

## **Accessing Adaptation Finance for Ecosystem-based Adaptation**

*Discussion Paper prepared by Charles Rodgers for the Workshop on Accessing Adaptation Finance for EbA, organized by the Regional Resource Centre for Asia and the Pacific (RRC.AP) on Sept. 30 – Oct. 3 2014 in Kuala Lumpur, in conjunction with the Fourth Asia Pacific Climate Change Adaptation Forum.*

**Summary:** this paper is prepared as background material for the four-day workshop on securing adaptation finance for EbA and main-streaming EbA in country and sector policies, strategies and legislation. The primary objective of the paper, and the workshop, is to make participants aware of opportunities for funding EbA programs, projects and activities through targeted adaptation funds and other sources; and to assist them in preparing sound and effective proposals. A general survey is presented of recent estimates of adaptation finance flows: their sources, intermediary institutions and target countries and sectors. A more detailed examination of financial flows supporting EbA is also presented, although a complete survey of global or regional EbA finance is beyond the scope of this paper. The paper then discusses a range of issues relevant to the process of developing proposals and submitting them for financing. These include (1) the framework for justification of specific EbA interventions as adaptation (to distinguish EbA from environmental and/or developmental programs); (2) the additional cost logic (required explicitly for GEF-financed projects via SCCF and LDCF; and desirable in all project proposals targeting dedicated climate funds); (3) the economic case for the project; and (4) the monitoring and evaluation framework. A first version of this discussion paper was distributed to workshop participants prior to the event; and information provided by participants has been incorporated in the current version distributed following the workshop.

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## Acronyms

<b>ADB</b>	Asian Development Bank
<b>AFB</b>	Adaptation Fund Board
<b>AfDB</b>	African Development Bank
<b>BAU</b>	Business as Usual (often interpreted as “assuming no climate change”)
<b>BCR</b>	Benefit-Cost Ratio
<b>CIF</b>	Climate Investment Funds
<b>CPI</b>	Climate Policy Initiative
<b>CSR</b>	Corporate Social Responsibility
<b>EbA</b>	Ecosystem-based Adaptation
<b>FSF</b>	Fast Start Finance
<b>GCF</b>	Green Climate Fund
<b>GEF</b>	Global Environment Facility
<b>IFAD</b>	International Fund for Agricultural Development
<b>IFI</b>	International Financial Institution
<b>IRR</b>	Internal Rate of Return
<b>LDCF</b>	Least Developed Countries Fund (GEF)
<b>MDB</b>	Multilateral Development Bank
<b>MIE</b>	Multilateral Implementing Entity
<b>NAP</b>	National Adaptation Plan
<b>NAPA</b>	National Adaptation Programme of Action
<b>NIE</b>	National Implementing Entity
<b>NPV</b>	Net Present Value
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>SCCF</b>	Special Climate Change Fund (GEF)
<b>SIDS</b>	Small Island Developing States
<b>SPCR</b>	Strategic Program for Climate Resilience (under CIF PPCR)
<b>SPREP</b>	Secretariat of the Pacific Regional Environment Programme
<b>UNDP</b>	United Nations Development Program
<b>UNEP</b>	United Nations Environmental Program
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WFP</b>	World Food Programme
<b>WMO</b>	World Meteorological Organization

## Glossary of Terms

**Ancillary (co-) benefits:** The positive effects that a policy or measure aimed at one objective might have on other objectives, irrespective of the net effect on overall social welfare. Co-benefits are often subject to uncertainty and depend on local circumstances and implementation practices. Co-benefits are also called ancillary benefits.<sup>1</sup>

**Climate proofing:** shorthand term for identifying risks to a development project, or any other specified natural or human asset, as a consequence of climate variability and change, and ensuring that those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes implemented at one or more of the following stages in the project cycle: planning, design, construction, operation, and decommissioning.<sup>2</sup>

**Ecosystem-based Adaptation (EbA):** the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change.<sup>3</sup>

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<sup>1</sup> IPCC 2014.

<sup>2</sup> ADB 2005.

<sup>3</sup> Colls et al., 2009.

# Part 1: Landscape of Climate Change Adaptation Finance

## Introduction

This Discussion Paper has been prepared as background material for the four-day workshop on securing adaptation finance for Ecosystem-based Adaptation (EbA) and main-streaming EbA in country and sector programs, policies, strategies and legislation. The primary objective of the paper, and the workshop, is to enable participants to identify and to understand the opportunities for securing funding for EbA programs, projects and activities through targeted adaptation funds and related sources in order to assist them in preparing sound and effective proposals. The first section of the paper provides an overview of the current landscape of climate change finance, emphasizing the financing of adaptation activities. The term “Landscape of Climate Finance” is taken from the series of publications prepared by the Climate Policy Initiative<sup>4</sup> (CPI). These reports, issued in 2011, 2012 and 2013, are the first efforts to provide a systematic accounting of global climate change finance flows (both mitigation and adaptation) using reasonably consistent methodology and accounting practices. Therein lies a major challenge, as there are currently no universally accepted standards or practices by which climate finance is defined and accounted for, although there are efforts underway to establish voluntary standards<sup>5</sup>.

Another challenge in describing the landscape of climate finance dedicated to, or available for financing EbA is that the major providers of climate change adaptation finance, including the special-purpose climate change funds, multilateral development banks and bilateral development finance institutions do not maintain targeted or segregated funds for the specific purpose of financing EbA. In order to understand this particular “landscape” it is therefore necessary to examine the adaptation portfolios of these institutions, and to identify projects, project components and activities that meet the description of EbA based on content. Given that EbA is more accurately described as a conceptual approach to adaptation rather than as a well-defined set of practices, any attempt to account comprehensively for EbA financial flows will be at best approximate. There will be projects that meet the description of EbA for which project documents do not contain this terminology. Similarly, there will be projects self-described as EbA that may not adhere strictly to widely accepted definitions of EbA. In addition, many EbA projects are highly localized in scope and physical extent, and may be financed through micro-credit and related means<sup>6</sup> that may not appear in the climate finance reporting of major institutions.

This section will begin with a brief discussion of climate change adaptation finance, and how it is distinguished both from other forms of climate finance (e.g., mitigation and REDD), and from ODA and other types of finance that support economic and social development and/or environmental sustainability. This is important, since one problematic issue surrounding EbA is whether or not a particular project described as EbA is in fact adaptation to climate change as

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<sup>4</sup> Barbara Buchner and co-authors (Climate Policy Initiative), 2013. *The Global Landscape of Climate Finance 2013*. [www.climatepolicyinitiative.org](http://www.climatepolicyinitiative.org).

<sup>5</sup> For example, the joint initiative of the Multilateral Development Banks on Reporting Climate Finance (2012, 2013).

<sup>6</sup> For example, UNEP and partners, n.d. (the micro-finance report)

distinct from environmentally sustainable development, and on what basis this would be established. The distinction is important, since many special-purpose climate change adaptation funds require evidence that the project or activity proposed for funding in fact addresses adaptation goals, as distinct from developmental or environmental objectives that might be pursued even in the absence of climate change. While in practice there is seldom a bright line separating adaptation from environmentally sustainable development, the case for EbA as adaptation must still be made in order to secure climate change adaptation finance from many sources.

The first section will then review the broader landscape of climate change adaptation finance, using the CPI (2013), joint MDB statements and related materials as guides. A more detailed examination of EbA within the respective portfolios of important sources of adaptation finance will follow. The section will conclude with some summary observations as to where EbA finance is currently coming from, and where there are opportunities to expand the funding for EbA programs and projects.

### **Climate Change Adaptation Finance: New and Additional?**

Under the UN framework Convention on Climate Change (UNFCCC), Article 4.3 contains the provision for *new and additional financial resources* to meet the *agreed full incremental costs of implementing commitments* under the Convention taking into account the need for adequacy and predictability in the flow of funds; Article 4.4 provides for assisting the developing country *Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation* to those adverse effects; and Article 11 defines *the financial mechanism under the Convention*; operation entrusted to existing international entity/entities *bilateral, regional and other multilateral channels*.

The Copenhagen Accord challenged the developed world to scale up its contributions to climate change finance (both mitigation and adaptation) through commitments to Fast Start Finance (FSF). The FSF was viewed as the ramping-up stage leading to a collective commitment to provide an indicative \$100 billion per year in climate change finance (mitigation and adaptation) by 2020:

“The collective commitment by developed countries is to provide new and additional resources, including forestry and investments through international institutions, approaching US\$ 30 billion for the period 2010-2012 with balanced allocation between adaptation and mitigation. Funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa” (FCCC/ CP/2009/11/Add.1, paragraph 8).

The United Nations Framework Convention on Climate Change (UNFCCC, 1992), the Kyoto Protocol (1997), the Bali Action Plan (2007) and the Copenhagen Accord (2009) have all acknowledged the need for the developed countries to provide sustainable, predictable and adequate international climate finance to the developing world. That such finance should represent new and additional resources is also explicit in these agreements. Many of these

terms, although appearing in international accords and agreements, lack precise and universally acknowledged definitions. WRI (2010) have defined “new and additional” as follows:<sup>7</sup>

“The term ‘new’ generally refers to the fact that the funds should represent an increase over past and existing climate-related funds. The term ‘additional’ refers to the idea that financial resources raised for one objective, such as climate change, should not substitute or divert funding from other important objectives, in particular economic and social development.”

As these authors note, even a clear definition does not resolve the difficulties in determining what qualifies as “new and additional” in practice since (i) one does not know what e.g., Official Development Assistance (ODA) flows would have been in the absence of climate change or what climate finance flows would have been absent new commitments; and (ii) the countries providing climate finance have the discretion to determine what they count as new and additional (or otherwise). At least one study of FSF<sup>8</sup> has concluded that much of the finance provided through Fast Start was not new or additional according to at least some accounting approaches.

A related issue is the form that climate change finance, specifically adaptation finance, takes. The position of many developing countries and NGOs is that adaptation finance should be provided as grant finance. The basic arguments made in defense of this position are (i) that adaptation finance, unlike e.g., ODA, is in fact a type of compensation owed to the developing world by the industrialized world, since the latter have developed largely on the basis of energy use and corresponding carbon emissions, while the developing countries have received little or none of the benefit but are incurring (and will incur) the majority of associated adaptation costs, damage and loss; and (ii) many developing countries are already heavily indebted, and they should not have to increase their vulnerability to debt distress in order to reduce their vulnerability to climate change. By contrast, the nations providing the bulk of climate change finance (Annex I countries) assert their prerogative to provide grant or loan finance for adaptation at their discretion. It has also been argued that adaptation actions taken early are likely to be more effective dollar-for-dollar than those that are deferred, providing a justification for developing countries to utilize both grant and concessionary loan finance at early stages in building climate resilience.

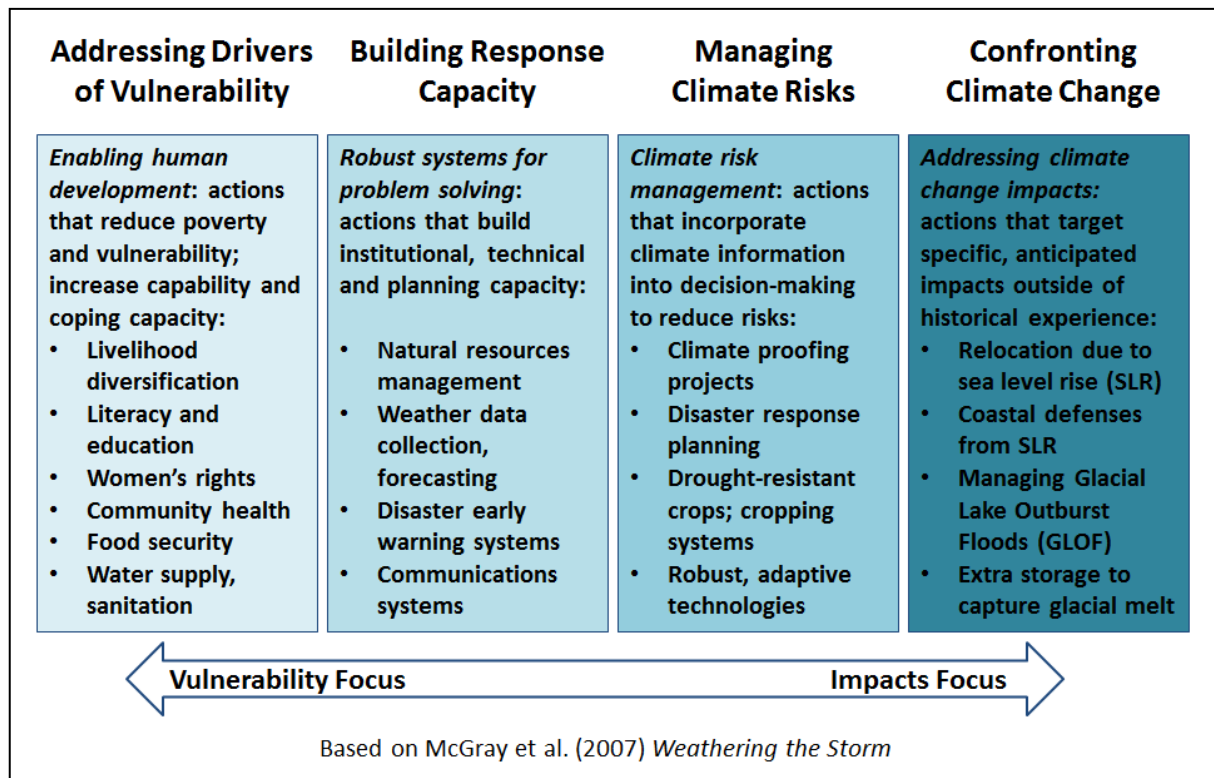
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<sup>7</sup> A. Ballesteros and R. Moncel (2010), *Additionality of Climate Finance*. World Resources Institute.

<sup>8</sup> S. Nakhooda and co-authors (2013): *Mobilizing International Climate Finance: Lessons from the Fast Start Finance Period*. ODI, WRI, IGES.



Figure 1: Adaptation as a Continuum<sup>9</sup>



A further complication is introduced when we consider that it is not always clear how adaptation is distinguished from “good development.” Figure 1 depicts adaptation as a spectrum of activities, from those that address the underlying drivers of vulnerability to targeted responses to specific impacts and risks associated with climate change in specific settings. Interventions under “addressing drivers of vulnerability” and “building response capacity” are likely to be activities that are fully justified even in the absence of climate change, as effective measures to promote societal resilience under present circumstances; although climate change provides additional impetus. By contrast, those on the right are things that we would not be considering if climate change did not introduce novel and specific risks.

These distinctions (and confusions) become important when we prepare proposals and seek funding for EbA projects and activities from the targeted (special purpose) climate funds, since many important sources of climate adaptation finance (e.g., the SCCF and LDCF) require that applicants justify the activities propose for financing on the basis of novel risks and vulnerabilities introduced by climate change.

<sup>9</sup> H. McGray and co-authors (2007): *Weathering the Storm: Options for Framing Adaptation and Development*. World Resources Institute.

## The Landscape of Climate Change Adaptation Finance

### Climate Policy Initiative: Global Landscape of Climate Finance

The Climate Policy Initiative (CPI), through its annual report on the Global Landscape of Climate Finance, provides the most complete, well documented and methodologically consistent estimates of global climate change finance flows currently available. Global Landscape reports have been issued in 2011, 2012 and 2013, with the most recent report (2013) based on a mix of 2011 and 2012 finance data. The Landscape reports trace climate finance by (i) sources and intermediaries, (ii) instruments, (iii) channels and (iv) final uses. Final uses consist of mitigation and adaptation. In the 2013 report, in which \$359 billion in combined climate finance is reported, the great majority (\$337 billion, or 94% of total climate finance) is mitigation finance, as in previous years. This largely reflects the dominant role of the private sector in financing mitigation activities including clean energy and alternative transport, for which economic incentives exist.

**Table 1: Adaptation Finance by Source 2011 – 2012 (Source: CPI 2013 Table 1 p. 11)<sup>10</sup>**

Source or Intermediary	Amount (Billions USD)	Percent of Adaptation
<b>Government Budgets</b>	3	13.9 %
<b>National Development Banks</b>	8	37.0 %
<b>Multilateral Development Banks</b>	7	32.4 %
<b>Bilateral Finance Institutions</b>	3	13.9 %
<b>Climate Change Funds</b>	0.6	2.9 %
<b>Total</b>	22	(100)

Adaptation finance in 2011-2012 was estimated at between 20 and 24 billion USD (6% of total climate change finance). In contrast to mitigation, no systematic estimates are available for private sector financing of adaptation, although it is unlikely that such estimates, if available, would be significant relative to the public sources reported.<sup>11</sup> Table 1 provides a breakdown of adaptation finance by source. It is seen that the largest source is the National Development Banks, followed by the Multilateral Development Banks, including the World Bank (WB) Group, Asian Development Bank (ADB), African Development Bank (AfDB), Inter-American Development Bank (IDB) and the European development banks. The targeted (vertical) climate change funds, including the Pilot Program for Climate Resilience (PPCR) of the Climate Investment Funds (CIF), Special Climate Change Fund (SCCF) and Least Developed Countries Fund (LDCF) under the GEF, and the Kyoto Protocol Adaptation Fund (AF), are often viewed as the major providers of adaptation finance. However, in 2011-2012 they were responsible for

<sup>10</sup> According to the 2014 CPI (November 2014), covering the period 2012-2013, total adaptation finance increased modestly to \$25 billion. Of this, 88% (22 billion) was contributed by Development Finance Institutions (DFI) while 9% (\$2.25 billion) was provided by government bodies and 2% (\$500 million) by climate funds. Differences in reporting format preclude direct comparison between 2013 and 2014 estimates by source.

<sup>11</sup> In fact, it has proven difficult to attract private finance into the adaptation arena due to a combination of weak or non-existent opportunities for profit; and unquantified risks. This situation is likely to change as the demand for adaptation interventions and volume of both adaptation activities and financial resources increase.

only \$0.6 billion of total estimated adaptation finance, or roughly 3%. This situation is likely to change as the Green Climate Fund opens for business in 2015, with current pledges of between exceeding \$10 billion<sup>12</sup>, which exceed the total of pledges to the existing vertical funds combined. In addition, finance provided through the targeted funds may provide more adaptation dollar-for-dollar than funding from other sources due to the rigorous criteria for accessing the funds and the nature of the projects and activities selected for funding.

The estimated breakdown of adaptation finance is presented in Table 2. Almost half of estimated adaptation finance in 2011-2012 (\$10 billion, or 45%) supported projects and activities in water supply and management, with roughly equal increments for agriculture, forestry and natural resources management and disaster risk management, respectively (\$3 billion each, or 13.6% of total adaptation).

**Table 2: Adaptation Finance: Breakdown into Final Uses 2011 – 2012 (Source: CPI 2013, Annex B)**

<b>Adaptation Category</b>	<b>Amount (Billion USD)</b>	<b>Percent of Total</b>
<b>Water Supply and Management</b>	10	45.5 %
<b>Agriculture, Livestock and Fishing, Forestry, Land Use Management, Natural Resources Management</b>	3	13.6 %
<b>Infrastructure and Coastal Protection</b>	2	9.1 %
<b>Disaster Risk Management</b>	3	13.6 %
<b>Capacity Building</b>	0.2	0.9 %
<b>Other Adaptation Measures</b>	4	18.2 %
<b>Total</b>	22	100.0 %

The annual CPI “Landscape” reports do not provide a sufficient level of detail to enable global estimates of climate change finance targeting EbA. EbA programs, projects and activities could in principle be found in each of the first four categories – water supply, natural resources management, coastal protection and disaster risk management – but no such disaggregated estimates can be made without access to project-level data. Subsequent sections of this report will examine the portfolios of several of the targeted funds in greater detail in order to develop indicative estimates of adaptation flows specifically targeting EbA.

### **Joint Multilateral Development Bank Report on Climate Finance**

Beginning in 2012, the multilateral development banks (MDBs), comprising the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank (IDB), the World Bank (WB) and the International Finance

<sup>12</sup> As of December 31, 2014, initial resource mobilization pledges to the GCF were \$10.193 billion in USD equivalent. Source: GCF/BM-2015/Inf.01 p. 9. [http://news.gcfund.org/wp-content/uploads/2015/02/pledges\\_GCF\\_dec14.pdf](http://news.gcfund.org/wp-content/uploads/2015/02/pledges_GCF_dec14.pdf).

Corporation (IFC), have issued joint reports on climate finance provided by or through the MDBs calculated using a reasonably consistent and transparent methodology. The joint approach was developed in recognition of the fact that there are no internationally acknowledged definitions of climate finance, and various systems in use to estimate climate finance flows (e.g., the OECD Rio Markers) provide only general guidance with wide latitude for interpretation. Investment projects or programs for which climate change mitigation and/or adaptation represent only one component of overall expenditures present particular challenges, yet this situation is common in projects financed by the MDBs.

Under the joint MDB approach, financial flows can qualify as climate change adaptation funding if:

- (1) a context of climate vulnerability has been established for the project. Restated, there must be an objective basis for believing that the project (or relevant components) are at specific risk from one or more anticipated impacts of climate change in ways that may affect the delivery of services or benefits from the project;
- (2) the project document(s) must contain an explicit statement of intent to address climate vulnerability as an aspect or objective (either primary or ancillary) of the project.
- (3) There must be a clear link between the project or project component activities and the context of climate vulnerability identified. In other words the adaptation (alternatively climate-proofing, resilience building) activities must be logical responses to the specific climate risks and/or aspects of vulnerability.

Under this methodology, an entire project can be reported as adaptation if that entire project meets the above criteria (i.e., adaptation is the primary objective of the project). Alternatively, specific activities or project components (and only those components containing the adaptation content) can be counted as adaptation for the purposes of reporting.

Table 3 contains the estimates developed in accordance with the framework for 2012 (reported in 2013), by multilateral financial institution. They differ slightly from the corresponding estimates appearing in the CPI “Landscape” report released in 2013 (\$7 billion from CPI vs \$6 billion from joint MDBs) due to differences in reporting period. Table 4 contains the same estimates disaggregated by region. The three regions receiving the largest share of adaptation financing flows via MDBs are South and East Asia, Sub-Saharan Africa and Latin America, respectively. Unlike mitigation financing, which is concentrated in the industrialized world, PR China and India, adaptation financing is targeted largely on the developing world.

**Table 3: MDB Adaptation Finance by Source, 2012, in Millions current USD (source: Joint report on MDB climate finance 2012; Table 4)**

Multilateral Development Bank (MDB)	MDB Resources		External Resources	Total
	Investments, Technical Assistance	Policy-Based Instruments	Investments, Technical Assistance	
AfDB	445	0	67	512
ADB	821	0	75	896
EBRD	188	0	32	219
EIB	179	0	0	179
IDB	7	132	9	148
WB	2,604	1,209	188	4,002
<b>Total</b>	<b>4,244</b>	<b>1,342</b>	<b>370</b>	<b>5,956</b>

**Table 4: MDB Adaptation Finance by Region, 2012 in Millions current USD (source: Joint report on MDB climate finance 2012; Table 5)**

Country/Region	MDB Resources		External Resources	Total
	Investments, Technical Assistance	Policy-Based Instruments	Investments, Technical Assistance	
South Asia	1,195	0	71	1,266
East Asia and the Pacific	484	562	51	1,098
Sub-Saharan Africa	1,645	12	179	1,836
Middle East and North Africa	197	0	0	197
Latin America & the Caribbean	374	730	15	1,118
(Other) Europe and Central Asia	192	38	43	273
EU13	132	0	0	132
Regional	25	0	11	36
<b>Total</b>	<b>4,244</b>	<b>1,342</b>	<b>370</b>	<b>5,956</b>

Table 5 contains the same estimates aggregated by sector.<sup>13</sup> It is seen that the single largest sector, Agriculture and ecological resources, is that category that would contain most EbA interventions. If, for example, an MDB were to finance an EbA project with a primary or significant objective of providing community water supply (through e.g., catchment afforestation and management) it would be classified in the joint MDB reporting as Agricultural & Ecological rather than Water & Wastewater. Similarly, a coastal protection project involving the planting or restoration of mangrove would not be classified as Infrastructure & Built Environment, since it would in this case be a substitute for hard infrastructure. The joint MDB report thus provides strong - although indirect - evidence for large adaptation financing flows into non-structural approaches, but once again project-level information is required to determine what fraction of these flows can be accurately described as supporting EbA.

**Table 5: MDB Adaptation Finance by Sector, 2012, in Millions current USD (source: Joint report on MDB climate finance 2012; Table 6)**

Sector	MDB Resources		External Resources	Total
	Investments, Technical Assistance	Policy-Based Instruments	Investments, Technical Assistance	
Water & Wastewater systems	385	62	29	477
Agricultural & ecological resources	1,759	26	209	1,995
Industry, extractive industries, manufacturing & trade	4	0	2	6
Infrastructure, energy & built environment	1,490	585	75	2,150
Other	605	669	55	1,328
<b>Total</b>	<b>4,244</b>	<b>1,342</b>	<b>370</b>	<b>5,956</b>

<sup>13</sup> Each MDB uses its own sectoral definitions, and the sectors used in the joint MDB reports represent a “least common denominator” approach, which does not correspond precisely to the frameworks of any of the MDBs.

## EbA in the Portfolios of the Targeted Climate Change Funds<sup>14, 15</sup>

### The Pilot Program for Climate Resilience (PPCR) of the Climate Investment Funds (CIF)<sup>16</sup>

**Background:** The Pilot Program for Climate Resilience (PPCR) is currently the largest special-purpose fund providing targeted adaptation finance. The PPCR is a targeted program under the Strategic Climate Change Fund (SCCF), one of the two funds that make up the Climate Investment Funds (CIF), and one of four financing programs through the CIF, the other three being the Clean Technology Fund (CTF); Forest Investment Program (FIP) and Scaling Up Renewable Energy Program (SREP).

**Objectives:** The PPCR is designed to “integrate climate risk and resilience in national development policies and planning, strengthen capacities to integrate climate resilience into development planning, scale-up and leverage climate-resilient investments upon other ongoing initiatives aimed at addressing poverty reduction and sustainable development.” Unlike most of the other targeted adaptation funds, it enables a programmatic approach. Substantial levels of adaptation finance support a program of investments and technical assistance, rather than “one-off” financing of individual projects or programs.

**Current level of funding:** The PPCR currently has \$1.3 billion in pledges<sup>17</sup>, much of which is already committed to SPCR investment programs. Over \$29 million in PPCR resources in the form of concessionary loans was set aside for financing private sector projects. Unlike the balance of PPCR resources, the private sector funds were not restricted to PPCR pilot countries, although the four projects submitted to date under the private sector facility all originated in PPCR pilot countries. Overall, projects worth roughly \$772 million have been approved (see following sections).

**Who can apply:** Eighteen countries were pre-selected by an expert panel and invited to participate as PPCR pilot countries on the basis of low income status, high exposure and vulnerability to the impacts of climate change, and limited coping capacity. These countries are Bangladesh, Bolivia, Cambodia, Dominica, Grenada, Haiti, Jamaica, Mozambique, Nepal, Niger, Papua New Guinea, St. Lucia, St. Vincent & the Grenadines, Samoa, Tajikistan, Tonga, Yemen and Zambia. Two regional programs are also financed through the PPCR: Caribbean Region and Pacific Region. PPCR financing is currently not available to other countries, except for some concessionary loan finance available to support private sector projects.

**Procedures for accessing fund:** The PPCR is implemented through the multilateral development banks and other international partners. During the first (grant-financed) phase of the PPCR, pilot countries prepare Strategic Programs of Climate Resilience (SPCR), which are financing “road maps” in which a number of investment (loan-supported) and technical assistance (grant-financed) projects are identified that form the basis for a coherent, economy-wide approach to building climate resilience. The second phase involves the approval and implementation of individual investment and technical assistance projects identified through the SPCR. The overall SPCR is first endorsed by the PPCR subcommittee; and then each project

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<sup>14</sup> For updated information on these and other multilateral and bilateral funds see: <http://www.climatefundsupdate.org/>.

<sup>15</sup> The author is indebted to Lorie Rufo of RSES/ADB for providing background materials used in this section.

<sup>16</sup> <https://www.climateinvestmentfunds.org/cif/node/4>

<sup>17</sup> [https://www.climateinvestmentfunds.org/cif/Pilot\\_Program\\_for\\_Climate\\_Resilience](https://www.climateinvestmentfunds.org/cif/Pilot_Program_for_Climate_Resilience); accessed September 22, 2014.



component must be submitted individually for approval to both the PPCR subcommittee (CIF) and the Board of the respective MDBs implementing the projects.

**EbA projects in portfolio:** A total of 66 investment projects, programs and technical assistance have been identified through the endorsed SPCRs. Of these, 32 projects have been implemented, mobilizing \$616 million in PPCR resources, which is anticipated to leverage an additional \$784 million in financing.

### Special Climate Change Fund (SCCF):<sup>18</sup>

**Background:** The Special Climate Change Fund (SCCF) was established in 2001 to address the climate financing needs of non-Annex 1 developing countries under the UNFCCC. The SCCF is managed by the Global Environment Facility (GEF), and the SCCF is therefore subject to GEF policies and operational procedures. There are four funding windows under the SCCF: (i) adaptation; (ii) technology transfer; (iii) energy, transport, industry, agriculture, forestry, and waste management; and economic diversification for fossil fuel dependent countries. The SCCF provides grant financing, and is financed through voluntary pledges.

**Objectives:** to support long-term adaptation measures underpinning development. SCCF resources are intended to be catalytic, and to leverage additional resources from other bilateral or multilateral sources.

**Current level of funding<sup>19</sup>:** According to the SCCF website, 66 countries have accessed a total of \$242.26 million for 58 projects, 50 of which were through the Adaptation window and eight through the Technology Transfer window. A total of \$333 million has been pledged to the fund and a total of roughly \$33 million remains unallocated under SCCF for adaptation.

**Who can apply:** All Non-Annex 1 countries are eligible to apply. Geographical emphasis is given to the most vulnerable countries in Africa, Asia, and the Small Island Developing States (SIDS).

**What activities are financed:** Activities eligible for financing through the SCCF include the following: (i) water resources management; (ii) land management; (iii) agriculture; (iv) health; (v) infrastructure development; (vi) fragile ecosystems (including mountain ecosystems); (vii) integrated coastal zone management; and (viii) climatic disaster risk management.

**Procedures for accessing fund:** The general procedure for eligible parties seeking funding through the SCCF is as follows:

- A SCCF Project Proponent (usually a National Government Agency) develops a concept for a project and requests assistance from a GEF Agency.
- The SCCF Project Proponent secures the endorsement of the national GEF Operational Focal Point ([http://www.thegef.org/gef/focal\\_points\\_list](http://www.thegef.org/gef/focal_points_list)).
- Projects over \$2 million are referred to as Full-sized Projects (FSP); those of \$2 million or below are referred to as Medium-sized Projects (MSP.) MSPs can follow a streamlined project cycle.

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<sup>18</sup> <http://www.thegef.org/gef/SCCF>

<sup>19</sup> Data obtained from SCCF website may not be the most current available.



- For FSPs, submission to the GEF under the SCCF starts with a Project Identification Form (PIF), followed by a CEO Endorsement Form.
- MSPs may start with the CEO Endorsement Form. Once the GEF CEO Endorses the project, the funding is released to the Implementing Agency.
- Small project preparation grants of up to \$300,000 may be requested from GEF to support project development

***EbA projects in portfolio:*** A total of 55 programs and projects have been approved for funding by the SCCF subcommittee, for \$225 million. Of this, roughly \$216 million has been disbursed. A subset of 13 of these projects can be identified as either EbA projects or projects with EbA components (Table 7). To identify this subset, Project Identification Form (PIF) documents were searched for keywords including “ecosystem”, “ecosystem-based,” “EbA” and other terms associated with EbA; followed by inspection of the Project Framework matrix. Total SCCF financing for EbA projects is \$47.9 million, or roughly 21% of total SCCF allocations. In several cases, the likely EbA contents or activities were located in one of multiple project components, although the entire financing package is presented in Table 6. Total EbA financing through the SCCF is thus over-stated in this table. SCCF funds are leveraged roughly 7:1 by other sources of financing.

**Table 6: Projects funded to date by the SCCF potentially qualifying as EbA (source: GEF website)**

Project	SCCF	Cofinance	Total
Tanzania: Mainstreaming Climate Change in Integrated Water Resources Management in Pangani River Basin	1.00	1.58	2.58
Ethiopia: Coping with Drought and Climate Change	1.00	1.87	2.86
Zimbabwe: Coping with Drought and Climate Change	0.98	1.16	2.14
Nicaragua: Adaptation of Nicaragua's Water Supplies to Climate Change	6.00	31.25	37.25
India: Climate Resilient Coastal Protection and Management	1.82	54.33	56.15
Sri Lanka: Strengthening the Resilience of Post Conflict Recovery and Development to Climate Change Risks in Sri Lanka	3.12	57.10	60.28
Colombia: Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero	4.22	23.71	27.93
Global: Enhancing Capacity, Knowledge and Technology Support to Build Climate Resilience of Vulnerable Developing Countries	4.90	34.70	39.70
Albania: Building the Resilience of Kune-Vaini Lagoon through Ecosystem-based Adaptation (EbA)	1.90	11.00	13.00
Antigua and Barbuda: Building climate Resilience through Innovative Financing Mechanisms for Climate Change Adaptation	5.00	6.29	11.39
Latin America and Caribbean: Climate Change Adaptation in the Eastern Caribbean Fisheries Sector	5.46	34.85	40.31
Latin America and Caribbean: Building Climate Resilience of Urban Systems through Ecosystem-based Adaptation (EbA) in Latin America and the Caribbean	6.00	21.91	27.91
Morocco: Increasing Productivity and Adaptive Capacities in Mountain Areas of Morocco (IPAC-MAM)	6.51	24.00	30.57
Total	47.90	303.74	352.06

## The Least Developed Countries Fund<sup>20</sup>

**Background:** The Least Developed Countries Fund (LDCF) was established in 2001 to address the special needs of the Least Developed Countries (LDCs), which are understood to be particularly vulnerable to the adverse impacts of climate change and which have limited resources to address these risks. The LDCF is financed from voluntary pledges of donor governments. The Global Environment Facility (GEF) manages the LDCF funds. GEF's operational policies, procedures and governance structure are applied to LDCF, unless Conference of Parties (COP) guidance and LDCF/SCCF Council decide otherwise.

**Objectives:** A primary objective of the LDCF is to support the preparation and implementation of National Adaptation Programs of Action (NAPA) and related country-driven strategies which identify the urgent and immediate needs of the Least Developed Countries in adapting to climate change.

**Current Level of Funding:** As of June 2014, \$907 million has been pledged to the LDCF and \$832 million deposited. Of this, roughly \$690 million (disbursements plus overhead) has been committed, leaving an indicative \$140 million or so potentially available for new projects.

**Who can apply:** All LDCs are eligible to apply for funding under LDCF. LDCs in Asia-Pacific are Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Lao PDR, Myanmar, Nepal, Samoa, Solomon Islands, Timor-Leste, Tuvalu and Vanuatu.

**What activities are financed?** The LDCF is designed to support (1) preparation and (2) implementation of the National Adaptation Programmes of Action (NAPAs). In the preparation phase, LDCs identify priority activities reflecting urgent and immediate adaptation needs. The development of a NAPA also involves the preparation of project profiles and/or activities intended to address these priorities. Completed NAPAs are posted on the UNFCCC website: ([http://unfccc.int/cooperation\\_support/least\\_developed\\_countries\\_portal/submitted\\_napas/items/4585.php](http://unfccc.int/cooperation_support/least_developed_countries_portal/submitted_napas/items/4585.php)). In the second phase, the LDCF supports the implementation of activities identified, and of other elements of the LDCs work program, in order to promote the integration of adaptation measures in national development and poverty reduction strategies, plans or policies, with a view to increasing resilience to the adverse effects of climate change.

**Procedures for accessing funds:** The criteria used to evaluate proposals submitted to the LDCF include country ownership; program and policy conformity; soundness of financing plan and cost effectiveness; institutional coordination and support; and clear monitoring and evaluation plan. The general procedure for gaining access is as follows (a step-by-step guidebook is also available<sup>21</sup>):

- The LDCF Project Proponent develops a concept for a project and requests assistance from an Implementing Agency of the GEF

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<sup>20</sup> <http://www.thegef.org/gef/LDCF>

<sup>21</sup> Biagini, B., and S. Dobardzic. 2011. *Accessing Resources under the Least Developed Countries Fund*. Global Environment Facility (GEF).

- LDCF Project Proponent secures the endorsement of the national GEF Operational Focal Point ([http://www.thegef.org/gef/focal\\_points\\_list](http://www.thegef.org/gef/focal_points_list)).
- *Projects over \$2 million* are referred to as Full-sized Projects (FSP); those of *\$2 million or below* are referred to as Medium-sized Projects (MSP.) MSPs follow a streamlined project cycle.
- For FSPs, submission to the GEF under the LDCF starts with a *Project Identification Form (PIF)*, followed by a *CEO Endorsement Form*.
- MSPs may start with the CEO Endorsement Form. Once the GEF CEO endorses the project, the funding is released to the Implementing Agency.
- Small project preparation grants of up to \$300,000 may be requested from GEF to support project development.

***EbA projects in portfolio:*** A total of 189 programs, projects and grants to support NAPA development have been approved for funding by the LDCF subcommittee, for \$738 million. Of this, roughly \$133 million has been disbursed. A subset of 25 of these projects can be identified as either EbA projects or projects with EbA components (Table 8)<sup>22</sup>. To identify this subset, Project Identification Form (PIF) documents (or equivalent) were searched for keywords including “ecosystem”, “ecosystem-based,” “EbA” and other terms associated with EbA; followed by inspection of the Project Framework matrix. Total LDCF financing for EbA projects is \$117.6 million, or roughly 16% of total SCCF allocations for projects. In several cases, the likely EbA contents or activities were located in one of multiple project components, although the entire financing package is presented in Table 7. Total EbA financing through the LDCF is thus over-stated in this table. LDCF funds are leveraged roughly 5:1 by other sources of financing.

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<sup>22</sup> Of the 189 LDCF projects approved to date, 51 were grants to support the development of National Adaptation Programmes of Action (NAPA), as consistent with the purposes of the LDCF. These were not included in the set of projects potentially classified as EbA. An additional 20 projects had no documentation available that would allow classification, and they were excluded as well, leaving a database of 118 projects that were searched.

**Table 7: Projects funded to date by the LDCF potentially qualifying as EbA (source: LDCF website)**

Project	MIE	LDCF	Cofinance	Total
Bangladesh: Community Based Adaptation to Climate Change through Coastal Afforestation	UNDP	3.30	7.10	10.50
Samoa: Integrating Climate Change Risks into the Agriculture and Health Sectors in Samoa	UNDP	2.00	2.10	4.15
Djibouti: Implementing NAPA Priority Interventions to Build Resilience in the most Vulnerable Coastal Zones in Djibouti	UNEP	2.07	2.41	4.55
Tuvalu: Increasing Resilience of Coastal Areas and Community Settlements to Climate Change	UNDP	3.30	4.50	7.86
Guinea: Increased Resilience and Adaptation to Adverse Impacts of Climate Change in Guinea's Vulnerable Coastal Zones	UNDP	2.97	162.89	165.96
Haiti: Strengthening Adaptive Capacities to Address Climate Change Threats on Sustainable Development Strategies for Coastal Communities in Haiti	UNDP	3.50	9.78	13.38
Yemen: Integrated Coastal Zone Management	UNDP	4.50	10.00	14.50
Maldives: Integrating Climate Change Risks into Resilient Island Planning	UNDP	4.49	4.85	9.40
Liberia: Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks	UNDP	4.90	4.65	9.65
Cambodia: Vulnerability Assessment and Adaptation Programme for Climate Change in the Coastal Zone of Cambodia Considering Livelihood Improvement and Ecosystems	UNEP	1.64	4.20	5.88
Tanzania: Developing Core Capacity to Address Adaptation to Climate Change in Productive Coastal Zones	UNEP	3.36	67.83	71.28
Samoa: Integration of Climate Change Risk and Resilience into Forestry Management (ICCRIFS)	UNDP	2.40	2.53	4.98
Madagascar: Adapting Coastal Zone Management to Climate Change in Madagascar Considering Ecosystem and Livelihood Improvement	UNEP	5.34	12.05	17.52
Samoa: Enhancing the resilience of tourism-reliant communities to climate change risks	UNDP	1.95	17.29	19.29
Gambia: Enhancing Resilience of Vulnerable Coastal Areas and Communities to Climate Change in the Republic of Gambia	UNDP	8.90	39.56	48.61
Solomon Islands: Solomon Islands Water Sector Adaptation Project (SIWSAP)	UNDP	6.85	43.62	50.62
Malawi: Climate Proofing Local Development Gains in Rural and Urban Areas of Machinga and Mangochi Districts	UNDP	5.32	36.00	41.47
Djibouti: Implementing Adaptation Technologies in Fragile Ecosystems of Djibouti's Central Plains	UNEP	7.36	14.17	21.61
Rwanda: Building Resilience of Communities Living in Degraded Forests, Savannahs and Wetlands of Rwanda Through an Ecosystem Management Approach	UNEP	5.50	10.74	16.34
Uganda: Building Resilience to Climate Change in the Water and Sanitation Sector	AfDB	8.37	38.00	46.62
Djibouti: Supporting Rural Community Adaptation to Climate Change in Mountain Regions of Djibouti	UNDP	5.38	28.63	34.11
Guinea: Ecosystem-Based Adaptation Targeting Vulnerable Communities of the Upper Guinea Region	UNDP	8.00	27.60	35.80
Bangladesh: Ecosystem-based Approaches to Adaptation (EbA) in the Drought-prone Barind Tract and Haor "Wetland" Area	UNEP	5.20	17.00	22.30
Senegal: Strengthening Land & Ecosystem Management Under Conditions of Climate Change in the Niayes and Casamance Regions- Republic of Senegal	UNDP	4.10	43.70	47.95
Afghanistan: Building Resilience of Communities Living Around the Northern Pistachio Belt (NPB) and Eastern Forest Complex (EFC) of Afghanistan through an EbA Approach	UNEP	6.90	7.00	14.00
<b>Total</b>		<b>117.59</b>	<b>618.19</b>	<b>738.33</b>

## Kyoto Protocol Adaptation Fund<sup>23</sup>

**Background:** The Adaptation Fund (AF) was established in 2009, and is financed with a share of proceeds on the clean development mechanism (CDM) project activities and other sources of funding such as voluntary pledges of donor governments. The share of proceeds amounts to 2% of certified emission reductions (CERs) issued for a CDM project activity. The AF is supervised and managed by the Adaptation Fund Board (AFB).

The AF provides financing through two modalities. The first is via regional or multilateral implementing entities (MIE), which include the MDBs and international organizations, presently including UNDP, UNEP, IFAD, the World Meteorological Organization (WMO) and the World Food Programme (WFP). The second option is via a National Implementing Entity (NIE), a process referred to as *direct access*. Both MIE and NIE must be accredited by the Adaptation Fund Board by demonstrating capacity to meet the established legal and fiduciary standards. The AF Board had originally pre-allocated an indicative 50% of AF resources for direct access and the remaining 50% to be programmed via regional and MIEs. Due to the rigorous process required to receive NIE accreditation, only a relatively few countries otherwise eligible to receive AF financing have accredited NIEs at present.<sup>24</sup> As a result, funds are typically available through the direct access mechanism which is not fully utilized; and funding via MIEs is highly competitive.

**Objectives:** The AF is designed to finance concrete adaptation projects and programs in developing countries that are Parties to the Kyoto Protocol in an effort to reduce the adverse effects of climate change facing communities, countries and sectors.

**Current level of funding:** As of March 31, the AF had \$ 168 million in unallocated resources to support AF Board funding decisions.

**Who can apply:** Eligible Parties to receive funding from the Adaptation Fund are understood as developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change including low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems. A cap in resource allocation per eligible host country, project and program may apply, with a view to ensuring equitable distribution of AF resources.

**What activities are financed:** the AF targets the following activities:

- Adaptation in water resources management, land management, agriculture, health, infrastructure development, fragile ecosystems, including mountainous ecosystems, and integrated coastal zones that have been affected or are vulnerable to adverse impacts of CC and C variability.
- Disease control and prevention by improving monitoring of diseases and vectors affected by climate change, and related forecasting and early-warning systems;

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<sup>23</sup> <https://www.adaptation-fund.org/>

<sup>24</sup> Only one country in Asia and the Pacific, India, has a fully accredited NIE (NABARD).

- Capacity building for prevention/risk reduction, 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
- Information generation and dissemination by strengthening existing and establishing new national and regional centers and information networks for rapid response to extreme weather events, utilizing information technology as much as possible.

***Procedures for accessing funds:***

Eligible parties seeking financial resources from the AF submit proposals directly through the appropriate NIE (assuming an accredited NIE for the country in question) or MIE. The AF project cycle for projects or programs of any size begins with a proposal submission to the AF Secretariat by the NIE/MIE chosen by the government of the recipient country (or countries, for regional projects). Proposals must be endorsed by the requesting government. Applying parties designate and communicate to the Secretariat the authority that will endorse on behalf of the national government the projects and programs proposed by the implementing entities. Proposals are given an initial screening, project review and approval. The template used to develop a proposal to seek AF funding can be found in Annex 3 of the *Operational Policies and guidelines for Parties to Access Resources from the Adaptation Fund* [http://www.adaptation-fund.org/system/files/AFB.Operational\\_Policies\\_and\\_Guidelines.pdf](http://www.adaptation-fund.org/system/files/AFB.Operational_Policies_and_Guidelines.pdf).

In assessing project and program proposals, the AF Board gives particular attention to:

- Consistency with national sustainable development strategies, including national development plans, poverty reduction strategies, national communications and national adaptation programs of action (NAPA) and other relevant instruments, where they exist;
- Economic, social and environmental benefits from the projects;
- Meeting national technical standards;
- Cost-effectiveness of projects and programs;
- Arrangements for management, including financial and risk management;
- Arrangements for monitoring, evaluation and impact assessment;
- Avoiding duplication with other funding sources for adaptation for the same project activity;
- Moving towards a programmatic approach.

***EbA projects in portfolio:*** A total of 34 programs and projects have been approved for funding by the AF board, for \$225 million. Of this, roughly \$92 million has been disbursed. These numbers would presumably be larger if more otherwise eligible countries had accredited NIEs. A subset of 30 of these projects can be identified as either EbA projects or projects with EbA components (Table 8). To identify this subset, Project Proposals (or equivalent) were searched for keywords including “ecosystem”, “ecosystem-based,” “EbA” and other terms associated with EbA; followed by inspection of the Programme Information section. Total AF financing for EbA projects is \$206 million, or roughly 90% of total SCCF allocations. In several cases, the likely EbA contents or activities were located in one of multiple project components, although the entire financing package is presented in Table 8. Total EbA financing through the AF is thus over-stated in this table. Co-financing for AF projects could not be determined at this stage, so that leverage cannot yet be calculated.

**Table 8: Projects funded to date by the AF potentially qualifying as EbA (source: AF website)**

Project	IE	AF
Senegal: Adaptation to coastal erosion in vulnerable areas	Centre de Suivi Ecologique	8.62
Sri Lanka: Addressing Climate Change Impacts on Marginalized Agricultural Communities Living in the Mahaweli River Basin of Sri Lanka	WFP	7.99
Honduras: Addressing Climate Change Risks on Water Resources in Honduras: Increased Systemic Resilience and Reduced Vulnerability of the Urban Poor	UNDP	5.62
Uruguay: Building Resilience to Climate Change in Vulnerable Smallholders	ANII	9.97
Eritrea: Climate Change Adaptation Programme In Water And Agriculture In Anseba Region, Eritrea	UNDP	6.52
Guatemala: Climate change resilient production landscapes and socio-economic networks advanced in Guatemala	UNDP	5.43
Lebanon: Climate Smart Agriculture: Enhancing Adaptive Capacity of the Rural Communities in Lebanon (AgriCAL)	IFAD	7.86
Djibouti: Developing Agro-Pastoral Shade Gardens as an Adaptation Strategy for Poor Rural Communities	UNDP	4.66
Uzbekistan: Developing climate resilience of farming communities in the drought prone parts of Uzbekistan	UNDP	5.42
Georgia: Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia	UNDP	5.32
Papua New Guinea: Enhancing adaptive capacity of communities to climate change-related floods in the North Coast and Islands Region of Papua New Guinea	UNDP	6.53
Samoa: Enhancing Resilience of Coastal Communities of Samoa to Climate Change	UNDP	8.73
Solomon Islands: Enhancing resilience of communities in Solomon Islands to the adverse effects of climate change in agriculture and food security	UNDP	5.53
Mauritania: Enhancing Resilience of Communities to the Adverse Effects of Climate Change on Food Security in Mauritania	WFP	7.8
Argentina: Enhancing the Adaptive Capacity and Increasing Resilience of Small-scale Agriculture Producers of the Northeast of Argentina	GCCA Support Facility	5.64
Jamaica: Enhancing the Resilience of the Agriculture Sector and Coastal Areas to Protect Livelihoods and Improve Food Security	PIOJ	9.96
Maldives: Increasing climate resilience through an Integrated Water Resource Management Programme in HA. Ihavandhoo, ADh. Mahibadhoo and GDh. Gadhdhoo Island	UNDP	8.99
Myanmar: Addressing Climate Change Risks on Water and Food Security in the Dry Zone of Myanmar	UNDP	7.91
Mauritius: Climate Change Adaptation Programme in the Coastal Zone of Mauritius	UNDP	9.12
Mongolia: Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia	UNDP	5.5
Seychelles: Ecosystem-based Adaptation to Climate Change	UNDP	6.46
Cambodia: Enhancing Climate Resilience of Rural Communities Living in Protected Areas of Cambodia	UNEP	4.94
Ecuador: Enhancing Resilience of Communities to the adverse effects of climate change on food security, in Pinchincha Province and the Jubones River basin	WFP	7.45
Tanzania: Implementation of Concrete Adaptation Measures to Reduce Vulnerability of Livelihood and Economy of Coastal Communities in Tanzania	UNEP	5.01
Argentina: Increasing Climate Resilience and Enhancing Sustainable Land Management in the Southwest of Buenos Aires Province	WB	4.3
Rwanda: Increasing the adaptive capacity of natural systems and rural communities, living in exposed areas of North Western Rwanda, to climate change impacts	MINIRENA	9.97
Madagascar: Promoting Climate Resilience in the Rice Sector through Pilot Investments in Alaotra-Mangoro Region	UNEP	5.1
Colombia: Reducing Risk and Vulnerability to Climate Change in the Region of La Depression Momposina in Colombia	UNDP	8.52
Cuba: Reduction of vulnerability to coastal flooding through EBA	UNDP	6.07
Cook Islands: Strengthening the Resilience of our Islands and our Communities to Climate Change (SRIC - CC)	UNDP	5.38
Total		206.32



## The Green Climate Fund

**Background:** The Green Climate Fund (GCF) is a new multilateral, targeted climate change fund that will provide finance for both mitigation and adaptation through a variety of financing windows. THE GCF was created under the UNFCCC, which approved the GCF's Governing Instrument at its meeting in Durban, South Africa in 2011. The GCF is intended as the primary vehicle through which the indicative \$100 billion per year in climate change finance will be mobilized. The GCF will be funded by contributions from developed countries, and may also receive financial inputs from a variety of other public and private sources, including alternative sources. The GCF will provide both grant and highly concessionary loan finance, and may also introduce other instruments and facilities; and will have a private sector facility available to local actors in developing countries. The World Bank will serve as Interim Trustee of the GCF, subject to review after three years.

**Objectives:** The Fund's purposes are (i) to make significant and ambitious contributions to enable mitigation of GHG emissions with an objective of supporting global efforts to limit warming to 2° Celsius; and (ii) to enable developing countries to adapt to the impacts of climate change. The scaled-up magnitude of financial resources available through the GCF is intended to catalyze transformational change, and to enable developing countries to establish sustainable, low-carbon development trajectories.

**Current level of funding:** pending resolution of a number of outstanding administrative issues, the GCF should begin operations in late 2014. Initial GCF pledges stand at between \$6 billion and \$10 billion. These will potentially be augmented by new pledges exceeding \$1 billion made at the UN Climate Summit in New York (September 23, 2014), some of which will likely be programmed through the GCF. The GCF will initially interpret "balanced allocation between adaptation and mitigation" as an allocation of roughly 50% of Fund resources each to mitigation and adaptation, respectively. This suggests that an indicative \$5 billion or more might be available to support a broad range of adaptation activities over the next two years or so.

**Who can apply:** All developing country Parties to the UNFCCC are eligible to receive financing from the GCF. Adaptation financing will target the needs of developing countries most vulnerable to the impacts of climate change. The initial priority will be on the highly vulnerable states of sub-Saharan Africa and the Small Island Developing States (SIDS).

**What activities will be financed:** GCF/B.06/03 (9 February 2014) identifies the following as the target results areas for adaptation:

Results Areas Focused on Particular Exposure Units:

- (a) Sustainable land use management, agriculture and rural adaptation
- (b) Ecosystems and ecosystem-based adaptation
- (c) Design and planning of cities (emphasizing adaptation and mitigation links)
- (d) Sustainable forest management (emphasizing adaptation and mitigation links)
- (e) Climate-resilient infrastructure
- (f) People, health and well-being



Results Areas Focused on Particular Adaptation Approaches:

- (g) Readiness and capacity building (emphasizing adaptation and mitigation links)
- (h) Effective community-based adaptation
- (i) Approaches to risk sharing and transfer
- (j) Programmatic and transformative adaptation activities
- (k) Coordination, knowledge hubs and South-South exchange
- (l) Cross-cutting themes (“flagships”) across result areas

Cross-cutting Results Areas:

- (m) Adaptation activities to reduce climate-related vulnerabilities

In addition to program and project finance, the GCF will also provide support for readiness and preparatory activities

**Procedures for accessing funds:** The precise modalities of access have yet to be published, although the GCF will provide access to funding via national, regional or international implementing agencies. The design of direct access via National Implementing entities (NIE) is an important feature of the GCF, and learning will take place from the experiences of the AF in delivering finance via direct access.

**EbA projects in portfolio:** the GCF has no adaptation portfolio as yet, although the inclusion of “Ecosystems and ecosystem-based adaptation” among initial adaptation priority results areas suggests that an EbA portfolio may rapidly develop.

#### **EbA in the Portfolios of the international agencies and non-governmental organizations; bilateral agencies, the private sector and foundations**

The UNFCCC<sup>25</sup>, through the Nairobi Work Programme, maintains a database of EbA projects and/or projects in which EbA has been integrated. 45 projects are currently listed in the database. Specific information on sources of funding does not appear on the website, and an effort is currently underway to obtain project documents for these projects and determine the source(s) and levels of funding. Many of the projects on this list are among those financed through the SCCF, LDCF and AF. Projects are distributed globally across a wide range of ecosystems, with 11 in Africa, 8 in Asia, 13 in Latin America and 9 in Oceania (or other SIDS); the remaining projects in Europe (5), North America (3) and polar regions (1).

The largest number of projects is implemented by government entities (22 projects), often in collaboration with international conservation NGOs and/or UN agencies. Many of these are city governments. Fourteen were implemented by UN agencies, four by bilateral development agencies (GIZ, AusAid, USAID), 13 by international conservation NGOs and several by regional entities including SPREP. An analogous project database is maintained by the Convention on Biological Diversity<sup>26</sup> which contains 54 case studies, although not all can be described as EbA (the database looks at ecosystems approaches more broadly). The UNDP Adaptation Learning Mechanism also maintains a project database by sources of funding (including the AF, SCCF,

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<sup>25</sup> [https://unfccc.int/adaptation/nairobi\\_work\\_programme/knowledge\\_resources\\_and\\_publications/items/6227.php](https://unfccc.int/adaptation/nairobi_work_programme/knowledge_resources_and_publications/items/6227.php)

<sup>26</sup> <https://www.cbd.int/ecosystem/sourcebook/>

LDCF, GEF trust funds and some bilateral sources) and a subset of these can be described as EbA.

Naumann et al. (2011), as a component of an EU FP7 project, identified 153 projects and initiatives in the EU and UK involving EbA for climate change mitigation (15), adaptation (109) or both (29). Sources of funding for these projects include the EU, public, and private sources. EU funding was provided primarily through two vehicles: the LIFE+ and ERDF (INTERREG) programmes; and EAFRD for agriculture-related EbA. Publically funded projects were by far the most common, with 116 of the projects receiving funding from public sources either exclusively or in combination with other sources. Of these, National and regional adaptation strategies and programmes funded more than 15% of the projects included in the study. Privately-financed EbA initiatives were the second largest category, with 54 projects receiving support from (among others) NGOs, private foundations, businesses and landowners. Public-private partnerships (PPPs) and other types of cooperation were frequently observed, with over 15% of the portfolio of projects structures as PPP.

Naumann and co-authors comment that the PPP financing structure appears particularly promising as an approach to securing EbA finance, since it can create alliances between those pursuing EbA out of altruistic and social concerns with private sector actors seeking to demonstrate corporate social responsibility (CSR). One can also envision opportunities for PPP that are driven by the need for private sector actors (e.g., corporations and landowners) to comply with environmental and/or zoning regulations, and to earn carbon credits.

### **EbA Projects reported by Workshop Participants**

Participants in the *Inter-regional Workshop on Mainstreaming Ecosystem-based Approach to Adaptation and Accessing Adaptation Finance*, held 30 September – 3 October 2014 in Kuala Lumpur in conjunction with the Fourth Asia Pacific Climate Change Adaptation Forum, were invited to submit inventories of EbA projects and activities either planned or under implementation in their respective countries, along with information on the source(s) and levels of finance. Around 17 cases were submitted distributed among seven countries in South and Southeast Asia and Africa. These case studies are summarized in Table 9. Of these, seven were financed by the Adaptation Fund (AF), five of which are to be implemented through India's NABARD, currently the only existing National Implementing Agency (NIE) of the AF in Asia and the Pacific. Two are financed by the SCCF and three through the LDCF. Two are financed by National Development Banks (NABARD) and three are financed through bilateral assistance (KfW, SDC, BMU). One, in Kenya, was financed through Protected Area entrance fees.<sup>27</sup>

An additional source of finance for adaptation, and more specifically for EbA, was the national trust fund. Representatives of at least two participating countries, Bangladesh and Seychelles, reported that EbA activities had been financed through National Adaptation and/or Environmental Trust Funds. An additional example of private sector finance of EbA activities was provided by the Philippines.

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<sup>27</sup> Sources sum to greater than 17 due to multiple sources of finance for some projects.

**Table 9: EbA Case Studies Submitted by Workshop Participants**

Country	Project Name	Description	Funding Source	Finance (millions \$)	Co-finance (millions \$)	Co-finance Source
India	Climate Proofing of Watershed Development Projects in Tamil Nadu and Rajasthan	Project designed to build adaptive capacities of communities to climate change in the rain-fed areas of Tamil Nadu and Rajasthan through (i) improved soil and water regimes, (ii) climate-resilient farming systems, (iii) integration of risk mitigation products (e.g. crop insurance) and (iv) knowledge management systems	Adaptation Fund	1.097	N.A.	N.A.
India	Building Adaptive Capacities of Small Inland Fishermen Communities for Climate Resilience and Livelihood Security, Madhya Pradesh	Project designed to improve adaptive capacity and secure livelihoods for small farmers through (i) increased water retention capacity of tanks (small reservoirs), (ii) diversification of fish species, (iii) capacity building and institutional linkages, and (iv) preparing and disseminating evidence-based knowledge	Adaptation Fund	1.751	N.A.	N.A.
India	Enhancing Adaptive Capacity and Increasing Resilience of Small and Marginal Farmers in West Bengal	Project to improve climate resilience for 5,000 families in small and marginal communities dependent on natural resources through (i) community planning of land and water resources; (ii) improving access to and quality of weather forecasts and (iii) demonstrate and promote climate-resilient farming systems and livelihood models	Adaptation Fund	2.51	N.A.	N.A.
India	Conservation and Management of Coastal Resources as a Potential Adaptation Strategy for Sea Level Rise	Project to improve adaptive capacities of coastal residents in the Krishna Mangroves of Andhra Pradesh through (i) stakeholder mobilization, (ii) participatory surveys, (iii) training and capacity building in mangrove restoration techniques, (iv) restoration of 200 Ha of degraded mangroves, and (v) identification of additional areas where the strategy can be replicated.	Adaptation Fund	0.53	N.A.	N.A.
India	Climate -Smart Actions and Strategies in Northwest Himalayan Region for Sustainable Livelihoods of Agriculture-Dependent Hill Communities	Project designed to enhance the resilience of mountain communities and their livelihood support systems through the demonstration of technologies and strengthening of capacities.	Adaptation Fund	0.697	N.A.	N.A.
India	Watershed Development Programmes	NABARD programs to promote community participation in watershed development, including (i) participatory watershed development in 18 states, (ii) focus on distressed districts in four states, (iii) IWDP in Bihar state and (iv) Indo-German Watershed development Program with KfW	NABARD, KfW, Gol	213	N.A.	N.A.
India	Climate Change Adaptation in Maharashtra	Project targets 25 villages in Maharashtra in collaboration with the Swiss Agency for Development and Cooperation (SDC) through social mobilization, watershed infrastructure, irrigation systems, water planning, promotion of biodiversity and renewable energy.	NABARD, SDC	N.A.	N.A.	N.A.

**Table 9: EbA Case Studies Submitted by Workshop Participants (continued)**

Country	Project Name	Description	Funding Source	Finance (millions \$)	Co-finance (millions \$)	Co-finance Source
Nepal	Enhancing Capacity, Knowledge and Technical Support to Build Climate Resilience of Vulnerable Developing Countries	Activities under the GEF/SCCF project implemented by PR China National Development and Reform Commission (NDRC) focusing on building climate resilience through EbA in LDCs and SIDS in Africa and Asia-Pacific. Project emphasizes (i) increasing institutional capacity, (ii) mobilizing knowledge and (iii) appropriate technology transfer emphasizing EbA best-practice as established in China.	SCCF	4.9	N.A.	N.A.
Nepal	Ecosystem-based Adaptation in Mountain Ecosystems	Project funded by the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) to strengthen the capacities of Nepal, Peru and Uganda to implement EbA in their climate change adaptation strategies, with a focus on mountain ecosystems. Specific objectives include (i) development of EbA tools and methodologies targeting mountain ecosystems; (ii) mainstreaming approaches at national level, (iii) piloting EbA at ecosystem level, and (iv) formulation of national policies to build an economic case for EbA.	BMU	3.37	N.A.	N.A.
Nepal	Catalyzing Ecosystem Restoration for Resilient Natural Capital and Rural Livelihoods in Degraded Forests and Rangelands of Nepal	Project currently under development. LDCF-funded project to implement EbA to reduce vulnerability of indigenous communities in degraded rangeland and forest ecosystems in Nepal, combining traditional knowledge with scientific research.	LDCF	5.225	N.A.	N.A.
Nepal	Ecosystem-based Adaptation for Climate-Resilient Development in the Kathmandu Valley	Project currently under development. Project is designed to introduce EbA approaches at pilot sites in the main urban centers of Nepal, including Kathmandu, Lalitpur and Bhaktapur districts.	LCDF	N.A.	N.A.	N.A.
Sri Lanka	Addressing Climate Change Impacts on Marginalized Agricultural Communities Living in the Mahaweli River Basin	Project objectives are (1) to develop household food security and build resilient livelihood for rain-fed farming households, and (ii) to build institutional capacity in village, local and regional service delivery to reduce risks associated with climate-induced rainfall variability	Adaptation Fund	7.99	N.A.	N.A.
Cambodia	Enhancing Climate Resilience of Rural Communities Living in Protected Areas to Adapt to the Impacts of Climate Change	Project designed to increase food security and reduce soil erosion in Community Protected Areas (CPAs) in Cambodia through the introduction of specific EbA interventions. Specific activities include restoring degraded forests, enrichment planting of rice paddy boundaries with tree species, and diversification of family agricultural areas including home gardens.	Adaptation Fund	4.954	N.A.	N.A.
Cambodia	Local Government and Ecosystem-based Resilient Livelihoods	The project has three components: (i) Climate sensitive planning, budgeting and Technical Capacity, (ii) Ecosystem-based Adaptation and resilience of Livelihoods for the most vulnerable improved against erratic rainfall, floods, droughts and sea level rise; and (iii) Performance-based ecosystem-based adaptation and climate resilience grants.	N.A.	10	N.A.	N.A.

**Table 9: EbA Case Studies Submitted by Workshop Participants (continued)**

Country	Project Name	Description	Funding Source	Finance (millions \$)	Co-finance (millions \$)	Co-finance Source
Kenya	Ecosystem-based Adaptation to enhance Resilience of Wildlife and Local Communities under Protected Area System	(Not a single project, but a set of complementary activities). Objectives are (i) rehabilitation and restoration of degraded natural areas (wetlands, forests, savannah); (ii) enhanced water storage capacity for wildlife and communities, (iii) enhancing Protected Area connectivity through corridors, (iv) protecting and restoring natural infrastructure, (v) management and control of invasive species, and (vi) training and capacity building.	PA entrance fees	N.A.	N.A.	N.A.
Mauritania	Enhancing Capacity, Knowledge and Technical Support to Build Climate Resilience of Vulnerable Developing Countries	Activities under the GEF/SCCF project implemented by PR China National Development and Reform Commission (NDRC) focusing on building climate resilience through EbA in LDCs and SIDS in Africa and Asia-Pacific. Project emphasizes (i) increasing institutional capacity, (ii) mobilizing knowledge and (iii) appropriate technology transfer emphasizing EbA best-practice as established in China.	SCCF	34.7	N.A.	PR China
Sudan	Enhancing the resilience of Communities Living in Climate Change Vulnerable Areas of Sudan Using Ecosystem based Approaches to Adaptation	The proposed project aims to increase the climate change resilience of livelihoods and integrated productive agricultural systems in the White Nile State through Ecosystem Based Adaptation approaches. This region is affected by progressive climate change (increasing aridity) exacerbated by decreased vegetative cover due to deforestation and overgrazing. The project will be implemented at multiple levels aiming to mainstream EbA approaches at both national, regional (state) and local (community) levels	LDCF	4.08	9.7	DfID

## *Summary Observations on Sources of EbA Finance*

This discussion paper has presented an overview of global climate change finance for all purposes; and a more detailed view of funding support for EbA provided by the targeted funds via the UNFCCC and the CIF, although the numbers presented are very preliminary and must be refined through more detailed study of project documents. Evidence is also provided that there are many more EbA programs, projects and activities in place or under implementation beyond those funded by the special-purpose climate funds. Material reported in this paper must therefore be viewed as a starting point for a more comprehensive and detailed study since in order to fully understand the landscape of EbA finance, it will be necessary to identify and to examine the many hundreds of other EbA projects not included in the databases consulted and accessed for this preliminary study. The fact that an FP7-scale project was required to examine and characterize EbA as practiced within the EU and UK underscores the challenge involved in developing a global synthesis, although such a synthesis will be extremely valuable.

The preliminary section on global climate change finance targeting adaptation contains one counter-intuitive conclusion: that while the special-purpose climate funds including the PPCR, SCCF, LDCF and AF are typically the most widely identified and documented sources of finance for EbA and related adaptation projects, in fact they represent a relatively small part of the overall landscape (around 3% of total adaptation spend). National development banks, multilateral and regional development banks, National governments and bilateral development assistance organizations (in that order) all contribute significantly more to total adaptation finance, although due to differences in accounting practices it is not in fact possible to make direct comparisons between the special purpose funds and the other sources of adaptation finance on a dollar-for-dollar basis.<sup>28</sup>

When we are able to account for the sources and intermediaries of financing targeting EbA more comprehensively, we may discover that the same is true for EbA finance: that while the targeted adaptation funds are significant sources of EbA finance, they may not be the largest sources, particularly when projects supported by national, municipal and local governments can be accounted for. In addition (and for reasons discussed in the preceding sections) it is reasonable to expect that EbA finance from non-traditional sources, and in particular from the private sector, will increase substantially over time as the practice of EbA matures and the evidence base supporting the efficacy of EbA interventions becomes more robust. The message to practitioners of EbA when seeking finance is to look beyond the targeted climate funds (although they will continue to be indispensable sources of EbA finance) and consider the full range of financing options, including those involving non-traditional partners, including private sector actors.

The Green Climate Fund (GCF), anticipated to open for business in late 2014, may also prove to be a game-changer. The GCF has to date received pledges that greatly exceed the combined resources of all existing special-purpose adaptation funds. It is not yet clear how the Annex I countries that provide the bulk of climate finance will allocate their resources between new

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<sup>28</sup> This relates primarily to how many institutions “score” adaptation finance. For example, under the OECD Rio Marker system, if the primary objective of a project is adaptation, 100% of project finance can be counted as adaptation; and if adaptation is a significant (but not primary) objective it will often be scored as 50% adaptation, whether or not these percentages are realistic.

(GCF) and existing funds going forward, but the GCF has been identified as the primary vehicle through which the indicative \$100 billion per year in climate finance (mitigation + adaptation) will be mobilized; and funding for ecosystems and ecosystem-based adaptation has been identified as a priority area for GCF adaptation financing.

In the final analysis, the distinctions made between EbA as adaptation *per se* and the use of ecosystem-and landscape-based approaches to sustainable development and resilience-building may become increasingly irrelevant. As the adaptation benefits of properly designed ecosystems-based approaches to achieving multiple development objectives are better recognized and documented, the special-purpose climate funds, including the GCF, may become more receptive to funding a wide range of ecosystem-based interventions even in the absence of clear additional cost logic or its equivalent.

## Part 2: Developing Effective EbA Proposals

### The Framework of Justification

Effective proposals to attract targeted adaptation finance must be built around a solid framework of justification. The recent reports by the joint Multilateral Development Banks' (MDB) initiative on climate finance reporting, introduced in Part 1, can also provide a coherent approach for framing an effective proposal. The components of this framework are restated here:

- the context of climate vulnerability should be established for the project. Restated, there must be an objective basis for believing that the project (or relevant components) are at specific risk from one or more anticipated impacts of climate change in ways that may affect the delivery of services or benefits from the project. If the EbA activity is designed to manage climate risks to a larger investment project, the context of vulnerability should reference the investment project itself
- the project proposal should contain an explicit statement of intent to address climate vulnerability as an aspect or objective (either primary or ancillary) of the project. If the EbA activity is designed to contribute to climate-proofing a larger investment project, this should be made clear in the proposal
- There must be a clear link between the proposed project or project component activities and the context of climate vulnerability identified. In other words the adaptation (alternatively climate-proofing, resilience building) activities must be logical responses to the specific climate risks and/or aspects of vulnerability.

### Context of climate vulnerability

For adaptation projects (EbA and otherwise) to qualify for targeted adaptation finance from many sources, it must be established that there are risks to be managed that are uniquely related to climate change and/or climate variability (exposure and sensitivity). An important task in every EbA proposal is to establish this context, preferably on the basis of scientific evidence, historical data, projections based on global climate model (GCM) outputs, and/or targeted studies. We would like to answer the following questions:

- What are the direct biophysical climate change threats the project beneficiaries are *exposed* to?
- What are the projected magnitude and duration of this exposure?
- Which operational, management, and infrastructure components of project design are sensitive to climate change?

If a large-scale, complex or long-term intervention is being planned, it may be necessary to conduct a targeted climate impact and vulnerability study that may involve activities including *inter alia* regional down-scaling of GCM outputs or use of publically available downscaled products, simulation modeling (e.g., rainfall-runoff or crop simulation modeling) and related activities. For smaller projects, or projects which are not highly sensitive to specific values of



climatic parameters, coarse resolution data (such as that provided in the IPCC AR5 reports) may be sufficient.

Table 10 identifies some publically accessible sources of historical and projected climate data that may streamline the process of developing the context of vulnerability.

**Table 10: Publically Accessible Sources of Historical and Projected Climate (current entries are indicative only, many other resources to report)**

Type of data	Source	Contact information	Comments
Current observational data and GCM outputs	CIAT/World Clim	<a href="http://www.worldclim.org/download">http://www.worldclim.org/download</a>	Gridded (1 km) historical (1950-2000) climate; downscaled CMIP5 (IPCC AR5) GCM outputs
<b>Historic and projected temperature, rainfall maps</b>	Climate Wizard	<a href="http://www.climatewizard.org/">http://www.climatewizard.org/</a>	Global Countries 1951-2001 (50km resolution grid); projections
<b>CMIP5 regional projections</b>	IPCC AR5 WG1 Annex A	<a href="http://www.ipcc.ch/report/ar5/wg1/">http://www.ipcc.ch/report/ar5/wg1/</a>	Composite outputs of 42 GCMs for RCP 4.5 by region; provides 25 <sup>th</sup> , median and 75 <sup>th</sup> percentiles for 2016-2035; 2046-2065; 2081-2100
<b>Projected climate change scenarios for Africa</b>	Climate System Analysis Group (CSAG) Climate Information Platform	<a href="http://www.csag.uct.ac.za/unitar-cie/">http://www.csag.uct.ac.za/unitar-cie/</a>	Historical and downscaled projected (CMIP5) climate variables (rainfall, max/min temperature, SLR)
<b>Projected climate change scenarios for the Pacific</b>	Pacific Climate Futures	<a href="http://www.bom.gov.au/climate/pccsp/">http://www.bom.gov.au/climate/pccsp/</a>	Max Daily Temp; Min Daily Temp; Surface Temp; Rainfall; Wind Speed; Heavy Rainfall; Strong Wind; Humidity; Evaporation; Solar Radiation

### Statement of purpose or intent to address or improve climate resilience.

Every proposal targeting adaptation finance needs a strong statement of intent in order to differentiate between adaptation to current and future climate change and other possible objectives, including environmental conservation and economic development. Funding agencies increasingly ask this question with respect to EbA – “it may be good, but is it adaptation?”

## Links between project activities and the context of climate vulnerability.

Basically, a case must be made as to how the proposed EbA activities or interventions address the climate change-related risks as identified. Here there is an important role for summaries of the available scientific literature and case study data to support the credibility and likely effectiveness of the proposed intervention. In the case of EbA this may pose challenges, since the evidence base for the effectiveness of EbA in specific contexts is still thin in several areas. Research on the effectiveness of EbA has been conducted by Robert Munroe and co-authors, and this research reinforces the understanding that EbA interventions are usually reasonably effective (although effectiveness is highly context-specific); and that this message must reach policy-makers more effectively.

One approach to establishing the credibility of EbA in specific adaptation contexts is to select EbA interventions that have been demonstrated in comparable settings and under comparable conditions. An extensive list of examples appears in Appendix B2 of the working document *Ecosystem-based Adaptation Guidance – Moving from Principles to Practice* (Travers and co-authors, 2012)<sup>29</sup>.

## Additional Cost Reasoning and Related Issues

It is beyond the scope of this document to address the specific procedures and requirements for preparing and submitting funding proposals to the various targeted funds, and detailed guidance is in any case provided by the funds through documents available on their respective websites.

One issue that can pose challenges in preparing EbA proposals targeting the special-purpose climate funds is that of additional cost reasoning. The GEF-related funds (SCCF, LDCF) require additional cost reasoning or its equivalent. The following, taken from the LDCF Guidelines for Project Preparation<sup>30</sup>, summarize the required reasoning (emphasis added):

- The LDCF is primarily aimed at financing the full cost of adaptation for NAPA projects. Yet, adaptation and development are closely linked, as reflected in LDCF/SCCF programming papers and COP decisions, specifically:
- The full adaptation cost is equivalent to the term “additional cost” in COP decisions and LDCF/SCCF documents. This concept is used to explain how the costs of adaptation are added to costs of Business-as-Usual (BAU) development. BAU refers to activities that would be implemented in the absence of climate change. The full costs of adaptation can be grant-financed by the LDCF/SCCF.
- Co-financing in the context of LDCF-funded adaptation projects is defined as the cost which would be incurred for the project under BAU. The full cost of adaptation is the so-called *additional cost* and is paid out of the LDCF.
- The rationale behind this concept of co-financing is to use the LDCF funds to catalyze adaptation to climate change in the context of a larger development intervention. In this case, co-financing can include development assistance (bilateral or multilateral), government budget

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<sup>29</sup> Travers, A., C. Elrick, R. Kay and O. Vestergaard. 2012. *Ecosystem-Based Adaptation Guidance: Moving from Principles to Practice*. (Working Document not approved for publication).

<sup>30</sup> Biagini and co-authors (2011): *Accessing Resources under the Least Developed Countries Fund*.

lines, and NGO and community groups contributions, in cash/grant, loan, soft-loan, or in-kind form. Using LDCF financing to mainstream adaptation into large investment projects has the potential of having a greater impact, taking advantage of synergies and achieving the benefits of the economies of scale.

- As the LDCF funds the full cost of adaptation, it can also fund standalone projects, provided that what is being financed are shown to be exclusively adaptation interventions, which are not linked to BAU development.

When the project or project component in question meets the description of “confronting climate change” as presented in Figure 1, that is, things that we would not be considering doing if climate change did not introduce novel and specific risks, then the additional cost reasoning is relatively straightforward. If, on the other hand, activities proposed for funding more closely resemble “addressing drivers of vulnerability” and “building response capacity” in Figure 1, that is, if they are likely to be activities that are fully justified even in the absence of climate change as effective measures to promote societal resilience under present circumstances, then the exercise is more challenging.

When preparing a proposal for financing, and in particular if the SCCF or LDCF are targeted by the proposal, it is useful to access project documents associated with projects that were successful in attracting funding and review how their additional cost reasoning is presented. In strong proposals, there is always a clear linkage between the additional cost reasoning and the (earlier) presentation of the context of climate vulnerability included as part of Project Justification (for SCCF and LDCF proposals). These documents can be identified and downloaded from the GEF website.

## Economic Analysis of EbA Projects:

The economic analysis of proposed EbA programs, projects or activities can be an important and effective component of the framework of justification for the funding proposal, since a demonstration that an EbA project is likely to yield positive net benefits to society (benefits in excess of costs over the project lifetime) provides a strong rationale for funding. Similarly, economic analysis can be used to determine which among several competing approaches to addressing specific climate-related risks - such as structural, social, policy, and EbA approaches - will do so in the most cost-effective way, thus ensuring that scarce adaptation financial resources are used with maximum effectiveness. In this section we review the basic elements of project economic analysis in order to highlight the special considerations and challenges that characterize EbA project analysis. The topic of economic analysis of investment projects is large, complex and often contentious, so this brief review will only touch upon essential elements. Those interested in more comprehensive and detailed treatments of project economic analysis are encouraged to consult (among others) ADB (1997), Commonwealth Wealth of Australia (2006), European Commission (2008), H.M. Treasury (2003), Treasury Board of Canada (2007), and World Bank (1992).

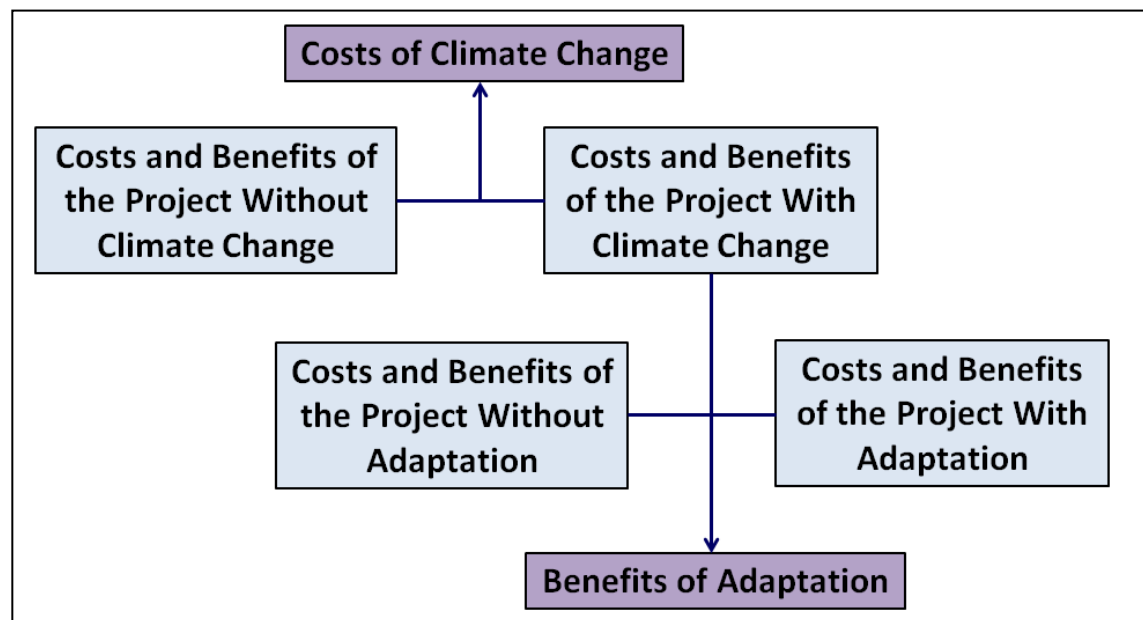
***The purpose of economic analysis:*** economic analysis is a tool used to support investment decisions. It is based on the understanding that financial resources are inherently limited, and while many projects or activities may be socially beneficial and desirable, they will not all deliver the same level of benefits per unit of financial resources committed. Economic analysis is intended to support sound decisions regarding the allocation of scarce resources *given* a consensus on desirable social outcomes. The strength of economic analysis is that it can capture or summarize a wide range of costs, benefits, environmental and social impacts in concise formats using the common metric of monetary value. It is often argued that many of the factors that enter into societal decision-making cannot be expressed properly in monetary terms, and thus economic analysis provides an incomplete and possibly misleading framework for decision-making. While it is unarguably true that many of the things that individuals and societies place the highest intrinsic value on cannot be expressed in economic terms, it is the task of economic analysis to capture as many as factors as can be “monetized” and incorporate them into the project analysis. In this way, financing decisions can begin by considering competing options each expressed in a common metric, rejecting those that deliver the desired benefit in an economically inefficient way, while taking full account of other non-quantifiable factors in the decision-making process.

Economic analysis can have one of several objectives. A preliminary consideration in evaluating any proposal for funding is “should we be doing this at all?” Another common decision setting is choosing between competing approaches to achieving an agreed-upon outcome. With regard to EbA, it is often useful to compare EbA to alternatives such as structural measures. Another decision setting involves examining the incremental benefit to project performance from adding EbA interventions as complements to conventional approaches, for example to “climate-proof” a larger investment. Each of these decision contexts can be approached using structured economic analysis.

The context for decision-making is important, since it will define the baseline against which the project<sup>31</sup> will be evaluated. If an EbA intervention involved, for example, the preservation of an existing ecosystem resource such as mangrove forest, the baseline is the situation that would prevail if the resource was not protected and the benefits it generates progressively diminished over time. Or, if the project involved afforestation, the baseline would be the net benefits associated with the *status quo ante* (no forests). In the situation where EbA is being evaluated as an approach to managing climate-related risks to a larger investment project (e.g., transportation infrastructure), the baseline for the economic analysis of EbA is the net benefit of the infrastructure project without the EbA intervention.

A closely related issue is the distinction between the economic impacts of climate change, often expressed in damage terms, and the benefits of the adaptation intervention. Figure 2 illustrates the distinction: the costs imposed by climate change on a project (as defined in this discussion paper) are conceptually the difference between the net benefits that the project would deliver in the absence of climate change; and the net benefits reflecting the impacts of climate change on both costs and benefits for the same project (that is, without assuming any adaptation). By contrast, the benefits of the adaptation intervention are conceptually the difference between project net benefits with adaptation included, and the net benefits without adaptation, both calculated under the assumption of climate change. They are not necessarily of the same magnitude: adaptation interventions may be able to effectively restore some, but not all of the net benefits lost to climate change impacts. In this case, we refer to the difference between costs of climate change and net benefits from adaptation as residual damages.

**Figure 2: Distinction, Net Economic Impacts of Climate Change and Net Benefits from Adaptation**



<sup>31</sup> The use of “project” in this document refers to the full range of interventions, programs, and activities involving EbA and requiring financial resources.

The following section presents some fundamentals of economic analysis in order to highlight the special issues concerns encountered when conducting economic analysis of EbA projects or projects with EbA content.

**Least-cost analysis:** In general, costs will be known with greater certainty than benefits, because they can be built up from materials, labor and other inputs for which unit costs can readily be determined in local markets. Benefits, on the other hand, are often hypothetical (that is, they will need to be demonstrated over time), and many of the benefits likely to result from EbA activities are non-market goods that are difficult to assign monetary values to even if quantities can be known or projected with relatively high confidence. Least-cost analysis provides a way of selecting the best among alternative measures that are designed to deliver the same range of adaptation and/or ancillary benefits by quantifying costs. The lowest-cost approach is also useful in situations where data is limited overall, since it requires less data and fewer assumptions.

The cost for each alternative is calculated as:

$$C_n = \sum_{t=0}^{T(n)} c_{t(n)}(1 + i)^{-t} \quad (1)$$

In equation 1,  $C_n$  is the total project cost of option n,  $T(n)$  is the length of time over which option n is incurring costs,  $C_{t(n)}$  is the total cost (capital + O&M) of option n in year t, and i is the interest (discount) rate. Assuming all n options are likely to generate the same benefits (approximately), the project with the lowest value of C is selected as the most economically efficient way of achieving the desired outcome.

**Benefit-Cost Analysis:** Benefit-cost analysis (BCA) extends the framework of analysis to include likely benefits from the project. For all projects, and for EbA projects in particular, both the benefits associated with the adaptation objective of the project (for example, flood protection) and any ancillary benefits the project may generate (discussed below) should be included. Not all benefits can be estimated with the same level of confidence, and where benefits and/or co-benefits are characterized by a high degree of uncertainty, sensitivity analysis (or more rigorous approaches) should be used.

There are three primary assessment criteria (metrics) used in benefit-cost analysis. These are (a) Net Present Value (NPV), (ii) Benefit-Cost Ratio (BCR) and (iii) Internal Rate of Return (IRR). Each is used in specific decision contexts, and it is beyond the scope of this review to go into detail on each of these approaches and in which decision context each is most appropriate (see references identified earlier for more information). For benefit-cost analysis of EbA projects, the use of the Net Present Value (NPV) criterion is strongly encouraged. It is the most easily interpreted, and is the appropriate criterion when comparing alternative approaches to achieving a common outcome, as in the case where EbA is being compared to structural and/or other “soft” alternatives.

The NPV is calculated as:

$$NPV = \sum_{t=0}^T \frac{B_t - C_t}{(1+r)^t} \quad (2)$$

In equation 2, NPV is the net present value of the project or activity in monetary units,  $C_t$  is the total cost (capital + O&M) in year  $t$ ,  $B_t$  is the total project benefit (primary + ancillary) in year  $t$ ,  $T$  is the length of time over which the project is generating costs and/or benefits, and  $r$  is the discount rate. The subscript  $n$  (denoting one from among several competing approaches) is omitted here since the NPV criterion is relevant to both single project decisions and choices between alternatives. A positive value of NPV indicates that project benefits exceed costs, and the project is justified. In comparing alternatives, the project with the highest NPV is the most desirable, assuming that there are no other factors (e.g., distribution of costs and benefits; non-monetized externalities) that must also be taken into account.

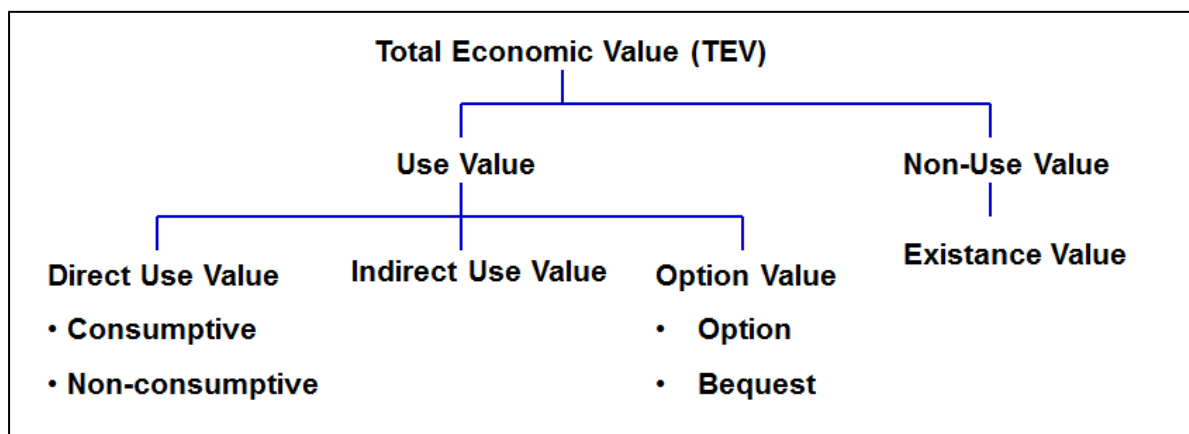
Among the specific challenges that are encountered when conducting economic analysis of EbA projects are (i) issues relating to the time horizon, (ii) issues relating to the measurement of benefits (both primary and ancillary) that are non-market goods; (iii) issues related to the reliability and performance of EbA approaches relative to hard infrastructure; (iv) issues related to the impacts of climate change on EbA projects themselves; (v) maintenance and repair costs, and (vi) issues related to the discount rate used in the calculation of net benefits. Each is discussed briefly in turn.

**Project time horizon:** conventionally, the economic analysis of a project can use as its time frame either the design lifetime of a project, the period of loan re-payment, or the period over which the project is incurring costs and/or delivering benefits. Typically, for large infrastructure projects, the major costs are incurred in the first year(s) of the project, during design and construction, and the stream of benefits begins only on project completion. This pattern alone tends to bias the NPV of the project downward, since costs are only lightly discounted but benefits more heavily so as they occur later in time. The extent to which this determines the outcome of NPV analysis is highly sensitive to the discount rate used (see below). In the case of EbA, the bias may be even more pronounced, since biological systems such as forests take years or possibly decades to mature to the point where they are delivering benefits at the intended level, while (for example) a levee delivers full flood protection from the day it is completed. As a related issue (and offsetting this to some degree), EbA interventions may continue to deliver benefits well beyond the design lifetime of a structural project. For example, catchment afforestation designed to reduce flood peaks and slope instability to protect a roadway may continue to deliver ancillary benefits in the form of provisioning services to local communities long after the loan used to construct the roadway has been repaid. It is recommended that the project time horizon reflect the full period over which EbA benefits are likely to be delivered, recognizing that the benefits occurring after the project design lifetime are likely to be heavily discounted.

**Measurement of benefits:** EbA projects are designed to generate adaptation benefits (the primary benefit), and EbA can also deliver ancillary or co-benefits that are not directly linked to the specific adaptation objective. EbA co-benefits might include (among others) wildlife habitat and protection of species diversity; improved stewardship of land and water resources; restoration of degraded ecosystems; various ecosystem services (supporting, provisioning, regulating, cultural), opportunities for livelihood diversification, and climate change mitigation via carbon sequestration. BCA should take into account both primary and ancillary benefits. However, ancillary

benefits such as ecosystems services can be difficult to establish in economic terms, since many of the environmental goods are not priced in markets, so their value must be inferred using indirect methods. There is a substantial literature on the economic valuation of non-market goods<sup>32</sup>, and only a few summary points can be made here. Natural ecosystems have both use-related and nonuse values (see Figure 3). Among use values, some are direct (e.g., provisioning services) and market values of closely related goods and services can be used to develop estimates of economic value. Others, such as option and bequest values, are seldom measured directly due to both conceptual and methodological challenges. In these instances, a useful method of generating approximate estimates of value is to transfer such values from high-quality studies with comparable settings and objectives in which values have been estimated.

**Figure 3: Components of Value of Natural Ecosystems**



**Reliability and performance issues:** For structural measures, the likelihood that a particular increment of protection (the adaptation benefit) can be delivered will reflect primarily the uncertainty in the projection of the relevant climate change impact(s) rather than the reliability of the structural remedy itself. That is, if our objective is to achieve 100-year flood protection in a particular context under an altered climate, we can design structural flood protection works that can with high reliability deliver 100-year protection, assuming our projections capture the nature and magnitude of climate change reasonably well (although we won't know this at the time of design). By contrast, for EbA interventions, we won't know with high probability how well our intervention (say watershed afforestation) will perform even if we have perfect foresight into the nature and magnitude of climate change. Re-stated, we cannot assume that EbA approaches will have the same reliability with respect to delivering an adaptation objective as engineered (infrastructure) approaches. There are a number of *ad hoc* approaches to quantifying the benefits of EbA interventions relative to hard options, such as discounting the EbA adaptation benefit relative to the corresponding benefit from hard infrastructure by a factor expressing, for example, the probability (< 1) that it will provide an equivalent benefit. However, it is preferable to use sensitivity analysis to consider a potential range of EbA performance or effectiveness in order to determine the minimum level of effectiveness at which positive net benefits result.

<sup>32</sup> See for example R. de Groot and co-authors (2010), *Integrating the Ecological and Economic Dimensions in Biodiversity and Ecosystem Services Valuation*. In: Ecological and Economic Foundations, Earthscan.



**Climate change impacts on the EbA project:** EbA is based on the premise that natural ecosystems can deliver a number of adaptation benefits that either complement or substitute for the benefits provided by conventional (e.g., infrastructure-based) approaches. However, ecosystems are themselves exposed and potentially sensitive to various impacts of climate change, and such climate risks to the EbA project must be taken into account and mitigated to the extent possible. To illustrate, catchment afforestation may be proposed as a complement to improved drainage to reduce the risks of flood-related damages to a road transport project. However, many tree species may be vulnerable to changes in environmental conditions (e.g., the pine bark beetle in North America is controlled by hard winter freeze, and warming temperatures create conditions more favorable for this pest which kills certain tree species), and a dead or dying forest may present new and additional risks to the project. The likelihood that the EbA intervention may fail should be reflected in the BCA, to the extent that such risks can be assessed.

**Operation and maintenance of EbA activities:** It has been asserted that EbA approaches can reduce or eliminate many of the costs related to periodic maintenance, repair, replacement and/or upgrade of conventional infrastructure, since living systems can re-generate and self-repair. While this may be a general characteristic of healthy ecological systems under normal (non-stressed) conditions, it is seldom a reasonable assumption in practice (see above). Economic analysis of EbA alternatives should recognize the likely need for ongoing intervention in ecosystems projects required to ensure ecosystem health and the delivery of benefits, and incorporate recurring costs consistent with these activities.

**The discount rate:** Few issues related to economic cost-benefit analysis are as contentious as the discount rate<sup>33</sup>. This is particularly true in the context of climate change, since the detrimental impacts of climate change are projected to increase in frequency and/or magnitude as a function of time over decadal and longer horizons. Discounting has in essence the opposite effect, by reducing the importance in economic terms of events as a function of time<sup>34</sup>. There are a range of justifications for the use of discounting in project analysis, and a range of views on the factors to be considered when setting the discount rate. Many economists argue that the discount rate should reflect the rate of social time preference, and as a practical matter it often reflects the cost of capital. In many instances (for example, in projects financed by the World Bank, which mandates a 10% discount rate, or the ADB, which mandates 12%) there will be little flexibility in the choice of discount rate. As a practical matter, lower discount rates will tend to increase the NPV of EbA projects, and are recommended so long as they can be justified.

## Monitoring and Evaluation of EbA Projects:

M&E for EbA projects represents a specific set of challenges, since unlike structural measures which can be designed around specific design targets for adaptation, the performance parameters of EbA interventions are often difficult to quantify, or are subject to relatively high levels of uncertainty. The effectiveness of the proposed EbA intervention must be established if the project is to receive

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<sup>33</sup> See for example the *Stern Report* (2007), and J. Foster and co-authors (2009): *Capitalism in Wonderland*. Monthly Review.

<sup>34</sup> Consider a project which entails an expected cost (or damage) of \$100 million in the 50<sup>th</sup> year of the life-time of the project. The present value (in \$million) of this expected cost is as follows (discount rate in bracket): \$60.8 (1%); \$14.1 (4%); \$2.1 (8%); \$0.85 (10%); and \$0.34 (12%).

targeted adaptation funding. The design of an effective monitoring and evaluation (M&E) framework for a proposed project helps to establish the credibility of the project. It will also contribute to establishing the empirical evidence base needed to promote EbA as an alternative set of adaptation pathways.

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## Annex A: Conceptual Template for Adaptation/EbA Proposal Development<sup>35</sup>

The basic framework, reflecting official guidance and practical experience from (among others) the LDCF, SCCF, AF and PPCR, consists of formulating concise and effective responses to the following eight fundamental eligibility criteria:

1. Adaptation rationale and additional cost argument
2. Urgency and prioritization
3. Weighting of project activities
4. Sustainability of intervention
5. Cost-effectiveness
6. Institutional setup and comparative advantage of implementing institution
7. Results-based management and logical framework.
8. Risks to project and risk management activities

### 1. Adaptation rationale and additional cost argument<sup>36</sup>

The adaptation rationale consists of 3 important questions:

- What is the likely business-as-usual (BAU) development for the targeted sector in the absence of climate change?
- What are the observed and current climate variability and the projected physical impacts of climate change based on available climate models and scenarios and how will these impacts be manifested in terms of climate vulnerabilities to BAU development in the targeted sector and region?
- What are the specific adaptation activities to be implemented to reduce the climate change vulnerability compared to the BAU situation?

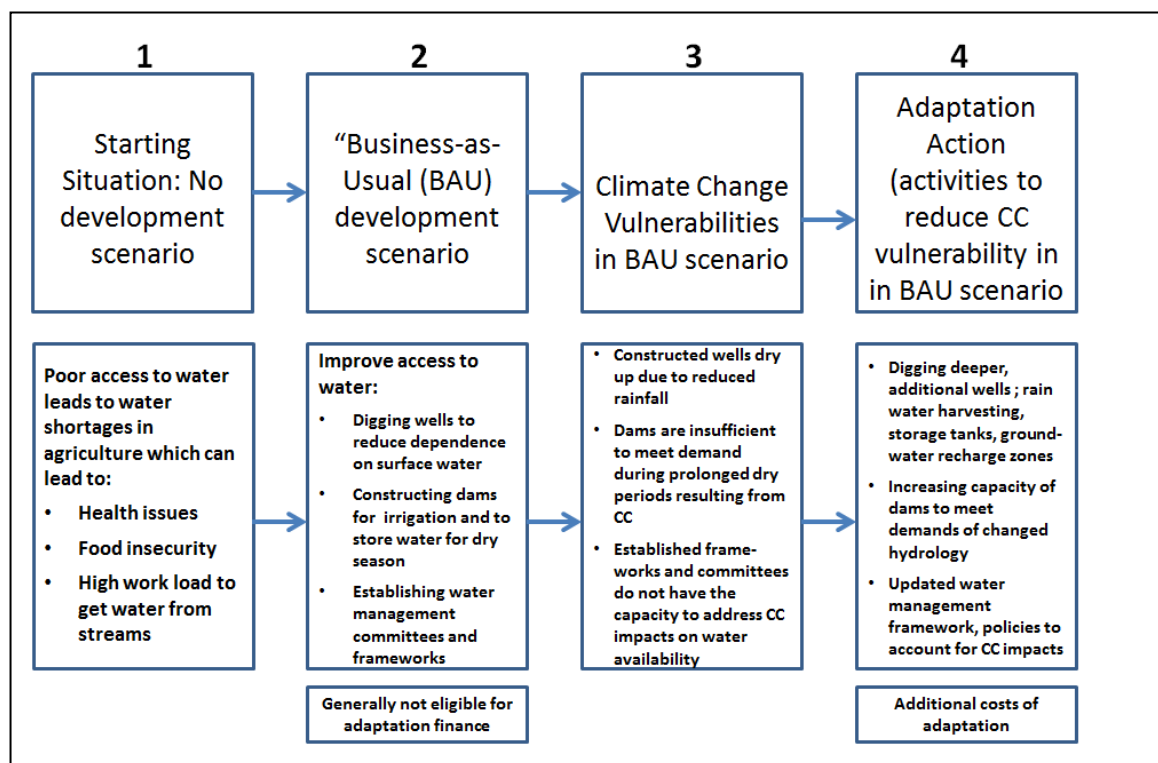
The conceptual distinction between additional costs as defined by the GEF and baseline (without adaptation) costs are illustrated in Appendix Figure 1.

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<sup>35</sup> Condensed from: Christiansen, L., A. D. Ray, J. B. Smith, and E. Haites. 2012. *Accessing International Financing for Climate Change Adaptation: A Guidebook for African Countries*. AfriCAN Project, FP7 283158.

<sup>36</sup> Note that the additional cost logic, while still required in proposals submitted to the SCCF and/or LDCF, may not be required in all EbA proposals, although it is likely to strengthen them.

**Appendix Figure 1: Illustration of Additional Cost Logic**



## 2. Urgency and prioritization

The successful project concept should aim to show that the targeted region and sector/subsector is both:

- Among the most vulnerable to climate change based on objective criteria (e.g. magnitude of economic impacts, livelihood impacts, risks to lives or vital infrastructure) and evaluated through a comprehensive multi-stakeholder V&A assessment
- Politically determined as a national priority based on broad national consultation and subsequent high level political adoption/ratification of the outcome (NCs, NAPAs and TAPs are great examples of this).

## 3. Weighting of project activities

Three broad categories of activities should be considered:

- Investment activities are those adaptation activities that lead to concrete, measurable impacts on the ground (e.g. building a sea wall, investing in climate resilient water supply systems, introducing drought resistant crops, etc.)

- Capacity building activities: activities that increase the adaptive capacity of institutions and individuals to deal with the impacts of climate change, but do not necessarily lead to immediate physical and measurable results
- Project management comprises the administrative activities needed to manage, implement and document the project's activities.

#### 4. Sustainability of intervention

Most donors will require the project proponent to clearly discuss and articulate how the project will ensure that its interventions are maintained beyond the lifetime of current project funding. This can include, e.g.:

- Commitments from national governments to provide sufficient budget to maintain installed infrastructure and human capacity
- Building local capacity to perpetuate and upscale pilot activities
- Developing a strategy for securing additional external funding for extending and/or scaling up the project activities post project
- Choosing adaptation measures that require low maintenance as opposed to those that are heavily dependent on the availability of financial and human capacity (e.g. mangrove restoration as opposed to sea walls).

#### 5. Cost-effectiveness

Cost-effectiveness of the funded activities (achieving maximal impacts per dollar invested) is one of the guiding principles for most bilateral and multilateral donors. The concept is best applied when outputs/outcomes across a number of potential actions can be measured by (or converted into) a single factor of comparison.

To illustrate, a number of potential adaptation options may be available to reduce climate change vulnerability of coastal agriculture, such as (i) building a sea wall, (ii) introducing salt tolerant crops or (iii) relocating agricultural activities inland. Each option will have a very different financial, social and environmental cost structure, and these should be considered when deciding between the options. The aim is for an optimum mix of maximized adaptation benefits and minimized costs. Such a discussion is best kept at a qualitative level, and this is generally accepted by donors.

#### 6. Institutional setup and comparative advantage of implementing institution

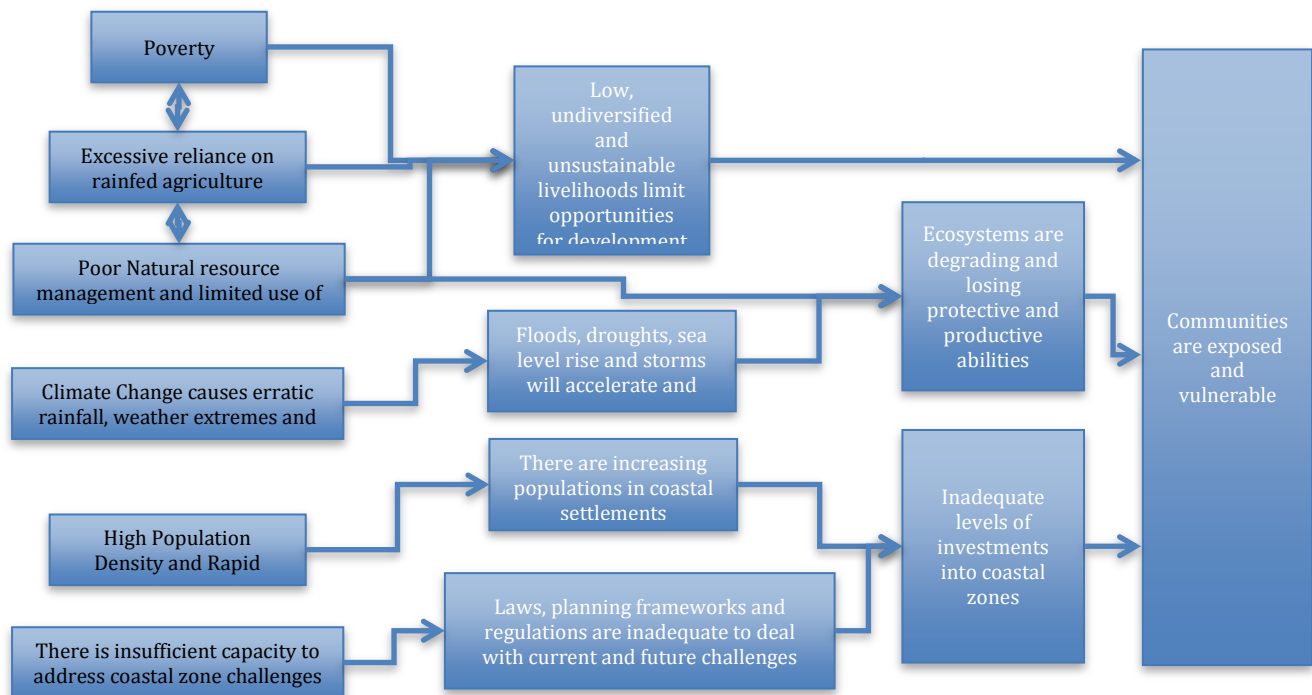
Project developers should carefully consider the institutional setup of the proposed project and how it will ensure that its activities are effectively mainstreamed into on-going sector development planning and activities. Two questions should be considered:

- Who will implement the project (this may include several levels of implementing and executing institutions) and what are their comparative advantages and capacity compared to other potential implementing institutions?
- How will the project be coordinated with (and/or mainstreamed into) related development activities of the targeted sector?

### The Problem Tree as a Starting Point for Proposal Development

In conceptualizing the project prior to proposal development, it is often useful to utilize the problem tree approach to better understand and characterize the “problem-scape” that justifies the proposed project. The problem tree provides a means of mapping causal relationships in a way that clarifies both the multiple antecedent conditions that contribute to the problem of interest and the candidate interventions that can be used to address these root causes, thus providing the basis for project design. It will almost always be the case that while impacts of climate change are among the primary motivations (root causes) for developing adaptation project funding proposals, such impacts will represent only a part of the project problem-scape; and not necessarily the most critical components of this problem landscape. An example problem tree is provided in Appendix Figure 2.

**Appendix Figure 2: Example Problem Tree for Adaptation Project (Madagascar)**

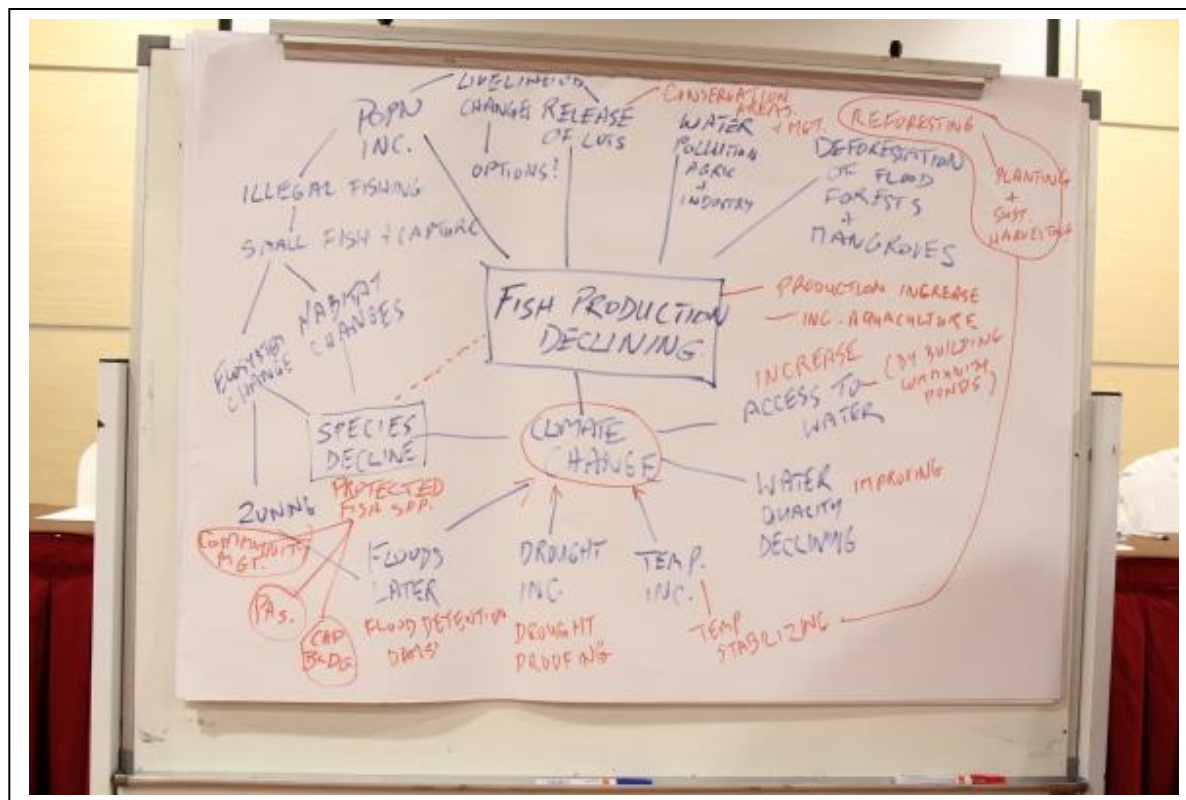




A proposal development exercise was conducted as one of the activities in the *Inter-regional Workshop on Mainstreaming Ecosystem-based Approach to Adaptation and Accessing Adaptation Finance*. The exercise utilized a project concept note in the early stages of development with the working title *Enhancing Climate Resilience for Fisheries Sector in Cambodia*, provided by a workshop participant. This concept note does not as yet have a target financing institution, budget or other components of a more extensively developed proposal, and was used to demonstrate the applicability of the generic proposal development framework.

As an important element of the proposal development “brain-storming”, a problem tree for this project was developed through interactive contributions of workshop participants<sup>37</sup>. The preliminary form of the problem tree in the form of a photographic capture, reproduced as Appendix Figure 3, emphasized the logical and causal connections among elements of the Cambodian fisheries problem-scape that motivated the project.

**Appendix Figure 3: Rough Draft of Problem Tree – Cambodian Fisheries Project Proposal**



This preliminary draft was re-shaped into the problem tree appearing in Appendix Figure 4, which emphasizes the causal relationships underlying the problem of interest – a decline in fisheries productivity. The rough diagram above also includes (in red) a range of proposed

<sup>37</sup> Guidance during this exercise was provided by Dr. Peter King of USAID-Adapt Asia-Pacific and IGES.

interventions to address the root causes of declining fisheries productivity that suggest potential elements of the subsequent project design.

**Appendix Figure 4: Structured Problem Tree for Cambodia Fisheries Concept Note**

