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GEF Programming Strategy on

Adaptation to Climate Change

Least Developed Countries Fund
Special Climate Change Fund

Summary

Over the past decade, the GEF has financed a pioneering, global portfolio of adaptation projects and programs in over 124 countries with grant resources amounting to $1.18 billion. These interventions are reducing the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change across key vulnerable sectors, including agriculture, water resources management, infrastructure, and health.

This publication lays out the new programming strategy for the July 1, 2014 to June 30, 2018 period. Building on the GEF's solid experience in financing climate change adaptation, the Strategy presents the programming priorities for the next four years, supported through 3 strategic objectives:

1. To reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change;

2. To strengthen institutional and technical capacities for effective climate change adaptation; and

3. To integrate climate change adaptation into relevant policies, plans and associated processes.

While seeking innovative, on-the-ground adaptation solutions with potential for scale-up, the GEF will continue to support mainstreaming of adaptation along the following two strategic pillars:

- **Integrating climate change adaptation into relevant policies, plans, programs and decision making processes**. The GEF's approach to adaptation is based on the fundamental recognition that climate change can potentially impact all aspects of human, social and economic development. Therefore, the GEF will strive to strengthen institutional capacity by integrating adaptation into broader policies, plans and processes.

- **Pursuing, in a more systematic manner, initiatives that cut across both adaptation and other GEF focal areas.** This will enable the GEF to realize, to the fullest extent possible, both the adaptation and global environmental benefits delivered through other GEF focal areas.

The strategy reaffirms the need to identify and address the unique vulnerabilities of women and marginalized groups, and recognizes that, when adequately empowered, they can also serve as catalytic agents of resilient action.

On an operational level, the GEF will continue programming in key economic sectors, but will also explore new mechanisms for innovation through greater private sector collaboration, particularly risk transfer and insurance, and ecosystem-based adaptation. There is an increased focus on areas of heightened vulnerability, such as Small Island Developing States (SIDS) and urban centers.

In summary, key elements of the publication include: I) scientific evidence supporting the need for urgent action on adaptation, II) the GEF's experience in adaptation and results achieved, III) the plan for strengthening efforts on gender mainstreaming, IV) the description of new mechanisms for innovation, V) thematic programming areas, and VI) illustrative financing scenarios, by priority area, for both the LDCF and the SCCF.

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Background

The present Strategy forms the basis for programming resources under the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) from July 1, 2014 to June 30, 2018.

Climate change adaptation is an issue of global concern. The 2014 Global Risks Report ranked a failure of climate change adaptation among the most severe global risks, both in terms of likelihood and impact. The effects of climate change are and will not be evenly distributed around the world. Rather, evidence shows that they disproportionately affect the poorest populations in developing countries. Adaptation to the effects of climate change is therefore not only urgent, but also indispensable if the human development needs of the world's poor are to be met, and if past development gains are to be safeguarded.

The scientific case for urgent action on adaptation is unequivocal. The Intergovernmental Panel on Climate Change (IPCC), in its Fifth Assessment Report (AR5), states that "the warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia". A report by the Scientific and Technical Advisory Panel (STAP) issued in 2012 (*Climate Change: A Scientific Assessment for the GEF*) finds that the threats from climate change are even more immediate and more severe than those projected, while limiting global warming to 2°C by the end of this century appears increasingly unlikely. *Turn Down the Heat*, a report released by the World Bank in late 2012, warns that there will be major disruptions in human and natural systems if an increase of 4°C or more occurs within this century. Climate change has already had a discernible influence on key physical and biological systems, thus affecting the very basis of human development; freshwater resources, food production, infrastructure, public health, and vital ecosystem services.

There is no doubt that if the direst consequences of climate change are to be averted, present investments in adaptation must be accelerated and scaled up dramatically. The World Bank (2010) estimates that the global cost of adapting to an approximately 2°C warmer world by 2050 will range between $70 billion and $100 billion per year. In 2007, the UNFCCC suggested that, by 2030, $28-67 billion in investments and additional financial flows would be needed to address the adaptation needs of developing countries. A study carried out by Oxfam points out that, in addition to least developed countries (LDC) that have developed National Adaptation Programs of Action (NAPA), all developing countries have urgent and immediate adaptation needs, the costs of which are estimated at $8-33 billion. More recent studies have argued, however, that these results significantly underestimate the cost of safeguarding ecosystem services in the face of climate change, and fail to adequately consider future development scenarios. (see also paragraphs 84-85; and 103-104)

The GEF is at the forefront of international efforts to strengthen developing countries' resilience to climate change. Through the LDCF and the SCCF, as well as the Strategic Priority on Adaptation (SPA), the GEF Adaptation Program has supported a pioneering, global portfolio of adaptation projects and programs increasing resilience in 124 countries with total grant resources amounting to some $1.18 billion. The GEF has incorporated tangible adaptation measures into policies, plans and investments across all key, vulnerable sectors, from agriculture and water resources management to urban

infrastructure, public health and tourism. The GEF finances adaptation in the poorest and the most vulnerable countries and regions of the world, including in 51 LDCs, 34 Small Island and Developing States (SIDS), and through 125 investment projects in Africa. The GEF Adaptation Program also provides concrete support towards adaptation in 39 fragile states, helping remove some of the underlying causes of conflict and insecurity.

The GEF Adaptation Program is showing strong performance in implementation and significant, tangible impacts are projected for the current portfolio. Of the 39 LDCF projects that entered implementation on or before June 30, 2012 and that were under implementation during at least part of the fiscal year 2013 (FY13; July 1, 2012 to June 30, 2013), all were rated moderately satisfactory or higher in terms of their progress towards adaptation objectives. Under the SCCF, 19 out of 20 active projects were rated in the satisfactory range, representing 95 per cent of the active portfolio. 66 out of 82 LDCF projects that had been endorsed or approved by the GEF CEO as at April 29, 2014 provided an estimate of the number of direct beneficiaries. These projects, with LDCF resources amounting to $304.66 million, seek to directly reduce the vulnerability of an estimated 3.41 million people. Under the SCCF, the equivalent sample includes 28 out of 44 projects endorsed or approved. These projects, with SCCF resources amounting to $111.72 million, aim to directly reduce the vulnerability of 3.30 million people. (see also paragraphs 89 and 108, and tables 2 and 4 for details)

While the Adaptation Program is comparatively young, relevant insights and early lessons can be drawn from thematic evaluations, annual project implementation reports, and the demand captured in new proposals. In particular:

- **Projects financed under the SCCF have been found highly relevant to the national sustainable development agendas of beneficiary countries.** These projects also contribute to socio-economic development goals, demonstrating that the GEF's approach to adaptation as climate-resilient development is both practical and effective (GEF/LDCF.SCCF.11/ME/02, see also Box 2, Annex II) Similarly, **LDCF projects have been found to be very closely aligned with relevant National Adaptation Programmes of Action (NAPA),** and all LDCF projects have been found to be consistent with LDCF strategies, eligibility criteria, and priorities (GEF Evaluation Office 2013).

- **GEF-funded activities under the LDCF and SCCF help integrate adaptation into national policy and planning processes.** The GEF Adaptation Program includes early examples of projects that have piloted concrete adaptation measures in response to local needs, while also successfully integrating adaptation across policies, plans, budgets and decision-making processes at the national level.

- **SCCF projects employ innovative approaches to overcome the lack of data on many emerging adaptation issues** (GEF/LDCF.SCCF.11/ME/02, see also Box 2, Annex II).

- **Capacity building tends to be more effective when carried out in support of the achievement and sustainability of tangible adaptation impacts, rather than as a stand-alone activity.** At the same time, the GEF experience shows that adaptation actions are more effective if there is adequate capacity to support their design and implementation, as well as to sustain the outcomes. An overwhelming majority of projects and programs financed under the LDCF and the SCCF therefore combine technical assistance, particularly capacity building, and investments.

- **Even the smallest and the most vulnerable developing countries have successfully overcome issues of absorptive capacity.** Recent progress under the LDCF shows that LDCs have been able to absorb resources, and to translate available knowledge of climate change impacts and associated vulnerabilities into adaptation priorities and interventions with tangible benefits (see Figure 1, Annex IV).

- **Projects and programs are increasingly seeking to identify and address gender-differentiated impacts of climate change.** A growing number of projects

engage women in early consultations, include specific components targeting vulnerable women, and monitor gender-differentiated project-level impact.

- **There is considerable potential to exploit synergies with other GEF Focal Areas.** Early experience suggests that projects and programs that cut across climate change adaptation and other GEF focal areas represent a viable approach to addressing complex, cross-cutting issues with opportunities for economies of scale and reduced transaction costs (see Table 2, Annex IV).

There are persistent barriers to further scaling up and mainstreaming climate change adaptation. The current supply of resources for adaptation continues to fall far short of current and projected demand. In addition, adaptation finance remains highly unpredictable, providing vulnerable countries with few opportunities and incentives to pursue longer term planning, institutional and technical capacity building, and investments. In part due to these reasons, combined with long-standing institutional, political and governance barriers, adaptation remains inadequately coordinated and monitored in many countries. Finally, rapid progress notwithstanding, there is a persistent lack of awareness and data of impacts, vulnerabilities and adaptation options; and associated methodologies, tools and resources.

In responding to these challenges, the strategic value of the GEF Adaptation Program resides in its unique mandate, experience, partnerships and positioning. The landscape of global climate finance is evolving. While a long-term climate finance architecture takes shape, the GEF can contribute towards continuity in the support provided to vulnerable developing countries. While seeking complementarity and coherence with relevant multi-lateral, bilateral and national climate change funds, the GEF is ideally placed to:

- enable the most vulnerable developing countries, in an expedited manner, to address their most pressing adaptation needs, particularly those identified in LDC NAPAs;
- support a transition towards a continuous, progressive and iterative national adaptation plan (NAP) process that identifies and addresses medium- and long-term adaptation needs;
- harness synergies between trust funds, GEF focal areas and multi-lateral environmental agreements; and
- accelerate the demonstration and deployment of innovative adaptation technologies and associated business models;
- generate and disseminate knowledge and lessons learned with a view to strengthening adaptation action under the UNFCCC.

The above elements are further elaborated under the specific objectives and programming priorities introduced in the present Strategy, whereas the role of the GEF Adaptation Program is described in greater detail in Box 1 and below.

The demand for LDCF and SCCF resources remains high and recent progress demonstrates the absorptive capacity of recipient countries. This implies an expectation of further contributions to the LDCF and the SCCF. While the GEF Adaptation Program continues to rely on voluntary contributions rather than a four-year replenishment cycle; this Strategy considers financing needs and presents a broad range of illustrative financing scenarios along with associated, expected results for the period from July 1, 2014 to June 30, 2018 (see paragraphs 85–90; 103–109; and tables 2 and 4).

BOX 1 THE GEF ADAPTATION PROGRAM IN AN EVOLVING LANDSCAPE OF INTERNATIONAL CLIMATE FINANCE

The Programming Strategy on Adaptation for 2014-18 will provide the flexibility necessary to allow the GEF's role to evolve in accordance with COP guidance, country demand, and taking into consideration other sources of adaptation finance.

While in most developing countries the LDCF and the SCCF remain the principle sources of adaptation finance under the UNFCCC, the landscape of climate finance is changing. At its sixteenth session in 2010, the Conference of the Parties (COP) to the UNFCCC decided that "a significant share of new multilateral funding for adaptation should flow through the Green Climate Fund [GCF]" (decision 1/CP.16, paragraph 100). The COP established the fund to "to be designated as an operating entity of the financial mechanism […] to support projects, programs, policies and other activities in developing country Parties using thematic funding windows" (decision 1/CP.16, paragraph 102).

At its seventeenth session, the COP approved the Governing Instrument for the GCF (decision 3/CP.17). The Governing Instrument notes, *inter alia*, that "the Fund is to make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change" and that "[t]he Fund will play a key role in channeling new, additional, adequate and predictable financial resources to developing countries and will catalyze climate finance, both public and private, and at the international and national levels" (paragraphs 1-2).

It is critical that the GEF continues to assess the role and added value of its Adaptation Program. Over the next four years, the Adaptation Program may contribute towards paving the way for investments at scale from a variety of sources, particularly in regions, countries and sectors with limited technical and institutional capacity, and limited private investment. The GEF, through the LDCF and the SCCF, will continue to provide grant resources to pilot and demonstrate business models and technologies for adaptation, and thus help countries identify opportunities and remove barriers for scaling up through other sources and financial instruments. The GEF's ongoing efforts to support the preparation of the NAP process are particularly relevant as a basis for future GCF operations and scaled up adaptation finance at large.

Farmer working on the field in Laos

CREDIT: SHUTTERSTOCK / gnomeandi

Aside from the GCF, the GEF recognizes that the Adaptation Fund, the Pilot Program on Climate Resilience (PPCR) and the Adaptation for Smallholder Agriculture Programme (ASAP), among others, remain important elements of the global landscape of adaptation finance, and it will continue to ensure effective coordination with these funds in the sectors, countries and sub-regions where they operate. The GEF will further strengthen its efforts to share knowledge and lessons learned with other funds and mechanisms. The GEF also welcomes the growing number of national climate funds that have emerged across developing countries, including in LDCs, as a signal of increasing country ownership of adaptation planning, finance, and implementation. The GEF Adaptation Program will continue to promote all steps towards stronger national-level coordination and leadership of adaptation action, consistent with the objectives of the NAP process.

Goal and Objectives

Building on the GEF's unique value and proven approach to financing climate change adaptation, drawing on the lessons learned over the past decade, and recognizing the enduring challenges of sustaining, scaling up and mainstreaming successful approaches to adaptation; the present Strategy defines the goal, objectives and programming priorities of the LDCF and the SCCF for the period from July 1, 2014 to June 30, 2018.

The **goal** of the GEF Adaptation Program is to increase resilience to the adverse impacts of climate change in vulnerable developing countries, through both near- and long-term adaptation measures in affected sectors, areas and communities; leading to a reduction of expected socio-economic losses associated with climate change and variability.

The goal is supported through three strategic objectives:

1. Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change;

2. Strengthen institutional and technical capacities for effective climate change adaptation; and

3. Integrate climate change adaptation into relevant policies, plans and associated processes.

(See also the full results framework of the LDCF and the SCCF in Annex I)

Strategic Programming Pillars

In the period from July 1, 2014 to June 30, 2018, the GEF, through the LDCF and the SCCF, will further enhance its efforts to implement its mandate under the UNFCCC, building on and strengthening its core business areas and approaches. Recognizing the urgency and the magnitude of the global adaptation challenge, the present Strategy also identifies opportunities for innovation and scaling up, and to further capitalize on synergies with other areas of the GEF's work. The future direction charted by this Strategy is captured in two strategic pillars that will guide programming under the LDCF and the SCCF towards their goal and objectives, namely:

- Integrating climate change adaptation into relevant policies, plans, programs and decision-making processes in a continuous, progressive and iterative manner as a means to identify and address short-, medium- and long-term adaptation needs; and
- Expanding synergies with other GEF focal areas.

Pillar I: Integrating Climate Change Adaptation Into Relevant Policies, Plans, Programs and Decision-making Processes

The GEF's approach to adaptation is based on the fundamental recognition that climate change affects, directly or indirectly, all aspects of human, social and economic development. Accordingly, the GEF strives to integrate climate change adaptation into broader policies, plans, programs and decision-making processes at the regional, national and sub-national levels, in all vulnerable sectors. This approach has allowed the GEF to finance actions that increase resilience while utilizing adaptation resources in a targeted and catalytic manner, reducing transaction costs and capturing economies of scale. In the period from July 1, 2014 to June 30, 2018, in response to guidance from the UNFCCC COP, the GEF Adaptation Program will further enhance its efforts to promote the integration of adaptation in a continuous, progressive and iterative manner, and as a means to identify and address short-term as well as medium- and long-term adaptation needs.

In line with its mandate under the UNFCCC, the GEF, through the LDCF, will continue to finance the preparation and implementation of NAPAs, in which LDCs identify their urgent and immediate adaptation priorities based on a consultative process. Through the SCCF Adaptation Program (SCCF-A), the GEF will continue to support priority investments in climate-resilient development across the areas of intervention identified by the COP, and consistent with national sustainable development agendas. (see decision 5/CP.7) Based on COP guidance, country priorities and to-date realized country demand for resources under the LDCF and SCCF; and considering residual gaps and areas of emerging interest; the GEF Adaptation Program will support the integration of adaptation strategies, approaches, tools, measures and budget allocations across policies, plans and investments in the following core sectors:

- Agriculture and food security;

- Water resources management;
- Coastal zone management;
- Infrastructure, including transport and energy;
- Disaster risk management;
- Natural resources management; and
- Health.

The GEF will continue to support climate information services, including hydro-meteorological services to support successful adaptation in other sectors. This, along with each of the core sectors above as well as the cross-cutting programming priorities of climate-resilient urban systems and small-island developing states, are further elaborated below (from paragraph 39).

While retaining its focus on tangible adaptation action in response to countries' urgent and immediate needs, the present Strategy recognizes the GEF's mandate, under the LDCF and the SCCF, to enable the preparation of the national adaptation plan (NAP) process, which was introduced by the UNFCCC COP as a means to allow developing countries to identify and address medium and long-term adaptation needs (decision 12/CP.18; decision 1/CP.16). Importantly, the NAP process entails the integration of adaptation into policies, plans, programs and decision making processes in a continuous, progressive and iterative manner.

The LDCF/SCCF Council, at its 14th meeting in June 2013, endorsed the document GEF/LDCF.SCCF.14/06, *Operationalizing Support to the Preparation of the National Adaptation Plan Process in Response to Guidance from the UNFCCC COP*. The paper introduces the GEF's approach to operationalizing support towards the preparation of the NAP process, in accordance with guidance provided by the COP at its eighteenth session. The document defines the objectives, principles, scope and modalities for GEF support, through the LDCF and the SCCF, for the preparation of the NAP process in eligible developing countries. Recognizing that developing countries find themselves in very different stages of identifying and addressing their medium- and long-term adaptation needs, the GEF, through the LDCF and the SCCF, will support the NAP process in a flexible manner, through a range of modalities, different entry points, and a menu of relevant measures and tools, in accordance with country needs and priorities. Support towards the preparation of the NAP process may include, *inter alia*:

- Advancing integrated approaches that allow countries to continue to address their urgent and immediate needs, while also strengthening the institutional frameworks and capacities required to pursue adaptation strategies beyond individual projects and programs;
- Further enhancing efforts to respond to developing countries' need for stronger climate information and decision-support services to support continuous, short-, medium- and long-term planning and action;
- Investing in developing countries' capacities to monitor and evaluate their adaptation processes at the national, sub-national and sectoral levels, and to effectively apply data and evaluative evidence to review and strengthen their adaptation strategies; and
- Strengthening the enabling environment for investments to address medium- and long-term adaptation needs.

Recognizing the barriers to scaling up and mainstreaming adaptation, the GEF Adaptation Program will strengthen its engagement with existing coordinating bodies and platforms at the national level, particularly ministries of finance and planning, to ensure that adaptation needs, opportunities and resources are identified at an early stage of development planning processes; in an inclusive and transparent dialogue; and that adaptation is ultimately carried out in an effective, efficient and coherent manner. Similarly, the GEF will seek to engage more upstream in the strategy processes of multi-lateral development banks and UN agencies. In particular, the GEF notes the World Bank's increasing emphasis on climate-resilient growth in the strategy and operations of the International Development Association.

Pillar II: Expanding Synergies With Other GEF Focal Areas

Serving as the financial mechanism to several multi-lateral environmental agreements, the GEF is uniquely placed to harness the synergies between climate change adaptation and global environmental benefits, as well as to manage potential trade-offs between the two.

Building on initial experiences gained during the GEF-5 period (see Annex IV), the GEF Adaptation Program will pursue, in a more systematic manner, initiatives that cut across climate change adaptation and other GEF focal areas. This would enable the GEF to realize to the fullest extent possible both the adaptation and global environmental benefits delivered by the interventions financed under the LDCF, the SCCF and the GEF Trust Fund, resulting in greater impact per dollar spent. Initiatives that cut across adaptation and other GEF focal areas also support a strategic shift from projects to programmatic approaches and from sector-specific interventions to cross-sectoral ones. Specifically, integrated projects and programs present the following opportunities:

- **Fostering broad-based partnerships and greater development coherence:** GEF/LDCF/SCCF synergies may enable the preparation and implementation of larger initiatives with wider development coherence, as alignment and coordination are ensured across sectors, across national strategies and policies, and across multi-lateral environmental agreements. Consequently, larger cross-cutting initiatives may also help foster broad-based partnerships between stakeholders at different levels.

- **Integrated solutions to multiple and cross-sectoral challenges:** cross-cutting projects and programs may promote climate change adaptation and global environmental benefits (GEB) in integrated human and natural systems. Adaptation measures may generate co-benefits in other focal areas, for instance by improving water-use efficiency in agriculture or promoting the sustainable management of mangroves in the face of sea level rise and coastal erosion. Projects and programs to achieve GEBs may also help strengthen the climate resilience of natural assets along with the people and livelihoods they sustain.

- **Reduced transaction costs and cost-effectiveness in implementation:** integrated, GEF/LDCF/SCCF initiatives may replace a larger number of conventional, single-trust fund and single-focal area projects, thus reducing the time requirement and the cost of developing, reviewing and processing projects. In addition, such initiatives may present opportunities for the delivery of climate change adaptation and GEBs through a single institutional framework.

- **Economies of scale:** cross-cutting projects and programs may allow countries with smaller national allocations to propose larger projects and programmatic approaches, and to capture the associated economies of scale.

The GEF Adaptation Program will pursue these opportunities across the core sectors identified above (paragraph 17), and in accordance with country demand. The GEF will also continue to closely monitor its portfolio of multi-trust fund projects and programs, with a view to better understanding the effectiveness of such initiatives and the associated success factors and challenges.

Gender Mainstreaming: Empowering Women to Participate in Adaptation

Climate change can affect men and women in different ways, and it is recognized that adaptation efforts tend to be most effective when the gender perspectives are reflected in the climate change risk management solutions. Often the burden of impacts such as increased water scarcity, decline in household food availability, increased financial constraints, and migration of some or all members of the household in search of improved livelihood can be experienced quite differently by men, women, girls and boys. Women and children tend to be more vulnerable to the effects of lack of food or water, and to succumb in greater proportion to natural hazards that require quick escape measures. While women farmers are responsible for 60-80 percent of the developing world's food production, men tend to be at the forefront of agricultural decision-making and have improved access to land and other resources. Yet women's participation in decision-making and consultation on the design of development and adaptation solutions are often limited. Including women's perspectives on the adaptation needs during the planning and implementation will be a more prominent feature of GEF's Adaptation Program, consistent with the GEF's corporate action plan for gender mainstreaming.

It is important to realize that women can be powerful and catalytic agents of change for their communities given adequate opportunity, voice, capacity and resources. Apart from the benefits that ensue for women from many adaptation projects in community infrastructure and natural resources, LDCF and SCCF projects often include components specifically directed at providing women with training and resources to improve or diversify their livelihoods in a climate-resilient manner. The project *Promoting Climate Resilient Water Management and Agricultural Practices Project* in Cambodia, for example, is working closely with the Ministry of Women's Affairs to train women to interpret and disseminate climate data to local communities, and enable women to undertake livelihoods improvements by using climate-resilient rice varieties, water harvesting methods, and early warning information.

Currently, more than 60 per cent of adaptation projects under implementation address gender-differentiated vulnerabilities, through the inclusion of gender assessments during project preparation, or sex-disaggregated indicators in their project monitoring and evaluation frameworks. Moving forward, the GEF Adaptation Program will enhance the consideration of gender issues by encouraging (i) gender analysis in assessments of vulnerability; (ii) gender-sensitive budgeting, so that a greater number of projects include specific budgeted activities to address women's adaptation needs; and (iii) the inclusion of women's perspectives at various stages including at project development and implementation. All LDCF and SCCF projects will also be required to report on sex-disaggregated indicators, where appropriate; and incorporate GEF Gender Indicators, which will be monitored and aggregated at the portfolio level (see Annex I). The GEF's corporate action plan for gender mainstreaming, which will be presented to the GEF Council in October 2014, will apply to the Adaptation Program and will define further, concrete steps for enhancing gender mainstreaming.

Emerging Mechanisms and Areas for Innovation

The present Strategy introduces new mechanisms and associated areas for innovation that will be further explored across the three strategic programming pillars. The Adaptation Program will continue to pursue approaches and adhere to principles that have proven successful, such as community-based adaptation (see Box 1, Annex III).

Enhanced Private Sector Engagement

Much of what the private sector can do to improve climate resilience requires support from governments in the form of information, proper regulation, and incentives. To strengthen private sector engagement, the GEF, through the LDCF and SCCF, will promote initiatives that test how governments can enable the private sector to understand and effectively respond to climate change risks.

Some climate risks are sector-specific, such as the potential for damages to ports, hydropower, agribusiness, and water-intensive industries. For these sectors, there are industry associations representing similar interests across the globe, including in developing countries. The GEF Adaptation Program will promote partnerships with these industries in relevant countries and regions to identify shared risks and response strategies, e.g., adaptation strategies for ports in areas subject to more intense storms such as those in the Caribbean.

In addition, based on early experiences of projects and programs financed under the LDCF and the SCCF, the GEF will seek opportunities to expand private sector engagement through the following:

- Awareness raising, including of potential risks and response measures;
- Capacity building to help private entities manage climate change risks;
- Efforts to improve policy and regulatory environments and institutional infrastructure;
- Public-private partnerships that promote private sector responses to climate change; and
- Entrepreneurship development to open and seize emerging private sector opportunities to reduce climate change vulnerabilities.

In climate change adaptation, opportunities include support for enhanced climate risk assessment tools that can be used by private sector investors and insurance companies; supporting technologies and business models for the adoption of hydro-meteorological and climate information services, as well as drought tolerant techniques and crops, for example, which can build capacity for smallholders to adopt climate smart agriculture techniques. Expanding insurance access for countries vulnerable to climate change, such as Small Island Developing States and least developed countries, and working with agencies and developers to improve land-use planning could be explored.

The private sector engagement on adaptation will be co-directed, from a corporate perspective, by the private sector strategy that will inform GEF-6 and GEF 2020. This includes a variety of intervention modalities that GEF has used in the past and will be available in the future to help

promote and catalyze private sector engagement. These modalities can include: support for enabling policy environments; financial assistance; corporate alliances; and capacity building/incubation for innovation, with each of these being options for agencies and countries to apply the best tools to the situation at hand when designing a project.

The tools could be used in different ways across several categories of private sector players, including capital providers, financial intermediaries, and industry partners (large corporations, small and medium enterprises, and innovators). Within that context, projects that propose innovative use of tools for engagement with the private sector on climate change adaptation would be encouraged. For example, projects that engage insurance companies in understanding and responding to risks of climate change, perhaps through pilots or corporate alliances, would be of special interest.

Risk Transfer and Insurance

As a specific area of private sector engagement, the insurance industry presents considerable potential for adaptation by applying innovative risk-management practices, directly investing in projects, supporting capacity building, and engaging in related public policy processes, as well as moderating the cost of losses incurred. More importantly, the insurance industry plays a vital role in determining the financial incentives for any given decision concerning exposure to and protection from risk of business, public, or individual assets. The $4.6 trillion insurance industry has the potential to catalyze adaptation in a transformative way, and the GEF, through LDCF and the SCCF, can help realize this potential through:

- Helping overcome market barriers to expanding access to insurance in the developing world; one such example is the Southeast Europe and Caucasus Catastrophe Risk Insurance Facility (SEEC-CRIF), a regional project supported by the SCCF, which included support for regulatory assistance, weather risk models, risk maps, weather insurance products, and public awareness;
- Providing support for introducing innovative products and services that support adaptation;
- Preparing the ground (regulatory and otherwise) to allow insurers to directly invest in adaptation projects; and
- Facilitating a formal space for engaging insurers and affiliated industries to provide support for policy reform, land-use planning, capacity building, and technology transfer.

Ecosystem-based Adaptation

Poor and vulnerable individuals and communities generally rely more directly on ecosystem services Ecosystem-based adaptation (EbA) includes biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change. EbA can help maintain and restore natural infrastructure, such as wetlands and forests, and contribute to food security, coastal protection and climate-resilient water resources management; while also improving the resilience of fragile ecosystems and biodiversity.

Therefore, ecosystems represent an important entry-point for adaptation measures financed under the GEF Adaptation Program. A significant portion of NAPAs, for example, prioritize the sustainable management, conservation and restoration of ecosystems, as a means of addressing their urgent and immediate adaptation needs. To date, LDCF and SCCF projects under implementation are employing various EbA approaches aimed at reducing vulnerability to climate change. For example, the *Integrated National Adaptation Project in Colombia* (SPA) has carried out a range of EbA approaches to protect Colombia's high-mountain ecosystems and coastal areas, through community-based, participatory initiatives. Approaches include, for example, restoring watersheds, vegetation, and landslide-affected areas, and improving agro-forestry systems. Similarly, the regional, multi-trust fund program, *Desert Ecosystems and Livelihoods Program* (SCCF), is piloting a range of ecosystem-based adaptation approaches across various production systems, whilst also placing emphasis on

participatory approaches, capacity building and on harnessing valuable local knowledge.

EbA approaches present significant opportunities to enhance the cost-effectiveness and sustainability of LDC/SCCF programs and to address the adaptation needs of both vulnerable men and women. In this regard, the GEF Adaptation Program aims to scale up the use of biodiversity and ecosystem services as part of broader adaptation strategies, recognizing that EbA approaches may also achieve additional co-benefits in other GEF focal areas.

Thematic Programming Priorities

Based on the two pillars of the present Strategy, the GEF, through the LDCF and the SCCF, will focus its programming on ten priority areas:

- agriculture and food security;
- water resources management;
- coastal zone management;
- infrastructure, including transport and energy;
- disaster risk management;
- natural resources management;
- health;
- climate information services;
- climate-resilient urban systems; and
- small-island developing states.

Seven of these areas correspond to the core sectors presented above (paragraph 17). Climate information services constitutes a cross-cutting priority, whereas sustainable and climate-resilient urban systems and SIDS have been identified as key operational spaces for expanding synergies among GEF focal areas and trust funds.

Each of the priority areas is consistent with recipient country demand as well as the mandate of the LDCF and the SCCF, and all have, to varying degrees, been addressed through past projects and programs supported through the funds. Each area also presents distinct challenges and opportunities for scaling up and integrating adaptation into policies, plans and programs; and for pursuing integrated, cross-focal area initiatives; as well as for private-sector engagement.

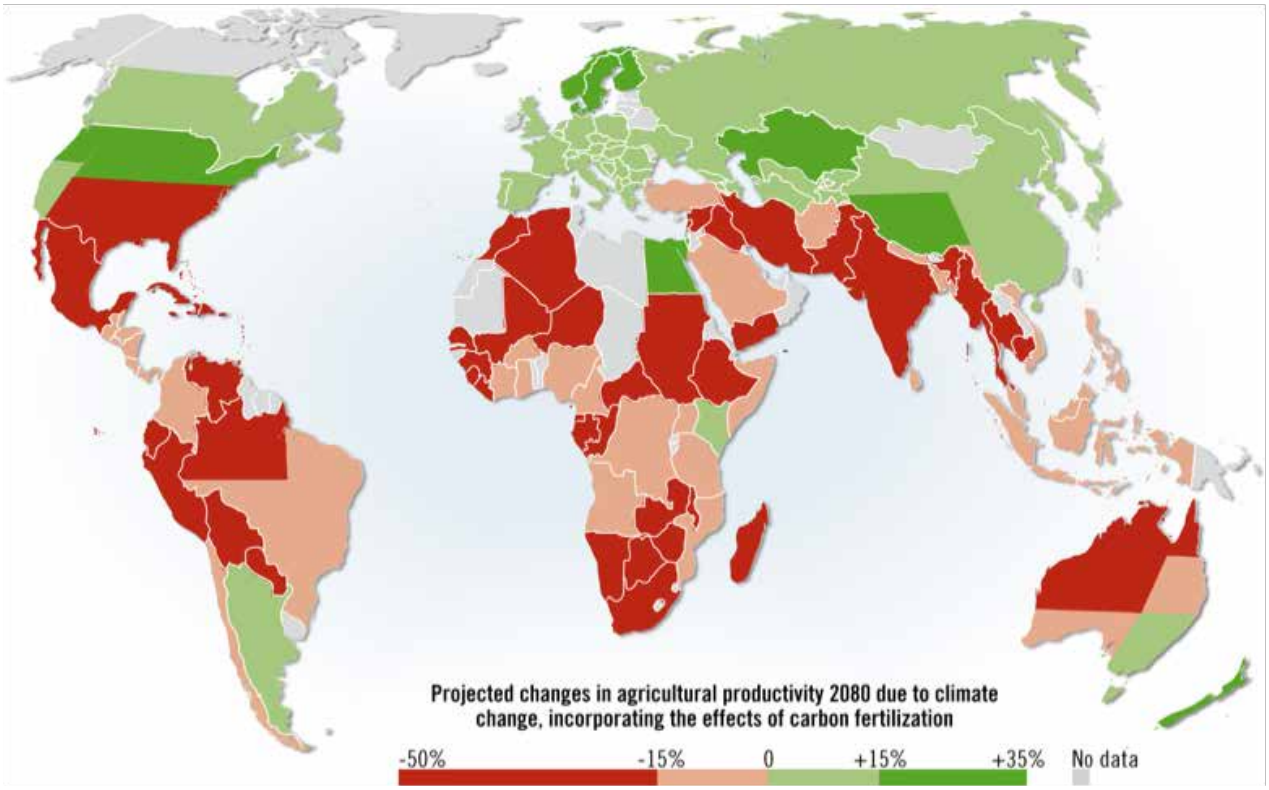
These programming priorities capture the demand for resources under the LDCF and the SCCF during the period from July 1, 2014 to June 30, 2018, as presented in tables 1 and 4 below.

Agriculture and Food Security

Agricultural production and food security are inherently sensitive to the effects of climate change, including variability. Nearly 870 million people were chronically undernourished in 2010–12 (FAO, WFP and IFAD 2012) and areas currently affected by food insecurity are expected to suffer disproportionately from future climate change (STAP 2012). While important uncertainties remain as to the impacts of climate change on agricultural production and food security, current evidence indicates that rain fed systems in some of the poorest and most vulnerable regions will be adversely affected even by temperature increases below 2°C, whereas "climate change above 3°C risks overall decreases in the global food production capacity that would be profoundly destabilizing even in places where food production remains adequate locally" (Beddington 2012).

Some 29 per cent of LDCF investments and 26 per cent of SCCF investments promote adaptation in agriculture and food security (see Figures 3 and 4, Annex IV). The GEF Adaptation Program has financed measures to

FIGURE 1 PROJECTED CHANGES IN AGRICULTURAL PRODUCTION IN 2080 DUE TO CLIMATE CHANGE



Source: Cline, W. R. 2007, *Global Warming and Agriculture: Impact Estimates by Country*, Washington D.C., USA, Peterson Institute; *Credit:* Hugo Ahlenius, UNEP/GRID-Arendal

enhance the resilience of agricultural production systems, food systems and supply chains, as well as the demonstration and deployment of innovative, climate resilient technologies for agricultural production and processing.

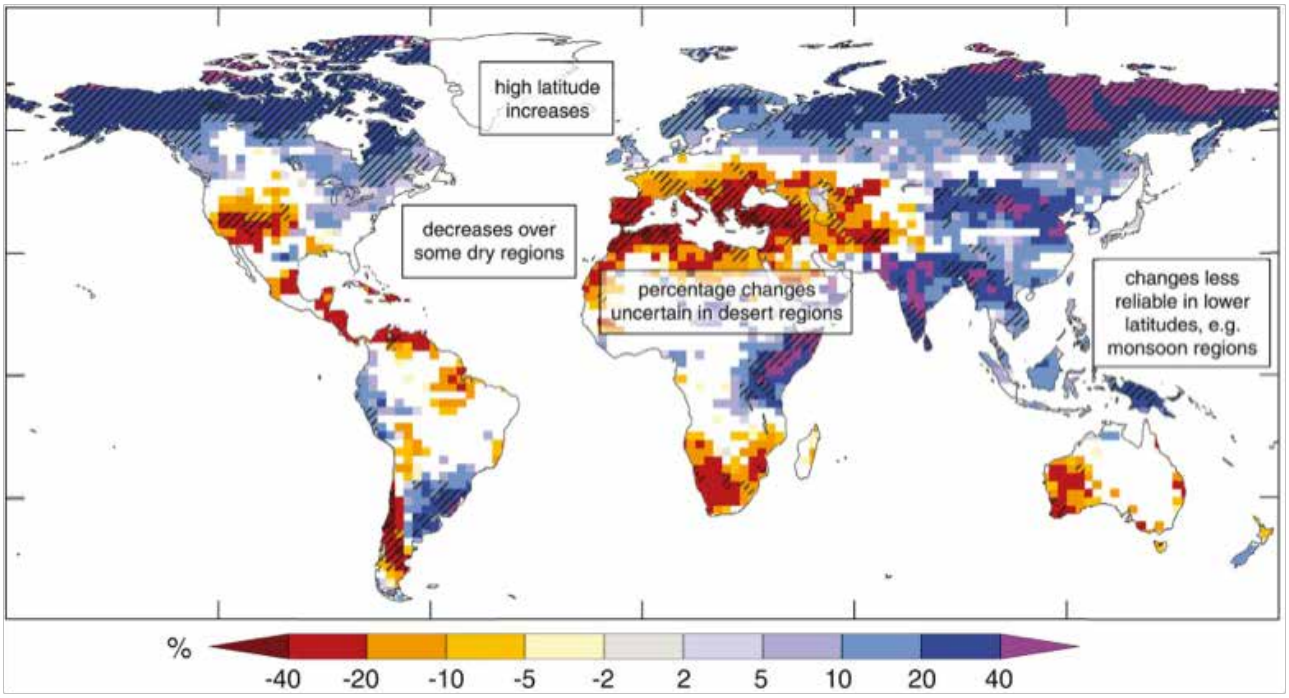
Recognizing that climate change coincides with multiple, systemic pressures on agricultural production and food systems across the globe; including population growth, urbanization and changing consumption patterns; there is an urgent need to scale up and mainstream these investments. Climate-resilient tools and measures must be further integrated across agricultural policies, development frameworks and investment plans; policy and regulatory environments, as well as incentive structures and subsidies must be reformed; access to markets, credit, risk transfer and other financial services must be expanded; along with access to extension services, agro-meteorological information and climate-resilient technologies. Given the major role that women play in agriculture in the developing world, it will be critical to employ gender-sensitive approaches and tools, and to consider measures to reduce the disparities between men and women in access to resources and voice in decision-making.

Agriculture and food security presents several opportunities for synergies between climate change adaptation and other GEF focal areas, including land degradation, biodiversity, climate change mitigation, international waters and persistent organic pollutants. There is also tremendous potential for expanding private sector engagement, particularly for addressing climate change risks throughout agricultural supply chains, and for expanding access to insurance and micro-finance services.

Water Resources Management

Water is the primary medium through which climate change affects people, economies and ecosystems. Nearly 80% of the world's population is currently exposed to high levels of threat to water security (Vorosmarty et al. 2010). Through shifting glacier- and snowmelt patterns, groundwater salination due to sea level rise, and increasing risks of droughts and floods due to more intense and more variable rainfall; climate change is expected to exacerbate current stresses on freshwater

FIGURE 2 PERCENTAGE CHANGE IN AVERAGE ANNUAL RUNOFF PROJECTED BY FOUR CLIMATE MODELS FOR THE PERIOD 2090-2099, RELATIVE TO 1980–1999



Source: IPCC 2007, *Climate Change 2007: Synthesis Report.*

resources, including population growth, land-use change and urbanization (IPCC 2007; STAP 2012). Climate-resilient water resources management is essential to addressing current and future development needs across several of the core sectors discussed in this Strategy, particularly agriculture and food security, and health.

Approximately a 14 per cent of LDCF projects and programs, and nearly a quarter of investments financed through the SCCF enhance the resilience of water resources and their management in the face of climate change, including variability (see Figures 3 and 4, Annex IV). The GEF Adaptation Program has supported climate-resilient water governance; watershed and catchment management; and the transfer and adoption of technologies for water harvesting and enhanced water-use efficiency. Many adaptation measures in water resources management have led to significant gains for women in reducing the time required to collect water, and in providing improved water quality for household use. Recent regional initiatives also target climate change adaptation in the context of trans-boundary water resources management jointly with measures financed through the GEF's international waters focal area.

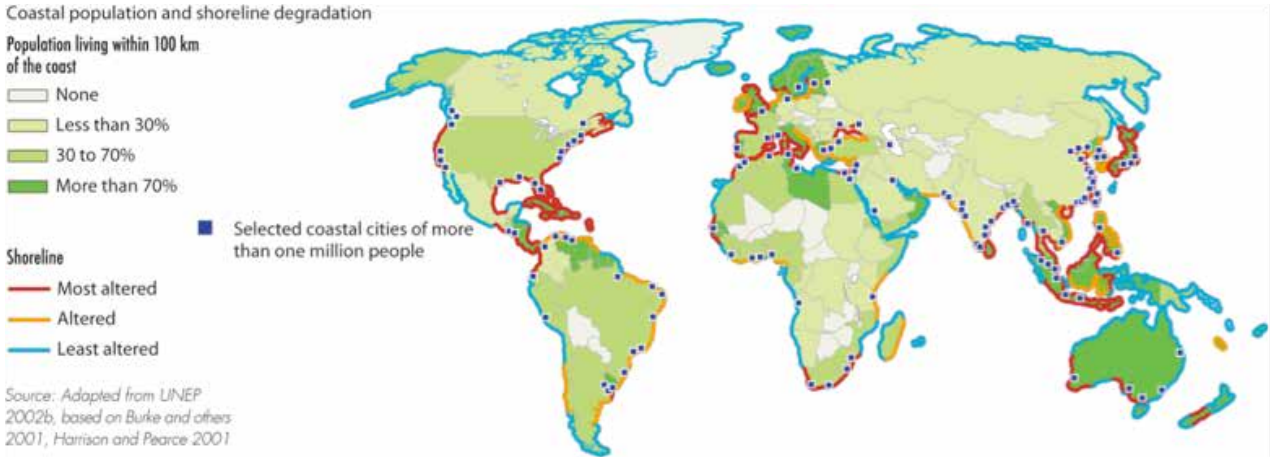
Looking forward, an important challenge for the GEF is to accelerate and scale up the adoption of proven technologies for sound water resources management at the level of households, communities, municipalities, industries and energy production. There is also considerable scope for enhancing the knowledge base for the climate-resilient management of water supplies through, *inter alia*, improved hydrological monitoring and data management. Finally, there is a continued need to strengthen regulatory frameworks and economic incentive structures for climate-resilient water resources management.

There are considerable opportunities to further capture the synergies between climate change adaptation and the GEF's international waters focal area. Climate-resilient water resources management also presents a space for closer collaboration with private companies and industry associations, particularly in water-intensive sectors (see paragraph 30 above).

Coastal-zone Management

The world's coastal zones are highly exposed and sensitive to climate change, including variability, and often ill-equipped to adapt. Balk et al. (2007) estimate that vulnerable, low-elevation coastal zones (LECZ) cover 2 per cent of the world's land area but contain 10 per cent of the world's population and 13 per cent of the world's urban population. A disproportional share of these

FIGURE 3 COASTAL POPULATION AND SHORELINE DEGRADATION



Source: Adapted from UNEP 2002b, based on Burke and others 2001, Harrison and Pearce 2001;
Credit: Bounford.com and UNEP/GRID-Arendal

vulnerable people live in LDCs and SIDS. Coastal zones are also crucial to trade and economic activity. STAP (2012) finds that observed sea level rise has been much higher than IPCC model projections: IPCC (2007) projected a sea level rise of 0.18 to 0.59m towards the end of this century, whereas more recent studies project levels ranging from 0.5 to 2m over the same period. Coastal zones will also be affected by more intense tropical and extra-tropical cyclones, larger extreme waves and storm surges, altered precipitation patterns, and ocean acidification; with overwhelmingly negative impacts (IPCC 2007).

Some 13 per cent and 11 per cent of LDCF and SCCF investments, respectively, promote climate-resilient, integrated coastal zone management (see Figures 3 and 4, Annex IV). The GEF Adaptation Program has invested in projects and programs that reduce the vulnerability of coastal communities and infrastructure to the effects of climate change, including sea level rise, storms, floods, and erosion; through improved land-use planning, climate-resilient coastal infrastructure, and the sustainable management of natural infrastructure.

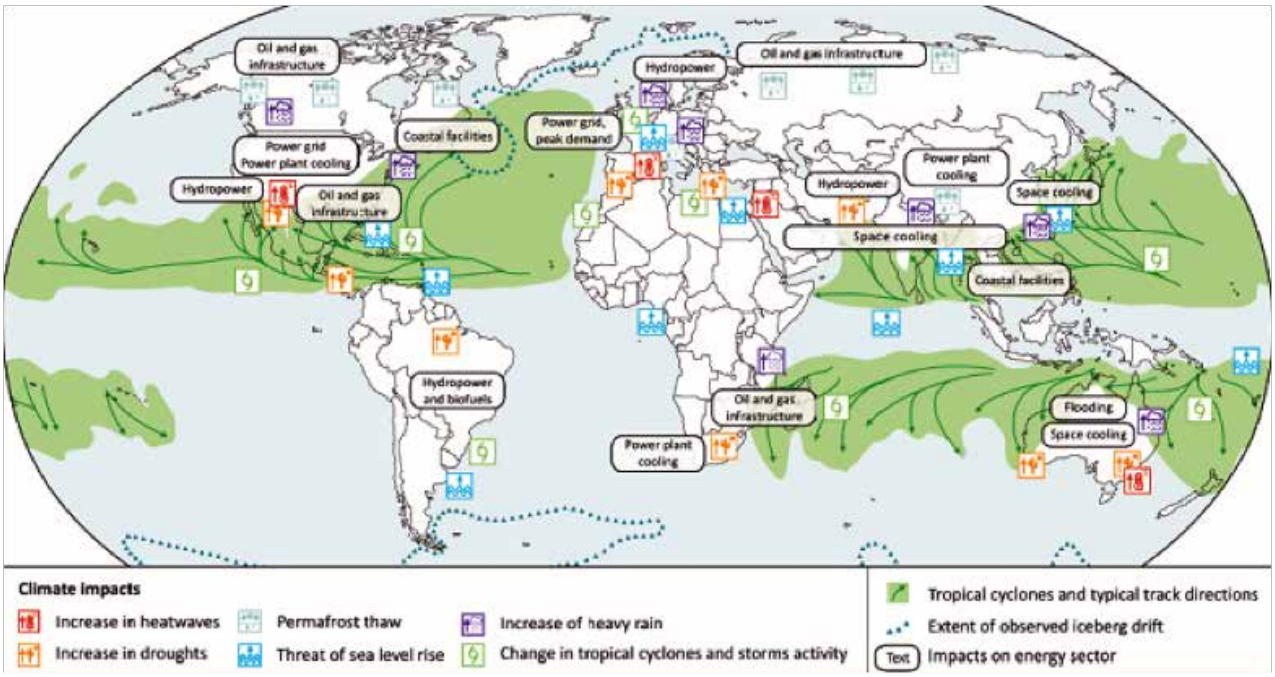
Still, recognizing the cost of protecting coastal infrastructure and settlements from climate change, there is a significant need to expand the investments carried out through the LDCF and the SCCF as part of a comprehensive approach to resilient and sustainable development in vital and rapidly growing coastal zones. The GEF will continue to target the people most at risk from climate change-induced coastal hazards by strengthening early-warning systems and promoting diversified and resilient livelihoods. In addition, the GEF will play a catalytic role in climate-resilient coastal development, supporting the integration of relevant knowledge and adaptation measures into coastal settlement planning and infrastructure investments. Finally, the GEF will also seek to scale up private-sector engagement as a crucial component in climate-proofing coastal roads, ports, industrial facilities and the tourism industry (see paragraph 31 above).

Infrastructure, Including Transport and Energy

Climate change is likely to adversely affect key infrastructure assets in a variety of ways, including transport infrastructure, such as roads, ports and airports; energy infrastructure, including both the energy supply chain and energy demand; as well as urban settlements, water and sanitation systems. IPCC (2007) finds that industry, infrastructure, and settlements are generally more vulnerable in high-risk locations, particularly coastal and riverine areas, and that rapid urbanization is placing increasing numbers of people and economic activity at risk from climate change and its effects on infrastructure.

While a significant share of LDCF and SCCF investments has targeted coastal zone management (see paragraph 52) and enhanced flood risk management, there is a need to scale up the GEF's investments in climate-resilient infrastructure, particularly in the areas of transportation; urban settlements, water supplies and sanitation; and energy. The availability and predictability of resources in the LDCF and the SCCF have curbed investments in larger public works, but there is also scope for strengthening structural codes and standards, and their enforcement; and mainstreaming adaptation tools, measures and budget allocations across infrastructure planning and development processes. The GEF will work to catalyze

FIGURE 4 SELECTED IMPACTS OF CLIMATE CHANGE ON THE ENERGY SECTOR



Source: http://visual.ly/selected-climate-change-impacts-energy-sector, based on ©Munich RE (2011), with information from Acclimatise (2009), Foster and Brayshaw (2013), Schaeffer, et al. (2012) and IEA analysis, retrieved on September 17, 2013.

investments, including from the private sector, in infrastructure and settlement planning solutions that prevent developing countries from becoming trapped in unsustainable and potentially maladaptive development pathways.

Disaster Risk Management

Evidence gathered since 1950 suggests a change in climate extremes, including hot and cold days, extreme rainfall, tropical cyclone activity, more frequent and more intense droughts, and floods (IPCC 2012). It lies in the nature of extreme events, however, that data is limited, any trends are difficult to ascertain, and the precise contribution of climate change is difficult to determine. Peterson et al. (2013) compiles 19 analyses of 12 extreme weather events that occurred in 2012, half of which found "evidence that climate change was a contributing factor to the extreme event examined, though the effects of natural fluctuations of weather and climate […] played key roles as well." Adaptation to climate change -induced extreme events, therefore, entails coping with considerable uncertainty, and constantly improving the evidence base for decision-making. In contrast, it is certain that developing countries are the most severely affected by extreme events. During the period from 1970 to 2008, 95 per cent of deaths from natural disasters occurred in developing countries (IPCC 2012). Women, boys and girls are 14 times more likely than men to die during a disaster (UNDP, 2010).

Some 9 per cent of LDCF and 8 per cent of SCCF investments target disaster risk management (DRM) (see Figures 3 and 4, Annex IV). The GEF Adaptation Program has financed measures to reduce climate change-induce disaster risks across sectors, through information services, capacity building, and public works. Based on country demand, DRM will remain a priority area for the LDCF and the SCCF. In particular, there is a need to further mainstream disaster risk information, assessment tools and appropriate mitigation measures across relevant policies, development frameworks and investment plans; strengthen disaster preparedness for effective response at all levels, and disaster contingency planning; increase access to early-warning information, education and awareness raising on climate change-induced hazards at all levels; and promote the development of and access to financial instruments for disaster risk management, including risk transfer.

As the GEF Adaptation Program supports developing countries in pursuing progressive and iterative, long-term adaptation planning and action, it is crucial that disaster risk information and DRM tools are fully institutionalized in decision-making, planning and monitoring processes and systems at the national and sub-national levels.

Natural Resources Management

IPCC (2007) estimates that "during the course of this century the resilience of many ecosystems is likely to be exceeded by an unprecedented combination of change in climate, associated disturbances (e.g., flooding, drought, wildfire, insects, ocean acidification) and in other global change drivers (especially land-use change, pollution and over-exploitation of resources), if greenhouse gas emissions and other changes continue at or above current rates" and that "approximately 20 to 30% of plant and animal species assessed so far are likely to be at increased risk of extinction, if increases in global average temperature exceeds 1.5 to 2.5°C". Based on more recent data, STAP (2012) suggests that projected biodiversity loss due to climate change could even be higher than previously thought. In addition, at current rates, climate change is likely to adversely affect the productivity of land and marine ecosystems and their services.

Natural resources management (NRM) is the primary sector for 17 per cent of investments under the LDCF, and 7 per cent of investments under the SCCF (see Figures 3 and 4, Annex IV). At the same time NRM has served as a means to enhance resilience across other, core sectors. The GEF Adaptation Program will continue to enhance the resilience of natural assets in the face of climate change, as a basis for enhancing the resilience of people and their livelihoods, and to reduce the vulnerability of fragile ecosystems. This includes, *inter alia*, strengthening environmental management in vulnerable areas; protecting ecosystems and natural resources that shield communities from coastal hazards and flood risks, such as coral reefs and mangroves; and promoting sustainable, resilient and diversified livelihoods as a means to reduce anthropogenic pressures on the natural resources that buffer the impacts of climate change.

As noted above (see paragraph 36-38), there are considerable opportunities to scale up the use of ecosystem-based approaches, with significant co-benefits across other GEF focal areas.

Health

IPCC (2007) concludes with very high confidence that "climate change currently contributes to the global burden of disease and premature deaths". Climate change affects human health through, *inter alia*, shifting patterns of disease; water and food insecurity and associated increases in waterborne disease and malnutrition; and extreme climate events, such as more frequent and more severe storms, floods, heat waves and fires. The adverse health impacts of climate change will be greatest in low-income countries, particularly among the urban poor, pregnant women, children and the elderly, traditional societies, subsistence farmers, and coastal populations.

To date merely 3 per cent of SCCF investments have targeted public health as a primary area of intervention (see Figures 3 and 4, Annex IV). Under the LDCF, the health-related impacts of climate change are being addressed in the context of projects and programs that primarily target other sectors. The limited country demand for LDCF and SCCF resources for public health is a likely result of the high level of uncertainty regarding the health impacts of climate change, and the associated absence of proven adaptation measures.

As a result, there is a considerable need to strengthen the evidence base and decision-support services as a basis for mainstreaming climate change adaptation in the public health sector, including policies, development frameworks and investment plans. Such measures will need to consider the health-related impacts of climate change on men, women and children. The pioneering projects supported through the SCCF and carried out in partnership with WHO will provide much-needed lessons and best practices; informing scaled-up support towards strengthening the public health infrastructure to rapidly and effectively respond to climate change-induced health risks, and capacity building and awareness raising at all levels of health care provision. More recently, the GEF has partnered with WHO as part of a group of agencies working to support the NAP process in LDCs.

The public health sector presents important, new opportunities for initiatives that cut across climate change adaptation and sound chemicals management.

Climate Information Services

Vulnerable developing countries suffer from a chronic shortage of timely and reliable information regarding the different components of vulnerability, resilience and adaptation.

The GEF Adaptation Program has provided considerable support towards weather and climate monitoring, data collection and early-warning systems, with 12 percent and 6 percent of all LDCF and SCCF investments, respectively. Climate information services address countries' urgent and immediate needs associated with expanding and strengthening early-warning systems; while also providing essential information and decision-support services to enable sustainable and resilient policy-making and planning for medium- and long-term climate-resilient development. Past investments notwithstanding, there is a continuous demand for improving services to systematically gather, store and disseminate socio-economic and biophysical information to better understand the vulnerabilities of individuals, communities and systems; upgrading existing systems to capture changing hazard circumstances; building institutional and technical capacities to process and convert data; and strengthening infrastructure to disseminate information to end-users in a timely, useful and understandable way.

The GEF Adaptation Program is already exploring opportunities for public-private partnerships in the area of hydro-meteorological and climate information services. These lessons will help design pathways to accelerate and scale up the provision of climate-information services across the developing world.

Climate-resilient Urban Systems

Cities present a unique opportunity to address some of the most important global risks of the 21st century, including climate change, rapid population growth, changing consumption patterns, and environmental degradation. As a result, cities have been identified as one of the principle operational spaces for enhanced synergies among climate change adaptation and other GEF focal areas.

Cities have a complex relationship with climate change. Many are exposed to extreme weather events, such as floods and droughts, because of their geographic location, often near coastlines, and because of the number of vulnerable people living in cities. Urban dwellers and municipal governments face numerous climate change and development challenges, associated particularly with the provision of water and the management of wastewater; disaster risk reduction in general, including emerging issues such as epidemics exacerbated by climate change; shifting energy use; and the deterioration of important ecosystem services due to climate change.

Urban systems face unique challenges due the spatial concentration of hazards and stressors (and the number of people at risk from them), the number of hazards (e.g. the range of infectious and parasitic diseases that can spread rapidly among concentrated populations, the close proximity of people, industries and industrial wastes) and their mix and potential for exacerbating each other (e.g. floods contaminating water supplies which lead to water-related disease epidemics). It is also common for cities to expand and develop in ways that erode natural defenses or buffers (for instance wetlands) and increase flooding risks from rainfall (as an ever larger area is covered by buildings or paved surfaces). Likewise, cities have a huge potential to avert the most serious risks of climate change to their residents, assets, and economies.

In addition, urban contexts are a particularly significant target for adaptation, as their unique features generally lead to an increase in risk of cascading effect of disasters, whereby primary hazard leads to secondary hazard (e.g.

floods creating water-supply contamination), as well when natural hazards trigger technological disasters. On the ground, the impacts of natural and technological hazards, including pollution events, overlap and compound one another – and this is one of the defining challenges of urban disaster-risk management.

There are substantial synergies between successful adaptation to climate change and successful local development including:

- improvements in housing and living conditions and in infrastructure and services, including housing for lower-income groups with safer, legal alternatives to informal settlements by increasing the supply and reducing the cost of land for housing, and supporting infrastructure on suitable sites;
- addressing health issues including emergency response capacity for extreme weather events and reducing environmental health risks;
- reducing vulnerabilities of especially vulnerable groups, infants and children, the elderly, and others;
- land-use management that protects and enhances natural buffers and defenses for cities and their surrounds, and also sustains the water sector, drainage, etc.;
- protecting the critical economic assets of cities, and reducing casualties, particularly ports and other transport infrastructure and systems.

Urban areas are also key contributors to climate change and play a role in other global environmental problems. There are obvious linkages between adaptation to climate change and most other areas of development and environmental management that can be realized through sound policy, planning, and investments. Relevant challenges and opportunities include:

- changes in mean temperatures that produce shifts in energy demand, with implications for the energy sector, including energy efficiency and the use of renewable energy sources;
- sustainable land management may protect and enhance natural buffers and defenses for cities and their surroundings, and also sustain the water sector, drainage, etc.;
- sustainable management and regeneration of natural infrastructure, such as mangroves and coral reefs, may contribute towards adaptation and global environmental benefits in urban settings; and
- the growing demand for water and further challenges in wastewater management may further increase the need for sustainable, trans-boundary water resources management.

Small Island Developing States

Small Island Developing States (SIDS) have been recognized to have very unique vulnerabilities and characteristics. They are often geographically isolated, located in regions prone to natural disasters, have high population densities, and very limited natural resources. These unique characteristics make SIDS amongst the most vulnerable to the impacts of climate change, with sea level rise and extreme events posing a threat to their very existence. Thus for many small island states climate change is an issue of the viability of their nations.

IPCC (2007) highlighted that sea level rise is expected to exacerbate inundation, storm surges, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities, with some studies suggesting that sea level rise could lead to a reduction in island size, particularly in the Pacific. Island infrastructure tends to be predominately located in coastal regions, and in the Caribbean and the Pacific more than 50 per cent of the population lives within 1.5 kilometers of the shore.

Most SIDS have very limited water supplies, thus making them extremely vulnerable to future changes in the distribution of rainfall. Climate change is likely to have serious impacts on coral reefs and fisheries, which provide substantial contributions to GDP in small island states.

With salt water inundation, sea water intrusion in to fresh-water lenses and changing weather patterns, agriculture will be negatively impacted. Many small island states are already experiencing and suffering the impacts of climate change and sea level rise. SIDS have very unique adaptation challenges, including due to their size and location.

While SIDS are well suited to pursue integrated approaches to climate change adaptation and sustainable development, the GEF Adaptation Program will focus on the following priority areas of intervention in SIDS:

- Building the resilience of coastal zones in order to help reduce the negative economic impacts of sea level rise;
- Protecting limited freshwater resources and enhancing the ability of SIDS to augment and more efficiently use water supplies;
- Enhancing food security, as most SIDS are dependent on imported food and thus with reduced global food production and fluctuating prices, SIDS need to put innovative farming practices in place to address the climate change;
- Promoting access to insurance, as SIDS will need inventive, state of the art insurance products that will help them to reduce the risks of loss and damage resulting from climate change;
- Strengthening the systematic observation networks and climate information services; and
- Enhancing capacity to address medium- and long-term adaptation needs, as SIDS need to mainstream adaptation planning into national sustainable development planning, in order to build medium- and long-term resilience to climate change.

The GEF will work with SIDS to promote innovative adaptation technologies, to respond to the challenges of climate change, recognizing that SIDS can be the ideal places to effectively demonstrate new technologies, and ways of implementing projects and programs, which then can be replicated and scaled up in other developing countries.

Thematic Programming Priorities

Purpose under the Convention: The LDCF was designed to address the special needs of LDCs under the UNFCCC, with the priority of supporting the preparation and implementation of NAPAs. NAPAs identify and prioritize countries' urgent and immediate adaptation needs, focusing on the sectors and resources that are central to human and socioeconomic development.

Eligibility: All least developed countries that are parties to the UNFCCC are eligible to receive financial support for adaptation under the LDCF.

Preparation for programming: All eligible LDCs have already received support to prepare their NAPAs.

Programming priorities: LDC NAPA priorities address adaptation in the following sectors: agriculture and food security; water resources management; coastal-zone management; infrastructure; disaster risk management; natural resources management; health; and climate information services. Community-based adaptation continues to be a cross-sectoral priority. Following the preparation phase, the demand has exponentially grown for the implementation of NAPAs (see Annex IV).

LDCF: Financing Needs

In April 2014, 50 NAPAs had been completed and one was being prepared. In its 2009 assessment of the support needed to fully implement LDC NAPAs concludes that "at least USD 2 billion is required to implement the urgent and immediate needs to address the challenges of climate change in LDCs, and given the passage of time since completion of most of the NAPAs, the cost is even expected to be higher" (UNFCCC 2009).

More in-depth and country-specific analyses suggest that the cost of meeting the priority needs of LDCs may have been underestimated in the design of their original NAPA projects. According to the World Bank (2010), tackling the effects of extreme weather in Bangladesh through embankments, afforestation, shelters and early warning systems would cost about $2.4 billion in initial investments, and $50 million in annual recurrent costs. It is also estimated that $0.79–2.8 billion per year would be required in Ethiopia to meet adaptation needs in agriculture and vital infrastructure, such as roads and dams. These costs are close to the total estimated cost of NAPA implementation in all LDCs.

LDCF: Financing Scenarios and Expected Results

From July 1, 2010 to June 30, 2014 – the period covered by the current Programming Strategy on adaptation – it is projected that the GEF will have approved nearly 120 projects in support of the preparation and implementation of LDC NAPAs, as well as in support of the preparation of the NAP process, with LDCF resources amounting to some $698 million, and mobilizing $3.18 billion in co-financing. The GEF will exceed by a considerable margin its programming target of $600 million for the LDCF for the four-year period corresponding to the fifth replenishment of the GEF Trust Fund.

Given the progress made and noting the continued, high demand for resources, as well as the proven absorptive capacity of the 49 eligible recipient countries, the present Strategy introduces two illustrative financing scenarios that capture different potential development pathways of the global climate finance architecture over the next four years: (A) $700 million and (B) $900 million. Scenario A

would maintain the actual level of programming during the period corresponding to GEF-5. Scenario B, in contrast, would be equivalent to a 29 per cent increase in current levels of programming. Scenario B would enable the LDCF to sustain the momentum gained over the past four years; ensure strong progress towards the full implementation of LDC NAPAs; and allow the GEF, through the LDCF, to begin to effectively address its mandate to support the preparation of the NAP process in LDCs. Moreover, having programmed $231 million and $273 million in LDCF resources in fiscal years 2013 and 2014, respectively, the GEF Adaptation Program has demonstrated its ability to manage resources at the level proposed in Scenario B, i.e. $225 million per year.

Based on past demand for resources for NAPA implementation, and expecting growth in priority areas that have hitherto benefited from very limited programming, Table 1 provides the possible demand for resources by thematic programming priority for both financing scenarios. It should be noted that these scenarios are not intended to guide LDCF programming, as the future distribution of funding by priority area will ultimately be determined by country demand.

TABLE 1 ILLUSTRATIVE LDCF FINANCING SCENARIOS BY PRIORITY AREA

Priority area	Scenario A	Scenario B	Percent
Agriculture and food security	$175,000,000	$225,000,000	25
Water resources management;	$105,000,000	$135,000,000	15
Coastal zone management	$105,000,000	$135,000,000	15
Infrastructure, including transport and energy	$35,000,000	$45,000,000	5
Disaster risk management	$70,000,000	$90,000,000	10
Natural resources management	$105,000,000	$135,000,000	15
Health	$35,000,000	$45,000,000	5
Climate information services	$70,000,000	$90,000,000	10
Total	**$700,000,000**	**$900,000,000**	**100**

Drawing on an analysis of 83 LDCF projects that had been endorsed or approved by the GEF CEO as at April 29, 2014, and their associated, expected results, Table 2 summarizes the expected results for a few core indicators for each of the financing scenarios considered. The indicators are mapped against the revised results framework of the GEF Adaptation Program (see Annex I), yet it should be noted that these are not identical to the indicators proposed to capture aggregate, portfolio-level results in the period from July 1, 2014 to June 30, 2018. The expected results are an approximate projection of the results that could be achieved with a given level of financing and should therefore be seen as illustrative. The expected results associated with each financing scenario are subject to the following basic assumptions and limitations:

- the expected results assume conservative economies of scale for certain indicators (a, b and e) as projects and programs would grow larger, and focus increasingly on scaling up proven approaches rather than piloting new ones;
- while the expected results have been derived from past programming, it should be noted that the Adaptation Program will seek to address emerging programming priorities and approaches, of which experience has yet to be gained;
- while certain indicators used to illustrate the expected results (a-f) apply largely to the portfolio as a whole, others are contingent on future country demand for financing in a specific priority area (g and h); and
- given the diversity of approaches and technologies that have been supported to date, there is no indicator for which baseline data would be available across all projects that have been endorsed or approved by the GEF CEO, which introduces an additional element of uncertainty with regard to the expected results at the portfolio level.

TABLE 2 ILLUSTRATIVE LDCF FINANCING SCENARIOS BY EXPECTED RESULTS

Indicator	Baseline[2]	Scenario A	Scenario B
Objective 1: Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change			
(a) Number of direct beneficiaries[3]	3,410,244	6,600,000	9,900,000
Outcome 1.1: Vulnerability of physical assets and natural systems reduced			
(b) Number of hectares under more resilient management[4]	1,358,374	2,650,000	4,000,000
Outcome 1.2: Livelihoods and sources of income of vulnerable populations diversified			
Outcome 1.3: Climate-resilient technologies and practices adopted and scaled up			
Objective 2: Strengthen institutional and technical capacities for effective climate change adaptation			
Outcome 2.1: Increased awareness of climate change impacts, vulnerability and adaptation			
Outcome 2.2: Improved scientific and technical knowledge base for the identification, prioritization and implementation of adaptation strategies and measures			
Outcome 2.3: Access to improved climate information and early-warning systems enhanced at regional, national, sub-national and local levels			
(c) Number of early-warning systems established/ strengthened	30 in 24 countries	all LDCs supported; 150 per cent increase in coverage from baseline	all LDCs supported; 200 per cent increase in coverage from baseline
(d) Number of projects/programs establishing/ strengthening climate information services	44 in 33 countries	all LDCs supported; 150 per cent increase in coverage from baseline	all LDCs supported; 200 per cent increase in coverage from baseline
Outcome 2.4: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures			
(e) Number of people trained	393,085	765,000	1,150,000
(f) Number of national and sub-national agencies/ institutions strengthened	207 in 34 countries	370; key national institutions in all LDCs strengthened	480; key national institutions in all LDCs strengthened
Objective 3: Integrate climate change adaptation into relevant policies, plans and associated processes			
Outcome 3.1: Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened			
Outcome 3.2: Policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures			
(g) Number of national policies/ plans/ frameworks strengthened/ developed	101 in 33 countries	all LDCs supported	all LDCs supported
(h) Number of sub-national plans/ frameworks strengthened/ developed	601 in 30 countries	1,080; all LDCs supported	1,400; all LDCs supported
Outcome 3.3: Systems and frameworks for continuous monitoring, reporting and review of adaptation established and strengthened			

2 Expected results for 83 projects approved or endorsed by the GEF CEO as at April 29, 2014 -- excluding enabling activities and global projects in support of NAPA preparation, with associated LDCF financing amounting to $386.47 million. The baseline excludes a significant number of LDCF projects that have been approved by the LDCF/SCCF Council and that are currently under preparation.

3 This does not, in most cases, capture the expected, catalytic impact of projects.

4 Given the important share of projects that target agriculture and food systems as a priority sector, this figure includes to a large degree production systems; but it also encompasses other vulnerable land, such as catchments and coastal zones.

Special Climate Change Fund

Purpose under the Convention: The SCCF was established in response to guidance received from the seventh session of the UNFCCC COP in Marrakech in 2001. It is designed to finance activities, programs and measures related to climate change that are complementary to those funded through the climate change focal area of the GEF, under the following four financing windows:

- Adaptation to climate change;
- Technology transfer;
- Mitigation in selected sectors including: energy, transport, industry, agriculture, forestry and waste management; and
- Economic diversification.

Among these four windows, adaptation has the top priority. The present Strategy encompasses adaptation programming under the first two windows; the SCCF Adaptation Program (SCCF-A), and the Program for Technology Transfer (SCCF-B).

The SCCF holds considerable potential to address the adaptation needs of vulnerable countries worldwide. Unlike the LDCF, which is specifically dedicated to the urgent and immediate needs of the LDCs, the SCCF is open to all vulnerable developing countries. In addition, it may finance a wide range of concrete adaptation measures, over different time horizons.

Eligibility: All developing country Parties to the UNFCCC are eligible to receive financial support for adaptation interventions to be integrated into development activities.

Preparation for Programming: The adaptation program under the SCCF does not allocate resources for enabling activities limited to assessing vulnerability to climate change and identifying adaptation needs. The SCCF supports the implementation of adaptation activities in line with the priority areas of intervention identified by the COP.

Adaptation (SCCF-A)

Programming Priorities: The GEF, through SCCF-A, was requested to start implementing adaptation activities promptly where sufficient information is available to warrant such activities, inter alia, in the areas of:

- water resources management;
- land management;
- agriculture;
- health;
- infrastructure development;
- fragile ecosystems, including mountainous ecosystems;
- integrated coastal zone management;
- improving the monitoring of diseases and vectors affected by climate change, and related forecasting and early-warning systems, and in this context improving disease control and prevention; and

- supporting capacity building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change, including contingency planning, in particular for droughts and floods in areas prone to extreme weather events.

The COP has also requested the GEF, through the SCCF, to "consider how to enable activities for the preparation of the [NAP] process for interested developing country Parties that are not [LDCs]" (decision 12/CP.18).

Technology Transfer (SCCF-B)

The SCCF has a specific financing window on technology transfer (SCCF-B), which has contributed to the implementation of the Poznan Strategic Program on Technology Transfer through Technology Needs Assessments (TNA), as well as technology transfer pilot projects.

Under SCCF-B, the GEF is mandated to support technology transfer for adaptation and mitigation. In the context of the adaptation program, this has been reflected in a strategic results framework objective (CCA-3: Promote the transfer and adoption of adaptation technology) under the 2010-2014 Adaptation Strategy.

In line with the GEF's Strategic Program on Technology Transfer (Poznan Strategic Program on Technology Transfer), the GEF supports the transfer of adaptation technology across its entire portfolio of projects and programs. The transfer and adoption of appropriate, climate-resilient technology is promoted through efforts to enhance enabling environments, applied research, demonstration activities, as well as the deployment and diffusion of proven technologies and approaches, including through enhanced access to finance. The GEF Adaptation Program, through SCCF-B, has also provided support to regional Climate Technology Centers and Networks in four regions.

In the period from July 1, 2014 to June 30, 2018, the GEF Adaptation Program will continue to support technology transfer as a cross-cutting priority, in accordance with country demand. SCCF-B will focus solely on technology transfer for adaptation and mitigation in line with COP guidance. Support towards the transfer of adaptation technologies will be monitored at the portfolio-level under Outcome 1.3 of the revised results framework for the LDCF and the SCCF (see Annex I).

According to COP guidance the SCCF can support:

- implementation of the results of technology needs assessments;
- technology information;
- capacity-building for technology transfer; and,
- enabling environments.

SCCF: Financing Needs

Despite a successful record, both in terms of positive evaluations and accelerated approval and disbursement rates, the main obstacle to adaptation programming under the SCCF remains the lack of adequate and predictable resources. The SCCF is still the only operational fund under the UNFCCC COP (as the Adaptation Fund operates under the Kyoto Protocol and the GCF is not fully operational) that can serve all vulnerable developing countries, and the demand for SCCF resources has been growing significantly every year. Based on priority project concepts submitted by the GEF Agencies, the GEF Secretariat has recorded a demand of some $250 million per year under SCCF-A.

The demand captured in project concepts that seek SCCF resources reflects to a certain extent the expected availability of resources in the fund. This demand represents a mere fraction of the estimated cost of adaptation in the developing world. The World Bank (2010) estimates the cost of adapting to an approximately 2 degree warmer world by 2050 to be US$70–100 billion per year. The United Nations Office for Disaster Risk Reduction (UNISDR), in its 2013 Global Assessment Report, suggests that these costs may be even higher due to disaster risks which also pose a threat to climate-sensitive sectors and community livelihoods (Global Assessment Report 2013).

SCCF: Financing Scenarios and Expected Results

From July 1, 2010 to June 30, 2014 – the period covered by the current Programming Strategy on adaptation – the GEF is expected to have approved 44 adaptation projects under the SCCF, with grant resources amounting to some $196 million, and mobilizing more than $1.7 billion in co-financing. In spite of recent, important contributions to the fund, the GEF will fall significantly short of its programming target of $400 million for the period corresponding to the fifth replenishment of the GEF Trust Fund.

Given the continued, high demand for resources from the SCCF and recalling the need for support towards the NAP process in non-LDC developing countries, while considering different potential development pathways of the global climate finance architecture over the next four years, the present Strategy introduces two illustrative financing scenarios for the SCCF: (A) $400 million and (B) $500 million. Scenario A would represent no change compared to the target set for the period corresponding to GEF-5. It would allow the fund to make partial progress towards meeting the demand for resources recorded in the eligible, priority project and program proposals received for inclusion in each SCCF Work Program (see paragraph 103 above). Scenario B, of $500 million over the four-year period, would entail a 25 per cent increase from the target set for the GEF-5 period, and a more considerable increase from actual levels of programming, although it would still cover merely half of the identified, annual demand. Scenario B would allow the SCCF to provide more robust levels of funding for those vulnerable developing countries that are not LDCs, particularly a large majority of SIDS. Moreover, Scenario B would enable the GEF, through the SCCF, to begin to effectively support non-LDC developing countries in advancing their NAP processes. Given the experience and the track record of the GEF Adaptation Program, particularly under the LDCF, absorptive capacity is not expected to present a barrier to programming resources at the level envisaged in Scenario B, i.e. $125 million per year.

Based on past demand for resources, and expecting growth in priority areas that have hitherto benefited from very limited programming, Table 3 provides the possible demand for resources by thematic programming priority for both financing scenarios. It should be noted that these scenarios are not intended to guide SCCF programming, as the future distribution funding by priority area will ultimately be determined by country demand.

TABLE 3 ILLUSTRATIVE SCCF FINANCING SCENARIOS BY PRIORITY AREA

Priority area	Scenario A	Scenario B	Percent
Agriculture and food security	$100,000,000	$125,000,000	25
Water resources management;	$100,000,000	$125,000,000	25
Coastal zone management	$40,000,000	$50,000,000	10
Infrastructure, including transport and energy	$40,000,000	$50,000,000	10
Disaster risk management	$40,000,000	$50,000,000	10
Natural resources management	$40,000,000	$50,000,000	10
Health	$20,000,000	$25,000,000	5
Climate information services	$20,000,000	$25,000,000	5
Total	**$400,000,000**	**$500,000,000**	**100**

Drawing on an analysis of 44 SCCF projects that had been endorsed or approved by the GEF CEO as at April 29, 2014, and their associated, expected results, Table 4 summarizes the expected results for a few core indicators for each of the financing scenarios considered. The indicators are mapped against the revised results framework of the GEF Adaptation Program (see Annex I), yet it should be noted that these are not identical to the indicators proposed to capture aggregate, portfolio-level results in the period from July 1, 2014 to June 30, 2018. The expected results are an approximate projection of the results that could be achieved with a given level of financing and should therefore be seen as illustrative. The expected results associated with each financing scenario are subject to the basic assumptions and limitations outlined in paragraph 89 above.

TABLE 4 ILLUSTRATIVE SCCF FINANCING SCENARIOS BY EXPECTED RESULTS

Indicator	Baseline[7]	Scenario A	Scenario B
Objective 1: Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change			
(a) Number of direct beneficiaries[8]	3,295,769	7,720,000	11,600,000
Outcome 1.1: Vulnerability of physical assets and natural systems reduced			
(b) Number of hectares under more resilient management[9]	2,636,399	6,180,000	9,270,000
Outcome 1.2: Livelihoods and sources of income of vulnerable populations diversified			
Outcome 1.3: Climate-resilient technologies and practices adopted and scaled up			
Objective 2: Strengthen institutional and technical capacities for effective climate change adaptation			
Outcome 2.1: Increased awareness of climate change impacts, vulnerability and adaptation			
Outcome 2.2: Improved scientific and technical knowledge base for the identification, prioritization and implementation of adaptation strategies and measures			
Outcome 2.3: Access to improved climate information and early-warning systems enhanced at regional, national, sub-national and local levels			
(c) Number of early-warning systems established/ strengthened	12 in 12 countries	20 additional countries supported; 200 per cent increase in coverage from baseline	25 additional countries supported; 250 per cent increase in coverage from baseline
(d) Number of projects/programs establishing/ strengthening climate information services	26 in 21 countries	20 additional countries supported; 200 per cent increase in coverage from baseline	25 additional countries supported; 250 per cent increase in coverage from baseline
Outcome 2.4: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures			
(e) Number of people trained	11,426	26,800	40,200
(f) Number of national and sub-national agencies/ institutions strengthened	125 in 22 countries	280; key national institutions in 40 additional countries strengthened	350; key national institutions in 50 additional countries strengthened
Objective 3: Integrate climate change adaptation into relevant policies, plans and associated processes			
Outcome 3.1: Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened			
Outcome 3.2: Policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures			
(g) Number of national policies/ plans/ frameworks strengthened/ developed	88 in 30 countries	40 additional countries supported	50 additional countries supported
(h) Number of sub-national plans/ frameworks strengthened/ developed	183 in 31 countries	400; 40 additional countries supported	500; 50 additional countries supported
Outcome 3.3: Systems and frameworks for continuous monitoring, reporting and review of adaptation established and strengthened			

7 Expected results for 44 projects approved or endorsed by the GEF CEO as at April 29, 2014, with associated SCCF financing amounting to $179.19 million. The baseline excludes a significant number of SCCF projects that have been approved by the LDCF/SCCF Council and that are currently under preparation.

8 This does not, in most cases, capture the expected, catalytic impact of projects.

9 Given the important share of projects that target agriculture and food systems as a priority sector, this figure includes to a large degree production systems; but it also encompasses other vulnerable land, such as catchments and coastal zones.

The GEF, through the SCCF, has provided $5.09 million towards a global support program that aims to launch the preparation of the NAP process in non-LDC developing countries. An important, expected contribution of this program is a more refined understanding of country demand and priorities as it relates to preparation of the NAP process.

Annex I: Results Framework of the LDCF and the SCCF

The revised results framework of the GEF Adaptation Program is structured around three strategic objectives with associated outcomes and indicators. As of July 1, 2014, project and program proponents that seek funds from the LDCF and/or the SCCF for climate change adaptation will be requested to align their proposals with one or more of these strategic objectives. At CEO Endorsement/ Approval, projects will be requested to identify the outcomes of the GEF Adaptation Program towards which they are expected to contribute, and provide baselines and targets for the associated indicators. These indicators would be monitored at the portfolio level, drawing on project-level information received at CEO Endorsement/ Approval, and through mid-term reviews and terminal evaluations.[10]

In the period from July 1, 2014 to June 30, 2018, the GEF will seek to further enhance the monitoring and reporting of progress towards adaptation outcomes and impacts at the level of projects, programs and the portfolio as a whole. Given the need to develop consistent definitions and methodologies for the effective, portfolio-level monitoring and reporting of aggregate outcomes in terms of reduced vulnerability and enhanced adaptive capacity, the present selection of indicators remains subject to adjustments and additions as the GEF revises its Adaptation Monitoring and Assessment Tool and the associated guidelines by the 17th meeting of the LDCF/ SCCF Council in October 2014. These changes will be carried out in consultation with GEF Agencies and other key stakeholders, and in accordance with GEF-wide reforms to further strengthen results-based management.

10 Consistent with the GEF's operational policies and procedures on gender mainstreaming, the GEF Adaptation Program will apply the GEF's five Gender Indicators: (1) Percentage of projects that have conducted gender analysis during project preparation; (2) Percentage of projects that have incorporated gender sensitive project results framework, including gender sensitive actions, indicators, targets, and/or budget; (3) Share of women and men as direct beneficiaries of project; (4) Number of national/regional/global policies, legislations, plan, and strategies that incorporates gender dimensions; and (5) Percentage of Project Implementation Reports (PIR), Mid-term Evaluation (MTE) and Terminal Evaluation Reports (TER) that incorporate gender equality and women's empowerment and assess results/progress. Projects will use gender-sensitive indicators and sex-disaggregated data, and it will be systematically recorded, reported and integrated into adaptive management responses at the project level. GEF will undertake periodic reviews of the portfolio and highlight best practices in mainstreaming gender in projects, including through Annual Monitoring Review and Learning Missions.

Goal	Increase resilience to the adverse impacts of climate change in vulnerable developing countries, through both near- and long-term adaptation measures in affected sectors, areas and communities; leading to a reduction of expected socio-economic losses associated with climate change and variability.
Objective 1	**Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change**
Indicator 1	Number of direct beneficiaries (percentage of whom are female)
Outcome 1.1	*Vulnerability of physical assets and natural systems reduced*
Indicator 2	Type and extent (and value, where applicable) of assets strengthened and/or better managed to withstand the effects of climate change (measured e.g. in ha of cropland/ rangeland/ catchments; km of coastline)
Outcome 1.2	*Livelihoods and sources of income of vulnerable populations diversified*
Indicator 3	Number of people benefiting from the adoption of diversified, climate-resilient livelihood options (percentage of whom are female)
Outcome 1.3	*Climate-resilient technologies and practices adopted and scaled up*
Indicator 4	Extent of adoption of climate-resilient technology/ practice (measured in number of users [percentage of whom are female]; or geographical area)
Objective 2	**Strengthen institutional and technical capacities for effective climate change adaptation**
Outcome 2.1	*Increased awareness of climate change impacts, vulnerability and adaptation*
Indicator 5	Number of people (percentage of whom are female) with increased awareness of climate change impacts, vulnerability and adaptation
Outcome 2.2	*Improved scientific and technical knowledge base for the identification, prioritization and implementation of adaptation strategies and measures*
Indicator 6	Number of risk and vulnerability assessments, and other relevant scientific and technical assessments carried out and updated
Outcome 2.3	*Access to improved climate information and early-warning systems enhanced at regional, national, sub-national and local levels*
Indicator 7	Number of people (percentage of whom are female)/ geographical area with access to improved climate information services
Indicator 8	Number of people (percentage of whom are female)/ geographical area with access to improved, climate-related early-warning information
Outcome 2.4	*Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures*
Indicator 9	(a) Number of people (percentage of whom are female) trained to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures; and (b) the degree to which the capacities of those people have been strengthened (measured e.g. through a capacity perception index)
Indicator 10	(a) Number of regional, national and sub-national institutions with improved institutional and technical capacities to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures; and (b) the degree to which the capacities of those institutions have been strengthened (measured e.g. through an institutional capacity assessment)
Objective 3	**Integrate climate change adaptation into relevant policies, plans and associated processes**
Outcome 3.1	*Institutional arrangements to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened*
Indicator 11	Number of countries with institutional arrangements in place and strengthened to lead, coordinate and support the integration of climate change adaptation into relevant policies, plans and associated processes
Outcome 3.2	*Policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures*
Indicator 12	Number of regional, national and sector-wide policies, plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures
Indicator 13	Number of sub-national plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures
Outcome 3.3	*Systems and frameworks for the continuous monitoring, reporting and review of adaptation established and strengthened*
Indicator 14	Number of countries with systems and frameworks established and strengthened for the continuous monitoring, reporting and review of adaptation

Annex II: Guiding Principles

The present strategy is aligned with the GEF's long-term vision of transformational change (see Box 1), and the associated guiding principles, namely collective leadership and effective communication; promoting country ownership; a resolute focus on achieving results; and a lean and efficient organization. The implementation of this Strategy will be guided by the GEF 2020 long-term strategy.

BOX 1 TOWARDS TRANSFORMATIONAL CHANGE: THE ADAPTATION PROGRAM AND THE GEF'S LONG-TERM VISION

Consistent with the GEF's long-term vision of transformational change, the GEF Adaptation Program will promote:

- continuous innovation: seeking programming opportunities where barriers to adaptation remain high, enabling its partners and beneficiaries to access and adopt cutting-edge technologies in response to evolving challenges, and constantly improving its processes, procedures, modalities, and delivery mechanisms;
- scaling up: identifying and strengthening pathways for expanding, adapting and sustaining successful adaptation, including through a shift from projects to programmatic approaches, by bridging the gap between successful pilot initiatives and sector-wide adaptation, and by shifting from thematic, ad hoc adaptation planning towards increasingly mainstreaming adaptation across key national development policies and plans;
- synergies and partnerships: seeking greater development coherence through broader and more effective partnerships across the sustainable development community, stronger engagement in development planning processes at the national level, and more systematically promoting integrated operations across trust funds, GEF focal areas and conventions; and
- knowledge management: effectively and systematically generating, capturing, storing, sharing and applying knowledge across its portfolio, recognizing the high demand for lessons and best practices on adaptation.

In addition, the GEF Adaptation Program will continue to rely on the following guiding principles:

- responsiveness to COP guidance;
- responsiveness to the needs of vulnerable developing countries;
- responsiveness to independent evaluations; and
- complementarity and coherence with other climate change funds.

Responsiveness to COP Guidance

As an entity entrusted with the operation of the financial mechanism of the UNFCCC, the GEF has a unique and longstanding mandate to support climate change adaptation. The GEF Operational Strategy of 1995 notes that "the strategic thrust of GEF financed climate change activities is to support sustainable measures that minimize climate change damage by reducing the risk, or the adverse effects, of climate change. The GEF will finance agreed and eligible enabling, mitigation, and adaptation activities in eligible recipient countries." In 2001, as part of the Marrakesh Accords, the COP decided to establish the LDCF (decision 5/CP.7) and the SCCF (decision 7/CP.7). The GEF was entrusted with the management of the two funds, both of which were to prioritize climate change adaptation. The COP further requested the GEF to carry out pilot and demonstration projects to show how adaptation planning and assessment could be practically translated into projects that provide real benefits (decisions 6/CP.7; 27/CP.7). Accordingly, SPA was launched in 2005 as a $50 million allocation within the GEF Trust Fund.

As SPA resources have been fully allocated and SPA is successfully completed, the GEF now finances adaptation solely through the LDCF and the SCCF.

The GEF receives frequent guidance from the COP pertaining to the LDCF and the SCCF. Recently, the COP has requested the GEF, through the LDCF, to facilitate the implementation of the LDC work program, including elements other than NAPAs (decision 5/CP.14; reiterated in 5/CP.16). At its seventeenth session, the COP requested the GEF, inter alia, to continue to provide financial resources to developing countries for strengthening existing and, where needed, establishing national and regional systematic observation and monitoring networks under the [LDCF] and the [SCCF]" (decision 11/CP.17). COP 17 also requested the GEF, through the LDCF, "to support the development of a programmatic approach for the implementation of NAPAs by those LDC Parties that wish to do so" (decision 9/CP.17). At its eighteenth session, the COP requested the GEF "to provide funding from the [LDCF] to meet the agreed full cost, as appropriate, of activities to enable the preparation of the national adaptation plan process" and "through the [SCCF], to consider how to enable activities for the preparation of the national adaptation plan [NAPs] process for interested developing country Parties that are not [LDCs]". In its annual reports to the COP, as well as submissions to the Subsidiary Body for Implementation (SBI), the GEF has systematically responded to guidance from the Parties and it will continue to ensure that the present Strategy is fully aligned with the mandate of the LDCF and the SCCF under the UNFCCC.

Responsiveness to the Needs of Vulnerable Developing Countries

The present Strategy will be implemented in full accordance with relevant country needs and priorities. NAPAs (in the case of the LDCF), National Communications, vulnerability assessments, poverty reduction strategies and other relevant national policies, strategies and plans form the basis for the design and implementation of GEF adaptation projects and programs. Through these projects and programs, the GEF also seeks to strengthen the capacities of developing countries to integrate considerations of climate change across relevant development plans and investments. The GEF is engaged in an ongoing dialogue with developing countries to better

understand and respond to their adaptation needs and priorities. Through such dialogue, and thanks to continuous support from its Agencies, the GEF has witnessed first-hand the exponential increase in developing country demand for and access to adaptation finance from the LDCF and the SCCF, encouraged in large part by countries' growing capacity to absorb such finance.

Responsiveness to Independent Evaluations

The GEF has benefited from independent evaluations of all its adaptation-related trust funds and programs. A Joint Evaluation of the LDCF, was carried out in 2009 by DANIDA and the GEF Evaluation Office (GEF/LDCF.SCCF.7/Inf.4) and a follow-up evaluation was completed in 2010 (GEF/LDCF.SCCF.9/Inf.7). SPA was evaluated in 2010 (GEF/ME/C.39/4) and the SCCF was evaluated in 2011 (GEF/LDCF.SCCF.11/ME/02). The GEF Adaptation Program has also benefited from independent assessments by contributing members to the LDCF and the SCCF (see e.g. Australian Multilateral Assessment of 2012). The GEF has responded to all evaluations, and implemented relevant recommendations (see inter alia GEF/LDCF.SCCF.7/Inf.5; GEF/LDCF.SCCF.9/Inf.6; GEF/ME/C.39/5; and GEF/LDCF.SCCF.11/ME/03). Most recently, in response to the independent evaluation of the SCCF, the GEF clarified relevant procedures for constituting work programs under the fund (GEF/LDCF.SCCF.12/Inf.05). The GEF will remain responsive to independent evaluations and it will continue to draw on the insights of evaluators, particularly as these relate to the global role and relevance of the adaptation program, and its long-term contribution towards transformational change.

BOX 2 INDEPENDENT EVALUATION OF THE SPECIAL CLIMATE CHANGE FUND

An independent evaluation of the SCCF was completed in 2011, the main findings of which were presented to the LDCF/SCCF Council in November 2011. The evaluation concludes, inter alia, that:

- the adaptation projects financed under SCCF-A are relevant to COP guidance;
- these projects are highly relevant to the national sustainable development agendas of beneficiary countries, contributing to socio-economic development goals;
- projects employ innovative approaches to overcome the lack of data on many emerging adaptation issues; and
- the SCCF has been managed by the GEF in a cost-effective way – its management costs are the lowest of comparable funds.

The evaluation also notes, however, that the LDCF/SCCF Council should appeal to donors to adequately fund the SCCF in a predictable manner, preferably through a replenishment process.

Complementarity and Coherence With Other Climate Change Funds

In accordance with its mandate, the GEF Adaptation Program will pursue complementarity and coherence with relevant multi-lateral, bilateral and national climate change funds. Specifically, the GEF will seek synergies with the Green Climate Fund (GCF), acknowledging the decision of the COP that a "significant share of new multilateral funding for adaptation should flow through the [GCF]" (decision 1/CP.16). In particular, the GEF, through the LDCF and the SCCF, will play an important role in progressively enhancing the capacities of vulnerable developing countries to access and effectively benefit from increasing financial flows and new financial instruments for adaptation, including from the GCF and the private sector. The GEF also recognizes that the Kyoto Protocol Adaptation Fund and the Pilot Program on Climate Resilience of the World Bank remain important actors in the global landscape of adaptation finance, and it will continue to ensure effective coordination with these funds in relevant countries and sub-regions. Finally, the GEF welcomes the growing number of national adaptation funds that have emerged across developing countries, including in LDCs, as a signal of increasing country ownership of adaptation planning, finance, and implementation. The GEF Adaptation Program will continue to promote all steps towards stronger national-level coordination of adaptation.

Annex III: Eligibility Criteria and Policies

Beyond the guiding principles presented in Annex II above, the GEF Adaptation Program will continue to adhere to the eligibility criteria and policies for projects and programs financed under the LDCF and the SCCF. In particular, all projects and programs should:

- be consistent with the mandate, goal and objectives of the LDCF and the SCCF;
- be consistent with relevant national reports, strategies, policies, plans and legislation;
- align with the implementing agency's comparative advantage, role, and relevant programming;
- generate adaptation benefits in line with additional cost reasoning;
- demonstrate cost-effectiveness;
- complement and be coordinated with other relevant initiatives;
- be sustainable, innovative, and promote scaling up;
- identify relevant risks and demonstrate adequate mitigation measures; and
- adhere to GEF policies on gender mainstreaming and public involvement.

Consistent with GEF policy and COP guidance, the GEF Adaptation Program will continue to promote public participation in projects and programs financed under the LDCF and the SCCF, seeking inclusive and participatory approaches to project and program design, implementation, as well as monitoring and evaluation.

BOX 1 COMMUNITY-BASED ADAPTATION

Community-based Adaptation (CBA) enables beneficiaries to play an active role in identifying their priority needs and in designing and implementing adaptation measures. The combination of communities' continuous engagement in a project, awareness and training received on climate change risks and options, and their longstanding traditional knowledge and insights can have profound implications for local relevance and sustainability.

SPA has been supporting a global CBA program since 2006, with a total of 64 projects in Bangladesh, Bolivia, Niger, Samoa, Guatemala, Jamaica, Kazakhstan, Morocco, Namibia and Vietnam. Some highlights of the community-based adaptation initiatives developed under this program include:

- A wide array of adaptive solutions, such as irrigated vegetable production using harvested rain and floodwater to support HIV/AIDS affected families in Namibia; improvements in resilience of a vulnerable rural oasis ecosystems through local participatory dialogue in Morocco; the recovery of the high-value and nutritious tarwi seed for use as a climate-resilient, commercially viable crop in Bolivia; and the establishment of Women's Resource Centers to empower and improve the resilience of marginalized women through improved access to resources, health provisions, agricultural opportunities, and diversified livelihoods in Bangladesh;

- Development of practical and policy-relevant toolkits and guidebooks such as an Issue Brief on 'Gender and CBA' and Namibia's 'How To' document on inclusivity, which highlights the need to include all members of the community, including the elderly, disabled, and children; and

- South-South knowledge-sharing on community-based adaptation through roundtable discussions and participatory videos developed by Bolivia, Jamaica, Kazakhstan, Samoa, Niger and Morocco.

The LDCF portfolio currently includes CBA projects in Nepal (glacial lake flood risk reduction), Bangladesh (coastal afforestation and associated resilience building activities) and Niger (microfinance for climate-resilient income generation). In addition to these CBA projects, both the LDCF and SCCF portfolios promote community empowerment through training, advocacy and improved local level planning, with the view that capacity building and improved community level decision-making are important steps towards vulnerability reduction. Special attention is often given to women and marginalized people. Looking ahead, the GEF will continue to view CBA as an important component of its support towards comprehensive, country- and stakeholder-owned adaptation.

Cultivating with water.

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Annex IV: The GEF's Accomplishments

Through the LDCF, the SCCF and SPA, the GEF has supported the most comprehensive and the most advanced global portfolio of adaptation projects and programs, including more than 240 concrete interventions in 124 countries, and total grant resources amounting to some $1.18 billion. These projects and programs build on and strengthen the resilience of baseline development investments amounting to $6.06 billion (see Table 1). Through the LDCF, the GEF has enabled 51 of the world's poorest and most vulnerable countries to access resources for the preparation of National Adaptation Programmes of Action (NAPA). 50 countries have completed their NAPAs, and 48 have accessed resources for the implementation of their NAPA priorities. Capacity constraints notwithstanding, LDCs have made rapid progress in accessing resources from the LDCF (see Figure 1).

TABLE 2 OVERVIEW OF LDCF, SCCF AND SPA RESOURCES AS AT APRIL 29, 2014 ($M)

	LDCF	SCCF	SPA	Total
Pledges and contributions[11]				
Total cumulative pledges (USDeq)	879,858,740	333,110,729	50,000,000	1,262,969,469
Total paid contributions (USDeq.)	831,564,226	299,110,563	50,000,000	1,180,674,790
Project approvals				
Total resources approved (including Agency fee) (USD)	836,181,955	291,466,711	50,000,000	1,177,648,666
Total co-financing mobilized (USD)	3,628,859,061	2,297,961,784	608,785,828	6,535,606,673
Total number of projects	205[12]	66[13]	26	297
Number of countries	51	75	53	124[14]
Projects endorsed or approved by the GEF CEO[15]				
Number of projects	83[16]	44	26	153
Total resources (including Agency fee) (USD)	386,467,738	179,189,788	50,000,000	615,657,526
Confirmed co-financing (USD)	1,879,382,010	1,389,059,822	608,785,828	3,877,227,660

11 These figures reflect the status of resources as at March 31, 2014.

12 Includes support towards NAPA preparation, and 10 child projects under four programmatic approaches.

13 Includes four child projects under four programmatic approaches.

14 Total number of countries that have accessed resources from the LDCF, the SCCF or SPA.

15 These projects are completed, under implementation or about to enter implementation.

16 This figure excludes support towards NAPA preparation.

FIGURE 1 CUMULATIVE LDCF PLEDGES AND APPROVALS ($ MILLIONS)

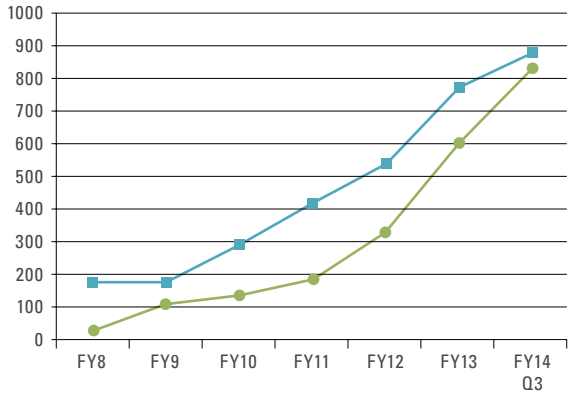
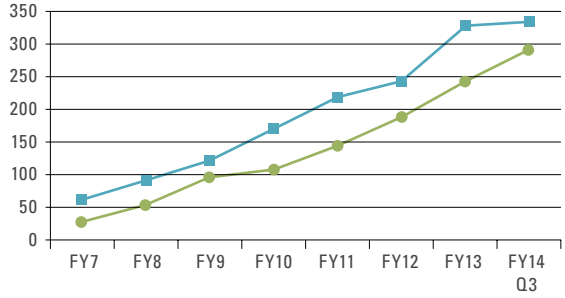


FIGURE 2 CUMULATIVE SCCF PLEDGES AND APPROVALS ($ MILLIONS)



The GEF Adaptation Program is showing strong performance. Of the 39 LDCF projects that entered implementation on or before June 30, 2012 and that were under implementation during at least part of the fiscal year 2013 (FY13; July 1, 2012 to June 30, 2013), all were rated moderately satisfactory or higher in terms of their progress towards adaptation objectives. Under the SCCF, 19 out of 20 active projects were rated in the satisfactory range, representing 95 per cent of the active portfolio.

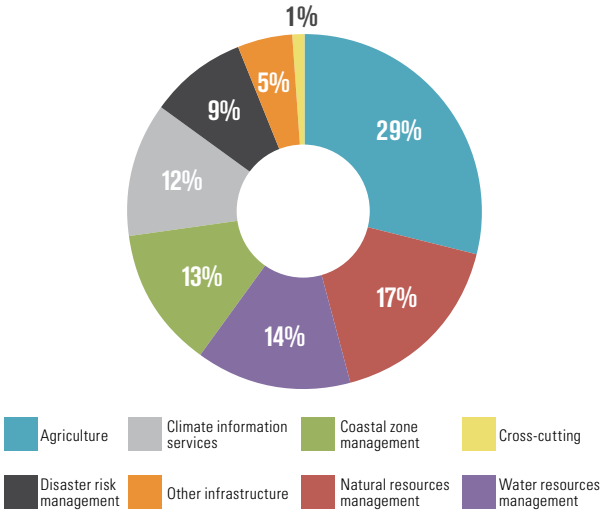
Addressing Adaptation Priorities Across Key Sectors

Seeking to promote climate-resilient development, and in response to COP guidance and country demand, the GEF Adaptation Program encompasses all principle sectors, with an emphasis on those most vulnerable to climate change. Through the LDCF and the SCCF, GEF investments have focused on food security and agriculture, water resources management, coastal-zone management, and disaster risk management, with important cross-cutting initiatives aiming to strengthen hydro-meteorological monitoring systems and enhancing the resilience of the natural assets on which livelihoods depend. A comparison of actual programming against NAPA priorities and COP guidance shows that the sectoral distribution of LDCF and SCCF investments is closely aligned with recipient country demand as well as the mandate of the funds (see figures 2, 3 and 4). Similar findings were highlighted in the 2011 independent evaluation of the SCCF.

Scaling Up and Promoting Synergies – First Steps

In the past four years, the Adaptation Program has sought increasingly to scale up successful approaches and technologies, through larger projects and programmatic approaches. Thanks to significant contributions to the LDCF, the average size of grant approvals has more than doubled over time. As at April 2014, each eligible LDC country may access up to $30 million from the fund in accordance with the principle of equitable access. In June 2012, the LDCF/SCCF Council approved more than $40 million for a regional initiative aiming to strengthen hydro-meteorological services and early-warning systems in nine LDCs in Sub-Saharan Africa. While the limited availability and predictability of resources has prevented a similar growth under the SCCF, the financing leveraged by each dollar of SCCF funding has increased from $4.5 for the first ten projects to $7.7 for the last ten.

FIGURE 3 LDCF FINANCING BY SECTOR (TOP) AND NAPA PRIORITIES (BOTTOM)



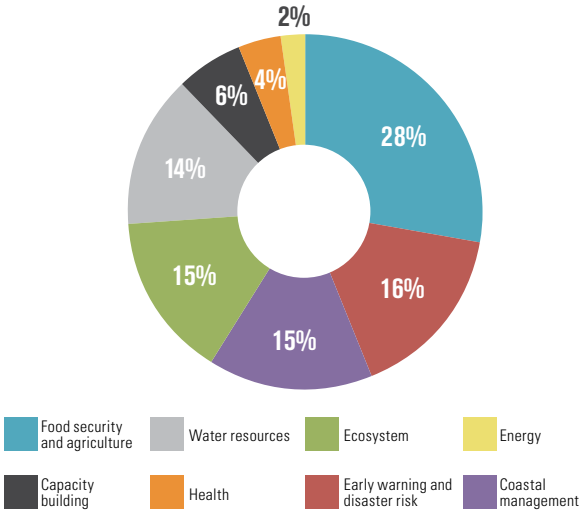
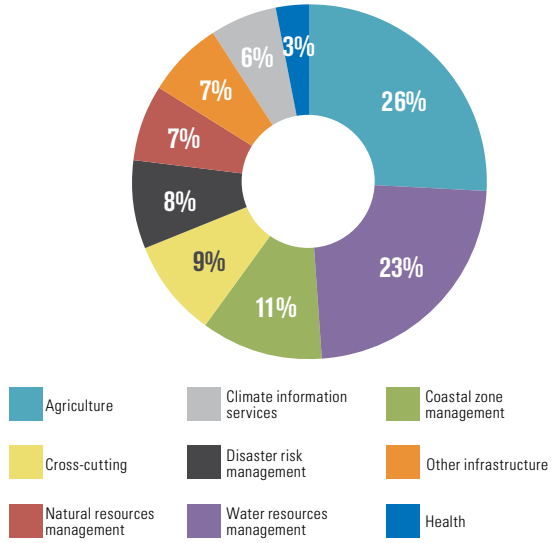


FIGURE 4 SCCF FINANCING BY SECTOR



Since May 2011, the LDCF/SCCF Council has approved $61.75 million in LDCF and SCCF resources towards six regional, programmatic approaches, aiming to secure a larger-scale and sustained impact by implementing medium to long-term sustainable and climate-resilient development strategies. Programs also provide an attractive platform for interested donors and other partners, including the private sector, to invest additional, focused funding that seeks to achieve the same impacts. Through these innovative regional programs, as well as a growing number of national full-sized projects, the GEF Adaptation Program has taken concrete steps towards harnessing the synergies between climate change adaptation and the other focal areas of the GEF. Though the LDCF and the SCCF, the GEF has invested $104.82 million in 13 projects and five programs that access resources from multiple trust funds, representing 12 per cent of LDCF and SCCF funding approvals during the period corresponding to GEF-5. Multi-trust fund projects and programs have allowed the GEF to pursue integrated solutions in response to environmental and adaptation challenges, while reducing transaction costs and capturing economies of scale.

TABLE 2 PROJECTS AND PROGRAMS ACCESSING RESOURCES FROM MULTIPLE TRUST FUNDS

GEF ID	Country	Title	GEF Agency	Status	Trust fund	Total LDCF/ SCCF amount (grant + fees) ($)	Co-financing ($)
4511	Regional	Sahel and West Africa WB/GEF Program in support of the Great Green Wall Initiative	World Bank	Council Approved	LDCF	16,000,000	261,000,000
					SCCF	5,000,000	14,000,000
4512	Regional	Pilot Asia-Pacific Climate Technology Network and Finance Center	ADB, UNEP	CEO Endorsed	SCCF	2,000,000	15,000,000
4616	El Salvador	Climate Change Adaptation to Reduce Land Degradation in Fragile Micro-Watersheds Located in the Municipalities of Texistepeque and Candelaria de la Frontera	FAO	CEO Endorsed	SCCF	1,135,000	3,835,545
4620	Regional	MENA - Desert Ecosystems and Livelihoods Program (MENA-DELP)	World Bank	Council Approved	SCCF	3,000,000	12,000,000
4625	Malawi	Shire Natural Ecosystems Management Project	World Bank	CEO Endorsed	LDCF	1,650,000	11,736,000
4649	Regional	Greater Mekong Subregion Forests and Biodiversity Program (GMS-FBP)	ADB	Council Approved	SCCF	500,000	5,631,000
4775	Ecuador	Promotion of Climate-smart Livestock Management Integrating Reversion of Land Degradation and Reduction of Desertification Risks in Vulnerable Provinces	FAO	Council Approved	SCCF	1,642,500	4,435,329
4880	Regional	Climate technology transfer mechanisms and networks in Latin America and the Caribbean	IADB	Council Approved	SCCF	1,998,150	6,300,000
4904	Regional	Pilot African Climate Technology Finance Center and Network	AfDB	CEO Endorsed	SCCF	5,775,000	27,200,000
4952	Rwanda	Landscape Approach to Forest Restoration and Conservation (LAFREC)	World Bank	Council Approved	LDCF	4,499,000	18,585,000
4956	Regional	Finance and Technology Transfer Centre for Climate Change (FIN-TeCC)	EBRD	CEO Endorsed	SCCF	2,000,000	12,601,667
5113	Regional	Enhancing Climate Change Resilience in the Benguela Current Fisheries System	FAO	Council Approved	LDCF	1,890,000	4,391,900
					SCCF	3,432,475	10,260,000
5133	Regional	Senegal River Basin Climate Change Resilience Development Project	World Bank	Council Approved	LDCF	13,080,000	50,106,757
5228	Regional	Rural livelihoods' adaptation to climate change in the Horn of Africa (RLACC)	AfDB	Council Approved	LDCF	5,700,000	39,126,966
					SCCF	2,892,000	21,556,633
5380	Haiti	Increasing resilience of ecosystems and vulnerable communities to CC and anthropic threats through a ridge to reef approach to BD conservation and watershed management	UNDP	Council Approved	LDCF	6,000,000	25,300,000
5384	Regional	Adaptation to the impact of climate change in water resources for the Andean Region	World Bank	Council Approved	SCCF	9,450,000	18,470,000
5395	Regional	Pacific Islands Ridge-to-Reef National Priorities – Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods	FAO, UNDP, UNEP	Council Approved	LDCF	13,650,000	183,000,000
5531	Haiti*	Ecosystem Approach to Haiti's Cote Sud	UNEP	Council Approved	LDCF	3,524,628	10,915,000
Sub-total for LDCF						**65,993,628**	**604,161,623**
Sub-total for SCCF						**38,825,125**	**151,290,174**
Grand total						**104,818,753**	**755,451,797**

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