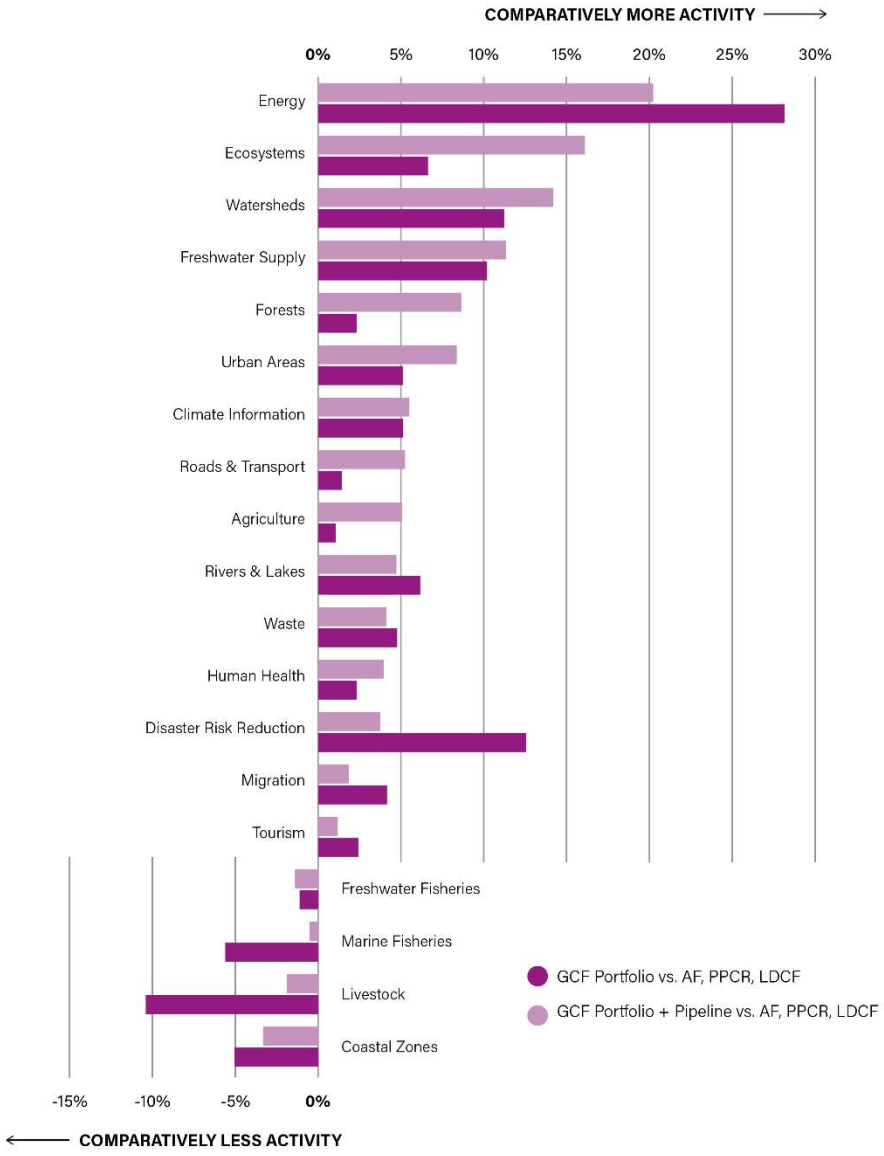
Source: WRI analysis of AF, PPCR, and LDCF projects (232), and adaptation and cross-cutting projects in the GCF portfolio (55 as of April 2018).

Collectively, the funds have the highest project concentrations in agriculture, climate information services, disaster risk reduction, and freshwater supply. Concentrations beyond the first four sector-specific focus areas in portfolios begin to diverge. For example, the GCF has fewer projects with livestock

(including attributable cross-cutting funding) to Asia Pacific and Africa, 45 and 38 percent respectively. Fourteen percent of the funding goes to LAC, with minimal funding to Eastern Europe. Within this distribution, US$ 1,018.61 million (or 69 percent) is going to LDCs, SIDS, and African countries. Considering collective allocations, more than half of the top 16 recipients of the dedicated climate funds (as of May 2017) are from Africa, with the rest being directed towards Asia, except for Bolivia and Samoa. Nine of the top 16 recipients received significant funding from PPCR. The GCF also makes significant impact in the landscape.

components compared with other funds. On the other hand, GCF has 28 percent more projects with activities in energy than the other funds, however, more than half of those projects are cross-cutting. Nevertheless, as Figure 4 illustrates, the differentials in focus area concentrations between the GCF and other climate funds (even with the GCF's incoming pipeline) are not particularly significant at a portfolio level. Overall, human health, migration, tourism, freshwater fisheries, and marine fisheries had concentrations of 6 percent or less in both the GCF and other fund portfolios.

Figure 4: The GCF Portfolio and Pipeline Relative to What its Peers Fund



Source: WRI analysis of AF, PPCR, and LDCF projects (232), adaptation and cross-cutting projects in the GCF portfolio (55 as of April 2018) and pipeline (40 as of April 2018).

The GCF's sector-level portfolio composition is largely consistent with sector-specific focus areas indicated in NDCs. Table 1 compares the rankings for sector-specific focus areas in NDCs, country programmes/briefs, and the GCF portfolio and pipeline. The comparison provides an indication of whether, at least at a sectoral level, funding is relatively aligned with what countries are communicating as their adaptation priorities.

Table 1: How Concentrations of Sector-specific Focus Areas Compare Between NDCs and Climate Funds

Sector-specific Focus Area	NDC ranking based on % of NDCs referencing focus area	Focus Areas in GCF Country Briefs/Programmes		Focus Areas referenced in GCF Portfolio and Pipeline		
		Ranking	Rank Difference w NDCs	Ranking	Rank Difference w NDC	Rank Difference w Country Brief
Agriculture	**1**	**1**	0	**1**	0	0
Freshwater Supply	**2**	**3**	-1	**3**	-1	0
Disaster Risk Reduction	**3**	**3**	0	**4**	-1	-1
Ecosystems	**4**	**3**	1	**5**	-1	-2
Human Health	**5**	**12**	-7	**15**	-10	-3
Forests	**6**	**2**	4	**8**	-2	-6
Coastal Zones	**6**	**6**	0	**11**	-5	-5
Climate Information	**8**	**7**	1	**1**	7	6
Livestock	**9**	**13**	-4	**9**	0	4
Watersheds	**10**	**7**	3	**6**	4	1
Marine Fisheries	**10**	**7**	3	**16**	-6	-9
Energy	**12**	**14**	-2	**6**	6	8
Roads & Transport	**13**	**16**	-3	**10**	3	6
Tourism	**14**	**15**	-1	**16**	-2	-1
Urban Areas	**15**	**7**	8	**12**	3	-5
Waste	**16**	**16**	0	**14**	2	2
Freshwater Fisheries	**17**	**18**	-1	**16**	1	2
Migration	**18**	**18**	0	**19**	-1	-1
Rivers & Lakes	**19**	**11**	8	**13**	6	-2

Source: WRI, as of April 2018
Notes: Highlights indicate a differential of five points or more: orange indicates that fund rankings are lower than NDCs and blue indicates that fund rankings are higher.

Seventy-seven of the 136 NDCs reviewed include health as a priority focus area; health-focused activities, however, appear infrequently in GCF country programmes/briefs and climate fund portfolios. Roughly a tenth of country programmes/briefs and only five projects in the GCF's portfolio and pipeline include activities specifically targeted at climate-related health impacts. As underscored by the IPCC in its Fifth Assessment Report, climate change will exacerbate existing health challenges. Further research is needed to understand: 1) whether there is a gap in the health sector; 2) whether health needs to be

embedded in different national strategy and plans, projects, and programmes; and 3) if there is a funding gap, what role the GCF should play (if any) in addressing it.[15]

Marine fisheries also appears to be underrepresented in the GCF portfolio and pipeline. Further research is needed to understand why there are fewer projects with activities in marine fisheries. It is worth noting that because it features with comparable frequency in country briefs as in the NDCs, as project ideas in those briefs mature the gap in ranking may decrease. Similarly, potential gaps in activities related to forests and urban areas may be addressed as country briefs mature. The higher ranking for energy is likely due to several cross-cutting projects with renewable energy as a focus. Additionally, the higher numbers of projects involving climate information services could reflect the importance of such activities in supporting adaptation more broadly.

***Nearly 40 percent of adaptation-related GCF projects contained activities focused on women or girls*.** Roughly a quarter of the AF, PPCR, and LDCF projects reviewed have gender-focused activities. Note that all the funds require consideration of gender issues, but the review tagged projects that include concrete gender-focused interventions. Without further research and contextualization of projects, it is difficult to attach normative value to this finding. Further research is also needed to understand how GCF projects or projects from other funds reflect other vulnerable groups, such as indigenous peoples.

Most adaptation funding from climate funds was channeled through grants.[16] Of these funds, the PPCR and GCF are the only funds that offer non-grant instruments (e.g. concessional loans, risk guarantees, and equity). GCF provided grant financing to all 37 of its adaptation-only projects, loan financing to one,[17] and equity financing to one.[18] Financing instruments were more varied in the case of the 18 cross-cutting projects. The GCF provided grant financing to all 18 projects, but it also provided equity to three projects,[19] loans to six projects,[20] and a guarantee to one project.[21]

Co-financing for adaptation is coming primarily from MDBs, recipient governments, and bilateral sources. While none of the funds require co-financing, GCF, PPCR, LDCF, and SCCF encourage some level of co-finance. PPCR has co-financing of US$2,132 million across its portfolio of 66 projects, nearly sixty-six percent from MDBs, 19 percent from recipient governments, nine percent from bilateral actors, and four percent from the private sector.[22] Similarly, LDCF and SCCF co-financing comes primarily from MDBs, recipient governments, and bilateral donors (breakdowns are not reported).

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[15] Starting points for literature research include: World Bank, Economics of Adaptation to Climate Change: Synthesis Report (2010) and The Lancet Countdown on health and climate change: from 25 years of inaction to a global transformation for public health (2017).

[16] UNFCCC Standing Committee on Finance, 2016, Biennial Report.

[17] Implementation project of the integral management plan of the Lujan River Basin (FP054, CAF).

[18] Acumen Resilient Agriculture Fund (ARAF) (FP078, Acumen).

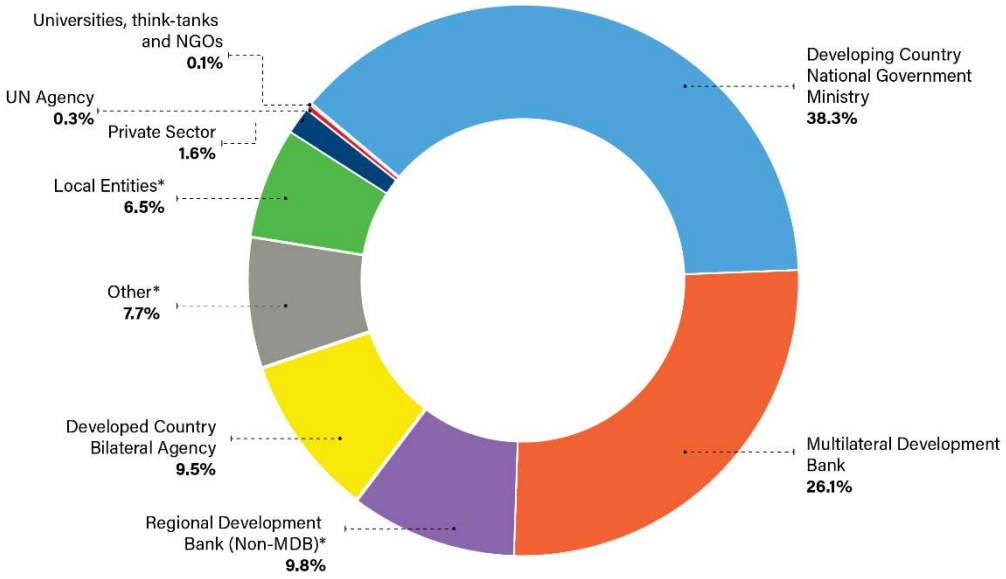
[19] KawiSafi Ventures Fund in East Africa (FP005, Acumen); Sustainable Landscapes in Eastern Madagascar (FP026, CI, EIB); Low-Emission Climate Resilient Agriculture Risk Sharing Facility for MSMEs (FP048, IDB).

[20] GCF-EBRD Sustainable Energy Financing Facilities (FP025, EBRD); Tajikistan: Scaling Up Hydropower Sector Climate Resilience (FP040, EBRD); Tina River Hydropower Development Project (FP044, World Bank); Low-Emission Climate Resilient Agriculture Risk Sharing Facility for MSMEs (FP048, IDB); Climate-Friendly Agribusiness Value Chains Sector Project (FP076, ADB); Ulaanbaatar Green Affordable Housing and Resilient Urban Renewal Project (AHURP) (FP077, ADB).

[21] Low-Emission Climate Resilient Agriculture Risk Sharing Facility for MSMEs (FP048, IDB).

[22] PPCR, 2017.

Figure 5: GCF Adaptation Project Co-finance by Source



Source: WRI; based on data in approved GCF proposals as of April 2018

Co-financing for GCF's adaptation-only projects is US$ 1,686.33 million, with a ratio of funding approved to co-financing of 1:1.57. The cross-cutting projects have US$ 2,285.77 million in co-financing, but this number is not limited to funding for the adaptation components of cross-cutting projects.

Sources of co-financing include United Nations (UN) agencies, MDBs, non-MDB regional development banks, bilateral sources, national governments, local sources, and universities, think tanks, and NGOs. Figure 5 breaks down co-financing for the adaptation only projects by type of source. Most of the adaptation-only projects have some level of national government co-financing. This may be, in part, due to the GCF's investment framework indicators for country ownership. Only one project received private sector co-financing.[23]

Multilateral Development Banks and Bilateral Sources

Nearly a quarter of MDB climate finance in 2016 was for adaptation. In 2016, MDBs committed US$ 27,740 million in climate finance, of which US$ 6,225 million was tagged as adaptation.[24] Over 2011 – 2016, MDB financing for adaptation has ranged between US$ 4,520 million to US$ 6,225 million, translating to approximately 18-23 percent of total MDB climate-related finance.[25] The East Asian and Pacific, South Asian, and Latin American and Caribbean regions received the most funding in 2016. These regional focuses are generally consistent over the 2012 – 2016 period, with the addition of Sub-Saharan Africa. On average, a little over half of funding in the 2012-2016 period went to the African and South Asian regions, with about a fifth going to the East Asia and Pacific region.

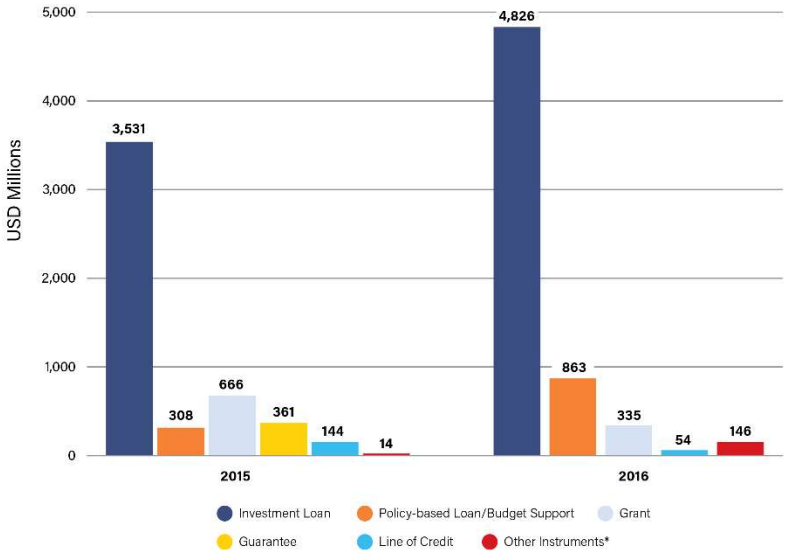
[23] Acumen Resilient Agriculture Fund (ARAF) (FP078, Acumen).

[24] Inter-American Development Bank, Inter-American Investment Cooperation, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, and World Bank. 2017. *2016 Joint Report on Multilateral Development Banks' Climate Finance.*

[25] Standardized information on climate-specific MDB funding is only available from 2011.

MDB adaptation finance is predominantly channeled as investment loans. Investment loans account for over 70 percent of finance. Grant financing accounts for 13 percent and five percent of MDB financing in 2015 and 2016 (See Figure 6). Most, if not all, MDB grant finance can be attributed to their managed external resources (i.e. those financed by LDCF, SCCF, PPCR, and the AF). These externally managed resources accounted for 65 percent of MDB grant financing in 2015 and 100 percent in 2016. Policy-based loans and budget support are the third most used instrument for channeling adaptation finance. Other instruments include equity, MDB advisory services, and instruments such as carbon funds, currency and interest rate swaps, and other derivative instruments. In 2015, the MDBs channeled US$ 14 million through these other instruments, and in 2016, US$ 361 million. These aggregate financing reports do not, unfortunately, specify which projects or types of initiatives are supported through these instruments. So, for example, this study is unable to say whether insurance schemes were supported through derivative instruments or through grants and loans, without an in-depth review of the entire MDB portfolio of climate-relevant projects. Even with such a review, it may not be possible to elucidate such findings as existing MDB project databases do not consistently mark which of their activities are climate relevant and thus hinder further investigation.[26]

Figure 6: MDB Adaptation Finance by Instrument



*Source: Compiled by WRI; based on MDB Joint Reports on Climate Finance. The MDBs only report financial instrument breakdowns for 2015 and 2016. *Equity, advisory services, instruments such as carbon funds, currency and interest rate swaps and other derivative instruments.*

[26] It is important to note that these MDB statistics *include* the externally managed climate funds (i.e., LDCF, SCCF). The MDBs do not separate out the climate funds' contributions on a regional or sectoral level: i.e., it is not possible to easily delineate between what the MDBs provided out of their own resources to the East Asian and Pacific region and what climate funds provided. This would require a detailed project level analysis of all climate-relevant MDB projects. Furthermore, the MDBs and the climate funds do not use the same regional or sectoral classifications, complicating direct comparisons.

MDB support is concentrated in similar areas as the climate funds.[27] From this study's review and analysis of its joint climate finance reports, the MDBs focus on crop and food production,[28] energy, transport, and other built environment and infrastructure,[29] and coastal and riverine infrastructure.[30] Energy, transport, and other built environment is not as prominent in the climate funds' portfolio, with the exception of the GCF and energy. This may be due to the MDBs' relative strengths and experience in implementing larger infrastructure projects (that fall under this sector), thus providing an opportunity for recipient countries to integrate climate risk considerations. On average, about six percent of MDB assistance is directed towards institutional capacity support or technical assistance, which is similar to cross-cutting focus areas. This figure includes funding towards MDB-implemented technical assistance in recipient countries.

Bilateral funding is an important source of adaptation finance. In 2011, bilateral actors provided US$ 2,542 million for adaptation, increasing to US$3,443 million in 2014.[31] These include agencies like the U.K.'s Department for International Development (DFID), the U.S. Agency for International Development (USAID), Germany's Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Swedish International Development Agency (SIDA). Data on bilateral flows are derived from the countries' own submissions to the UNFCCC Biennial Reporting process – these verified and somewhat standardized submissions are the best publicly available data on bilateral climate finance flows. Japan, Germany, France, the United States, and the European Union, rank as the top five contributors of adaptation finance. Overall, in 2013 – 2014, 56 percent of bilateral adaptation financing was provided as grants and 42 percent as concessional loans.[32]

Bilateral funding trends appear to align with this study's findings of MDB and climate fund priorities, where water supply and sanitation, general environment protection, and agriculture receive the greatest share of funding. Bilateral actors do not report to the same sectoral classifications as MDBs. They also do not report climate-relevant project data consistently, hindering a project review based on the typology. Therefore, in addition to bilateral finance data reported to the UNFCCC, this study used the Organization for Economic Cooperation and Development's (OECD) Development Assistance Committee (DAC) Creditor Reporting System (CRS),[33] which maps sectoral flows. OECD CRS data shows that funding

[27] The MDBs and Climate Funds use different sectoral classifications. To enable comparisons, this study performed the following modifications: a) Agriculture and Food Production and Food Security were added to match the MDB classification of Crop and Food Production; b) Cross-cutting, disaster risk management and health were added to match the MDB classification of Cross Sectors and others; c) Other Infrastructure and Urban Development were added to match the MDB classification of Energy, Transport, and Other Built Environment and Infrastructure; d) Climate Information Services were equated to Information and Communications Technology; e) Enabling Environment is matched with the Institutional Capacity Support or Technical Assistance category; f) Natural Resources Management and Forests were added to match the Other Agricultural and Ecological Resources category; g) Water resources management is considered the same as Water and Wastewater systems; h) Multiple sectors and Coastal Zone Management match their respective MDB classifications. These re-classifications are guided by the *2016 Joint Report on Multilateral Development Banks' Climate Finance*.

[28] In 2011 – 2013, crop and food production included "other agricultural and ecological resources," which in subsequent years is reported separately.

[29] Coastal and riverine infrastructure was considered as part of the energy and transportation sector in 2012. In subsequent years, it is reported separately.

[30] These data were collected from the 2011, 2012, 2013, 2014, 2015, and 2016 joint MDB climate finance reports.

[31] UNFCCC Standing Committee on Finance, 2016, Biennial Report – Summary.

[32] UNFCCC Standing Committee on Finance, 2016, Biennial Report.

[33] These include Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, the European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Poland, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, United Kingdom, and United States.

focuses on water supply and sanitation, general environment protection, and agriculture, which largely tracks with climate fund and MDB sector-specific focus areas. Current classifications do not allow for delineation of support for capacity building, governance, knowledge management, or project preparation and planning (cross-cutting focus areas). It is possible that these activities are integrated into the sectors.

Bilateral adaptation funding focused on Africa, South and South-East Asia, and small island developing states (SIDS). These patterns are akin to the identified trends of MDBs and climate funds. By doing so, they focus on some of the most vulnerable countries in the world. However, a significant portion of adaptation financing reported through the OECD's CRS is tagged to unspecified or anonymized locations, hindering further analysis.

IMPLICATIONS

An open question for the GCF is whether it should prioritize certain sectors in its approach to catalyzing adaptation action, or whether it should focus strengthening and scaling up environments that enable strong adaptation initiatives in any sector. At this point, it is not clear that the GCF should prioritize certain sectors, though there may be value in researching further whether there are sectors that require more attention, now or in the future. Human health and migration are examples, given the likely disruptions scientists are predicting will be caused by climate change. Further research could inform partnerships with entities in the accreditation pipeline that specialize in certain sectors (see Accredited Entities), thereby providing options for developing countries who may not have national entities working in those sectors.

The GCF may also want to reflect more deeply on the division of labor in adaptation financing among relevant institutions and funds. Overlap with other institutions and funds may be desirable if the GCF is seeking to add scale to meet existing and future needs, or if it is taking on the roles played by funds that may be phased out in the future. However, to the extent that the GCF's mission and mandates differ from other funds, too much overlap may raise questions about complementarity, coherence, and avoiding duplication. In general, the GCF may take the role of filling funding gaps, scaling up what other funds are doing, or funding more innovative, catalytic action including through the use of non-grant financial instruments and active engagement with the private sector. While all three roles are appropriate in different situations, the GCF should be deliberate about when it choose to take on each role.

Establishing Climate Rationale

The GCF was established to fund activities related to climate change. Adapting to climate change is the process of adjusting and responding to actual or expected climate changes and their effects. The fact that adaptation is a process and the fact that this process is so intricately related to development objectives makes it hard to define, in clear, standardized terms, what is and is not an adaptation action. Climate change puts stress on economic activity, infrastructure, ecosystems, and human health and livelihoods, all of which have been the focus of traditional development finance for decades. Climate change also disproportionately affects poor and marginalized communities, where the development baseline is already low. With a few exceptions that are highly climate-specific, such as climate data collection and climate risk modeling, enabling communities to adapt means supporting development activities, but doing so in a way that is informed by an understanding of climate change, its effects, and how to cope with its likely consequences. As a result, activities that target adaptation needs often advance broader development goals[34] and can often involve the same kinds of activities that address development challenges.

FINDINGS

The review of adaptation projects shows that climate adaptation interventions often resemble activities funded by traditional development institutions, including both hard and soft technologies. Examples of hard technology include drip irrigation, boreholes, water storage tanks, and drought-resistant seed varieties. Examples of soft technologies (like capacity building and institutional strengthening) include establishing farmer field schools, alternative income generation, and strengthening women's cooperatives (see Annex IV). This finding confirms that the "toolbox" of adaptation activities is similar to that of development. Looking at activities in isolation and attempting to draw clear distinctions between adaptation and development is unlikely to be a useful guide to what the GCF should or should not fund.

Thus, the way proponents establish the connection between proposed activities and climate risks (climate rationale) is important in determining if projects should be supported by climate funds. A practical approach would be to establish and define, on the basis of robust analysis and data, the causal connection between the proposed activities and context-specific climate risks, impacts, and vulnerabilities over various time horizons (e.g., short- and long-term).

Review of GCF Adaptation Projects and Policy Guidance

The following includes analysis of adaptation-only projects and project-specific policy guidance, specifically in the context of establishing climate rationale. The extent to which readiness and project preparation funds support establishing climate rationale extent is analyzed in Section 3.

A review of the GCF's current (adaptation only) portfolio shows that proposals vary significantly in describing how proposed activities will address current and projected climate change exposure, impacts, and risks. While most proposals provide some detail on the relevant development baseline and vulnerabilities to climate change, descriptions of projected changes and impacts vary. Some proposals describe projected climate changes in general terms, without quantitative estimates of the expected

[34] McGray H, Hammill A, et al., 2007.

change or localized projections.[35] Some fail to reference supporting data or provide clear timeframes for much of the projected climate information they describe.[36] It is possible that variability in descriptions is in part due to uncertainties, but such issues could be acknowledged as part of the proposal.

With respect to the process of project design, most proposals reference participatory processes, but many do not adequately explain why the proposed activities are the preferred approach and why alternatives were either not considered or rejected.[37] Similar questions arise with regard to site selection.[38] There are also instances in which the process described for designing a proposed project did not convince the Independent Technical Advisory Panel (ITAP) that project proponents adequately evaluated the risks of maladaptation associated with the activities proposed.[39] Further, while most funding proposals connect proposed activities with a larger policy framework,[40] they make little reference to longer-term planning. Notably, there were at least three instances where ITAP recommended rejection or questioned the climate rationale of proposals because factors other than climate change (e.g., population growth, civil conflict, lack of institutional capacity to manage resources) contributed to the vulnerabilities the projects sought to address.

A review of the Secretariat and ITAP reports for adaptation-only projects identified inconsistent understandings among the GCF, ITAP, and accredited entities of critical issues, such as climate rationale and which costs the GCF should support. While some differences in judgment are to be expected even with clear guidelines, disagreement on fundamental issues should not arise in later stages of the proposal approval process. There were several instances where ITAP raised concerns that a project was not sufficiently climate-related even though the Secretariat's review did not raise similar concerns (and vice versa). There were also instances where the Secretariat and ITAP identified the same deficiency but evaluated it differently. For example, when a project did not include sufficient data to determine the

[35] *See e.g.*, Project to support the World Bank's Climate Adaptation and Mitigation Program for the Aral Sea Basin (CAMP4ASB), in Tajikistan and Uzbekistan (FP014, World Bank) (stating that Tajikistan and Uzbekistan are expected to experience reduced availability of water, without quantifying the expected reduction or differentiating between the two countries or regions within the two).

[36] *See e.g.*, Climate Resilient Agriculture in three of the Vulnerable Extreme northern crop-growing regions (CRAVE) (FP023, EIF).

[37] E.g. Enhancing climate change adaptation in the North Coast and Nile Delta regions in Egypt (FP053, UNDP).

[38] In relation to Responding to the increasing risk of drought: building gender-responsive resilience of the most vulnerable communities (FP058, MOFEC), ITAP noted that site selection did not appear to "follow specific logic, in line with cause and effect relationships regarding climate change." Specifically, it felt that the targeted sites did not "match with the priority woredas where climate change related vulnerabilities are prioritized and well documented. As a result, although the development objectives of the project are fully justified, the climate change adaptation objectives do not follow the best approach."

[39] For example, in its evaluation of the Saïss water conservation project (FP043, EBRD), ITAP noted that the funding proposal had "very little information on the M´Dez Dam and its basin, and the implications of climate change for future water availability scenarios. There could be some elements of maladaptation as the project is not taking a closer look at water basin management, but assumes that water supply will remain sufficient under climate change scenarios." It recommended that the Board condition approval on development of a management scheme to preserve water basins under current and projected climate change scenarios and completion of a hydrological study of the overall implications of the water transfer within the basin.

[40] Section E.5.1. of the proposal template prompts project proponents to "describe how the project/programme contributes to country's identified priorities for low-emission and climate-resilient development, and the degree to which the activity is supported by a country's enabling policy and institutional framework, or includes policy or institutional changes."

extent to which water scarcity can be attributed to climate change, the Secretariat felt the uncertainty was a question of costing activities appropriately, but ITAP felt it cast doubt on climate rationale and questioned whether it should be funded by the GCF. Further, there was at least on instance where ITAP did not consider capacity building and governance improvements for the CSO network implementing the project sufficiently related to climate change,[41] despite acknowledging (in other instances) the importance of capacity building to the success of adaptation initiatives.[42]

Stakeholders note that the unclear guidance results in a variety of challenges in the proposal approval process, including disagreements between Secretariat and ITAP at late stages of the approval process.[43] Some stakeholders also noted that as a result of insufficient guidance, they receive conflicting "informal advice" from the Secretariat, adding to existing confusion.

The GCF currently lacks clear and consistent guidelines on how to demonstrate that proposed activities to be funded by the GCF address risks from climate change ("climate rationale"). The Results Management Framework (RMF) articulates impact areas for adaptation and the Investment Framework (IF) includes criteria relevant to adaptation, particularly under impact potential and paradigm shift. However, neither the RMF nor the IF address the question of what is actually climate relevant. It does not direct proponents to describe long-term projections and trade-offs in deciding which activities to pursue. Further, IF criteria for paradigm shift reference scalability and the importance of knowledge management, but stakeholders note that this is insufficient to inform what could be considered paradigm shifting when designing projects. The GCF also has no guidance document beyond the funding proposal template to help external partners prepare funding proposals and documentation for the GCF. While there is a User's Guide for concept notes it does not comprehensively address adaptation-relevant issues. [44]

At B.19, the Board directed the Secretariat to develop an integrated approach to resolve a series of interrelated issues, including "[s]teps to enhance the climate rationale of GCF-supported activities."[45] This process could result in improved policies and methodologies for assessing the climate rationale of projects.

[41] Independent Technical Advisory Panel's assessment of FP024 (Promoting resilient community based natural resource management livelihoods in Namibia, EIF).

[42] Independent Technical Advisory Panel's assessment of FP003 (Increasing the resilience of ecosystems and communities through the restoration of the productive bases of salinized lands, CSE) (noting the importance of "dissemination of skill enhancement training").

[43] In addition to interviews conducted for the study, in GCF/B.15/10 – Review of the Initial Proposal Approval Process (Dec. 8, 2016), a number of stakeholders identified lack of guidance or policy on a variety of topics as problematic. Additionally, the Secretariat noted that "the absence of more detailed guidance for the preparation of concept notes and funding proposals" may be impacting the quality of proposals at entry, and "policy gaps and/or inconsistencies are regularly identified during the conduct of the review process." In GCF/B.17/18 – Review of the Initial Proposal Approval Process (July 5, 2017), the Board and the Secretariat both identified policy gaps and inconsistencies as problems in the proposal review process.

[44] GCF Concept Note User's Guide, www.greenclimate.fund/documents/20182/239759/GCF_Concept_Note_User_s_Guide.pdf/64866eea-3437-4007-a0e4-01b60e6e463b

[45] Decision B.19/06.

Review of How Other Institutions Approach Climate Rationale

Institutions that fund adaptation typically have clear and targeted questions/guidance for project proponents to demonstrate climate rationale. This study reviewed guidance from other climate funds (i.e., LDCF, SCCF, and the AF), bilateral actors (e.g. Irish Aid), and the MDBs to understand what information project proponents are required by other institutions to provide and draw lessons for the GCF. For example, the LDCF and SCCF explicitly ask about the business-as-usual development trajectory, climate change vulnerabilities, and how the proposed activities address these additional climate vulnerabilities. These questions require proponents to provide a coherent narrative on how climate funds' support would address climate-related vulnerabilities. Table 2 summarizes the questions that proponents are required to answer by peer institutions to establish climate rationale.

Table 2: Selection of Guiding Questions Currently used by Other Institutions to Establish Climate Rationale

	Irish Aid (Ex-Ante Guidance)	**Dedicated Climate Funds (Ex-Ante Guidance)**	**MDBs (Ex-post Guidance)**
Climate Change Risks, Impacts, and Vulnerabilities	What are the climate hazards and risks that are to be addressed? What aspects of climate vulnerability will be targeted?	Indicate risks, including climate change related risks that might prevent project objectives from being achieved. What is likely BAU development and what are climate change related vulnerabilities?	Set out the context of risks, vulnerabilities, and impacts related to climate variability and change.
Project/Program Design Considerations	What options are available to address climate related vulnerabilities and are the proposed adaptation options realistic? Are the options robust and within an appropriate envelope of uncertainty? What type of adaptation is being pursued: reducing adaptation deficit, incremental, or transformational adaptation?	If possible, propose measures that address these risks that could be incorporated into project design. With the LDCF investment, what are the specific adaptation activities to be implemented to increase the climate change resilience of BAU activity or baseline?	State intent to address outlined vulnerabilities and risks through the proposed intervention.
Governance Context	Does the implementing entity have legitimacy with the affected population? Is there an enabling environment for successful implementation?	Does this project respond to the highest priorit(ies) identified in the NAPA, if not, why? Is this project/program consistent with national sustainable development strategies, plans, or other relevant instruments?	

Project/Program Cost	Has the equity of probable costs and benefits been assessed?	Is the project/program cost-effective? Is there duplication of project with other funding sources?	

Source: Compiled by WRI; guidance from IrishAid, MDBs, and climate funds.

Irish Aid asks proponents to outline the climate risks and hazards to be addressed, the aspects to be targeted under the auspices of the project, the timescales relevant, and the risks of maladaptation.[46] The organization evaluates these proposals based on its feasibility and efficiency (e.g., "are the proposed adaptation options realistic?"), its basis in an explicit theory of change (e.g., "is there an enabling environment for successful implementation?"), and acceptability (e.g., "do people – direct and indirect beneficiaries – agree with the adaptation options?").[47] The NDF requires that at least 50 percent of investment costs are due to climate change or climate-related (e.g., for climate proofing existing infrastructure or readiness activities for future climate change investments).[48] These proposals are to have already passed social and economic tests at the national level – i.e., they should be part of a climate-related strategy or plan. MDBs have ex post guidance for identifying which projects contribute to climate resilience by asking for baseline information on climate risks, impacts, and vulnerabilities and how activities address those risks and vulnerabilities.

Table 3: Definition of Key Terms (Establishing Climate Rationale)

Exposure	The presence of people, livelihoods, species, or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected
Impacts	Impacts generally refer to effects on lives, livelihoods, health, ecosystems, economies, societies, cultures, services, and infrastructure due to interaction of climate changes or hazardous climate events occurring within a specific time period and the vulnerability of an exposed society or system.
Risks	Risk is often presented as the probability or likelihood of occurrence of hazardous events or trends
Vulnerabilities	The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

Notes: These definitions are drawn from the IPCC AR5.

The review of climate fund, bilateral, and MDB guidance finds that there are three key steps for establishing and guiding strong climate rationale within project proposals. The three steps outlined here and elaborated in more detail below may be useful for the GCF to consider as it further strengthens its processes. Definitions of key terms are contained in Table 3.

- **STEP ONE**: Identify the predicted changes in climate, their impact, and the vulnerabilities of affected populations. Predicted changes (e.g., increased precipitation, higher temperatures, or sea level rise) should be indicated for relevant time horizons (e.g. short- and long-term) and using clearly identified scenarios. Identify the risk of changes occurring, the impact those changes will have on people or ecosystems, such as increased hunger from reduced crops or loss of housing from floods, and the underlying vulnerabilities of those likely to be affected. Identify any relevant uncertainties. Including

[46] Irish Aid, 2017; Irish Aid and IIED, 2016.
[47] Ibid.
[48] NDF, 2016. Further clarity on NDF's approach was shared with the project team via personal correspondence and is not readily available online.

different scenarios and different time scales will help to identify looming challenges such as, existing trends toward more frequent and intense droughts that may eventually lead to permanently lower water availability for irrigation. It will also help lay the foundation for understanding trade-offs between short and longer-term risks and impacts.

- **STEP TWO:** Clearly explain the proposed activities and how they seek to address the climate impacts and vulnerabilities identified over the short-, medium- and longer-term. For example, a training program may immediately help farmers diversify to include crops that are more heat and drought tolerant, with the understanding that some current crops may not be viable in the coming decades, so beginning the transition to new crops now would be helpful; or a mangrove restoration project may reduce the impact of storm surges in the short-term and moderate sea level rise over the medium-term by allowing sediment to build up, raising land levels and preventing erosion.

  Explain why and how these activities were chosen. For instance, there may be several responses to adapt to sea level rise – planned retreat, relocation of communities, or mitigating erosion. Explain why the selected activity is more appropriate, how stakeholders were involved in the choice and design of the activity, and whether short- and long-term tradeoffs were considered. Examine the potential for the proposed activities to lead to maladaptation over longer time frames. For example, large irrigation projects that depend on glacial runoff may be useful in the short-term for dealing with more frequent droughts, but may have limited utility after glaciers have melted and water supplies are gone.

- **STEP THREE:** Explain how proposed activities are part of a larger policy framework for climate resilient development, and anticipate trade-offs between competing policy objectives. For example, are these activities consistent with priorities in NAPAs, NDCs, NAPs, or economic growth strategies? Also examine potentially necessary trade-offs between sectors to manage conflicting interests. For example, a country may wish to expand both its coffee and tourism industries. While it may be possible to move heat-sensitive but economically important crops such as coffee upslope to cooler locations, this could impact tourism if conservation areas are affected.

It should be noted that climate funds' secretariats will typically facilitate the improvement of weaker proposals in this context.[49] For example, if a proposal does not make appropriate or strong enough links between climate exposure, risks, impacts, and vulnerabilities and the proposed activities or alternatively, present enough information on the climate vulnerabilities faced, the secretariat staff will collaborate with proponents to find additional information and facilitate the process of strengthening their arguments.[50]

[49] Interviews with Secretariats of the Adaptation Fund, LDCF, PPCR, and NDF.
[50] Interviews with Adaptation Fund Secretariat.

Descriptions and Examples of Steps to Establish Climate Rationale

The following contains detailed descriptions of the three steps for establishing climate rationale and examples of strong justifications identified as part of the project review.

Step One: Identify anticipated changes in climate, their impact, and the vulnerabilities of affected populations

The first step involves explaining the exposure, risks, and impacts affecting communities in the target area as well as describing their vulnerabilities. What is the exposure to climate variables (e.g., rainfall, temperature), the risks (i.e., the likelihood of hazardous events like floods or storm surges), and the impacts of these risks? Are communities facing increased frequency and intensity of drought like conditions? Are more households exposed to these risks, perhaps because of increased range of these drought conditions? And are these risks anticipated to impact livelihoods? Additionally, what are the vulnerabilities of the country's population? Addressing these types of questions helps contextualize the proposal's request, enabling an understanding of the current and anticipated climate-related context and relevance of the proposal.

Strong explanations of climate-relevance utilize multiple data and information sources to outline current baselines, climate-related exposure, risks, and impacts, and anticipated impacts on the development baseline. They highlight how physical climate risks could translate into impacts on people and places. They use this information to support their case for adaptation funding. Using climate change scenarios and/or existing vulnerability assessments and other documentation to substantiate claims is helpful. Proponents should be clear about the time horizons used and the assumptions being made. Potential sources of information and data could be the IPCC assessment reports, UNFCCC National Communications, or academic literature. Data that further localizes risks, impacts, and vulnerabilities is also helpful. For example, a project in Senegal[51] cited future projections of increased temperature in coastal areas and rainfall variability (by 2030), and its subsequent impacts on the fishing industry as the impetus for a proposal. The proposal cites the IPCC Fourth Assessment Report and other peer-reviewed articles as sources for its information. This explanation of the country's current baseline and projected changes provided grounding for its subsequent explanations of the activities proposed, although they did not provide insight into the extent to which these changes might occur and be compounded over the longer term.

Along the same lines, a proposed water project in Mali[52] set out the region's development baseline based on an economic analysis of the climate-relevant sectors and the intended beneficiaries' current and future climate exposure. The proposal outlined current water resource levels, sources, and quality and ongoing water-related development projects in the region. Going further, the proposal identified future climate risks by using a regionally-specific historical rainfall record and projected climate changes on temperature and precipitation going as far out as 2100. Again, these scenarios and analyses ground the proposals' subsequent requests for support. It highlights the proposal's contexts and immediate and future climate-related challenges. In Zambia, a proposal explained that the country's climate is highly variable, with frequent and increasing droughts, seasonal and flash floods, extreme temperatures and dry spells.[53] Temperatures are projected to rise between 3 – 5 degrees Celsius by 2100 and rainfall variability could

[51] CSE Adaptation Fund Project (Senegal), 2015.
[52] UNDP LDCF Project 5192 (Mali), 2013.
[53] IBRD PPCR Project (Zambia; ID# XPCRZM041A), 2013.

keep an additional 300,000 people below the poverty line over the next decade, reducing annual GDP growth by 0.9%.

More specific types of impact models and studies may also be helpful for establishing the relevance of the project over the longer-term. The Mali example above could have also used longer-term water balance studies to illustrate the combined effects of temperature and lower precipitation on future water availability, while the Zambia proposal might have also included crop impact models to give an indication whether the current crop mix is likely to remain viable in all regions, or if shifts to different, more heat- and drought-tolerant crops might be necessary.

Step Two: Clearly articulate proposed activities and how they address expected climate impacts and vulnerabilities.

Strong proposals provide specifics for each component of the project – identifying tasks and expected outcomes. This step involves describing intended activities, intended beneficiaries and outcomes, and the process for arriving at the proposed activities. In particular, it is important to understand who the stakeholders are and how they were involved in the decision-making process. Were their priorities considered and integrated into the decision? As the IPCC and this study's consultations have highlighted, participatory processes are important in ensuring well-designed adaptation activities.

As the review of projects confirmed, many adaptation activities may be similar to development activities. The task in this step is to clearly explain how proposed activities address the exposure, risks, and impacts faced, and therefore how they contribute to climate resilience. Strong proposals clearly identify the pathways through which the proposed activity addresses the identified risks, impacts, and vulnerabilities. Does the activity mitigate the impact through improving the capacity to respond proactively? Or does the activity aim to build infrastructure that would mitigate the risks of storm surge? This step, in addition to the first, contextualizes the activity in a changing climate. If coastal zones are affected by saltwater intrusion, increasing storm surges, and loss of fresh-water based livelihoods, proposals should describe how proposed activities address these exposures, risks, and impacts. In an example case,[54] a proposal outlined activities to build dykes and rehabilitate coastal mangrove forests to prevent further saltwater intrusion and mitigate storm surges. Additionally, the project proposed to introduce alternative marine-based livelihoods, including developing sea-based fisheries and oyster farming (to address depleting stocks due to increasing temperatures and salt water intrusion). Each of the proposed activities were directly linked to addressing stated climate-related risks, impacts, and vulnerabilities.

In some cases, the proposed activity may promote adaptation indirectly by building national and subnational government or peoples' capacities to address climate related vulnerabilities. For example, a capacity building and policy development proposal highlighted the current and future vulnerabilities of the country – not just the bio-physical exposure (e.g., more variable rainfall, seasonal flash floods, higher temperatures) – but also the lack of established policy and regulatory frameworks for climate change. The country's request related to bolstering their administrative capacities to address climate variability and strengthening adaptation preparedness. This request highlights some of the previously highlighted cross-cutting needs and priorities on policy formulation, governance, and capacity building. The project aimed to integrate climate risk management into at least 70 percent of the country's Integrated Development Plans. These were linked to informing and further building national institutional capacities with lessons learned from the field, improving climate information and awareness, increasing the uptake of planning tools, among other outputs. These were directly linked to addressing the institutional weaknesses

[54] CSE Adaptation Fund Project (Senegal), 2015.

(particularly, the lack of capacity) and to mainstreaming climate-related responses into the country's overall policy framework. The proposal linked this need for mainstreaming to its underlying vulnerability and lack of capacity to act in a comprehensive and planned manner. Clearly explained links between vulnerabilities faced and the activities proposed are necessary in developing a strong proposal.

Additionally, it is important to know what the trade-offs are between different options (e.g., in managing short-, medium- and longer-term climate risks, beneficiary reach, costs, economic impacts). Articulating how and why certain activities were chosen (perhaps out of a spectrum of options), establishes and communicates the reasoning behind the proposal. Are there instances where short-term solutions will make addressing longer-term impacts more difficult? This provides an understanding of the potential for maladaptive activities. Proponents should examine the potential for the proposed activities to lead to maladaptation over longer time frames. For example, large irrigation projects that depend on glacial runoff may be useful in the short-term for dealing with more frequent droughts, but may have limited utility after glaciers have melted and water supplies are gone.

In a project to integrate climate- and disaster-risk principles into coastal management plans and infrastructure,[55] the proposal clearly outlined three major activity groups and priorities: improving and climate-proofing coastal roads, designing village relocation and hazard mitigation plans, and ensuring fresh-water supply for these coastal communities. Delving further, the proposal explained how the relocation plans would be designed. They outlined which stakeholders would be consulted and why, how considerations/comments would be prioritized, and a plausible implementation plan. As the proposal documented, activities originated from an initial intensive stakeholder consultative process, where coastal communities were involved in generating and prioritizing activities. These participatory planning processes and stakeholder consultations are important in ensuring viability and longer-term sustainability of activities. If activities are designed in conjunction with and for beneficiaries, they are more likely to be designed with their opinions and priorities in mind and more likely to be successful. The need for such an approach was repeatedly stressed in reviewed documents, guidance, and consultations.

In another case,[56] a proposal stressed that water availability was already constrained and that future projections indicated that these conditions would be further exacerbated by intensifying climate risks and consequent impacts. Thus, based on the communities' and government's priorities, the activities proposed addressed water capture, storage, and distribution. More specifically, the activities included rain water capture and storage (where possible), institutionalizing rationing policies, introducing new drip irrigation facilities and improving efficiencies of existing irrigation and distribution infrastructure.

Step Three: Connect activities with the larger policy framework

Strong proposals link activities to the country's National Adaptation Plans of Action (NAPAs), National Adaptation Plans (NAPs), Nationally Determined Contributions (NDCs), or available national and subnational climate change and/or development strategies. Some funding institutions, like the LDCF and Irish Aid, explicitly ask whether the proposed activities are linked to or prioritized in these climate-related strategies; if not, proposals are asked to explain why. This establishes how the proposed activity contributes to the country's larger policy goal and economic development in a climate-resilient manner. For example, in a project focused on coastal zone protection and fishermen livelihood diversification,[57] the proposal linked activities to the country's NAPA priorities. The proposal explicitly refers to the fishing industry's relevance to the country's overall economic growth and development, its inclusion in the NAPA

[55] UNDP Adaptation Fund Project (Samoa; WSM/MIE/Multi/2011/1/PD), 2011.
[56] UNDP LDCF Project 5192 (Mali), 2013.
[57] CSE Adaptation Fund Project (Senegal), 2015.

and other national climate change plans, and highlighted the consequences of *not* supporting the activity by providing potential GDP impact and employment losses.

Consideration of how proposed activities are situated within the larger policy environment should also include an examination of whether and how proposed activities might conflict with the objectives of broader planning documents such as national development plans, and what trade-offs may be necessary to implement proposed activities. For example, many countries have ambitious economic growth plans that will require stable water supplies across many sectors, such as commercializing agriculture, while at the same time ensuring that protected areas receive enough water to support expansions in wildlife-based tourism. Proposals that focus on any one of these sectors without considering how climate impacts will affect other sectors could undermine effective implementation of the proposed activities. Understanding the limitations that climate impacts will place on supplies of critical resources such as water and arable land is key to optimizing decision-making and avoiding conflict, and to the strategic use of adaptation funds.

The GCF may also come across situations where such strategies are not yet in place and thus, cannot point to finalized planning documents. In these cases, proposals could still justify how their activities contribute to promoting climate resilience. For example, in one capacity building project,[58] the proposal explicitly stated that the country did not yet have a climate change strategy framework in place, but that their integrated national development plan highlighted climate vulnerabilities and risks. Using IPCC and other literature assessments to indicate these risks, the proposal made a strong case for assistance to integrate climate risks and disaster risk reduction considerations into sub-national plans in a priority region. Thus, even in the absence of climate-specific strategies, proposals can and should be encouraged to embed their proposals in the country's larger development framework. Stronger proposals link to the larger policy and development framework of the country, indicating that supported activities contribute to the longer-term climate resilient development trajectory of the country. Further, as other multilateral and bilateral actors' experiences and academic literature indicate, supporting these non-physical drivers of vulnerability activities is important in furthering adaptation capabilities in the long run.

Review of GCF Concept Note and Funding Proposal Templates

Templates for concept notes and funding proposals play an important role in steering proponents to clearly establish climate rationale. Based on the three steps described above, this study analyzed the extent to which current templates guide proponents to design and articulate projects with clear climate rationale.

The GCF has two templates, one for concept notes (voluntary) and one for full funding proposals (mandatory). If entities wish to, they can submit a concept note as a way to get initial feedback from the Secretariat on project ideas. They can then progress to a full funding proposal, which is a more comprehensive and detailed document that is reviewed by the Secretariat, the ITAP, and the GCF Board.

Concept and proposal templates do not mirror one another, which can be a challenge for proponents. Preparation of a concept note provides a good opportunity for project proponents to test and receive feedback on the climate rationale of their proposed projects. But the process of developing a concept note is of limited utility if the proposal template then scatters the various pieces of information proponents have knitted together into a climate rationale narrative across what ends up being a 70- or

[58] IBRD PPCR Project (Zambia; ID# XPCRZM041A), 2013.

80-page project proposal. One stakeholder noted that it is a big leap to go from a concept note to a full proposal, and the difference in structure makes the process more difficult and confusing.

Analysis and interviews suggest that while both templates could be improved, the concept note template is more intuitive than the proposal template in guiding project proponents to establish climate rationale. The concept note template requests most of the relevant pieces of information in one section (Section B), which can lead to better explanations of the climate rationale. Section B.1. of the concept note template directs proponents *in two pages or less* to describe: climate vulnerabilities and impacts; adaptation needs that the prospective intervention is envisaged to address; how the project fits with the country's national priorities (including its INDC/NDC or national climate strategies or other plans); the country's full ownership of the concept; the root causes and barriers that need to be addressed; and any relevant characteristics or dynamics of the sector or market in which the project will operate. Section B.2. then instructs proponents to describe their proposed projects (including activities) "to address the above barriers identified that will lead to the expected outcomes." It is worth noting, however, that at this point in the concept note template, project proponents have yet to describe expected outcomes, which can be confusing. Further, current instructions do not explicitly direct proponents to evaluate *future or long-term* vulnerabilities and impacts.

In contrast, the funding proposal template requests relevant information but is not structured in a way that naturally leads proponents to connect the information and develop a coherent narrative of climate rationale. It fragments the information into multiple places, making proposals both duplicative and hard to follow. For example, information on anticipated climate changes and expected impacts can be found in sections A.2., C.1., C.2., and/or E.4.1. The description of proposed activities is largely in Section C.3. That section directs project proponents to describe proposed activities and "[p]rovide information on how the activities are linked to objectives, outputs and outcomes that the project/programme intends to achieve." Those "objectives, outputs and outcomes," in turn, are not detailed until Section H of the proposal template, and nowhere does the template explicitly direct project proponents to connect "objectives, outputs and outcomes" to the anticipated climate changes and expected impacts they describe in sections A.2., C.1., C.2., and/or E.4.1. Information on how proposed activities fit into a larger policy framework can be found in Section E.5.1. Information on stakeholder engagement and consultations can be found in Section E.5.3. of the funding proposal. Coupled with lack of clear guidance, this confusing structure does not lead proponents to effectively explain the climate rationale of activities. This is also a challenge for GCF Board members in the conduct of their project review and approval responsibilities.

IMPLICATIONS AND RECOMMENDATIONS

The study recommends incorporating the three-step framework described above for establishing climate rationale into all relevant policies and guidance to countries and entities. This approach should be integrated across all divisions of the Secretariat. The steps are: (1) identify anticipated changes in climate, their impact, and the vulnerabilities of affected populations; (2) clearly articulate proposed activities and how they address expected climate impacts and vulnerabilities; and (3) explain how activities connect with the larger policy framework. Table 4 summarizes the key questions that the GCF may wish to pose to proponents of adaptation proposals. It also provides preliminary guidance on what is required for each step. The descriptions and examples provided above could form the basis of detailed guidance for NDAs and accredited entities. Participatory planning and design is crucial in resolving conflicting objectives between stakeholders or addressing tradeoffs. It is also essential for ensuring that

vulnerable groups and communities, such as women and Indigenous Peoples, are included in all stages of project development.[59]

Table 4: Illustrative Guiding Questions for Establishing Climate Rationale

Elements of climate rationale for adaptation	Guiding Questions	How to answer
Step One: Current and Future Impacts and Vulnerabilities	What is the current development baseline?	- Describe current socio-economic conditions - Describe current development challenges Sources: Draw on available studies, as some information may already appear in assessments for other funds, NAPAs, NAPs, sustainable development plans, etc.
	What are the current and projected climate risks and impacts for the target group/region over relevant time horizons (e.g., short and long-term)?	- Describe predicted changes to the climate in target area (e.g., trends in precipitation, temperature, extreme weather events) - Specify who and what is affected by those changes - Describe the climate-related risks (likelihood of a hazard occurring) and impacts (e.g., reduced agricultural productivity, water scarcity) at time horizons relevant to the project - Identify uncertainties in projections, if any Sources: Draw on new or existing studies by credible individuals/institutions, as well as sources such as IPCC, previous NAPAs or NAPs/planning documents, and academic or expert literature to highlight the risks and impacts
	What are the underlying vulnerabilities to climate change faced by the expected beneficiaries, and what might be driving them?	- Identify the target population's vulnerabilities to the impacts above - Explain what might be driving those vulnerabilities (e.g., socioeconomic conditions, unplanned growth, weak governance) and identify which are targeted in this proposal. Include relevant assumptions and acknowledge uncertainties, if any. - Explain why these drivers are targeted, rather than others, as well as the process used to arrive at this conclusion Sources: Use evidence from assessments and studies, or stakeholder consultations and interviews to substantiate claims

[59] The Paris Agreement, in Article 7.5, recognizes the importance of taking into consideration vulnerable groups and communities, and makes specific reference to using gender-responsive approaches and respecting the rights and knowledge of Indigenous Peoples. The GCF also has a mandate to promote gender-responsiveness and recently adopted an Indigenous Peoples Policy.

Elements of climate rationale for adaptation	Guiding Questions	How to answer
	What are the current barriers to addressing the identified vulnerabilities and their drivers?	- Identify key barriers Sources: Use evidence from assessments and studies, or stakeholder consultations and interviews to substantiate claims
Step Two: Proposed Activities and how they Address Impacts/Vulnerabilities	What are the proposed activities and how were they determined?	- Outline specifics of each proposed activity
	How do the proposed activities address the identified impact and/or driver(s) of vulnerability over a time horizon relevant to the project (e.g. short- and long-term)?	- Provide a clear explanation of how each component in the proposal is expected to address impacts or vulnerabilities (e.g., use assessments, studies, best practices to show pathways of change between activities and vulnerability drivers). - Explain how climate projections and impact models were considered to understand how the proposed activities can contribute to the ability to sustainably meet longer-term objectives - If some components are not directly climate-related, explain how they support activities that are

Elements of climate rationale for adaptation	Guiding Questions	How to answer
	How were these activities identified?	- Explain how these activities were identified (participatory processes, consultations, government plans, etc.) - Explain what alternatives were considered and why the proposed activities were ultimately selected and prioritized; - If the proposal involves a certain technology or technologies, explain why and how that technology mix was selected - Provide clear explanations of how design options, costs, feasibility, stakeholder opinions were considered in this process. - Explain which trade-offs were considered and how they were resolved. Examples include time horizons (e.g., short- and long-term) and competing interests of stakeholders (e.g., river basin transfer may increase water for agricultural use in one community while reducing water use in another)
Step Three: Connect Activities with the Larger Policy Framework	Are proposed activities consistent with national and subnational sustainable development or adaptation strategies, or other instruments?	- Explain how activities fit with sustainable development plans, NAPAs, NAPs, or other relevant documents - If not contained in an existing plan, explain why - If there are competing policy objectives (e.g., water supply is insufficient to support both increased energy production and continued agricultural productivity), explain how those issues were resolved
	Is there evidence of longer term planning?	- Explain whether and how the proposed activities help enhance long-term planning for adaptation - Identify the limitations of the proposed activities in terms of longer-term adaptation - Identify what longer-term fundamental shifts in economic bases, livelihoods, or ways of living may be necessary to adapt

Source: Generated by WRI based on guidance in other institutions supporting adaptation.

A stronger, more systematic focus on establishing a proposal's climate rationale at the GCF will have important benefits. It will lead to more transparent decision making by the Secretariat and the Board about what gets funded. It will send a clearer signal to project proponents as to what they should consider when designing and presenting proposals for consideration. In addition, it will further strengthen country

ownership by creating more space and stronger processes where national and local stakeholders can engage in the design of proposals. Finally, with readiness support, a stronger focus on climate rationale will help build country and stakeholder capacity to undertake robust adaptation planning.

Further, improving the process of establishing climate rationale will not guarantee a paradigm shift, but it will improve considerably the GCF's ability to fund innovative adaptation actions that catalyze transformation toward a more climate-resilient future (rather than maladaptation). While many countries may not have good enough, let alone perfect data, they should still make a best effort to understand both risks and uncertainties, and identify adaptation investments that address those risks and are flexible and robust enough to withstand uncertainties.

A Secretariat-wide work programme could help to determine how best to integrate this three-step approach across the GCF and communicate the approach to all relevant stakeholders. The GCF currently lacks clear standards on adaptation, which has contributed to confusion in the funding proposal process and inconsistency in the quality of proposals it receives. Developing a standardized way to assess adaptation initiatives would foster greater internal understanding of what constitutes an adaptation activity. Strengthening internal consensus could improve coordination and produce a more unified approach to adaptation across different parts of the GCF, including the readiness program, the PPF, and the project approval process. This, in turn, could produce greater clarity and improve proposal quality.

Modifying the concept note and funding proposal templates should strengthen the climate justifications for proposed adaptation initiatives. The basic objectives of the modifications proposed are to consolidate information pertaining to climate rationale and better align the templates with the three steps for justifying climate rationale.

- ***Simple improvements to the current concept note template could improve the utility of the concept note process.*** To align the template with the three steps laid out in Part II, this study recommends that section B.1 be limited to: (1) a description of future climate vulnerabilities and impacts, (2) adaptation needs that the prospective intervention is designed to address; and (3) the root causes and barriers that need to be addressed. Section B.2 could prompt proponents to describe proposed activities and explain how those activities will address the climate vulnerabilities and impacts described in Section B.1. The remaining information is more appropriately placed in a separate section after the description of proposed activities.
- ***For adaptation and cross-cutting proposals, section C of the proposal template could be revised to consolidate information on climate rationale.*** Explaining the climate rationale of adaptation activities through the structure of the investment framework is not necessarily intuitive, as the different steps can respond to different criteria. Section C may be a good place to consolidate all the steps of establishing climate rationale before proponents respond to the investment criteria. As such, the template could maintain C.1 – C.3, with revisions consistent with Table 4, and include a new part that links activities to risks, impacts and vulnerabilities and incorporates information currently requested in E.1 (impact potential), E.5.3 (participatory processes, and E.5.1 (larger policy framework). Parts C.4 – C.7 could be moved to a separate section and possibly streamlined.
- ***The funding proposal template should more closely mirror the concept note template with regard to establishing climate rationale.*** Preparation of a concept note provides a good opportunity for project proponents to test and receive feedback on the climate rationale of their proposed projects. But it is of little use if the project proposal template then scatters the various

pieces of information they have knitted together into a climate rationale narrative across what ends up being a 70- or 80-page project proposal. Instead, the funding proposal should simply expand upon the completed concept note.

Providing additional feedback at the concept note stage could encourage stronger funding proposals. Upstream support in the form of technical assistance, training and guidance materials, including sector-specific input, can play a valuable role in helping entities develop strong concept notes. Some entities report receiving unclear feedback on their concept notes or receiving feedback that was later contradicted once the full proposal was submitted. In addition to establishing and communicating clear standards for what is expected, the GCF may also benefit from increasing the amount of feedback provided at the concept note stage, to avoid providing unclear information to entities. The need for feedback is particularly pronounced for adaptation proposals, where confusion still exists as to what qualifies for GCF funding. Additionally, if the concept note template were revised to instruct proponents to identify any information they still need or flag places that require additional support, the feedback process could direct project proponents to the tools and resources available to meet their needs.

Finally, including ITAP in the concept note review process would allow project proponents to incorporate ITAP's feedback earlier in the planning process and, where appropriate, course correct before investing additional resources in a flawed project.

Readiness and Project Preparation

The GCF has several ways of supporting those seeking or thinking about seeking funding. In particular, the Readiness Programme and the Project Preparation Facility (PPF) are important points of engagement with NDAs, accredited entities, and prospective entities to help support the submission and approval of strong adaptation proposals (see Table 5).

Table 5: Summary of Readiness and Precatory Funding Available to Countries and Accredited Entities

	Activities	Who?	Support (USD)	Status
Readiness Programme	Establish and strengthen NDAs or focal points	Requested by NDA (accreditation support goes to direct access entities)	Up to $1 million grant per year ($300,000 limit for strengthening NDAs/focal points)	As of 08/2017, engaged with 114 countries on 215 readiness requests
	Strategic Frameworks, including the preparation of country programmes			
	Support for accreditation and accredited direct access entities			
	National Adaptation Plans (NAPs) and/or other adaptation planning processes	Requested by NDA	Up to $3 million grant (one-time investment)	As of 02/2018, GCF has endorsed 17 of 47 NAP proposals.
Project Preparation Facility	(i) Pre-feasibility and feasibility studies, as well as project design; (ii) Environmental, social and gender studies; (iii) Risk assessments; (iv) Identification of programme/project-level indicators; (v) Pre-contract services, including the revision of tender documents; (vi) Advisory services and/or other services to financially structure a proposed activity; and (vii) Other project preparation activities, where necessary.	Requested by accredited entity; emphasis on supporting Direct Access Entities for preparation of micro to small size projects:	Up to $1.5M/project in grant, renewable grant, or equity	As of 02/2018, GCF has approved 11 of 45 PPF applications from various accredited entities

Source: Compiled by WRI based on GCF data

Readiness and PPF resources can help countries build national adaptive capacity, including the capacity to understand and assess climate risks and uncertainties and identify adaptation options to address those risks and uncertainties. This study reviewed relevant guidance and a sampling of readiness, NAP, and PPF requests to understand whether resources are being programmed strategically. The review included 11 approved NAP proposals, 37 approved readiness requests from the countries with NAP approvals, and 14 approved/endorsed PPF requests. As appropriate, we analyzed guidance and requests using the National Adaptive Capacity Framework (NAC Framework) developed by WRI[60] and the three steps for establishing climate rationale.

[60] Drixit, 2012.

FINDINGS

Review of Guidance and Requests for Readiness Programme and PPF

In requests for GCF adaptation planning support, there is heavy emphasis on national vulnerability assessments, bodies to coordinate adaptation, and capacity to manage climate information and risks. There is less emphasis on periodic processes to update assessments and priorities over time, and capacity building for transformative adaptation. The NAP process can help countries move from broad priorities (such as those articulated in NDCs) to a pipeline of strong proposals, which is a critical step in building national adaptive capacity. Annex III analyses approved requests against the NAC framework. It shows that most requests, if not all, comprehensively address climate risk management and information management. This bodes well for the process of establishing climate rationale in projects. That said, addressing prioritization and trade-offs would benefit from more attention.

Further, review processes to adjust national and local priorities in response to changing risks and impacts would enable more dynamism in assessing, prioritizing, and coordinating adaptation actions. There is also limited reference in the requests to building capacity for long-term planning and transformative adaptation (i.e., adaptation interventions that encourage large-scale systemic changes that address climate impacts that threaten the viability of production systems and livelihoods). The current focus appears to be on addressing immediate, shorter-term climate impacts. Requests for other readiness support were not sufficiently detailed with respect to adaptation to draw meaningful conclusions. They tended to focus on institutional capacity building.

PPF requests addressed several elements necessary for establishing climate rationale, but several did not clearly deal with how proposed activities link to impacts or vulnerabilities. This is largely due to limitations in the PPF template, which is similar to the concept note template. The elements for establishing climate rationale are scattered, and some are embedded in sections on alignment with investment framework, making it difficult to build a strong justification for the project or programme.

The GCF's Readiness Programme and Project Preparation Facility (PPF) are important and useful tools in supporting climate rationale. Funding for readiness and project preparation should ideally to be utilized in a way that ultimately helps countries and entities put forward strong adaptation proposals. Investments in planning, institutional capacity building, and knowledge management through the Readiness Programme, for example, can help the process of establishing climate rationale and unlock the potential for investments in adaptation technologies to be transferred and disseminated at scale. Overall, guidance documents cover elements in the NAC framework well. Guidance for readiness, NAPs/other adaptation planning, and PPF also address the different climate rationale steps, but they do not clearly connect the steps in a way that guides stakeholders to consider how to use resources to build climate rationale.

The roles of the different windows of assistance and how the different windows relate to one another in the context of adaptation are somewhat unclear. Some stakeholders noted that they are unsure what their strategy should be for approaching the different readiness windows and what to include in proposals to access the different areas of support. Further, some kinds of activities (like project preparation) could be covered by both the readiness windows and the PPF, and stakeholders report conflicting advice from the Secretariat about which windows to access. This has led to inefficiencies in accessing resources.

While the GCF has developed effective criteria for assessing adaptation planning requests, it has not developed comparable criteria for the other GCF Readiness support windows. Last year, the GCF Secretariat issued guidance on the 10 criteria it will use to review proposals for formulation of National Adaptation Plans and/or other adaptation planning processes. These 10 review criteria are based on lessons learned and good practices in adaptation planning.[61] If used wisely, i.e., following the adaptation planning criteria set out by the GCF Secretariat, these funds can strengthen the "readiness" of a given country for effective adaptation. In contrast, other support windows do not have criteria for what constitutes effective use of resources for adaptation.

Operating solely in the English language is a barrier for many developing countries. Stakeholders noted that the language barrier makes the process of preparing GCF proposals challenging. Translations require time and additional resources, which can be considerable when technical studies/assessments and consultations are conducted in a language other than English. While this issue is not unique to adaptation, it is a widespread concern about doing business with the GCF.

GCF Expertise and Coordination

There are not enough experts in both GCF processes and adaptation to meet demand from countries and entities. The small size of the GCF secretariat relative to the scope of activities and actors it is expected to support means that it must rely on other organizations and individuals to provide the technical assistance that is needed. Since the GCF is still a new institution, there are a relatively small number of people who have specialized knowledge needed to effectively guide countries in their dealings with the fund. Accredited entities and readiness providers report frequently encountering difficulty finding experts to hire with sufficient knowledge in the GCF's processes to assist them in developing sound adaptation proposals. This is particularly challenging in the adaptation context, where identifying effective projects is generally less straightforward than for mitigation activities. In these cases, institutions often struggle to identify individuals with both an understanding of the GCF and a sufficient grasp of the local context to provide effective support. The Dalberg review recommends increasing Secretariat capacity to effectively manage the readiness programme, though it is not specific as to adaptation.[62] The 2018 work programme for the readiness and preparatory support programme envisions hiring more adaptation experts, which may address some of the issues identified by stakeholders.[63]

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[61] Key criteria include whether the proposals have a plan for stakeholder participation; for designing and prioritizing adaptation activities to address specific climate impacts and vulnerabilities based on localized climate risk mapping and assessments; for developing a pipeline of adaptation programs or project ideas; and for developing a theory of change, including by illustrating the connection between activities, outputs and outcomes as well as defining how adaptation planning support will contribute to strengthening institutional capacities to implementing adaptation programs and projects

[62] GCF B.19/32/Add.01, Final Report from Dalberg on the Initial Review of the Readiness Programme, https://www.greenclimate.fund/documents/20182/953917/GCF_B.19_32_Add.01_-_Readiness_and_Preparatory_Support_Programme__Revised_Work_Programme_for_2018___Addendum_I__Final_report_from_Dalberg_on_the_initial_review_of_the_Readiness_Programme.pdf/e3bdea93-7ff1-42b3-92de-cb2aaafdc05b.

[63] GCF B.19/32/Rev.01, Readiness and Preparatory Support Programme: Revised Work Programme for 2018, https://www.greenclimate.fund/documents/20182/953917/GCF_B.19_32_Rev.01_-_Readiness_and_Preparatory_Support_Programme__Revised_work_programme_for_2018.pdf/74f06371-071f-47f4-bfa1-6c377790e9e6.

There is insufficient coordination with other readiness providers and development partners. There are many other entities now providing readiness support to countries seeking climate finance, with GCF readiness resources or with resources from other donors or climate funds. This includes activities that are funded by other readiness funds. For example, alongside the GCF, the LDCF also supports NAPs and had provided some $41.7 million toward this end as of April 10, 2017.[64] There are also several institutions that provide readiness assistance, including the United Nations Development Programme (UNDP), UNEP, MDBs, and bilateral aid agencies. The involvement of multiple actors can be beneficial to countries, who often have needs that cannot be met by only one development partner. However, having several actors provide one country GCF readiness assistance can also lead to duplication and frustration. For example, stakeholders note that sometimes the roles of different readiness providers are unclear, and it can be inefficient to engage with multiple actors separately.

The GCF has arranged for a Readiness Coordination Mechanism to support information exchange between some of the entities providing readiness support. The mechanism convened certain readiness providers on the sidelines of the GCF Board Meetings and other international meetings, including COP22. The initiative was helpful in supporting information exchange between some of the global actors providing readiness assistance. However, the initiative did not extend to the national levels, where coordination is most needed. It also did not include all the institutions the GCF itself had hired to provide readiness support, nor did it provide information to readiness partners on the GCF's activities and plans, making it difficult for the partners to coordinate their activities accordingly. For this reason, the coordination mechanism was limited in its effectiveness. Going forward, the GCF could build on other country-level coordination mechanisms, such as the NDC Partnership or the LEDS Global Partnership, to support country-level planning.

IMPLICATIONS AND RECOMMENDATIONS

Additional guidance should further clarify the roles and sequencing of readiness and preparation funding in supporting an adaptation pipeline, and what constitutes effective use of readiness resources. Guidance could better direct project proponents to the relevant tools and resources available to support project development. It could clarify how resources for NDA strengthening, country programming, and adaptation planning can support the process of establishing climate rationale, and how PPF support can build on that for specific projects. For example, guidelines could explain that the one-time US$ 3 million allocation for formulation of NAPs and/or other adaptation planning processes can be used to support the systems and generation of evidence (including studies and assessments) necessary to develop strong climate rationale in projects (as per Table 4). Guidelines could further specify that countries may seek funds from the Readiness Program to support development of strong climate rationale, including country programming (which can also be a good starting point for national adaptation priorities), stakeholder engagement, and efforts to improve institutional capacity. Given that adaptation planning is iterative, it may also be beneficial to encourage outputs that help build national adaptive capacity (see NAC Framework for examples).

The GCF could also make clear that the PPF can be a source of support for specific project concepts to further identify, in an inclusive and participatory manner, climate impacts and vulnerabilities and how proposed activities address said impacts and vulnerabilities (as per Table 4). This could include more

[64] Progress Report on the Least Developed Countries Fund and the Special Climate Change Fund, GEF/LDCF.SCCF.22/03/Rev.01

localized vulnerability assessments, for example. PPF resources are particularly important for direct access entities and for more vulnerable countries that cannot easily access grant resources to prepare projects.

It would be also beneficial to clarify what constitutes effective use of readiness and project preparation resources in supporting adaptation. One way to encourage consistency would be to develop guidelines similar to the 10 review criteria used for NAP readiness funds for the other activity areas of the GCF Readiness programme and project preparation support. Development of a theory of change for the Readiness Programme (underway) will also be beneficial. This could help ensure that countries receive consistent guidance on how the fund approaches adaptation throughout the readiness and project development process.

The GCF should identify ways to grow the pool of experts with expertise in both adaptation and the GCF's processes. Ensuring a strong a pool of experts with experience dealing with the GCF successfully could help ease the search for qualified assistance. The GCF could benefit from continuing to hire additional consultants and/or staff members to be based in the various regions to support the development of sound adaptation proposals. In addition, there is demand for the GCF to create training materials and programs aimed at external consultants, to help spread accurate information to the growing pool of individuals and firms that are offering assistance to developing countries seeking to access GCF adaptation finance. Ideally, beneficiaries of such a program would come primarily from the regions where the GCF provides funding, in order to further support the building of domestic capacity. The GCF should draw on existing adaptation expertise. The LDC Expert Group and the Adaptation Committee, for example, offer a wealth of experience and expertise on adaptation.

Accredited Entities

The ultimate success of the GCF hinges on the quality of the accredited entities that the GCF attracts, accredits, supports, and manages. To help ensure that the GCF can support a portfolio of effective adaptation initiatives, the GCF will benefit from having a pool of accredited entities that are able to channel finance to a variety of activities. To understand trends within the current batch of accredited entities and its potential to support the GCF's objectives this study analyzed:

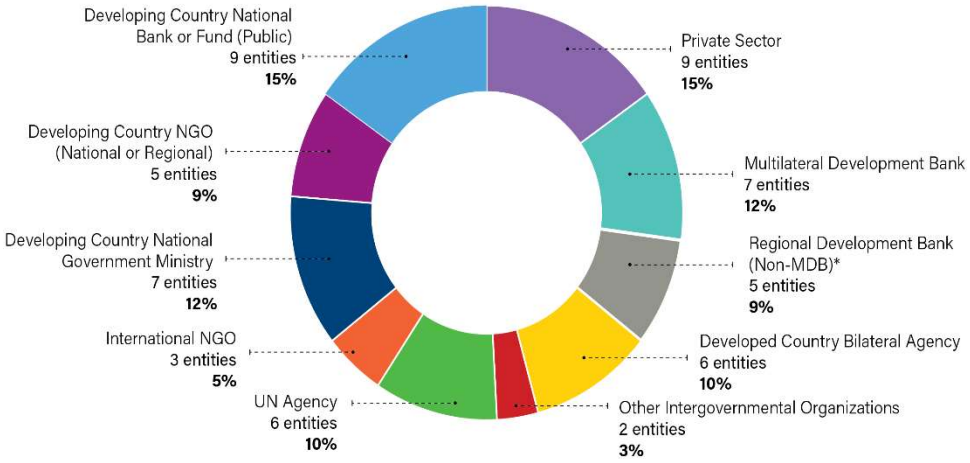
- The diversity of the GCF portfolio based on the types of institutions accredited (and seeking accreditation) and their sector specializations.
- The experience and expertise of accredited and applicant institutions of working with adaptation finance.
- The degree to which accredited entities are working with national- and local-level institutions.
- The ability of entities in the portfolio to make use of an array of financial instruments.

FINDINGS

Diversity of the GCF's Accredited Entities

The GCF's current pool of accredited entities is diverse, but four entities account for nearly half of the adaptation and cross-cutting proposals. As of April 30, 2018, the GCF has accredited 59 entities. These institutions represent a variety of types of actors, including international NGOs, government agencies in recipient countries, bilateral and multilateral development finance institutions, private sector entities and more (see Figure 7).

Figure 7: All Accredited Entities by Type

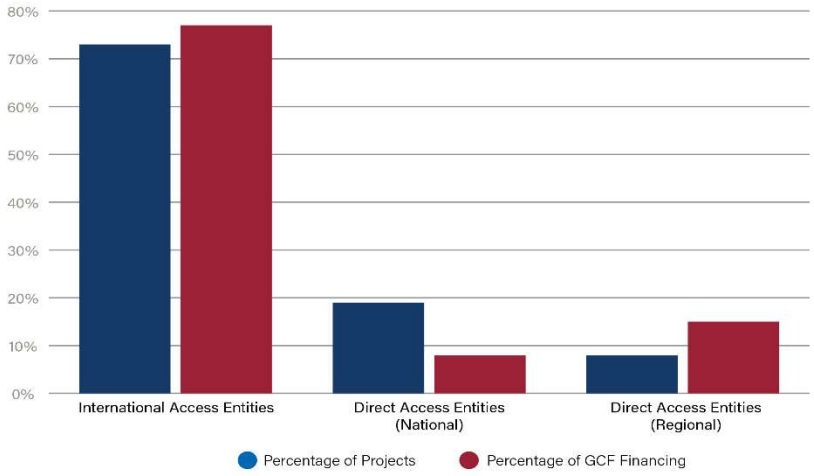


Source: WRI, based on GCF data as of April 2018

Together, UNDP, World Bank, ADB, and EBRD account for 28 of the 55 approved adaptation or cross-cutting projects. UNDP has had 13 such projects approved, while World Bank and ADB have 6 such approvals. EBRD has 3 adaptation-related approvals. The remaining 27 approvals have gone to 21 entities. The UN entities and MDBs have proven track records in developing and managing climate adaptation

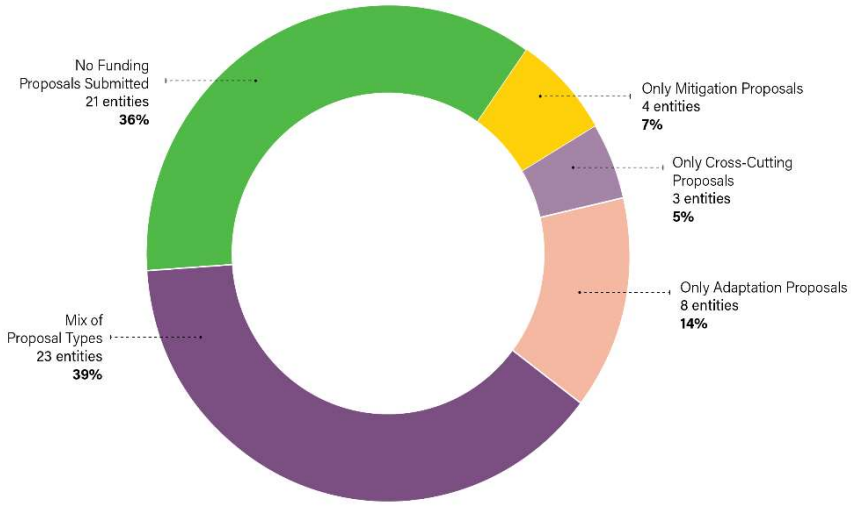
projects, experience navigating the existing ecosystem of international climate finance institutions, and on-the-ground operations spanning many countries. It is to be expected that these entities would feature prominently in the adaptation arm of the GCF. However, it is notable that there are not more proposals submitted and approved from direct access entities (see Figure 8).

Figure 8: International, regional and national entities by proposal submissions (adaptation and cross-cutting)



***More than a third of accredited entities have not yet submitted full funding proposals. Of entities that have submitted proposals, most have at least one proposal with an adaptation component*.** Thirty-four entities, or nearly 60 percent of all the GCF accredited entities, account for all the adaptation and cross-cutting proposals submitted to the GCF so far (see Figure 9). Nearly three quarters of these entities have had at least one project approved, while a quarter are still awaiting their first approval.

Figure 9: Accredited Entities and the Submission of Proposals



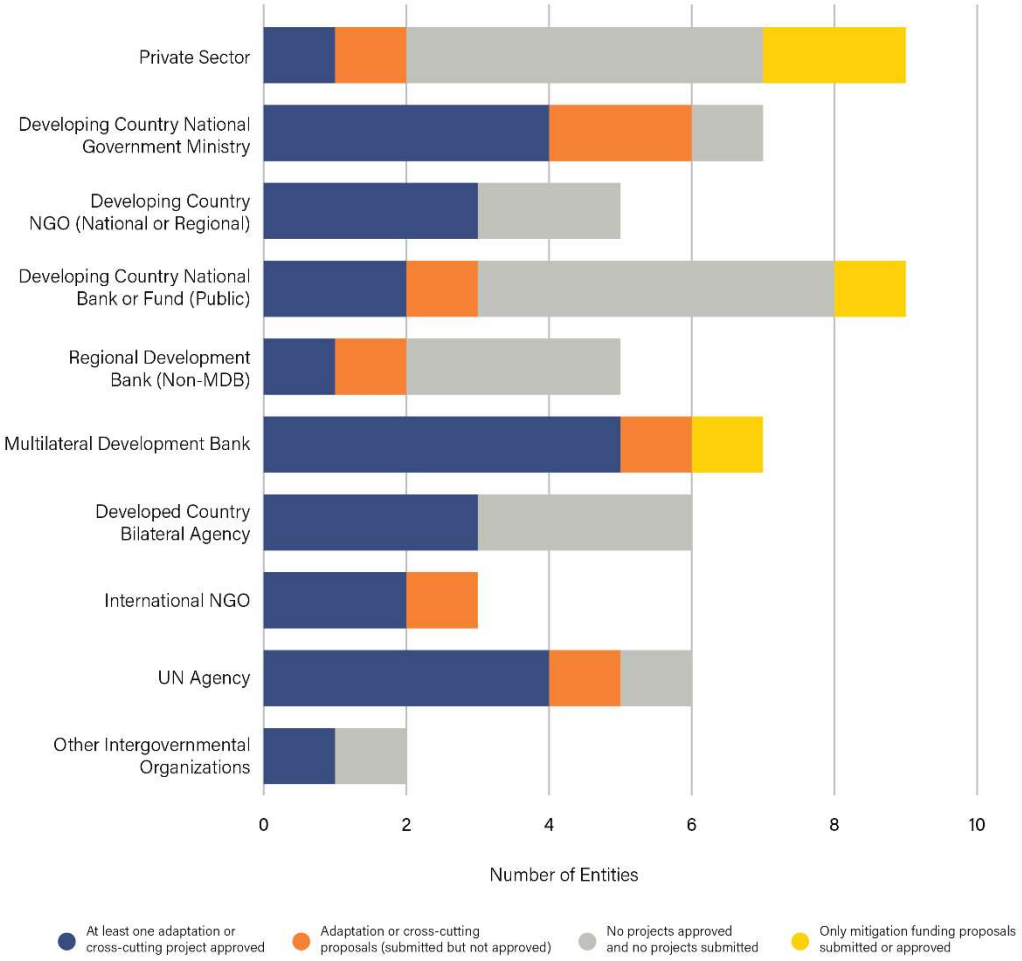
Source: WRI, based on GCF data as of April 2018

Most entities submitted a concept note or funding proposal after accreditation,[65] and the majority of those entities did so within a year of accreditation. While there are entities of all types that have submitted project proposals, most of the accredited MDBs and developing country government agencies have projects approved or waiting in the pipeline. In contrast, many of the accredited developing country public banks/funds (6 out of 9), and developed country bilateral aid agencies (3 out of 6) have not yet submitted proposals of any kind. Four of the nine

[65] Three entities seeking accreditation had active concept note applications on April 30, 2018.

private sector entities have submitted at least one proposal, but only two have proposed adaptation or cross-cutting projects.

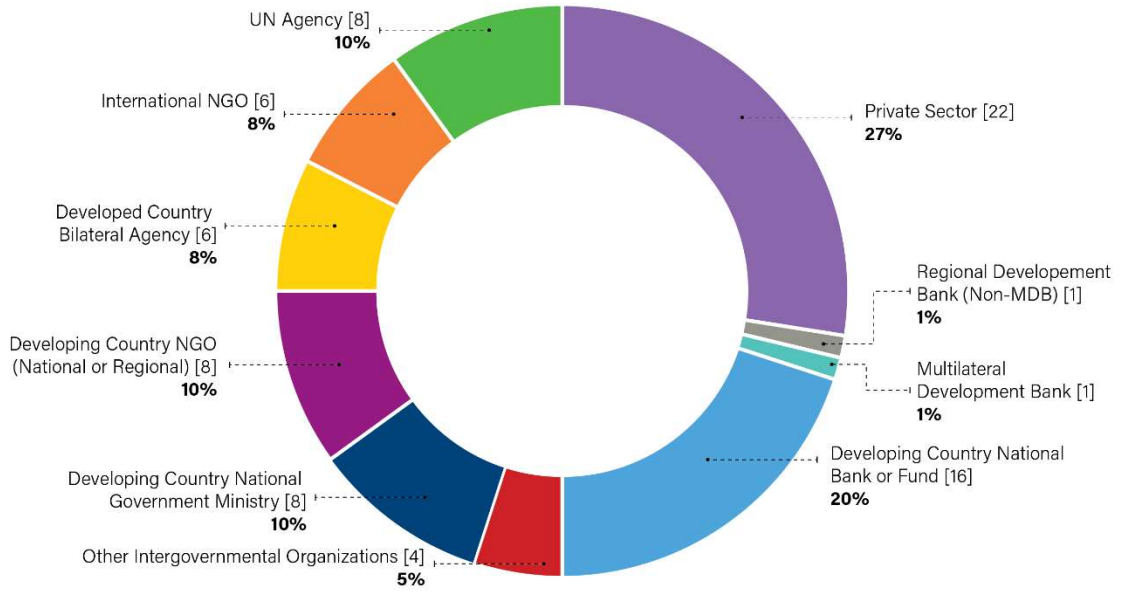
Figure 10: Submission of Projects by Entity Type



Source: WRI, based on GCF data as of April 2018

The pipeline of accreditation applications is also diverse, with a relatively high proportion of private sector entities. Eighty entities have submitted applications for accreditation that are listed by the GCF as in stage 1 or 2 of the accreditation process (see Figure 11). While it is possible that some of these entities are no longer actively pursuing accreditation, the pipeline nonetheless reflects potential continued diversity among accredited entities. Just under a third of the entities in the pipeline are from the private sector (see below for further discussion on the private sector).

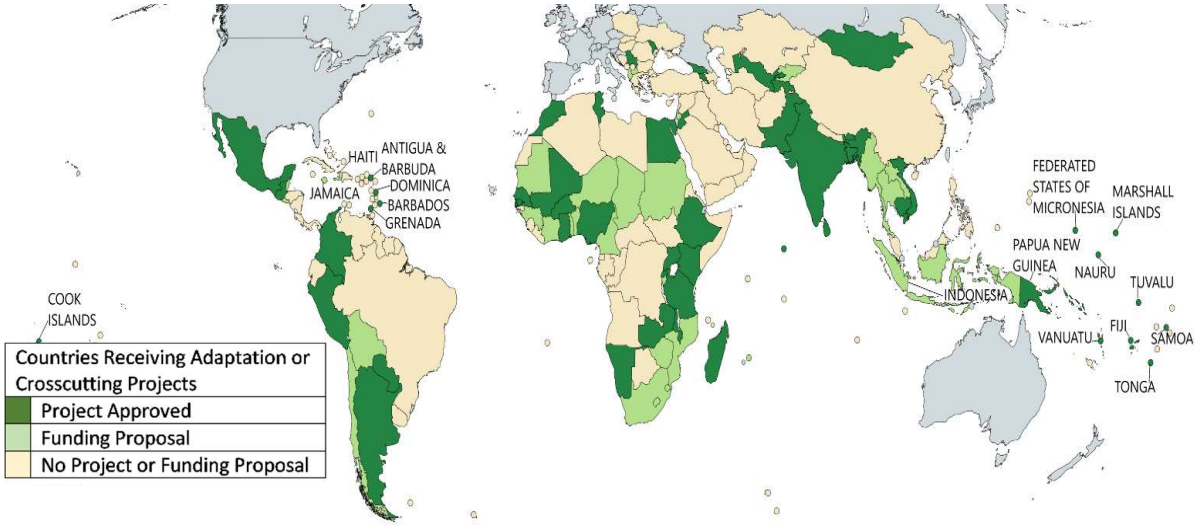
Figure 11: Accreditation Pipeline, by Type



Source: WRI, based on GCF data as of April 2018

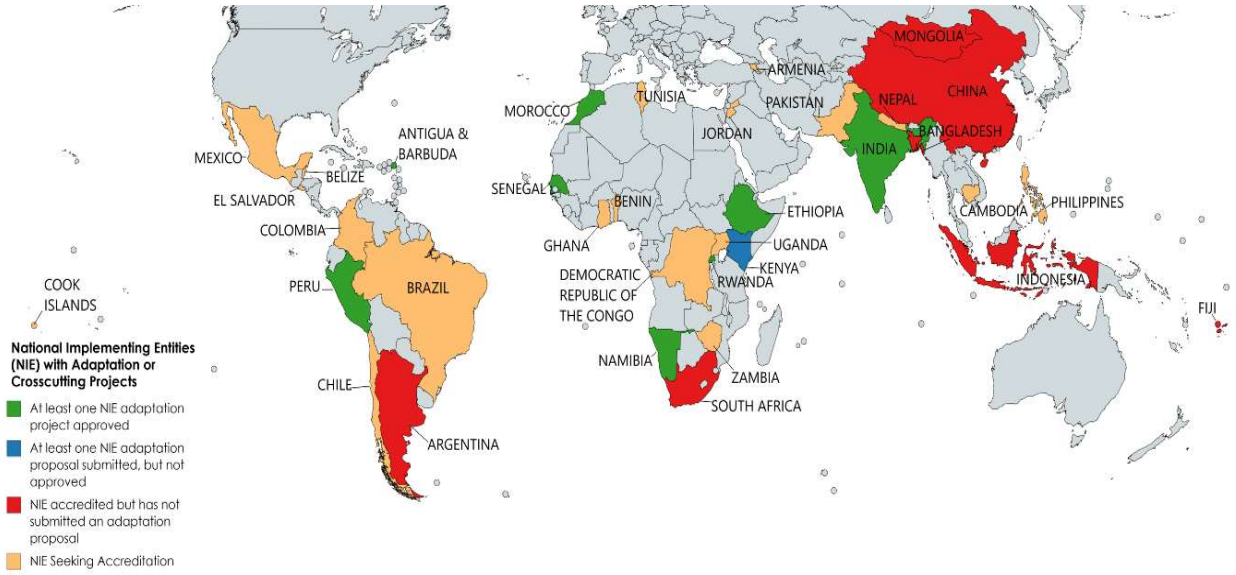
The GCF Board has approved accreditation of entities from a diverse set of countries. Since there are numerous institutions accredited with regional or global reach, all developing countries technically have at least one accredited entity they can work with to access GCF finance. Figure 12 shows which countries have adaptation and cross-cutting proposals approved or in the pipeline. The direct access entities are distributed across Africa, Asia and Latin America. All the direct access entities in Latin America and Africa have submitted an adaptation-related proposal, while only one in Asia and the Pacific has done so (see Figure 13). Nearly all adaptation project proposals from the Asia-Pacific region have come from international entities.

Figure 12: Countries with Adaptation and Cross-cutting Projects



Source: WRI, based on GCF data as of April 2018

Figure 13: Distribution of national implementing entities and their projects



Source: WRI, based on GCF data as of April 2018

Experience and Expertise in Adaptation Initiatives

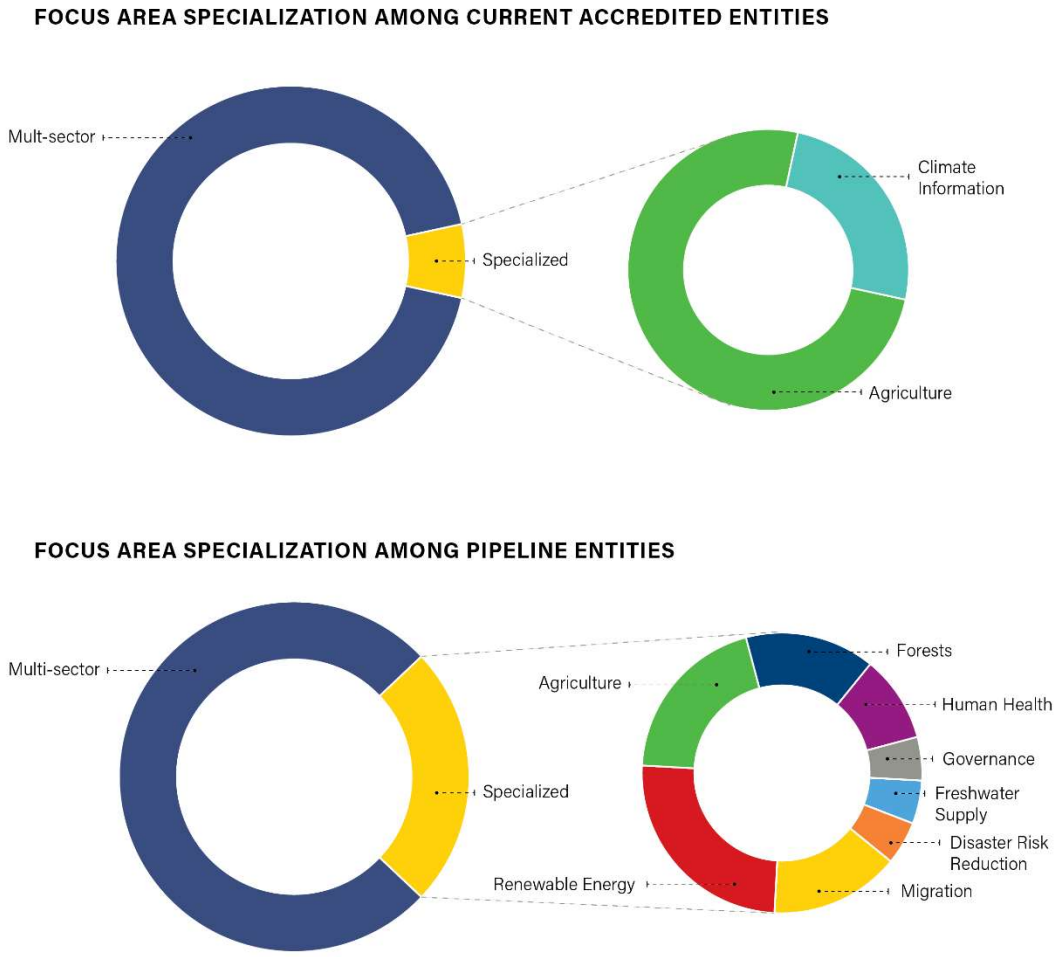
Data reviewed for the study shows that most entities with approved projects have previous experience implementing projects supported by the other climate funds. Institutions with adaptation expertise and experience developing adaptation projects will tend to have greater ease developing project proposals that clearly articulate a link between climate change and proposed activities. One way to identify adaptation experience therefore is to look at the projects that entities have conducted in the past, including those that have been submitted to other adaptation-focused funds. The top four entities by number of adaptation proposals approved by the GCF Board (EBRD, WB, ADB, and UNDP) also account for 37% of Adaptation Fund projects, 70% of PPCR projects, and 61% LDCF projects. The World Bank alone is the implementing entity for 41% of all projects funded through PPCR, while UNDP is the implementing entity for 33% of all Adaptation Fund projects and 55% of all LDCF projects.

A similar pattern is evident with regard to direct access entities. There is a very high correlation between direct access entities that have had proposals approved by the AF, and those that have submitted proposals to the GCF. Fifteen of the GCF's national or regional direct access entities have had projects approved by the AF; 13 of these entities have projects either approved by the GCF or in the pipeline. Of the 12 national or regional direct entities that do not have projects approved by the AF (for any reason), only three (EIF, CCCCC and CABEI) have submitted funding proposals to the GCF. This suggests that if an entity has prior experience with developing projects for another adaptation fund, there is reason to believe that they have benefitted from this experience (and associated capacity building) to submit proposals to the GCF. Notably, none of the entities that have applied for accreditation and are awaiting approval have had projects approved by the Adaptation Fund, PPCR, or LDCF

Nevertheless, as discussed above, adaptation actions often consist of activities similar to traditional development initiatives. This suggests that, in addition to entities with specialized adaptation expertise, entities that can effectively integrate climate risks into activities are important to have in the mix.

In terms of specialized sector expertise, most of the entities accredited to date do not focus on one particular sector, but engage in several different areas. This is true, for example, for most of the development finance institutions, private sector entities, non-governmental organizations and government entities. Four of the currently accredited entities specialize in narrower set of activities. Of those, three relate to the agricultural sector.[66] The pipeline of applications for accreditation includes a number of entities that specialize in particular areas, including water, health and migration (see Figure 14). This does not mean that they work exclusively in this area.

Figure 14: Focus Area Specializations of Accredited and Pipeline Entities



Source: WRI, based on GCF data as of April 2018

Accredited entities have different approaches to generating adaptation projects to be submitted to the GCF. Based on stakeholder interviews with a selection of accredited entities, Table 6 provides a snapshot of how different types of entities approach project origination. It shows that in some cases countries and entities specifically design projects with the GCF in mind, and in other cases, they identify projects in a

[66] ADA, FAO, and IFAD.

broader context and match ones that are appropriate for GCF funding. The importance of a strong NDAs that guides how a country engages with the GCF is clear.

At this point, it is not clear that one particular approach to project origination leads to higher quality proposals and ultimately successful impact. Whether or not a proposal is designed for the GCF from the outset is not necessarily determinative of its quality. Further, irrespective of the business model of a given entity, the key issue is whether the proposals they put forward have strong climate rationale and cost justifications. The question of project origination and what leads to success could be an area for further analysis once projects are under implementation and starting to yield verifiable results.

Table 6: How Different Entities Choose Projects for GCF Consideration

Type of Entity	Approach to project origination
National ministry example	Country had developed a climate resilient development strategy, using an inter-ministerial process. Based on this strategy, NDC, and NAP, the NDA sought project ideas from relevant ministries for a given sector. NDA/NIE appraised ideas using a set of detailed indicators (for each sector). They act as a hub and review all projects for international finance, including determining which projects to take to the GCF. Among other factors, they looked at sectoral equity, regional distribution, and level of integration.
Private entity example	Entity had experience investing in resilience (more generally) and saw the increasing impact of climate change on societies and environments. There was recognition that addressing climate impacts is essential for building resilience, and that they need to design investments to integrate their development work with climate solutions. Sought strategic engagement with GCF to invest in these efforts to serve as an anchor investor and attract other investors.
National fund example	On the basis of the existing national climate change strategy and action plan, the NDA issued a public call for concept notes specifically to take to the GCF. The NDA short-listed a set of concepts in priority sectors, which they sent to the accredited entity for further prioritization. Concepts were prioritized primarily on the basis of alignment with national plans and processes, size of projects (leaned toward smaller projects), and degree of vulnerability of communities. Once chosen, entity moved forward with project development.
UN agency example	Entity engages with the country in the context of the entire UN development system. Climate change is an entry point because it exacerbates underlying drivers of vulnerability. GCF is a source of finance among several, and countries have multiple priorities, both short- and long-term. There is recognition that GCF has different possibilities given its focus on climate change, scale, and range of instruments. But ultimately, entity is guided by what the country identifies as its needs in adaptation (based on national plans etc.) and works from there.
MDB example	Entity works with a country on the basis of a country strategy that is developed prior to identification of projects. Identification of projects is guided by the country strategy as well as other national climate/development planning documents. (Origination is not static in that it is possible for either the country or the entity to raise a project idea.) A country focal point determines which projects move forward. The entity has a technical focal point to coordinate with other teams to make sure projects meet GCF requirements.

Source: Compiled by WRI

Working with National and Local Institutions

Expert literature and experience at the multilateral climate funds highlight that effective governance and strong institutional capacity are vital for building adaptive capacity, particularly in countries with existing development gaps. While addressing climate change will require effective institutional responses at multiple levels, strong local institutions will be imperative in many cases, not least because many adaptation actions involve mainstreaming climate considerations into existing decision-making processes.[67] This finding is echoed by other experts, who emphasize that robust local institutions are especially important to climate adaptation, since local needs and responses are highly diverse and context-specific.[68]

National governments dominate the distribution of executing entities. An analysis of executing entities indicated in proposals provides a preliminary understanding of how well national and local actors are integrated into GCF projects or programs. There are other factors that are also relevant, including an accredited entity's experience with local actors, but this study could not meaningfully assess such factors with currently available data. In the current portfolio of adaptation and cross-cutting proposals, more than three quarters of proposals have national government ministries or agencies as executing entities. At the subnational and local level, there are markedly fewer entities involved. Of the 55 proposals in the portfolio, three have executing entities that are subnational government ministries. One project had a subnational NGO as an executing entity, but that project also has an executing entity that is a national government ministry. One project will potentially involve local private sector executing entities, but the selection of executing entities had not been finalized when the funding proposal was submitted. These trends are similar in the pipeline of adaptation and cross-cutting proposals.

Use of Non-grant Instruments

A key question is whether the GCF has an adequate roster of entities that can effectively make use of the range of instruments available from the GCF for adaptation, including concessional loans, guarantees and equity investments. Whether entities can make use of such instruments is directly related to whether they are accredited for on-granting and on-lending. As found in Part I of this study, the GCF's adaptation finance has been deployed almost exclusively through grants.[69] At the same time, several stakeholders recognize the need to consider innovative ways of using other types of instruments to support adaptation initiatives. Further using other instruments can help mobilize addition finance.

There is limited use of non-grant instruments for adaptation. While half of the entities that have submitted adaptation proposals are accredited for on-lending/blending, ninety-three percent of adaptation only funding is in the form of grants. Many of the GCF's accredited entities have the ability to program concessional products, such as discounted interest rate loans, or longer tenure participation; risk transfer schemes; guarantees; performance-based incentives; local currency buffer schemes. Of the

[67] As written in the most recent IPCC report, "among the important institutions in both developed and developing countries are those associated with local governments as they have a major role in translating goals, policies, actions and investments between higher levels of international and national government to the many institutions associate with local communities, civil society organizations and non-government organizations. IPCC Chapter 14.

[68] IIED "Delivering Real Change." IIED "The Green Climate Fund Accreditation Process: Barrier or Opportunity?" Charles Di Leva, "Financing Climate Mitigation and Adaptation" from *Carbon and Climate Law Review.* IPCC *AR5* "Chapter 14: Adaptation Needs and Options." AF/PPCR Reports on Enabling Activities.

[69] Implementation project of the integral management plan of the Lujan River Basin (FP054, CAF).

accredited entities, almost half are accredited to do on-lending. Only one entity (Acumen Fund) has an adaptation proposal with a non-grant instrument. There is more diversity in instruments for cross-cutting proposals, however, that is likely due to the mitigation components of those proposals.

There are likely several explanations for this. It is generally more difficult to develop an income stream for adaptation projects than for mitigation, making it more challenging to structure a project that will provide an income base through which to pay back a loan. Particularly for the private sector, there is sometimes a mismatch between the knowledge of risks and vulnerabilities, the quantification of those, and the delivery of projects, which may remain without a commercial or official co-financing to fill the gap generated by the financial and technical risk. For these and other reasons, it may be appropriate for the GCF to continue providing a significant portion of its adaptation finance through grant funding.

Figure 15 shows the breakdown of which fiduciary standards entities are accredited for; trends are similar in NIEs and regional entities. The slight overrepresentation of entities that can only access and deploy grants is not necessarily a problem.

Figure 15: Accreditation for the use of financial instruments

All Accredited Entities

Fiduciary Standards	Entities	Percentage of Total
Basic	59	100%
Project Management	57	97%
Grant Award	36	61%
On-Lending/Blending	27	46%

text 1

Entities that have submitted at least one Adaptation Proposal

Fiduciary Standards	Entities	Percentage of Total
Basic	18	100%
Project Management	18	100%
Grant Award	12	67%
On-Lending/Blending	9	50%

All NIEs

Fiduciary Standards	NIEs	Percentage of Total
Basic	19	100%
Project Management	18	95%
Grant Award	8	42%
On-Lending/Blending	9	47%

All RIEs

Fiduciary Standards	RIEs	Percentage of Total
Basic	13	100%
Project Management	13	100%
Grant Award	10	77%
On-Lending/Blending	7	54%

Source: WRI, based on GCF data as of April 2018

IMPLICATIONS AND RECOMMENDATIONS

The possible under-utilization of the full range of GCF accredited entities remains a concern. The diversity in accredited entities is an asset that should be maintained given the range of interventions the GCF has aspired to support in adaptation. However, a sizeable percentage of entities have yet to submit proposals, and a small handful of entities are originating most of the adaptation pipeline. Further, the entities that are submitting proposals or getting projects approved are mostly the same as those that have had success in peer funds. While this is unsurprising since past experience can increase capacities to successfully develop projects, the GCF runs the risk of simply replicating funding patterns of other multilateral funds. This raises two issues: whether it is cost-effective to build a large pool of entities at considerable cost if a significant portion will not be accessing GCF funding; and whether replicating traditional funding patterns stifles innovation.

The GCF should further explore how to encourage the use of non-grant instruments, and how to increase engagement of local entities. Key questions include: What further research is needed to understand how non-grant instruments could be deployed to support adaptation and mobilize more funding? (Revisions

to policies and methodologies, currently underway, may help to answer this question, particularly with respect to necessary financial and economic analyses.) Why have relatively few projects employed subnational or local executing entities to date, and how can the GCF encourage better engagement with local or subnational entities, particularly as executing entities that receive finance for adaptation efforts? (There may be emerging lessons from the enhanced direct access pilot that could be informative here.)

In terms of the pipeline of entities, the GCF may wish to consider how the accreditation of specialized entities could further complement the current pool of accredited entities. Given the overlaps in activities that support development and adaptation, entities with experience in traditional development sectors, like agriculture, water supply, or coastal zone management, could be valuable, if they can demonstrate the ability to effectively integrate consideration of climate risks into such activities. Additionally, if further research indicates that sectors like health and migration are underrepresented in the GCF portfolio, the GCF should consider how to work with specialized entities to address country priorities.

Cost Approaches

Strong articulations of climate rationale help ensure that activities are part of a larger framework of action, address priorities and specific climate-related vulnerabilities, and clearly establish the causal pathways that link activities and vulnerabilities. These steps help identify whether a project is designed to tackle genuine climate risks and impacts, and help lay the groundwork for cost justifications. However, it is separate exercise to differentiate between climate-related project costs and costs that would have occurred even without climate change. In some circumstances, such a differentiation of project costs is useful, in many other cases the exercise is impossible to conduct with accuracy. Given the diversity of adaptation interventions, a single approach to costs (full or incremental) may not be appropriate. To provide more clarity, this study reviewed current bilateral and multilateral approaches to costing, through an examination of available documents and interviews with organizational representatives.

FINDINGS

Comparative Analysis of Costing Approaches

The GCF lacks a clear policy on how to approach adaptation costing. The Governing Instrument provides that the GCF can fund full and incremental costs,[70] but does not specify which approach(es) in this range the GCF should apply for adaptation. The GCF is not the first to grapple with defining how to cover the cost of climate change adaptation. Climate funds, MDBs, and bilateral actors have adopted varying approaches to supporting adaptation costs, with some guidance about how to justify costs. They take slightly different approaches, ranging from covering total project (or activity) costs to financing the incremental costs of adaptation. Table 7 summarizes these approaches. In practice, these actors and project proponents routinely negotiate how and what costs will be covered, prior to project approval, indicating that flexibility may be necessary.

The Adaptation Fund covers the full project cost of proposed activities, provided that the adaptation reasoning for the intervention is clear. The Fund finances "projects and programmes whose principal and explicit aim is to adapt and increase climate resilience of a specific system or communities."[71] Establishing clear links between the proposed activities and current and future climate vulnerabilities faced is important to prove climate rationale. However, proponents do not need to separate the costs of business-as-usual development from the cost of the adaptation measure (i.e., they do not have to calculate baseline development and the difference in baselines when climate change is considered). The Adaptation Fund's proposal template provides guidance on how to establish the adaptation reasoning.[72] In this, the AF explicitly asks proponents to justify the funding requested, focusing on the "full cost of adaptation reasoning". Here, the AF expects quantitative or qualitative justifications of how the proposed activities relate to climate change and how these activities could be qualified as adaptation (and thus funded through the AF). Proponents are also asked to describe or provide an analysis of the cost effectiveness and sustainability of the proposal, allowing the AF to weigh the traditional and climate-related benefits of the proposed activities.

[70] GCF, 2011.
[71] Adaptation Fund, 2017
[72] Adaptation Fund, 2016, Project Proposal Template.

The LDCF/SCCF funds the full cost of adaptation measures, which is defined as the "additional cost" needed, beyond business-as-usual development. Here, the rationale is to use these funds to integrate adaptation into specific development interventions. To do so, these climate funds evaluate the additional cost of adaptation: for example, in the case of drought or flood resistant crop varieties, what are the costs of modifying storage and distribution facilities? Proponents are encouraged to conduct simple analyses that show cost differentials from using different materials or construction specifications. In certain cases, the "additional cost" of adaptation could comprise adaptation activities that are solely necessary because of climate change and hence not linked to other investments. Such activities would still need to be based on relevant national strategies and plans. Climate information services are such an example.

The PPCR, in turn, focuses on financing the additional cost of integrating climate risk and resilience into core development planning. It aims to leverage the existing implementing capacities of the MDBs and adopting a partnership (with governments, civil society, and the private sector) approach to mainstreaming adaptation into development planning. In principle, additionality should be demonstrated in the economic analysis of the project, but in practice there is recognition that a clear separation of development and adaptation costs is not always possible. The context and climate rationale of relevant costs is critical. For instance, the PPCR has supported capacity building and policy formulation activities (which this study has stressed as vital to supporting adaptation activities), which may otherwise be considered business-as-usual development activities, if not for its climate rationale. These activities were integrated into larger sectoral programming. In Cambodia, the PPCR supported agricultural infrastructure rehabilitation and climate proofing while simultaneously supporting policy formulation, mainstreaming, and capacity building of local governments (at the commune and district levels) to incorporate climate-risk management principles into disaster risk management and agriculture plans. There, the PCCR fully funded those costs.

NDF finances both development and adaptation components, provided that at least 50 percent of the overall project costs are associated with activities focused on adaptation. For these projects, NDF calculates the adaptation portion of the total investment. In an infrastructure based project, this would refer to the additional design or implementation costs of building to a higher threshold (e.g., for floods) or the integration of stronger materials.[73] Where possible, the NDF compares the difference between the present worth of total project costs with and without climate change. Where the adaptation or climate relevant portions of programs are harder to cost, like in capacity building programs, the NDF looks at whether at least 50% of the project costs are climate-related. This is used as the decision-making criteria and the costs of the project are fully supported.

[73] NDF, 2016.

Table 7: Comparison of Costing Approaches Across Select Funds

	Requires separation of adaptation costs from development costs?	Only funds the adaptation component of a project?	Pros and Cons
Adaptation Fund	No, but all proposed activities must have a clear adaptation reasoning.	Effectively yes, because all activities must be climate-related.	Less technical burden for proponents, but may not be suitable for projects with a mix of clearly separable climate and non-climate components.
Pilot Program for Climate Resilience	Not strictly. In estimating costs of integration, some separation of costs may be needed in the economic analysis. Yes, if additional support is needed to make a project/program climate resilient.	Not strictly, as its focus is integration. Yes, if supporting additional cost of making a project/program climate resilient.	Financing integration will have a long shelf life, but does not cover the spectrum of actions needed. If additional actions are needed, there is clear delineation of adaptation costs, but high technical burden to calculate costs.
Nordic Development Fund	Not strictly. Some calculation may be required to show that at least 50% of costs are adaptation-related.	No, can support both adaptation and development activities.	Possibly more pragmatic and allows for integrated, holistic projects, but the cost threshold can be challenging to apply consistently.
Least Developed Countries Fund and Special Climate Change Fund	Yes.	Yes, funds the full cost of adaptation above business-as-usual development.	Clear delineation of the adaptation component of a project, but technical knowledge and specialist expertise required to calculate costs.

Source: Generated by WRI based on reviewing guidance from AF, PPCR, LDCF, and NDF.

Most bilateral entities and MDBs do not explicitly differentiate between adaptation and development costs prior to project approval. However, the MDBs do use the previously described climate-relevance criteria to understand and report climate-related financing. To do so, they adopt an incremental cost approach, where they evaluate the "discrete project components or elements of project design that address risk and vulnerabilities under current and future climate change, in comparison with one that doesn't consider such conditions."[74] These costs are more easily distinguished for infrastructure or hard investments. For capacity building and softer adaptation interventions – the total costs of the component are generally considered to be adaptation costs. For example, in a crop and food production program, several components involved training agricultural cooperatives in managing adaptation loans, developing practical financial methodologies for lending, and training stakeholders in climate resilient technology applications. All costs related to these components are considered to be adaptation as the underlying rationale is tied to increasing periods of drought and related decreasing farm productivity.

[74] *See e.g.,* AfDB, ADB, et al. 2017.

Methods of Calculating Incremental Cost

Calculations of incremental cost are based on the premise that climate change adds specific expenses to business-as-usual development projects. For example, if a government is planning to build a bridge and must now build it higher and stronger due to a climate change-induced increase in floods, the cost of that additional height and strength is the "incremental" climate-related cost. Put another way, the benefit of a project is assessed by calculating its net present value, which is the difference between all time-discounted[75] benefits and costs. The costs of climate change at the project-level is then the difference between the net benefits of the project with climate change and the net benefits of the project without climate change. The cost of climate change, thus, is the cost of restoring welfare and benefits to the level it would have been without climate change.

An incremental cost calculation involves several steps:

- First, one must set up a baseline, including projections of what the future would have been without climate change. This may include projections of future population, crop yield, water supply, or coastal impacts. For the bridge example, it includes the current frequency and severity of floods and temperature (without climate change) and the requirements a bridge must meet to reasonably withstand these water and temperature levels for the lifetime of the investment.
- Second, one must identify climate projections and calculate the impacts of these changes on the baseline variables. These are the projected changes to future flood patterns and temperature and the impact of these changes on the safety of our bridge. This might include the analysis of multiple scenarios.
- Third, one must identify adaptation options to address the impacts.[76] For the bridge, this means, finding options for changing the bridge in response to the identified risks.
- Finally, the cost of the chosen adaptation options is the project's "incremental cost." In this bridge case, this is the cost (of more/ different materials, labor etc.) to plan for and construct a higher bridge built with materials that can withstand higher temperatures.

Incremental costing can be a useful tool to help identify the appropriate role of climate finance in some sectors and instances, like when there is a need to make adjustments to infrastructure plans so that they are more resilient to projected climate impacts. Engineers generally have well-developed design standards, such as 1-in-100-year flood standards, and the cost of designing bridges and roads to withstand more severe flood events are well-established. For water resources, if models project a diminution in water supply with climate change, it may be possible to calculate the cost of the additional reservoir storage needed to maintain current levels of water demand. Additionally, the proponent may also want to accommodate future demand (particularly if this is changing due to climatic variability and/or population changes).

Calculating these costs are based on dose-response relationships. Here, the dose refers to the possible future impacts, and the response refers to the necessary design changes to maintain the current standard. Thus, the unit cost of these design changes determines the incremental costs. For example, if roads or

[75] Discounting future benefits and costs allows them to be compared at the same value as present costs and benefits. This is necessary as $1 today will be worth more than $1 in the future because of its productive nature (e.g., it can be invested in the meantime and receive returns) between now and whatever time period.

[76] Westphal M, Hughes G, and Brömmelhörster J. 2013.

buildings are currently constructed to withstand a 1-in-50-year or 1-in-100-year flood or wind storm, then the incremental costs are the unit costs needed to maintain the current design standards but for a shifting climate. This would mean building for a 1-in-500 year or 1-in-1000-year flood or wind storm. Likewise, for coastal zone protection, Westphal et al. (2013) look at the construction and upgrading of dikes and beach nourishment needed to maintain the current demand for safety, as well as the costs of raising port facilities in response to sea-level rise, storm surge, and cyclones. They calculate the costs of adjusting the design and materials necessary to maintain existing standards in a shifting climate. As another method of calculating adaptation costs in agriculture, Westphal et al. (2013) calculate the cost of a consumer subsidy to maintain consumers' welfare in a world of increased food prices with climate change. The subsidy would maintain consumers' existing level of consumption despite decreasing purchasing power caused by rising food prices.

There are many circumstances where distinguishing incremental costs is not or possible or productive. Conceptually, the calculation of the incremental costs of climate change adaptation may be straightforward. However, in certain situations, calculating the cost differential between the baseline and future climate scenarios is difficult or impossible. Incremental cost calculations require data on future development baselines without climate change and projections of climate change impacts. This data is often not available or easily attained, and many countries may face technical constraints in doing such calculations.

Where communities already face serious development deficits, adaptation and development costs may not be separable because underdevelopment is itself a driver of climate vulnerability. For instance, a community that currently has no access to piped water is more vulnerable to increased drought (as a result of climate change) because they have no infrastructure to obtain water from elsewhere. Their vulnerability is greater in part due to the underdevelopment of the region. Further, poorer farming communities may be more vulnerable to drought because they do not have additional funds to buy drought-resistant seeds or implement other adaptation strategies. In such situations, activities that increase climate resilience and activities that are good for development are often one and the same (e.g., increasing access to piped water, access to credit for seeds, drip irrigation).

The review of projects showed that many activities supported by climate funds, like training government officials or technical engineers, or diversification of livelihoods (say, to address changes in available fish stocks), blur the boundaries between adaptation and development. These projects and proposals often do not calculate future or climate change affected baselines, partially because they cannot be clearly delineated. Such efforts, however, still require support, particularly if they help bolster current and future capacities to address climate impacts.

IMPLICATIONS AND RECOMMENDATIONS

Given the diversity of adaptation actions that the GCF intends to support, a single approach to costs is not appropriate. Some climate funds support the full costs of adaptation. In practice, this can resemble an incremental cost approach if funds require separating the cost of business-as-usual development. The bilateral actors and MDBs generally do not differentiate between adaptation and general development components of the project. However, for tracking purposes, the MDBs calculate the incremental costs of adaptation where necessary.

Because of the varied nature of adaptation activities – from hard infrastructure to capacity building and policy formulation – institutions exercise flexibility in applying relevant rules. For example, if a proposal to revise infrastructure designs to make the infrastructure more resilient to project climate risks also involved capacity building components, the costing calculation would be different than if the project only contained the infrastructure component. Further, as noted, in practice institutions exercise some level of flexibility in which costs will be covered. This indicates that the GCF may wish to consider a more flexible approach that accommodates the complexity of planning and implementing adaptation activities.

Rather than adopting a "one-size-fits-all" approach, or preserving the current ambiguity and lack of guidance, the GCF should adopt a set of approaches that could apply in different, pre-defined situations. These approaches include: total activity cost, incremental cost, and beyond incremental cost. Each of these approaches is suitable for different kinds of activities or circumstances. Given the diversity of needs that the GCF intends to help meet, it would be prudent to adopt all three approaches, while providing guidance on when those different approaches would apply and what proponents would need to demonstrate in connection with each approach. An indicative list of activities may be helpful, see Table 8 for initial examples.

- Total activity cost - Some adaptation activities are discrete actions that are specifically designed to address climate change. Incremental cost would not apply to individual project components here, because all activities are climate-specific. For example, climate information services, glacial lake outburst flood prevention and mitigation, and climate-related policy formulation activities would be fully supported under this approach. If the GCF agreed to fund the full cost of such activities, it would provide clarity to proponents, however there are relatively few interventions that would fall into this category.

- Incremental cost - In some situations, there is an identifiable incremental cost to adjusting an existing or planned activity to ensure that it is climate resilient (e.g., the proverbial road culvert that needs to be built for non-climate-related reasons but is widened to account for increased flooding at additional cost). In these cases, incremental cost could be used to identify what the GCF should (and should not) finance.

  The GCF could draw on methodological guidance from other institutions to provide clarity about the technical requirements proponents will have to meet. As discussed above, however, given the challenges in clearly delineating adaptation costs in certain situations, this approach may have limited utility. Even when costs can be separated conceptually, the technical burden may be heavy and entities (particularly direct access entities) may need support to conduct cost calculations. The GCF may wish to specify sectors or situations when an incremental cost approach is required, but it should still be prepared to exercise some flexibility based on circumstances.

  It is possible that in some situations building climate resilient infrastructure will cost less than the non-resilient alternative, meaning that there is no additional cost to make infrastructure resilient to climate impacts. In such situations, it may be appropriate to fund part of the project without an incremental cost calculation.

- Beyond incremental cost - Finally, there are situations that do not clearly fall into either of the above categories. These situations are more likely to be present in communities that already face serious development deficits and are vulnerable outside the context of climate change. In such situations, lack of development itself is a driver of vulnerability that needs to be addressed.

Climate impacts exacerbate their vulnerability, and it is difficult to disentangle activities that are generally good for development from ones that increase climate resilience (e.g., provision of water services to or diversification of livelihoods in poor and vulnerable communities).

In such situations, separating costs may not be practical. For example, one project among the 232 projects reviewed proposed to address water access and reliability issues at a site where only 30 percent of the population on average had access to piped water. The proponents explained that with projected climate impacts, this piped water access was projected to fall. Thus, addressing the underlying lack of access to water is part of dealing with projected climate impacts. In this case, it is not possible to easily disentangle the costs of climate-related activities and the underlying development activity: it may be prudent to fully fund the project or fund a significant portion of the project.

The GCF could identify factors that would justify financing the proposal beyond incremental costs. These could include the beneficiaries' historical marginalization, degree of vulnerability, and lack of access to other sources of funding. Some of these factors would be demonstrated in the context of establishing climate rationale, but proponents would need clarity on any additional information needed to justify not strictly separating costs. There GCF could also put a funding threshold in place for such projects; for instance, they could agree to fund up to X% depending on the availability of other funding sources.

Table 8: Examples of Activities Under Different Costing Approaches

Approach	Description	Examples
Total Activity Cost	Activities that are specifically designed to deal with climate change.	- Climate information services - Glacial lake outburst flood prevention - Climate policy formulation - Coastal protection - Drought-resistant seeds
Incremental Cost	Additional activities or costs needed to make development actions climate resilient.	- Modifying transportation infrastructure (road culverts, bridges, roads) to make it more resilient to projected climate risks - Modifying electricity and telecommunications infrastructure to make it more resilient to projected climate risks - Making existing water infrastructure climate resilient
Beyond Incremental Cost	Activities that may be needed regardless of climate change, but they address underlying vulnerabilities and increase climate resilience. Factors include: historical marginalization, degree of vulnerability, and lack of access to other sources of funding	- Provision of water services to communities whose vulnerability will be exacerbated by increasing drought - Diversification of livelihoods in poor and vulnerable communities; - Strengthening institutions and local capacities more broadly

Source: WRI.

The beyond incremental cost approach is perhaps the hardest of the three to clearly define, thus it may require providing indicative examples of the circumstances that could warrant its application as well as

the information needed to show historical marginalization or extreme vulnerability. It is important to recognize, however, that there are data constraints in many developing countries that will require flexibility regardless of the cost approach involved.

Preliminary Analysis of Private Sector Engagement in Adaptation

Climate funds, MDBs, bilateral actors, and recipient governments are interested in increasing the involvement of private sector actors in adaptation activities. How to increase private sector engagement in adaptation is a key area warranting further research.

FINDINGS

A preliminary review of GCF proposals, expert literature, and adaptation proposals submitted to the Global Innovation Lab finds that:

Less than a quarter of GCF portfolio and pipeline proposals contain activities related to the private sector.[77] In the GCF and other climate funds, private sector-related activities have included public-private partnerships, insurance, market linkages, access to credit and grant facilities, and alternative income generating activities. With the Acumen Resilient Agriculture Fund (ARAF) proposal, there is now one example of a private equity fund.

Only two private entities have sought support from the GCF for adaptation-related initiatives to date. Only one private entity, the Acumen Fund Inc., has had an adaptation-only project approved by the GCF. Another private entity has a cross-cutting proposal in the pipeline. Prior to B.19, Acumen also had a cross-cutting project approved by the GCF, but it is largely focused on mitigation. The other two approved projects from private sector entities are in mitigation.[78] There are public sector actors with projects coming through the private sector facility, however, due to confidentiality we are not able to determine if they contain adaptation activities.

There are probably several reasons for the lack of interest from private entities. As mentioned, adaptation can be more difficult to monetize than mitigation projects. Adaptation projects are also still less understood by private actors than projects focused on mitigation. It is possible that the 22 private sector entities in the accreditation pipeline would add to the number of private entities seeking finance for adaptation-related initiatives, were they to become accredited.

Several approaches for private sector engagement in adaptation are emerging, some of which are part of the current portfolio and pipeline:

- De-risking capital structures: Use of concessional to de-risk a capital structure, and mobilize local investor capital through issuance of local currency, investment-grade bonds, the proceeds of which can be used for adaptation projects. (Examples: Agricultural Supply Chain Adaptation Facility,[79] which works through MDBs who partner with agribusinesses whose supply chains reach small to medium-sized farmers, and the Water Financing Facility, which mobilizes domestic private investment from institutional investors in support of countries' priority actions in the water sector. [80])

[77] There are currently four Private-Sector Facility adaptation or cross-cutting proposals in the project pipeline.
[78] XacBank, FP046 and Deutsche Bank, FP027.
[79] IDB & Calvert Investments, https://www.climatefinancelab.org/project/agricultural-supply-chain-adaptation-facility/.
[80] Dutch Ministry of Foreign Affairs, https://www.climatefinancelab.org/project/water-finance/.

- Monetizing adaptation benefit: Local investors pay for upfront landscape restoration and conservation activities, which generate economic benefits for water utilities. In turn, utilities pay for a portion of the benefits they receive, creating reflows back to investors. (Example: Cloud Forest Blue Energy Mechanism.[81])
- Incorporating climate into local lending: Grant capital is used to develop climate-smart agriculture tools and a credit rating system. These are made available to local banks, who can lend to farmers while also promoting the adoption of climate climate-smart practices by farmers who want to access the lending. (Example: The Climate Smart Lending Platform[82])
- Private equity funds: Investing concessional and commercial capital in companies supporting adaptation efforts. (Examples include ARAF,[83] which supports private entrepreneurs in MSMEs by providing aggregator and financial services to small holder farmers, and Climate Resilient and Adaptation Finance & Technology Transfer Facility,[84] which is a fund that would invest concessional and commercial capital in companies in developed and developing countries providing adaptation technologies and services.)
- Insurance: Insurance solutions can help improve resilience by helping countries and communities absorb losses resulting from climate impacts, and could be used to promote more climate resilient practices. The InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions, launched in November 2017, seeks to develop new insurance and disaster risk finance tools.

Several stakeholders noted the importance of lending in local currencies to engage domestic private sector entities. Lending in hard currency can erode any concessionality offered and can be of great risk to smaller borrowers. This is true for both mitigation and adaptation efforts.

Strong enabling environments are essential for private sector engagement in adaptation.[85] In particular, removing policy barriers and provision of better and more reliable climate information can facilitate longer-term dynamic private sector participation. This requires considerable investments in information and research of assessing physical climate risks, going beyond traditional centralized climate information services (which are also necessary). These information and assessment channels would enable easier access to the necessary data and information necessary for private sector scenario planning and operations. There are also gaps in understandings of investible opportunities and the risks and uncertainties associated with these opportunities. Without easily available and digestible information on climate impacts, private sector actors face challenges in understanding operational risks (or opportunities).

[81] Conservation International & The Nature Conservancy, https://www.climatefinancelab.org/project/cloud-forest-blue-energy-mechanism/.

[82] F3 Life, https://www.climatefinancelab.org/project/climate-smart-finance-smallholders/.

[83] Acumen, https://www.greenclimate.fund/-/acumen-resilient-agriculture-fund-araf-?inheritRedirect=true&redirect=%2Fwhat-we-do%2Fprojects-programmes%3Fp_p_id%3D122_INSTANCE_VKj2s9qVF7MH%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3D_118_INSTANCE_4ZRnUzRWpEqO__column-2%26p_p_col_count%3D2%26p_r_p_564233524_resetCur%3Dtrue%26p_r_p_564233524_categoryId%3D846536.

[84] Lightsmith Group, https://www.climatefinancelab.org/project/climate-resilience-adaptation-financetransfer-facility-craft/

[85] GEF Compendium of Adaptation Activities, 2016.

Further, as lessons from the GEF-supported *Southeast Europe and Caucuses Catastrophe Risk Insurance Facility (SEEC CRIF)* highlight, longer-term private sector involvement requires addressing regulatory conditions – including the need for capacity building on private sector contract design, market regulation (e.g., insurance markets could be non-existent or in nascent stages of development), and the regulatory environment for enforcing payouts. Partially, these gaps arise from inexperience with such regulatory markets, the underlying risk or other economic modelling and analysis required to design or enforce regulations, or even the need to bridge smaller markets by expanding regionally. Addressing these base knowledge needs, supporting national, international, and private actors in bridging (or in some cases, building) the current and future business and climate risk profiles[86], and facilitating policy creation are important in spurring longer-term private sector action.

Some areas of intervention in adaptation may lend themselves to generating financial returns than others. For example, there is potential for private sector adaptation financing in the agricultural and resource management areas; in technological innovation and transfers; and supply chain management. There is also potential in climate-resilient infrastructure; coastal and other water infrastructure; water management and water systems, although financing volumes in these areas may be less.

Stakeholders note that accreditation may not be a suitable model for many private sector actors to engage with the GCF. While accreditation may work for some private entities, such as those who see a long-term strategic opportunity in partnering with the GCF, it is unlikely to be an efficient model for others (including for some public sector actors). It may be worth considering other ways of engaging such entities, including project-based accreditation and strategically working with existing accredited entities to develop structures that can crowd in others.

IMPLICATIONS AND RECOMMENDATIONS

The private sector is still largely absent from adaptation projects at the GCF; more thinking is required on how the GCF can best promote private-sector engagement on adaptation. As explored in the accredited entity analysis, the GCF can offer grants, loans, equity, and guarantees, and this diversity is important in engaging the private sector. The GCF may wish to consider concrete ways to increase engagement and communication with private sector entities. It should also consider modalities that enable entities (both public and private) to receive accreditation for single projects, but in a way that is consistent with fiduciary, environmental and social, gender, and indigenous peoples policies.

Active outreach on the emerging approaches for private sector engagement in adaptation, including through targeted requests for proposals (RFPs), may help attract more proposals. Approaches include de-risking, venture capital, private equity, risk transfer and insurance, monetization of the resilience dividend, and local-currency lending. Targeted RFPs designed around each of these themes could help refine these approaches, bring them to scale, and create demonstration/showcase projects that attract further private-sector interest. The GCF will need to have robust processes for risk assessment and financial analysis to determine the financial viability of projects, and whether activities are better suited to receive grants or non-grant products.

[86] In some cases, facilitating private sector action in developing countries has already been a development challenge for some. In this case, operating in areas of high or variable climate risk poses an additional challenge.

Annex I – Reference List

Adaptation Fund. 2017. *Operational Policies and Guidelines for Parties to Access Resources from the Adaptation Fund*. Available at <https://www.adaptation-fund.org/wp-content/uploads/2017/08/OPG-amended-in-October-2017-1.pdf>.

Adaptation Fund. 2016. *Operational Policies and Guidelines for Parties to Access Resources from the Adaptation Fund* ("Operational Policies and Guidelines"). Available at <https://www.adaptation-fund.org/wp-content/uploads/2016/04/OPG-amended-in-March-2016.pdf>.

Adaptation Fund. 2016. *OPG Annex 5: Project Review Criteria and Project Proposal Template* ("Project Proposal Template"). Available at <https://www.adaptation-fund.org/wp-content/uploads/2016/04/OPG-ANNEX-5-_project-template_amended-in-Oct-2017.pdf>.

Adaptation Fund. 2014. *Methodologies for Reporting Adaptation Fund Core Impact Indicators, March 2014*. Available at <https://www.adaptation-fund.org/wp-content/uploads/2016/04/AF-Core-Indicator-Methodologies.pdf>.

Adaptation Fund. 2011. *Results Framework and Baseline Guidance: Project-Level*. Available at < https://www.adaptation-fund.org/document/results-framework-and-baseline-guidance-project-level/>.

Adaptation Fund Ethics and Finance Committee. 2011. *Project Level Results Framework and Baseline Guidance Document*. Available at <https://www.adaptation-fund.org/wp-content/uploads/2015/01/AF-FinalDraftGuidance-wimpactproposal-10March11.pdf>.

ADB Independent Evaluation Department. 2014. *Real-Time Evaluation of ADB's Initiatives to Support Access to Climate Finance*. Available at <https://www.adb.org/sites/default/files/evaluation-document/111028/files/in109-14.pdf>.

AfDB, ADB, et al. 2017. *2016 Joint Report on Multilateral Development Banks' Climate Finance*. Available at <http://dx.doi.org/10.18235/0000806>.

AfDB, ADB, et al. 2016. *2015 Joint Report on Multilateral Development Banks' Climate Finance*. Available at <http://www.eib.org/attachments/documents/joint_mdb_report_on_climate_finance_2015.pdf>.

AfDB, ADB, et al. 2015. *2014 Joint Report on Multilateral Development Banks' Climate Finance*. Available at <http://www.worldbank.org/content/dam/Worldbank/document/Climate/mdb-climate-finance-2014-joint-report-061615.pdf>.

AfDB, ADB, et al. 2015. *Common Principles for Climate Change Adaptation Finance Tracking*. Available at <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Common_Principles_for_Climate_Change_Adaptation_Finance_Tracking_-_Version_1__02_July__2015.pdf>.

AfDB, ADB, et al. 2014. *2013 Joint Report on Multilateral Development Banks' Climate Finance*. Available at <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Joint_Report_on_MDB_Climate_Finance_2013_-_16_09_2014.pdf>

AfDB, ADB, et al. 2013. *2012 Joint Report on Multilateral Development Banks' Climate Finance*. Available at <http://www.eib.org/attachments/documents/joint_report_on_mdb_climate_finance_2012.pdf>

Australia, Department of Foreign Affairs and Trade (DFAT). 2016. *Australia's Commitment on Climate Change Action in the Pacific.* Available at <http://dfat.gov.au/about-us/publications/Documents/australias-commitment-on-climate-change-in-the-pacific.pdf>.

CIEL, AIPP, CARE, ITUC, IWGIA, RFN, WEDO. 2017. *Delivering on the Paris Promises: Combating Climate Change while Protecting Rights*. Available at <http://www.ciel.org/wp-content/uploads/2017/05/Delivering-On-Paris-Web.pdf>.

CSE Adaptation Fund Project (SEN/NIE/Coastal/2015/1). 2015. *Reducing vulnerability and increasing resilience of coastal communities in the Saloum Islands***.**

CIFs. 2010. *Pilot Program on Climate Resilience (PPCR): Financing Modalities*. Available at <https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_financing_modalities_final_0.pdf>.

CIFs. 2011. *The Pilot Program for Climate Resilience Fund under the Strategic Climate Fund ("PPCR Design Document")*. Available at < https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_design_document_final.pdf>.

CIFs. 2011. *The Use of Concessional Finance in the PPCR*. Available at <https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_3_use_of_concessional_loans_in_the_ppcr_0.pdf>.

CIFs. 2016. *Private Sector Investment in Climate Adaptation in Developing Countries: Landscape, Lessons Learned, and Future Opportunities*. Available at <https://www.climateinvestmentfunds.org/sites/default/files/7544-wb_cif_ppcr_report-v5.pdf>.

Climate Funds Update – Data Dashboard. Available at <http://www.climatefundsupdate.org/data>.

Dixit A, McGray H, et. al. 2012. *Ready or Not: Assessing Institutional Aspects of National Capacity for Climate Change Adaptation.* Available at <http://www.wri.org/sites/default/files/pdf/ready_or_not.pdf>.

Dougherty-Choux L, Terpstra P, et al. 2015. *Adapting from the Ground Up: Enabling Small Businesses in Developing Countries to Adapt to Climate Change.* Available at <http://www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience-/adapting-from-the-ground-up.html>.

GCF. 2011. *Governing Instrument for the Green Climate Fund*. Available at <https://www.greenclimate.fund/documents/20182/574763/Governing_Instrument.pdf/caa6ce45-cd54-4ab0-9e37-fb637a9c6235>.

GCF. 2017. Request for Proposals (RFP 2017/C/014), *Provision of Consultancy Services for Study on GCF's Climate Change Adaptation Approach: Portfolio Balance and Investment Priorities*.

GEF Compendium of Adaptation Activities. 2016. Available at <http://427mt.com/wp-content/uploads/2016/11/GARI-2016-Bridging-the-Adaptation-Gap.pdf>.

GEF Council. 2004. *Elements to be Taken into Account in Funding the Implementation of NAPAs under the LDC Fund*. Available at <https://www.thegef.org/sites/default/files/council-meeting-documents/C.24.Inf_.7%20LDCTF%20Elements%20FINAL.pdf>.

GEF Council. 2007. *Operational Guidelines for the Application of the Incremental Cost Principle*. Available at <https://www.thegef.org/sites/default/files/documents/C.31.12_Operational_Guidelines_for_Incremental_Costs-2007_0.pdf>.

GEF Council. 2006. *Programming Paper for Funding the Implementation of NAPAs under the LDC Trust Fund*. Available at <https://www.thegef.org/sites/default/files/council-meeting-documents/GEF.C.28.18_5.pdf>.

GEF Independent Evaluation Office. 2006. *Evaluation of Incremental Cost Assessment*. Available at < http://www.gefieo.org/sites/default/files/ieo/council-documents/c-30-me-02.pdf>.

GEF Independent Evaluation Office. 2013. *OPS5 Technical Document #19: Adaptation to Climate Change*. Available at <https://www.gefieo.org/sites/default/files/ieo/documents/files/ops5-td19-adaptation-cc.pdf>.

GEF Independent Evaluation Office. 2016. *Program Evaluation of the Least Developed Countries Fund*. Available at <http://www.gefieo.org/sites/default/files/ieo/evaluations/files/ldcf-2016.pdf>.

GEF Independent Evaluation Office. 2017. *Program Evaluation of the Special Climate Change Fund (SCCF) 2017*. Available at <http://www.gefieo.org/sites/default/files/ieo/evaluations/files/sccf-2016.pdf>.

GEF Secretariat. 2012. *Clarification on the Concept of Additional Costs of Adaptation to Climate Change*. Available at <https://www.thegef.org/sites/default/files/council-meeting-documents/Clarification_on_Additional_Cost_8_May_4.pdf>.

GEF Secretariat. 2015. *GEF Programming Strategy on Adaptation to Climate Change, Least Developed Countries Fund, Special Climate Change Fund*. Available at <https://www.thegef.org/sites/default/files/publications/GEF_AdaptClimateChange_CRA_0.pdf>.

Global Gender and Climate Alliance and UNDP. 2016. *Gender and Climate Change*. Available at <http://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/UNDP%20Linkages%20Gender%20and%20CC%20Policy%20Brief%201-WEB.pdf?download>.

Global Innovation Lab for Climate Finance. *Agriculture Supply Chain Adaptation Facility*. Available at < https://www.climatefinancelab.org/wp-content/uploads/2015/04/ASCAF_handout.pdf>.

Global Innovation Lab for Climate Finance. *Climate Smart Lending Platform*. Available at <https://www.climatefinancelab.org/wp-content/uploads/2016/06/170901-Lab-Climate-Smart-Lending-Platform-Handout.pdf>.

Global Innovation Lab for Climate Finance. *Climate Resilience and Adaptation Finance Technology Transfer Facility (CRAFT)*. Available at <https://www.climatefinancelab.org/project/climate-resilience-adaptation-financetransfer-facility-craft/>.

Global Innovation Lab for Climate Finance. *Cloud Forest Blue Energy Mechanism*. Available at <https://www.climatefinancelab.org/wp-content/uploads/2017/04/170906_Cloud-Forest_2pg.pdf>.

Global Innovation Lab for Climate Finance. *Oasis Platform for Catastrophe and Climate Change Risk Assessment and Adaptation*. Available at <https://www.climatefinancelab.org/wp-content/uploads/2016/06/170901-Lab-Oasis-Handout.pdf>.

Global Innovation Lab for Climate Finance. *Water Financing Facility*. Available at <https://www.climatefinancelab.org/wp-content/uploads/2016/06/170901-Lab-WFF-Handout.pdf>.

IBRD PPCR Project (Zambia; ID# XPCRZM041A). 2013. *Strengthening Climate Resilience (PPCR Phase II) Project***.**

IISD. 2011. *Review of Current and Planned Adaptation Actions: Supporting the Adaptation Partnership.* Available at < www.iisd.org/project/review-current-and-planned-adaptation-action-developing-countries-supporting-adaptation>.

IPCC. 2014. *Fifth Assessment Report of the Intergovernmental Panel on Climate Change* ("IPCC AR5"). Available at <https://www.ipcc.ch/report/ar5/wg2/mindex.shtml>.

Irish Aid and IIED. 2016. *Integrating Climate Change into Development Programming*. Available at <https://www.climatelearningplatform.org/sites/default/files/resources/gn_integrating_climate_into_development_programming_-_working_document_04052016.pdf>.

Irish Aid. 2017. *Guidance for Tracking and Reporting Climate Change Support in Irish Aid Development Programmes*. Available at <https://www.climatelearningplatform.org/sites/default/files/resources/guidance_on_tracking_reporting_cc_in_programmes_-_updated_2017.pdf>.

McGray H, Hammill A, et al. 2007. *Weathering the Storm: Options for Framing Adaptation and Development*. Available at <http://www.wri.org/sites/default/files/pdf/weathering_the_storm.pdf>.

NDF. 2016. *Guidelines for Project Identification and Screening*. Available at <https://www.ndf.fi/sites/ndf.fi/files/attach/ndf_guidelines_for_project_identification_and_screening_april_final.pdf>.

OECD. 2011. *Handbook on the OECD-DAC Climate Markers*. Available at < https://www.oecd.org/dac/stats/48785310.pdf>.

PPCR. 2017. *PPCR Operations and Results Report (Summary).* Available at <https://www.climateinvestmentfunds.org/sites/default/files/meeting-documents/ppcr_21_3_orr_summary.pdf>.

UNEP. 2016. *The Adaptation Finance Gap Report* Available at <http://web.unep.org/adaptationgapreport/sites/unep.org.adaptationgapreport/files/documents/agr2016.pdf>.

UNDP LDCF Project 5192 (Mali). 2013. *Strengthening the Resilience of Women's Producer Groups and Vulnerable Communities to Climate Change in Mali*.

UNDP Adaptation Fund Project (WSM/MIE/Multi/2011/1/PD). 2011. *Enhancing Resilience of Samoa's Coastal Communities to Climate Change*.

UNFCCC decision 5/CMP.2. Available at <http://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf#page=28>.

Submission to the UNFCCC. 2016. *Roadmap to US$100 Billion*. Available at <http://www4.unfccc.int/Submissions/Lists/OSPSubmissionUpload/261_295_131233554162587561-Roadmap%20to%20the%20US$100bn%20(UNFCCC).pdf>.

UNFCCC Standing Committee on Finance. 2016. *2016 Biennial Assessment and Overview of Climate Finance Flows Report* ("Biennial Report"). Available at < http://unfccc.int/cooperation_and_support/financial_mechanism/standing_committee/items/10028.php>.

UNFCCC Standing Committee on Finance. 2016. *Summary and Recommendations by the Standing Committee on Finance on the 2016 Biennial Assessment and Overview of Climate Finance Flows* ("Biennial Report – Summary"). Available at < http://unfccc.int/cooperation_and_support/financial_mechanism/standing_committee/items/10028.php>.

United Nations. 2015. *Paris Agreement*. Available at <http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf>.

USAID. 2016. *USAID Climate Action Review: 2010-2016*. Available at <http://pdf.usaid.gov/pdf_docs/PBAAF094.pdf>.

USAID. 2012. *USAID Climate Change and Development Strategy*. Available at <http://pdf.usaid.gov/pdf_docs/PDACS780.pdf>.

Westphal M, Hughes G, and Brömmelhörster J. 2013. *Economics of Climate Change in East Asia*. Available at <https://www.adb.org/sites/default/files/publication/30434/economics-climate-change-east-asia.pdf>.

World Bank. 2011. *Accessing Resources Under the Special Climate Change Fund*. Available at <https://www.thegef.org/sites/default/files/publications/23470_SCCF_1.pdf>.

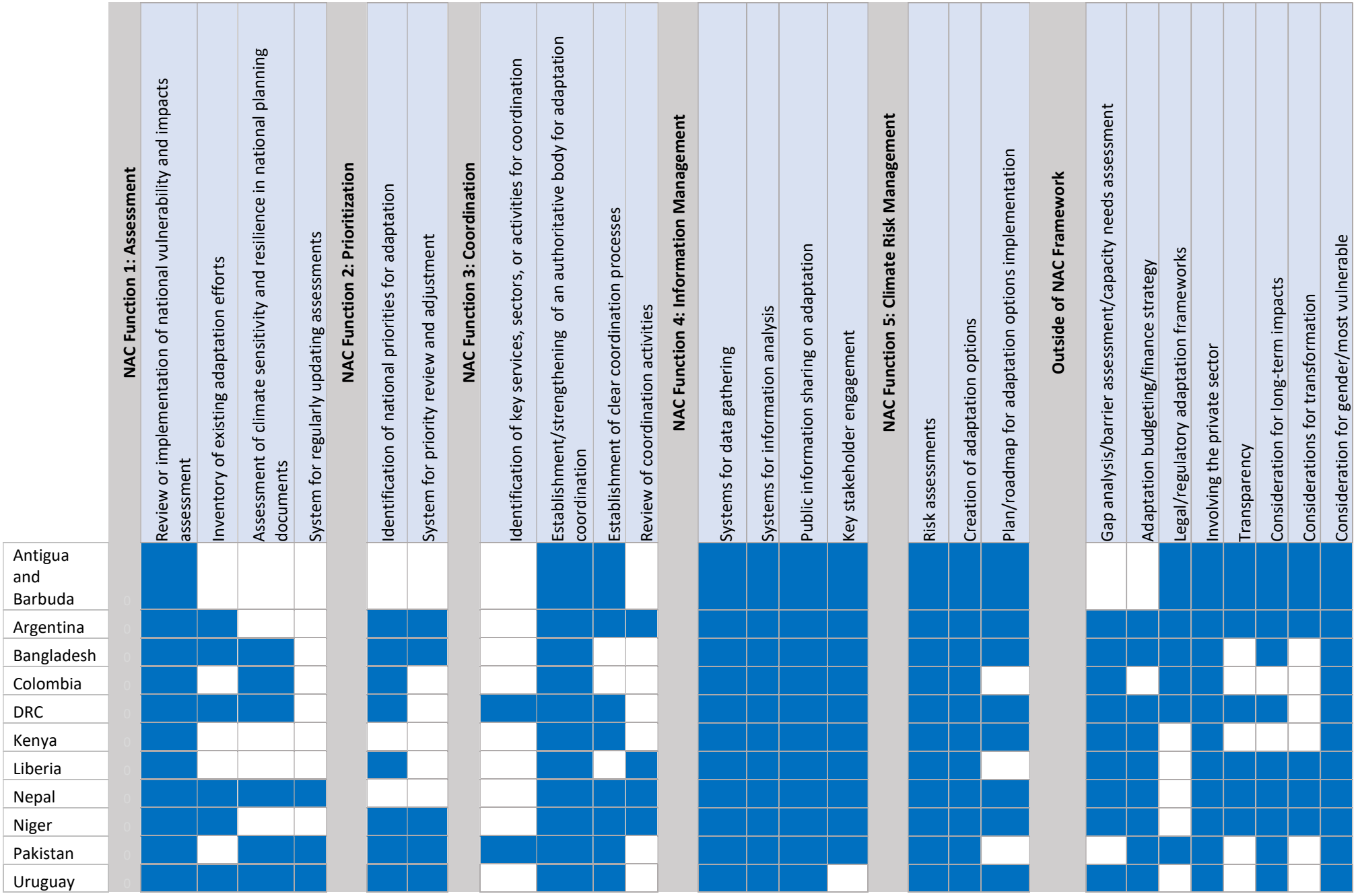
Zubrycki K, Crawford A, et al. 2011. *Review of Current and Planned Adaptation Action: North Africa*. Available at <https://www.iisd.org/pdf/2011/North_Africa_Adaptation_Action.pdf>.

Annex II – Stakeholders Interviewed

ActionAid International
Acumen Fund
Adaptation Fund
Bank of Tokyo-Mitsubishi
Climate Justice Resilience Fund
Department of Environment, Antigua and Barbuda
Environmental Investment Fund, Namibia
European Bank for Reconstruction and Development
Global Environment Facility (Least Developed Countries Fund)
Green Climate Fund
Heinrich Boell Foundation North America
Hoi Ping Ventures
International Institute for Environment and Development
International Institute for Sustainable Development
Lightsmith Group
Ministry of Finance and Economic Cooperation, Ethiopia
National Environment Management Authority, Kenya
Nordic Development Fund
Pilot Program for Climate Resilience
Stockholm Environment Institute
South African National Biodiversity Institute
Tebtebba, Philippines
The Indigenous Livelihoods Enhancement Partners, Kenya
United Nations Development Programme
United Nations Environment

The Study was also informed by views captured during a technical expert workshop organized by the Green Climate Fund from March 5-6, 2018. This expert workshop included experts from national designated authorities, UNFCCC Adaptation Committee, UNFCCC Least Developed Country Expert Group, accredited entities, research institutes, civil society organizations, and private sector.

Annex III – NAC Framework Analysis of NAP Proposals



Annex IV – Typology of Adaptation Actions (Adaptation Fund, Least Developed Countries Funds, and Pilot Program for Climate Resilience)

The review of adaptation projects supported by the AF, PPCR, LDCF and GCF is based on a typology that categorizes adaptation interventions into sectors, focus areas, and actions. The list of sectors is based on a framework developed by IISD for by the Adaptation Partnership, which considered sectors and sub-sectors used by the Adaptation Learning Mechanism, Intergovernmental Panel on Climate Change, United Nations Review of Current and Planned Adaptation Action: West Africa Environment Programme, and the Nairobi Work Programme.[87] This framework is useful for its comprehensive review of sectors and sub-sectors from authoritative sources. The Adaptation Partnership treats Gender, Governance, Private Sector, and Insurance as sectors. However, since project activities relating to these issues cut across many of the other sectors studied, for analytical purposes they are treated as cross-cutting rather than stand-alone sectors. Thus, the typology includes a cross-cutting category, which includes not only governance, but actions related to project preparation and planning, governance, capacity building, and knowledge management. Further, types of financing schemes, insurance, and private sector activities are included under financial tools and economic activities. The Adaptation Partnership's "multi-sector" was not used because the objective of the analysis was to disaggregate sectors and activities.[88] Gender-focused activities were analyzed separately but requires more qualitative review to draw meaningful conclusions.

Sector: Food, Fiber, Forests (management and use of terrestrial natural resources to directly improve human well being)		
	Activity	**Example**
Focus Area: Crop-specific Agriculture	Climate-resilient seed varieties/systems	• Establishment of a tissue culture industry • Input supply chain
	Climate-resilient pest management/pest control	• Integrated pest management
	Promotion of climate-resilient cultivation technologies/methodologies	• Transfer of climate resilient agricultural practices • Transfer of climate resilient agricultural technologies • Climate smart agriculture plan • Sustainable/organic alternatives to traditional fertilizers

[87] IISD, 2011; Zubrycki K, Crawford A, et al., 2011.

[88] Some of the Adaptation Partnership's sub-sectors were merged for purposes of this review with others because of they shared strong connections between them or overlap. For instance, rather than including a stand-alone fire management focus area, fire management was subsumed under the forests focus area. The ecosystem conservation and ecosystem restoration focus areas were similarly merged, and also captures biodiversity. Additionally, the buildings under the Infrastructure sector has been moved to the disaster risk reduction focus area because proposals support climate proofing buildings to prevent disasters. Trade is captured across other focus areas, such as Tourism and Financial Tools and Economic Activity. The Adaptation Partnership's "multi-sector" was not used because the objective of the analysis was to disaggregate sectors and activities.

		• Pilot innovative practices and technologies for farmers and supply chain members • Provide bamboo-based protective poly houses, along with technical guidance and capacity building, to allow farmers to cultivate high-value vegetables under protected conditions
	Soil conservation/rehabilitation/management	• Agricultural land rehabilitation
	Protective measures for saltwater intrusion/inundation	• Bioengineered sea barriers to reduce saltwater intrusion
	Post-harvest processing and/or storage	• Post-harvest storage facilities with phytosanitary control
	Alternative income generating activities	• Beekeeping • Biogas digesters
	Access to credit	• Women saving/credit groups
	Market linkages	• Improve access to markets and/or large-scale buyers
	Create/strengthen livelihoods networks and cooperatives	• Strengthen cooperatives • Women enterprise clusters • organize farmers groups for the acquisition of improved agricultural inputs • Form Collective Marketing Groups at the village level to collect and sell produce at nearest market
Focus Area: General Agriculture	**Activity**	**Example**
	Promotion of climate-resilient agricultural practices/technologies	• Dissemination of resilient agricultural technologies • Testing of adaptation innovations • Nurseries with traditional climate resilient plants
	Alternative income generating activities	• Identify alternative sources of income • Women-targeted agro-forestry livelihoods such as cashew colonies, community forestry nurseries and facilities for non-ruminant livestock
	Access to credit	• Microfinance institutions
	Grants facility	• Provision of grants • Microfinance institution

	Market linkages	• Create/strengthen livelihoods networks and cooperatives
Focus Area: Livestock	Climate-resilient fodder/water supply	• Assess fodder production needs • Fodder production • Fodder banks
	Climate-resilient livestock breeding	• Access to resilient stock breeds • Improvement of access to resilient stock breeds
	Climate-resilient livestock management	• Animal vaccinations • Small animal husbandry • Watering points • Community-based livestock management systems
	Climate-resilient livestock infrastructure	• Shelter for animal protection
	Pasture/rangeland rehabilitation/conservation/management	• EbA for pastures • Bushfire prevention • Sand dune fixation • Rehabilitation of grazing reserves • Rangeland rehabilitation • Watering points • Grassland rehabilitation • Shade tree planting
	Provision of livestock	• Purchase of livestock
	Conflict resolution mechanism	• Nomadic conflict resolution • Demarcation of livestock routes
	Access to credit	• System of access to credit-in-kind
	Alternative income generating activities	• Development of microenterprises
	Market Linkages	• Strengthening of the adaptive capacities of beneficiaries in terms of marketing
Focus Area: Forests	**Activity**	**Example**
	Forest conservation	• Promote improved cook stoves to reduce demand for firewood
	Forest restoration	• Restore forests • Native forest restoration
	Agro-forestry activities	• Tree nurseries /woodlots

	Silvo-pasture activities	• Agrosylvo-pastoral climate change adaptation training Centre
	Fire management	• Geospatial fire occurrence dataset developed based on satellite data and GIS mapping • Fire management plans developed and operational
	Non-timber forest products (development, processing, marketing, etc.)	• Non-timber forest products processing
Sector: Ecosystems (a system of living organisms interacting together and their physical environment, the boundaries of which may range from very small spatial scale to, ultimately, the entire Earth)		
Focus Area: Ecosystem Conservation and/or Restoration	**Activity**	**Example**
	Erosion control works	• Slope stabilization
	Groundwater infiltration/replenishment	• Earth dams, percolation basins and subsurface dams to increase groundwater tables
	Wetlands management	• Resilient restoration of wetlands
	Drylands management	• Restoration of degraded drylands
	Groundwater infiltration/replenishment	• Planting for windbreak/sand stabilization
	Valuation of ecosystem services/payment for ecosystem services scheme	• Economic valuation of land
	Reforestation/re-planting of degraded ecosystems	• Reforestation of degraded ecosystems • Plant vegetation to restore riparian ecosystem services • Plant native tree species • Restore woodlands
	Forest conservation	• Provision of improved charcoal units and cooking stoves
	Invasive species control	• Rehabilitate forests at selected sites (including removal of alien invasive species)
Sector: Freshwater Resources (management and use of freshwater contained in terrestrial ponds, lakes, rivers, watersheds, among others)		
Focus Area: Freshwater Fisheries/Aquaculture	**Activity**	**Example**
	Management of inland fisheries (natural)	
	Creation, design, and/or management of fish farms	• Provision of fingerlings to fish farmers • Diversification of fish species

		• Modify technical design of ponds used for inland fisheries to increase climate resilience
	Processing and storage	• Construction of smoking kilns for fish preservation
	Alternative income generating activities	• Switch from fisheries to oyster production
	Market linkages	• Establish/expand fisherfolk cooperatives and other networks or organizations
	Create/strengthen livelihoods networks and cooperatives	• Economic interest women's groups and natural resource management committees trained to improve their technical performance
Focus Area: Watershed Management	**Activity**	**Example**
	Water resources monitoring (quality and/or quantity	• Water resources monitoring
	Erosion control works	• Construction of erosion control works • Protection of banks, gabion-sills • Invest in silt trapping, erosion and watershed management
	Flood management/control measures	• Construction of flooding mitigation works • Feasibility studies to identify solutions to water logging • Rehabilitation of existing channels • Rehabilitation of canals
	Increase forest and other vegetative cover	• Microshed river treatments
Focus Area: River/Lake Management	**Activity**	**Example**
	Glacial lake outburst flooding (GLOF)	• Protocols for GLOF risk monitoring
	Flood management/control measures	• Improved drainage • Maintenance of artificial drainage system • Controlled lake drainage
	Erosion control works	• Slope stabilization • Riverbank stabilization
	Sediment control	• Sediment control through structural and non-structural mechanisms
Focus Area: Freshwater Supply	**Activity**	**Example**
	Fog harvesting	• Fog harvesting technology introduced in one coastal and/or mountainous governorate

	Rainwater harvesting	• Water tanks
	Groundwater extraction	• Boreholes • Wells • Springs
	Surface water retention	• Earthen dams • Retention basins • Water retention basins • Basin maintenance • Community reservoir • Infrastructure for natural retention • Establish new reservoirs • Storage tank • Dams
	Groundwater infiltration/recharge	• Percolation spring wells • Groundwater infiltration • Storage
	Water treatment	• Water treatment system • Water filtration systems/technology • The construction, improvement, and expansion of drinking water systems
	Water distribution/diversion	• Canal rehabilitation • Water distribution system • Dams • Portable system
	Irrigation Systems	• Develop small (drip) irrigation schemes • Pilot and model new technologies on irrigation • Upgrade irrigation infrastructure and rainwater harvesting methods • Sustainable irrigation management • Wells for irrigation • Solar pumps for irrigation
	Drinking water supply	• The construction, improvement, and expansion of drinking water systems

		• Establish new rural drinking water supply systems
	Erosion control works	• Gully plugging • Small check dam • Slope stabilization • Terracing
	Sediment control works	• Colmatage operations • Unclogging/dredging
	Alternative water source	• Recycled water • Use of brackish water • Desalinized water
	Access to credit	• Provide lending to households to finance water adaptation measures
	Alternative income generating activities	• Training delivered to local representatives from community-based organizations on good practice examples of sustainable land and water management and diversified livelihood strategies
Sector: Oceans and Coastal Areas (management and use of coastal areas and oceans)		
Focus Area: Coastal Zone Management	**Activity**	**Example**
	Increase forest (non-mangrove) and other vegetative cover	• Plant vegetation
	Mangrove restoration/conservation/afforestation	• Plant mangroves
	Coastal wetlands restoration/conservation/management	• Ecosystem based adaptation interventions for coastal wetland rehabilitation
	Reef restoration	• Rehabilitation of reef
	Sea level rise/Flood management/control measures	• Rehabilitate and improve polder system • Breakwater structures • Implement flood protection measures • Green infrastructure investments (tidal parks, open-air drainage canal banks, flood retention basins)
	Beach restoration/nourishment	• Creating beaches by adding more sand
	Grants Facility	• Provision of small and large grants for coastal infrastructure actions

	Alternative income generating activities	• Climate resilient alternative income generating activities (such as beekeeping, ecotourism, forest management, costal defense installation and maintenance)
Focus Area: Coastal/Marine Fisheries and Aquaculture	**Activity**	**Example**
	Increase coastal/marine stock	• Brood banks • Satellite hatcheries
	Breeding of climate-resilient coastal/marine varieties	• Salt tolerant fish breeds
	Processing and storage	• Provision of solar driers for fish preservation
	Climate-resilient marine fisheries/aquaculture practices	• Establish alternative fish and oyster farming production system • Innovative aquaculture system • Pilot sustainable fishery ecosystems and food security investments in vulnerable island and atoll communities • Technology dissemination systems
	Alternative income generating activities	• Non-crop based IGAs promoted (i.e. aquaculture and pisciculture)
Sector: Business (purchase and sale of goods and services with the objective of earning a profit)		
Focus Area: Tourism	**Activity**	**Example**
	Grants facility	• Grant and loan schemes • Microfinancing
	Access to credit	• Grant and loan scheme • Microfinancing
	Development of tourism enterprises	• Support creation of ecotourism enterprises by artisanal fishers
Sector: Infrastructure (basic equipment, utilities, productive enterprises, installations, institutions and services essential for the development, operation, and growth of an organization, city, or nation		
Focus Area: Energy	**Activity**	**Example**
	Climate-proofing energy infrastructure	• Construct or upgrade hydropower plants • Silt trapping, erosion and watershed management
	Fuel-efficient technologies	• Fuel-efficient cook stoves • Solar pumps for irrigation • Biogas digesters • Solar lanterns • Low-cost solar dryers

	Electrification	• Enhancement of understanding and awareness of livelihood opportunities resulting from electrification
	Grant Facility	• Provide concessional loans to enable households to invest in biogas digesters
	Access to credit	• Enhancement of understanding and awareness of livelihood opportunities resulting from electrification
	Alternative income generating activities	• Increase access to renewable energy for enterprise development
Focus Area: Roads & Transport	**Activity**	**Example**
	Climate-resilient road and bridges construction	• Roads for future migration settlements • Road construction and rehabilitation • Upgrade materials to withstand higher moisture content
	Road and bridge maintenance	• Roads for future migration settlements • Road construction and rehabilitation • Upgrade materials to withstand higher moisture content
	Climate-resilient docking structures	• Construction of replacement piled wharf • Rehabilitation of jetties
Focus Area: Waste Management	**Activity**	**Example**
	Improve/climate-proof waste water treatment facilities	• Improve water treatment plants • Flood proofing of water and sanitation systems
	Storm-water management measures / runoff controls	• Construction of flood dikes
	Solid waste collection	• Construction of new landfill site • Provision of equipment for solid waste collection
	Sanitation	• Construction of new landfill site • Provision of equipment for solid waste collection
Sector: Human Settlements (a place or area occupied by settlers)		
Focus Area: Urban Areas	**Activity**	**Example**
	Climate-resilient settlements	• Pilot a Low-Cost climate resilient housing business mode • Improvement of existing and new embankments • Rehabilitate water supply infrastructure • Integrated urban watershed management • Rehabilitation of urban infrastructure

Sector: Migration and Security (efforts to support the movement of people and maintain their personal security in the face of incremental climate changes or shocks)		
Focus Area: Migration	**Activity**	**Example**
	Cash transfers	• Provide funds for people to rebuild community
	Relocation	• Develop relocation plans • Relocate people
	Provision of non-financial services	• Provision of ecosystem services
Sector: Human Health (a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity)		
Focus Area: Human Health/Disease Prevention	**Activity**	**Example**
	Implement vector-borne disease control techniques	• Reduce stagnant water
	Provision of health services	• Provide health support
	Improve health practices	• Drink more (boiled) water • Eat nutritious food • Food storage • Change habits during heat wave
Sector: Disaster Risk Reduction (systemic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and possibility of disasters)		
Focus Area: Disaster Risk Reduction	**Activity**	**Example**
	Early Warning Systems (EWS)	• EWS connected to coastal tourism operators • Establish or strengthen early warning system • strengthen and scale up EWS • Extend communications network as part of EWS
	Climate-/Disaster-proofed infrastructure (built)	• Climate-proofed buildings • Raise roads • Sanitation facilities • Disaster proofed water supply • Shoreline protection system • Drainage systems • Sea walls • Dikes
	Flood control measures	• Flood drainage infrastructure

	Climate-/Disaster-proofed infrastructure (natural)	• Increase drainage capacity • Ecosystem based adaptation disaster risk reduction • Disaster proofed water supply • Flood drainage infrastructure • Shoreline protection system
	Disaster shelters/assembly points	• Village shelters • Build cyclone shelters • Build or retrofit buildings serving as emergency shelters • Connectivity – transport • Evacuation channels
	Emergency response/recovery fund	• Resilience fund • Provide immediate liquidity/credit • Emergency infrastructure reconstruction disbursements • Food buffer stocks (e.g., grain banks)
Sector: Climate Information Services (the production and delivery of authoritative, timely, and usable information about climate change, climate variability, climate trends, and impacts to different users at the local, sub-national, national, regional, and global levels.)		
Focus Area: Climate Information Services	**Activity**	**Example**
	Agrometeorological monitoring equipment/technology	• Agrometeorological stations
	Hydrological/hydro-meteorological monitoring equipment/technology	• Hydrological observation networks • Hydrometric stations • Set up monitoring systems
	Climatic/meteorological equipment/technology	• Automatic weather stations • Synoptic stations • Climatology station • Meteorological equipment • Set up monitoring systems • Climate observation networks

		• Modernize networks: repair or replace weather stations and equipment • Construct satellite warehouses • Install Doppler radar
	Oceanographic monitoring equipment/technology	• Acquisition and installation of an oceanographic instrument measure
	Climate information – data management/analysis	• Downscaled climate projections • Analysis of adaptation scenarios • Data management system • GIS datasets • Modelling
	Dissemination of climate information	• Agro-meteorological products • Establish mechanisms to disseminate relevant/local climate information • Dissemination of climate information to farmers • Dissemination of climate information to breeders • Mobile-phone based climate information • Develop national and regional hydro-meteorological products, processes and services at the national and regional levels • Enhance information delivery systems, especially for forecasts
Cross-cutting Focus Areas: Activities that can be applied under multiple sectors		
	Activity	**Example**
Project Preparation and Planning	Research, Data and Assessments: - Platforms/databases - Vulnerability/risk assessments - Development/economic/feasibility assessments - Mapping /geo-spatial assessments	• Vulnerability analysis report • Database to access climate information
	Resource or landscape management planning	• Ecosystem based adaptation; natural resource management; integrated water management

	Adaptation project planning (including stakeholder consultations)	• Community based adaptation • Establish multi-stakeholder groups to support project design/implementation • Include women and/or Indigenous groups in planning
Governance	Policy support	• Develop adaptation/urban plans • Water, forest, land rights • Improve regulations and standards • Prepare national climate change strategy • Revise and update institutional strategies and legal frameworks
	Integration of adaptation into policies/plans	• Include vulnerability and risk assessments and adaptation activities into policies and plans
	Financial support mechanism	• Provision of small grants to producer groups for acquisition of productive assets • Sustainable financing plan for the long-term O&M of the equipment, including private and public financing arrangements
	Institutional coordination/collaboration	• Create international collaboration mechanism • Establish civil society support mechanism to fund community-based adaptation activities • Form facility management committees
	Creation of institution(s)	• Establish a climate change secretariat • Design national agency for managing climate risks
Capacity Building	Tools and toolkits	• Development of a monitoring tool • Distribution of sustainable management toolkits
	Guidance documents, including technical guidance	- Development of operation and maintenance plans
	Technical assistance	- Scale up consulting services
	Training: - Training-of-trainers - Field schools (e.g., FFS, APFS) - Extension services (non-field schools) - Demonstration sites	• Workshops and seminars • Training for climate change champions

	Education system reform	- Introduction of climate science and glaciology modules in higher education institution
Knowledge Management	Document and disseminate lessons learned/best practices	- Publish lessons learned in order to create a blue-print for building climate resilience in public infrastructure in the region - Learn from adaptation investments, design and implement a knowledge management system and address evidence gaps
	Awareness raising / awareness campaigns	- A social marketing awareness campaign to promote the importance of addressing climate change risks from national to local level
Financial Tools and Economic Activities (including private sector-related activities)	**Activity**	**Example**
	Access to credit	• Women's saving/credit group • Microfinance • Grant/loan schemes • Provide lending households finance to adopt measures
	Grant Facility	• Provide concessional loans to invest in biogas digesters • Micro-grants and local line of credit • Create financing facility and/or climate trust fund
	Alternative income generating activities	• Women targeted agro-forestry livelihoods • Develop microenterprise • Switch from fish to oyster production • Climate resilient alternative income activities (beekeeping, ecotourism)
	Market Linkages	• Improve access to markets and/or large-scale buyers • Create/strengthen livelihoods networks and cooperatives • Strengthen adaptive capacities of beneficiaries in terms of marketing • Establish/expand fisherfolk cooperatives and other networks • Develop and leverage new, more suitable and profitable market channels • Value chain analysis • Women groups/cooperatives
	Investment facility (equity)	• Establish a risk sharing facility that will provide guarantee funds, anchor equity investments, long term and low-cost debt funding

		• Establish fund to invest (equity) in small- and medium-sized enterprises
	Credit guarantees	• Establish a risk sharing facility that will provide guarantee funds, anchor equity investments, long term and low-cost debt funding.
	Public-private partnerships	
	Connectivity – communication/transport	• Develop mobile phone platform
	Prepare cost-benefits analysis/business cases	• Market and demand analysis
	Insurance	• Flood insurance: Design Community-based flood insurance scheme • Crop insurance: Develop insurance products for small-scale farmers and livestock holders via vulnerability analysis; Pilot weather-indexed crop insurance scheme • Livestock insurance: Develop insurance products for small-scale farmers and livestock holders via vulnerability analysis • Ecotourism insurance: Feasibility assessment of a climate risk transfer (insurance) mechanism