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Review of tools and methods to increase climate resilience of GEF projects and programs

(Prepared by STAP)

Scientific and Technical Advisory Panel



The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility

GEF-STAP Cross-Focal Area Workshop:

Review of tools and methods to increase climate resilience of GEF projects and programs

Held on June 27 2011, World Bank Conference Room J-B1-080, Washington, DC 20433

Results and Next Steps

Workshop Objectives

1. To review the conclusions of an initial stocktaking review of existing tools and methods to integrate climate resilience/ and/or account for climate risks into project design – the review was commissioned independently by STAP;
2. To consider existing tools/approaches of climate resilience and adaptation mainstreaming among GEF agencies and what may still be required to address climate resilience of global environmental benefits (GEBs) within GEF projects and programs;
3. To assess the applicability and “fit for purpose” of existing tools/approaches in responding to point 2, in the GEF context;
4. To identify GEF partnership needs as a result of point 3, above, discussion; and agree on the strategy/roadmap for moving forward towards implementing 39th GEF Council decision on Item 9: Evaluation of the Strategic Priority for Adaptation ([GEF/ME/C.39/4](#)) requesting the development and implementation of screening tools.

Background

Regardless of near-term successes to mitigate climate change, Earth systems are now on a trajectory to certain change – and for some ecosystems, tipping points – and adaptation will be required. For the GEF, the key to the necessary changes to natural and social systems is to enhance resilience¹ with the primary objective of protecting the delivery of Global Environmental Benefits (GEBs), even for GEF-5 in the short-term.

The threats to GEF investments from climate change arise primarily from (1) direct and indirect² effects on GEF investments that deliver GEBs; (2) the ability of projects financed by the GEF to tackle climate variability and change; and (3) the demand on finite resources to address increasingly expensive climate change risks. “The benefits of strong and early action far outweigh the economic costs of not acting.”³ Many, if not most, GEF focal area objectives and expected outputs are prone to the risks of climate change (STAP’s Advisory Document to GEF Council, [GEF/C.39/Inf.18](#)).

In 2010, STAP conducted an analysis of 35 projects in the GEF-4 portfolio (except for projects funded under the Strategic Priority on Adaptation). The analysis had the following key objectives: (i) to understand whether projects dealing with a climate sensitive resource or global environmental benefit(s) accounted for climate change risks and (ii) to analyze the nature of climate risks accounting and adaptation response measures ([GEF/C.39/Inf.18](#)). The results of this selective analysis demonstrated that both natural resources

¹ Resilience is defined by the IPCC as: “The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.” It is a broader and more fundamental concept than ‘adaptive capacity’ of local communities, encompassing a suite of measures ranging from policy changes to technology promotion.

² GEF projects commonly have objectives to strengthen policy contexts, such as for example, enhancing multi-state cooperation for managing transboundary natural resources. Climate change may pose indirect risks, such as the risk of changing hydrology and thereby increasing the complexity of developing effective policies for transboundary water management.

³ The Stern Review on the Economics of Climate Change (2006).

affected by the GEF projects, and projects themselves, were judged to face some climate risks. Despite this finding, nearly a third of projects did not explicitly address climate variability or climate change despite the request in the Project Information Form (PIF) to do so. Only 20% of projects provided scientific evidence to support their claim of climate risks. Furthermore, the majority of STAP screens (71%) did not capture climate risk issues. One-third of projects were judged to lead potentially to maladaptation (i.e., the possibility that a project can actually increase risks from climate change). While 94% of reviewed projects incorporated improved governance capacity and better resource management strategies as a response, none identified the potential costs associated with climate risk or adaptation. The analysis suggested that the sustainability of GEF investments and delivery of GEBs without systematic and scientifically-credible accounting of climate risks may be significantly compromised. In conclusion, the report noted that the GEF should explicitly recognize that threats posed by climate change represents a multi-focal area challenge that require comprehensive approaches and specific actions within all focal area projects. This conclusion is consistent with the Decision X/33 of the Conference of the Parties to the Convention on Biological Diversity which invites Parties and other Governments to consider the role of biodiversity and associated ecosystem services when climate-proofing or enhancing the climate resilience of investments, projects and programs and to develop such strategies for biodiversity-related investments, projects and programs.

Considering the favorable results of the first experience in the GEF to support climate resilience and adaptation across GEF focal areas, in particular through the Strategic Priority on Adaptation (SPA)⁴, and its work through the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF), the GEF Council at its 39th meeting adopted the following Decision:

The Council, having reviewed documents, Evaluation of the GEF Strategic Priority for Adaptation (GEF/ME/C.39/4) and Management Response to the Evaluation of the GEF Strategic Priority for Adaptation (GEF/ME/C.39/5), requested the Secretariat to develop and implement screening tools. These tools will serve as a first step to ensure the mainstreaming and targeting of adaptation and resilience, to reduce the risks from climate change in GEF focal areas and its activities. The Council further requested the Secretariat to report to its November 2012 meeting on steps taken and progress made, including indicators for RBM and M&E.

The Council decision encompasses two demands on the GEF partnership: (i) to account for climate resilience and adaptation in project development before CEO endorsement (i.e. “to develop and implement screening tools”) and (ii) to develop indicators for the GEF results-based management framework and monitoring and evaluation activities. The latter Council advice may be “translated” into actions leading to the update of the GEF focal area tracking tools⁵ taking into account climate resilience and adaptation.

The purpose of the STAP workshop was to assist the GEF Secretariat to address the first part of the decision on how best to account for climate risks, climate resilience and adaptation in project development.

Workshop Approach

The workshop was designed as a consultation and scoping exercise with the participation of a consultant team advising STAP, representatives from GEF Secretariat focal area teams, the GEF Evaluation Office, GEF agencies, and a limited number of invited experts from bilateral institutions and academia. In total, 35 participants attended. The meeting was opened by the statement of the Executive Secretary of the Convention on Biological Diversity Mr. Ahmed Djoghla. The one day workshop consisted of oral presentations and round table discussions, and was structured to provide ample opportunity to discuss (i) existing approaches and practices of incorporating climate risks into GEF portfolio at the focal area level, (ii) approaches to

⁴ The SPA aimed at reducing vulnerability and increasing adaptive capacity to the adverse effects of climate change in any or a combination of the six GEF focal areas. It supported pilot and demonstration projects that addressed local adaptation needs and generated global environmental benefits.

⁵ http://www.thegef.org/gef/tracking_tools

mainstream climate risks into projects and operations of GEF agencies and development institutions, (iii) analysis of the applicability of existing tools and approaches in the GEF context, and (iv) survey demand from the GEF partnership to mainstream climate resilience/risk accounting into GEF projects in fulfillment of the GEF Council decision above.

The full agenda, workshop presentations, and supporting documents are available online at: <http://www.unep.org/stap/Events/SciencePanelWorkshops/ResilienceWorkshop/tabid/56151/Default.aspx>

Workshop Results and Conclusions

1. Workshop participants reaffirmed that climate resilience is an intrinsic part of preserving and enhancing delivery of global environmental benefits in GEF projects. Particularly, this is the case in all three focal areas that belong to the natural resources management (NRM) cluster (i.e. biodiversity, land degradation and international waters). Further, it is relevant to the climate change mitigation cluster including projects dealing with energy infrastructure, sustainable forest management, Reduction of Emissions from Deforestation and Forest Degradation (REDD) and Land Use, Land Use Change and Forestry (LULUCF) as well as sound management of chemicals. The goals of balancing resource use and conservation and sustaining functioning of social-ecological systems, in the majority of cases, can be considered as “no-regrets” measures⁶ enhancing climate resilience. Furthermore, sustainable management of natural resources could in many cases provide good examples of ecosystem-based adaptation, i.e., the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people/communities adjust to the adverse effects of climate change.
2. No-regrets measures supporting sustainable management of natural resources including support for foundational capacity often contribute to increased climate resilience. However, without the explicit recognition of climate risks in designing such interventions, there is an important potential for loss of GEBs, maladaptation and/or lower impacts from GEF funding. STAP and the GEF Evaluation Office (GEF EO) reiterated that the GEF should continue providing explicit incentives in order to further the mainstreaming of resilience and adaptation into GEF projects and focal areas, as a means of reducing climate related risks to the GEF portfolio.
3. Many participants at the workshop acknowledged that the current status quo in addressing climate resilience in the GEF portfolio was inadequate, and that there is a need for additional guidance on climate resilience for GEF projects. Many participants agreed that introducing a climate change risk and vulnerability screening tool for GEF projects would assist and facilitate mainstreaming climate resilience considerations into the GEF portfolio, and reduce climate risk. However, full consensus was not reached on whether instituting a climate risk and vulnerability screening tool for GEF projects at the corporate level would be the appropriate response to address this concern. Among specific obstacles mentioned were insufficient country-level data to accurately assess risks, lack of financial and human resources in GEF recipient countries to explicitly address climate risks at different stages in the project cycle, potential disincentives for submitting projects in climate risky regions or contexts, and satisfaction with existing project implementation and monitoring practices that implicitly capture climate resilience considerations.
4. Workshop discussion revealed that GEF agencies (e.g. IDB, UNDP, UNEP, UNIDO, and WB) already incorporate climate risk considerations into the development of their portfolios in varying degrees. There is neither a consistent nor common approach to accounting for climate risks at the corporate and/or project levels. Given this, it is rational for the GEF to have a commonly agreed

⁶ i.e. Measures which are indistinguishable from typical project activities.

climate risk and vulnerability screening tool. STAP's assessment concluded that the tools used by GEF agencies fall into one of three main categories:

- a. General guidance documents (e.g. UNEP sourcebook, UNDP stocktaking report, and USAID vulnerability and adaptation approach),
- b. Comprehensive risk assessment tools (e.g. UNDP quality standards on adaptation to climate change and the GIZ Climate Proofing Tool),
- c. Operational screening tools (e.g. ADB screening checklist, UNDP screening procedures⁷, when operational – World Bank ADAPT tool).

Some work on adaptation mainstreaming is ongoing in the European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IDB) and United Nations Industrial Development Organization (UNIDO). Also relevant in the GEF's context is the experience in developing and implementing Environmental and Climate Assessment by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and other bilateral donors.

5. The workshop underscored the need for systematic consideration of climate risks and resilience in GEF-funded projects. Participants agreed that such consideration should ideally occur between project development and project submission for CEO endorsement, (which includes submission of the Project Information Form, utilization of the Project Preparation Grant [PPG] and preparation of the full project document for CEO endorsement). However, the participants did not agree on the specific stage in the project cycle for introducing climate risks screening, and many preferred having guidance rather than a formal screening procedure.
6. Some participants proposed delaying the decision on the tool development until completion of the GEF's environmental and safeguards policies. Others noted the need for improving overall project design to address climate risk as far upstream as possible. If the GEF climate risk and vulnerability screening tool is to be developed, it should (a) be simple to use, (b) be comprehensive from a scientific point of view, (c) provide positive incentives for project revision/development (being non-prescriptive but provide advice on measures enhancing climate resilience and ecosystem-based adaptation) to account for climate risks, and (d) consider maladaptation in the assessment. Any financial implications of using the tool and supporting measures enhancing climate resilience should be considered. Furthermore, to be successful as a mainstreaming approach any new screening tool would need to ensure that it is complementary to existing agency and GEF Secretariat tools and be introduced at the appropriate phase in the project cycle.

Next Steps

1. STAP is submitting the following report "Review of Tools to Assess the Impact of Climate Change Project Results and Sustainability" to the GEF Council and GEF Secretariat as a contribution in response to the GEF Council decision noted above (39th GEF Council Agenda Item 9: Evaluation of the Strategic Priority on Adaptation (GEF/ME/C.39/4). In its recommendations, the report proposes a number of specific operational steps and features that a potential GEF climate risk and vulnerability screening tool could follow. These recommendations are based on the analysis and STAP's own judgment and assessment of existing practices/approaches among GEF agencies and other organizations. STAP remains at the disposition of the GEF Secretariat in the development of a climate risk and vulnerability screening tool should this assistance be sought.
2. STAP will develop a climate risk screening procedure as an integral part of its PIF screening process and introduce this in the coming months. STAP will also monitor climate risk-related information

⁷ UNDP is currently introducing environmental screening procedures having climate resilience as one of the elements, but no details are provided.

contained in PIFs and responses to its recommendations at the CEO endorsement stage, and report back to the GEF Council on a regular basis.

3. Given that participants at the workshop were not able to reach a consensus on the necessity of introducing a climate risk screening and vulnerability tool for GEF projects, STAP is advising the GEF Council to consider the recommendations of the STAP report (attached) when deciding further on the necessity of a climate risk and vulnerability screening tool for GEF projects and programs, and as necessary their operational modality and structure.

ANNEX 1

Review of Tools to Assess the Impact of Climate Change Project Results and Sustainability

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1 Introduction

The Global Environment Facility (GEF) is an independent financial organization that provides grants to developing countries for projects that benefit the global environment. Since 1991, the GEF has distributed approximately \$6.8 billion in grants leveraged by more than \$24 billion in co-financing in support of nearly 1,900 projects in more than 160 countries (GEF, 2011c). For its fifth replenishment, the GEF developed strategies for funding six focal areas: biodiversity, climate change, international waters, land degradation, chemicals, and sustainable forest management (GEF, 2011a).

In each focal area it is critical that climate change considerations be integrated into project-level decision-making processes and development assistance programs. This is necessary in order to ensure that the benefits of such projects do not degrade over time because of the effects of climate change. According to the GTZ,⁸ “Climate impacts are affecting the success of long-term development efforts. Development programs therefore needs to take climate risks into account in order to guarantee project sustainability” (GIZ, 2011a).

Even with the most ambitious mitigation efforts, additional warming is now unavoidable, and some impacts from this warming could be quite significant, including crossing tipping points for many ecosystems and even some social systems. Adaptation is now a necessary component of our response to climate change, even as we attempt to mitigate greenhouse gas emissions. For the GEF, the key to ensuring the sustainability of GEF-funded projects under climate change is to enhance

⁸. GTZ is the German abbreviation for Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). This organization has since combined with other government entities to form the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

resilience⁹ with the primary objective of protecting the delivery of global environmental benefits (GEBs).

The threats to GEF investments from climate change arise primarily from (1) direct and indirect¹⁰ effects on GEF investments that deliver GEBs; (2) the ability of GEF-financed projects to respond to climate variability and change; and (3) the demand on finite resources to address increasingly expensive climate change risks. Many, if not most, GEF focal area objectives and expected outputs are prone to the risks of climate change [see Scientific and Technical Advisory Panel’s (STAP’s), 2010 and Exhibit 1]. The threats posed by climate change are a multi-focal area challenge, requiring both comprehensive approaches and specific actions within all focal area projects.

Exhibit 1. Illustrative menu of representative adaptations for different GEF focal areas

Focal area	Selection of risks	Representative adaptations
Biodiversity	Species and components of ecosystems will migrate at different rates Species with limited ranges will not be able to adapt to rapidly changing climatic conditions Increased occurrence of extreme weather events, pest outbreaks and invasive plants	Establish mosaics of interconnected terrestrial, freshwater, and marine multiple-use reserves Consider assisted migration Develop species mixes across landscapes to reduce spread of fires, pests, and invasive species
Climate change	Increased temperatures, frequency of extreme events, sea level rise creating significant risk for urban infrastructure including transport and energy systems	Assess the location of capital investments in consideration of exposure to climate change risk
Land degradation	Reduction in Reliable Crop Growth Days due to reduction and increased variability in rainfall Reduced summer precipitation and drought limit primary productivity in some areas	Develop climate risk and climate monitoring tools Introduce new crop varieties or species
International waters	Changes in freshwater ecosystems through alterations in hydrological processes Changes in average annual runoff and the seasonality of river flows	Develop comparable data sources and information for exchange among managers Ensure that legal frameworks offer incentives to alter management actions to changing circumstances
Sustainable forest management	Biome shift in semi-arid climates to grasslands Loss of forest diversity, particularly in tropical forests	Monitor ecosystem responses to management practices Implement actions to reduce other threats, such as habitat fragmentation, pollution
Chemicals	Climate variability and change enhance the volatilization of persistent organic pollutants from reservoirs accumulated in the past	Ensure that monitoring for contaminants is conducted using a systems approach that includes climate-related factors

⁹. Resilience is defined by the Intergovernmental Panel on Climate Change as: “The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.” It is a broader and more fundamental concept than “adaptive capacity” of local communities, encompassing a suite of attributes ranging from income to institutions to access to technology (Smit et al., 2001).

¹⁰. GEF projects commonly have objectives to strengthen the policy environment, for example, enhancing multi-state cooperation for managing transboundary natural resources. Climate change may pose indirect risks, such as the risk of reducing runoff and thereby increasing the complexity of developing effective policies for transboundary water management.

Considering the favorable results of GEF's first experience supporting climate resilience and adaptation across focal areas, in particular the Strategic Priority on Adaptation (SPA),¹¹ the GEF Council at its 39th meeting adopted the following Decision:

The Council, having reviewed documents, Evaluation of the GEF Strategic Priority for Adaptation (GEF/ME/C.39/4) and Management Response to the Evaluation of the GEF Strategic Priority for Adaptation (GEF/ME/C.39/5), requested the Secretariat to develop and implement screening tools. These tools will serve as a first step to ensure the mainstreaming and targeting of adaptation and resilience, to reduce the risks from climate change in GEF focal areas and its activities. The Council further requested the Secretariat to report to its November 2012 meeting on steps taken and progress made, including indicators for RBM and M&E.

The Council decision has two important directives: (1) to account for climate resilience and adaptation in project development before Chief Executive Officer (CEO) endorsement ("to develop and implement screening tools") and (2) to develop indicators for the GEF results-based management (RBM) framework and monitoring and evaluation (M&E) activities ("indicators for RBM and M&E"). The latter Council advice suggests the possibility of updating the GEF focal area tracking tools in order to account for climate resilience and adaptation (GEF, 2011b).

For example, a project to protect coastal mangrove forests would provide few (or no) benefits should a portion (or all) of the forests become inundated by sea level rise. This is not an argument to cease investments in vulnerable resources, however. Mangrove forests not only provide critical and increasingly rare habitat for a large number of aquatic species, they also sequester carbon. These benefits will be provided in the near term but will diminish over time. Understanding the impacts that climate change may have on such habitats, however, can lead to more efficient use of limited GEF funding and the sustainable realization of GEBs. For example, limiting development in upland areas might allow the mangrove forests to migrate inland as sea level rises.

Many GEF-funded projects in all six GEF focal areas may face risks from climate change. These risks will result from changes in temperature and precipitation patterns, sea level rise, drought, severe storms, tropical cyclones, and other causes. By integrating the risks and opportunities posed by climate change into project- and program-level decision-making, GEF-funded projects will continue to provide GEBs even in the face of climate change (STAP, 2010).

Many development agencies have begun assessing the vulnerability of their projects to climate variability and climate change. In an effort to define what a GEF climate risk and vulnerability screening tool might look like, it makes sense to start by investigating the state-of-the-art tools being used by other development agencies. In the next section, we briefly summarize our review of tools that other development institutions are using to identify climate change risks and build climate resilience. But first, it is worth noting a significant difference among the climate resilience work of development agencies. According to a United Nations Development Programme (UNDP) assessment, with which we agree:

A range of climate change adaptation activities and related climate change adaptation mainstreaming efforts have been undertaken over the past 5-10 years, presenting a wealth of information and insights on the subjects. At one end of the spectrum, we find generic mainstreaming guidance documents attempting to conceptualize a

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framework for mainstreaming at the various levels (national, sectoral, programme and project) rather than providing detailed, operational instructions on how to implement mainstreaming in practice....At the other end of the spectrum, we find tools and methodologies developed to support specific components of mainstreaming. Though these, again, are at different levels of mainstreaming and exhibit significant variation – say in terms of breadth of detail or the extent to which they are readily operational in practice. Climate risk approaches, exercises and screening tools figure prominently at this end of the spectrum (Olhoff and Schaer, 2010, pp. 6–7).

This report is complementary to an evaluation by Stratus Consulting of a selection of projects funded under the fourth replenishment of the GEF (November 2006–June 2010) for the extent to which potential climate change risks and adaptation plans were considered and discussed in the project descriptions (Vogel and Smith, 2010). The GEF STAP selected 35 non-Strategic Pilot on Adaptation projects to determine if and how a “typical” GEF project dealt with climate risks in the absence of dedicated technical and financial incentives.

Some of the relevant conclusions of this evaluation are reproduced here. Virtually all (97%) of the resources addressed by these projects and 63% of the projects themselves were judged to face some climate risk. However, nearly a third of these projects did not address climate variability or climate change despite an explicit prompt in the project form to do so. Of the two-thirds of projects that addressed climate variability or climate change, many appear to do so only in passing and do not provide much depth in their treatment of climate risks. Despite the STAP screening process required of each project, of the projects with a STAP screen available, 71% did not address climate issues at all. This suggests a substantial opportunity for increasing the consideration of climate change through the STAP review process in addition to the existing project/program reviewing procedures implemented by the GEF Secretariat.

In conclusion, it appears that many GEF-4-funded projects should consider the effects of climate variability and climate change on their activities despite the lack of a financial incentive such as the SPA. Indeed, many projects do consider climate. However, the consideration of climate varies dramatically among projects. This provides an opportunity for the GEF to increase the efficacy of its development assistance by creating a framework for ensuring that climate variability and climate change do not unnecessarily diminish the effectiveness of GEF-funded projects.

2 Climate Risk Tools Review

Below, we briefly summarize the tools a number of development agencies have developed or use to help them analyze the resilience of their projects and activities to climate change. These summaries are not intended to be comprehensive but rather provide a general sense of what many development agencies have done to incorporate climate change into their development efforts. The word “tool” is used loosely here to refer to conceptual frameworks, processes, and guidance documents as well as desktop tools such as spreadsheets, checklists, and workbooks. This section provides objective and descriptive assessments of these tools. The relative merits and significance of the tools used by other agencies toward development of a GEF climate risk and vulnerability tool are explored in Section 3. Note that we focused this review on efforts by development agencies to explore the implications of climate change for investment sustainability. Many of these climate change efforts focus on climate information tools such as web-based portals for scientific projections of climate change. Because these efforts are not directly relevant as precedents or prototypes for a GEF climate risk and

vulnerability tool, they are not covered here. Nonetheless, tools providing information on projections of climate change may also be useful to GEF.

We assume the purpose of a GEF climate risk and vulnerability tool is to integrate climate change considerations into project and program development, selection, and evaluation of project/program concepts and documents before the GEF CEO endorsement stage. This means that specific operational guidance is critical. Generic guidance documents may serve many purposes but do not provide a precedent or prototype for a GEF climate risk and vulnerability tool. Consequently, we reviewed the tools with regard to the ability of project proponents and/or development agency staff to use them as desktop tools as they identify potential climate change threats to GEBs and, as appropriate, evaluate options to reduce those threats. We list the tools from broader focus to more specific.

2.1 Asian Development Bank

The Asian Development Bank (ADB) developed a project-based risk screening tool that they describe as a “screening checklist.”¹² It was designed as a rapid risk assessment tool for use by ADB project officers and intended to be a user-friendly, desktop approach to systematic support of climate risk integration into development decision-making. By using a checklist of pre-determined impacts, risk factors, and assumptions, this tool alerts project officers to potential climate risks and facilitates incorporation of risk-reduction measures at the project concept/preparation stage. The tool was designed for use in Asia and the Pacific, but the methodology could be applied in other geographic areas. The tool generates qualitative risk values (high, medium, low) and supporting recommendations (UNFCCC, 2011).

To date, these screening checklists have only been used internally by ADB, but sector-specific questions can be found in all of ADB’s 22 Rapid Environmental Assessment (REA) checklists (ADB, 2011a).¹³ Within ADB, all projects are assigned an environmental category in order to determine whether the project requires an “environmental impact assessment” or an “initial environmental examination” to address anticipated environmental impacts. REA checklists are used to categorize projects in the following sectors:

- ▶ Agro-industry
- ▶ Airports
- ▶ Buildings
- ▶ Chemical-based industry
- ▶ Fisheries
- ▶ Forestry
- ▶ General
- ▶ Governance and finance

¹². This screening checklist has been referred to as the Climate-Framework Integrating Risk Screening Tool (Climate-FIRST), but is allegedly no longer referred to by that acronym.

¹³. It is unclear whether there are additional components to the ADB screening checklist other than the questions found in the REAs.

- ▶ Hydropower
- ▶ Irrigation
- ▶ Mining industry
- ▶ Petrochemical industry
- ▶ Ports and harbors
- ▶ Power transmission
- ▶ Roads and highways
- ▶ Sewage treatment
- ▶ Solar energy
- ▶ Solid waste management
- ▶ Thermal power plants
- ▶ Urban development
- ▶ Water supply
- ▶ Wind energy.

Each REA checklist contains a section titled “Climate Change and Disaster Risk Questions” and an appendix titled “Environments, Hazards and Climate Change.” The questions, which cover climate and other potential risks to the project, are reproduced below. The checklists are completed with the assistance of an Environmental Specialist in a Region Department and then submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department in order to determine basic environmental assessment requirements.

- ▶ “Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)?”
- ▶ “Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost?”
- ▶ “Are there any demographic or socioeconomic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?”
- ▶ “Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)?”

The appendix provides a single-page reference to the hazard and climate change risks of specific environment types (see Exhibit 2). For example, for “Arid/Semi-arid and desert environments,” the

Environment	Natural Hazards and Climate Change
Arid/Semi-arid and desert environments	Low erratic rainfall of up to 500 mm rainfall per annum with periodic droughts and high rainfall variability. Low vegetative cover. Resilient ecosystems & complex pastoral and systems, but medium certainty that 10–20% of drylands degraded; 10-30% projected decrease in water availability in next 40 years; projected increase in drought duration and severity under climate change. Increased mobilization of sand dunes and other soils as vegetation cover declines; likely overall decrease in agricultural productivity, with rain-fed agriculture yield reduced by 30% or more by 2020. Earthquakes and other geophysical hazards may also occur in these environments.
Humid and sub-humid plains, foothills and hill country	More than 500 mm precipitation/yr. Resilient ecosystems & complex human pastoral and cropping systems. 10-30% projected decrease in water availability in next 40 years; projected increase in droughts, heatwaves and floods; increased erosion of loess-mantled landscapes by wind and water; increased gully erosion; landslides likely on steeper slopes. Likely overall decrease in agricultural productivity & compromised food production from variability, with rain-fed agriculture yield reduced by 30% or more by 2020. Increased incidence of forest and agriculture-based insect infestations. Earthquakes and other geophysical hazards may also occur in these environments.
River valleys/deltas and estuaries and other low-lying coastal areas	River basins, deltas and estuaries in low-lying areas are vulnerable to riverine floods, storm surges associated with tropical cyclones/typhoons and sea level rise; natural (and human-induced) subsidence resulting from sediment compaction and ground water extraction; liquefaction of soft sediments as result of earthquake ground shaking. Tsunami possible/likely on some coasts. Lowland agri-business and subsistence farming in these regions at significant risk.
Small islands	Small islands generally have land areas of less than 10,000km ² in area, though Papua New Guinea and Timor with much larger land areas are commonly included in lists of small island developing states. Low-lying islands are especially vulnerable to storm surge, tsunami and sea-level rise and, frequently, coastal erosion, with coral reefs threatened by ocean warming in some areas. Sea level rise is likely to threaten the limited ground water resources. High islands often experience high rainfall intensities, frequent landslides and tectonic environments in which landslides and earthquakes are not uncommon with (occasional) volcanic eruptions. Small islands may have low adaptive capacity and high adaptation costs relative to GDP.
Mountain ecosystems	Accelerated glacial melting, rockfalls/landslides and glacial lake outburst floods, leading to increased debris flows, river bank erosion and floods and more extensive outwash plains and, possibly, more frequent wind erosion in intermontane valleys. Enhanced snow melt and fluctuating stream flows may produce seasonal floods and droughts. Melting of permafrost in some environments. Faunal and floral species migration. Earthquakes, landslides and other geophysical hazards may also occur in these environments.
Volcanic environments	Recently active volcanoes (erupted in last 10,000 years – see www.volcano.si.edu). Often fertile soils with intensive agriculture and landslides on steep slopes. Subject to earthquakes and volcanic eruptions including pyroclastic flows and mudflows/lahars and/or gas emissions and occasionally widespread ashfall.

Exhibit 2. The “Environments, Hazards, and Climate Changes” appendix on the ADB’s REAs. Source: ADB, 2011b, p. 4.

appendix describes current rainfall amount, drought frequency, precipitation variability, vegetative cover, and ecosystem resilience. The appendix also describes projected changes in dryland degradation, decreases in water availability, increases in drought duration and severity, mobilization of sand dunes, decreases in agricultural productivity, and other anticipated impacts. This is done for six environment types.

Section 2.1. Tool typology

Tool category: Operational screening tool

Entry point in project cycle: Project concept/preparation stage

Specific proposals for adaptation: Facilitates vulnerability assessment only

2.2 The World Bank

The World Bank developed a climate screening tool called Assessment and Design for Adaptation to Climate Change: A Prototype Tool (ADAPT). This is a software-based tool intended for project team members both within the World Bank and in client countries who are not climate experts. The tool provides a basic summary of projected climate change at a project site and guidance identifying project components that could face climate risks. Our understanding is that the tool currently covers agriculture and irrigation in India and sub-Saharan Africa and various aspects of biodiversity and natural resources for all regions (The World Bank, 2010). Because we were not able to acquire a copy of the ADAPT software, it is difficult to further describe or draw any conclusions about this tool.¹⁴ During the workshop a World Bank representative explained that in response to ADAPT users' demands, the vulnerability assessment component of the tool has been temporarily replaced by a more comprehensive climate change information portal called the World Bank Climate Change Knowledge Portal (The World Bank, 2011). The World Bank may integrate and enhance the functionality of ADAPT into the knowledge portal. Because we were not able to access the dated version of ADAPT, our conclusions about this tool should be treated as tentative subject to further analysis.

Section 2.2. Tool typology

Tool category: ADAPT – operational screening tool; Knowledge Portal – information tool

Entry point in project cycle: Project concept/preparation stage

Specific proposals for adaptation: Facilitates vulnerability assessment only

2.3 German Development Bank

In August 2009, the German Federal Ministry for Economic Cooperation and Development (BMZ)¹⁵ presented its “Action Programme Climate and Development.” BMZ commissioned GIZ to develop methods and recommendations to accomplish the action program objectives. In response, GIZ developed “Climate Check” in cooperation with the Potsdam Institute for Climate Impact Research as part of BMZ’s overall strategy. Climate Check uses a tool called “Climate Proofing” to reduce climate risks to development projects and programs. The tool is supposed to systematically analyze the risks that climate change poses to the sustainability of development projects and identify adaptation strategies (GIZ, 2011b).¹⁶

Climate Proofing consists of four steps: (1) screening; (2) detailed climate risk analysis; (3) identification and prioritization of adaptation options; and (4) integration into project design, monitoring, and evaluation. The screening step is quite simple and relies on the selection of programs with high climate risks based on a checklist and significance test. The checklist is used to determine whether the project is active in a climate sensitive sector (e.g., agriculture, forestry, water resources, health) and whether the project is active in specific geographic regions (e.g., coastal zones, flood-prone areas, arid regions). The significance test is based on two considerations: whether the impact of the project depends on climate parameters and whether the project provides

¹⁴. We intend to conduct further analysis of ADAPT and include more discussion of it in the final report.

¹⁵. BMZ is the German abbreviation for Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung.

¹⁶. A second objective of Climate Check is Emissions Saving, which is used to maximize the emissions savings from development projects and programs. The Emissions Saving tool should analyze how greenhouse gas mitigation from development projects can be maximized (GIZ, 2011b).

opportunities to increase adaptive capacity. Only projects that have high climate risks or opportunities are evaluated using the subsequent steps (see Exhibit 3).

The subsequent steps of this tool, which are more complicated, can be used in a workshop or interview format to include stakeholders. The risk analysis step is the most detailed because the user identifies exposure units, climate trends, direct impacts, indirect impacts, links to project objectives, risks and opportunities for the project, and adaptation options. The prioritization step is relatively straightforward; the user simply selects from a number of criteria by which to judge adaptation options, such as cost-benefit analysis, political feasibility, or no/low regrets. The final step of integration is described using a generic project cycle, as illustrated in Exhibit 4.

This process is envisioned as both a quick top-down assessment through the screening step as well as a multi-day participatory process through the risk analysis and subsequent steps. It is possible to tailor the use of this tool to different audiences with varying levels of scientific and project-level expertise.

Question	Yes	No
Is the project active in one of the following sectors?		
• Agriculture and rural development		
• Forests / Forestry		
• Natural Resource Management & Biodiversity		
• Water		
• Disaster Risk Management		
• Urban /municipal / regional development		
• Health		
• Energy		
Is the project situated in one of the following geographic regions?		
• Coastal zones		
• Flooding areas		
• Areas affected by hurricanes / typhoons		
• Arid regions		
• Mountain regions		
Does the impact of the project depend on important climate parameters like e.g. temperature, precipitation, wind, etc.?		
Does the project provide opportunities to increase the adaptive capacity by the target group or ecosystems significantly?		

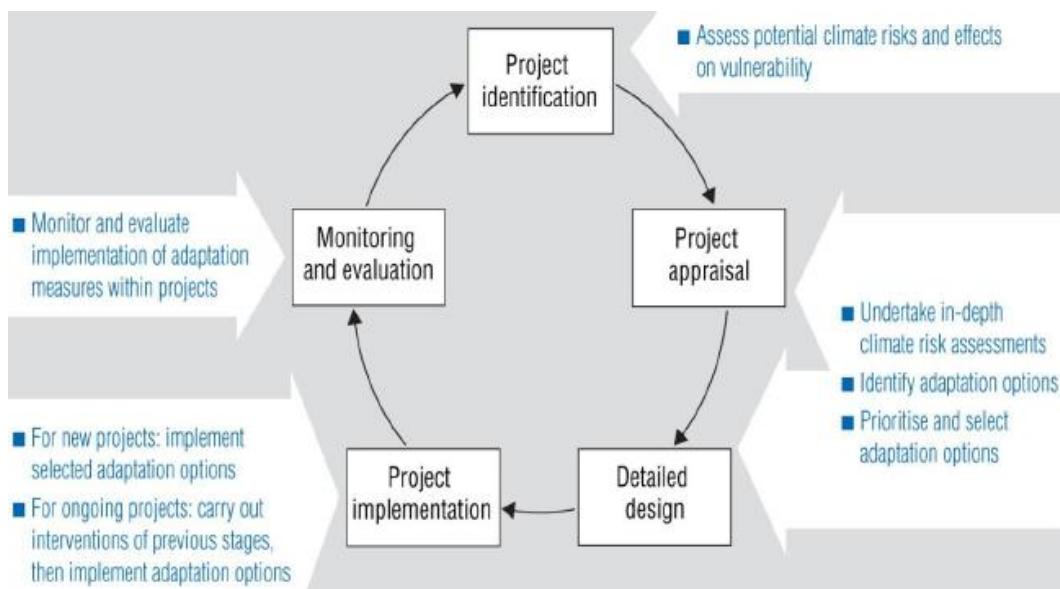


Exhibit 4. Climate Proofing and the GIZ project cycle.

Source: GTZ, 2010, p. 14.

Section 2.3. Tool typology

Tool category: Comprehensive risk assessment tool; screening step – operational screening tool

Entry point in project cycle: Screening step – project concept/preparation stage

Specific proposals for adaptation: Screening step – facilitates vulnerability assessment only; subsequent steps – address adaptation specifically

2.4 United Nations Development Programme

In February 2010, UNDP released its report, *Screening Tools and Guidelines to Support the Mainstreaming of Climate Change Adaptation into Development Assistance – A Stocktaking Report* (Olhoff and Schaer, 2010). This report takes a multi-dimensional perspective by linking a climate vulnerability and resilience assessment process with the UNDP project cycle (see Exhibit 5). The unique aspect of this treatment of adaptation assessment is that it looks in an integrated way across both the policy and project cycles at the national and sectoral levels. The same seven steps of adaptation mainstreaming are used in each application of the tool. However, the implications of each step are differentiated depending upon the specific context of the application. The guidance in this report is general in nature and does not provide specific tools to apply the concepts presented.

In February 2009, UNDP also produced the draft publication, “Quality Standards on Adaptation to Climate Change.” These quality standards were developed “to ensure that programs and projects are sustainable in the face of climate change and to reduce risks to associated development investments” (UNDP, 2009, p. 2). The four quality standards are:

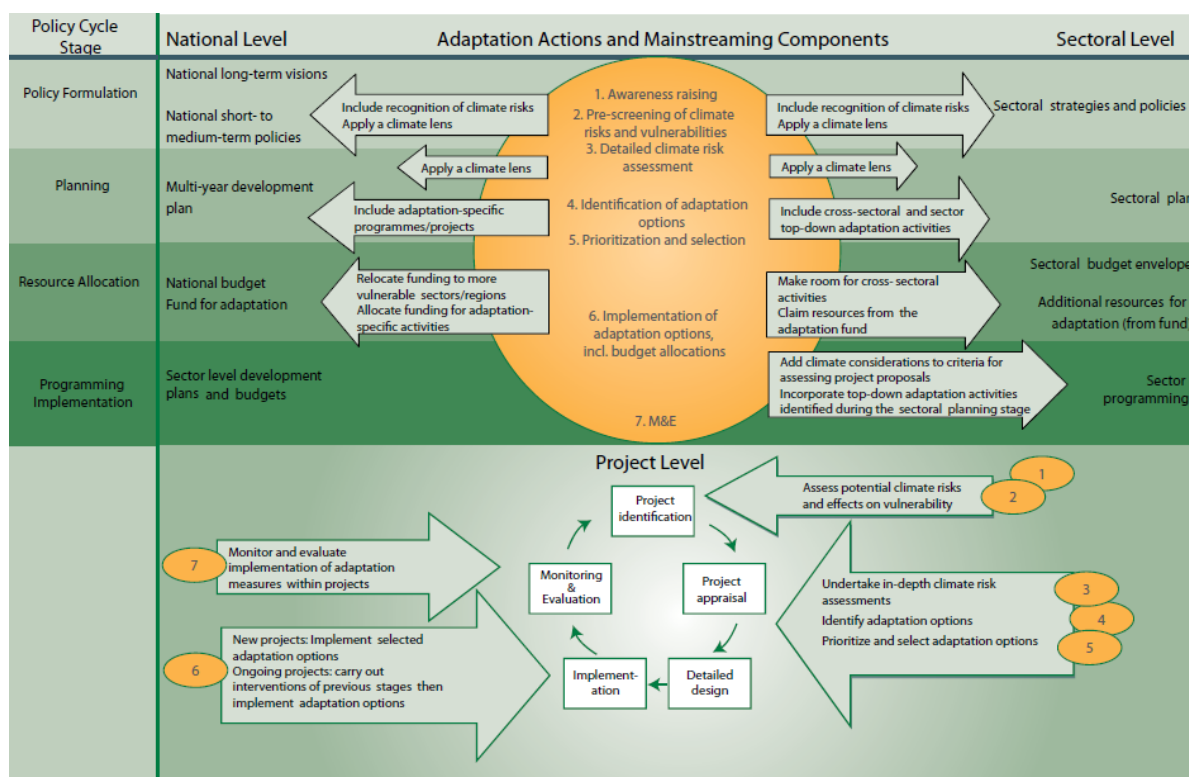


Exhibit 5. Illustration of key mainstreaming entry points and components in the UNDP policy and project cycles.

Source: Olhoff and Schaer, 2010, p. 10.

1. *Identification of climate change risks to programs and projects.* This entails screening all program and project components to assess sensitivity or vulnerability to climate changes, including changes in extreme events as well as changes in long-term average conditions.
2. *Identification of risks that a program or project will result in maladaptation.* This entails screening all program and project components to assess whether they might increase environmental or societal vulnerability to climate change.
3. *Identification of adaptation opportunities.* During the screening processes suggested above, attention should be focused on facilitating adaptations, combining mitigation efforts, leveraging adaptations to enhance development benefits, and exploiting potentially beneficial changes in climate.
4. *Identification and assessment of potential adaptation measures.* This entails re-evaluation or restructuring of program or project objectives, activities, outputs, and intended outcomes to increase the resilience of development initiatives as well as assign and prioritize those adaptations according to appropriate criteria.

To implement these standards, UNDP suggests four steps, beginning with a rapid screening for risks and opportunities. This rapid screening may identify a need for better information on which to judge climate risks. In this case, UNDP suggests two additional steps – scoping a climate change risk assessment to assess what kinds of analyses are necessary and realistic and performing a detailed risk assessment to more precisely identify climate change risks and potential maladaptation. The

fourth and final step is the identification of adaptation opportunities for reducing risks and exploiting opportunities. If sufficient justification exists after the rapid screening, UNDP suggests skipping the intermediate two steps and going directly to identification of adaptation measures. The UNDP quality standards include detailed guidance for each of the four implementation steps described above. This document also includes annexes that provide more detailed advice on using scientific information, engaging in a risk assessment, and implementing measures for risk reduction.

Section 2.4. Tool typology

Tool category: Stocktaking report – general guidance document; quality standards – comprehensive risk assessment tool

Entry point in project cycle: Project concept/preparation stage; project review

Specific proposals for adaptation: Explicitly addresses adaptation and allows for bypass of vulnerability assessment if justified

2.5 United States Agency for International Development

The United States Agency for International Development (USAID) released its first adaptation report, *Adapting to Climate Variability and Change: A Guidance Manual for Development Planning*, in August 2007. This manual examines what climate change might mean for development projects and programs and explicitly links the USAID project cycle (see Exhibit 6) to a process for analyzing climate sensitivity (see Exhibit 7). USAID subsequently produced a sector-specific guidebook, *Adapting to Coastal Climate Change: A Guidebook for Development Planners*, in May 2009 (USAID, 2009).

This USAID guidance, initially developed as long-term case studies or multi-year participatory processes, does not require a high level of climate expertise. There is no reason, in theory, why this tool could not be used in a shorter timeframe, in a non-participatory environment, or for other purposes such as a high-level analysis of USAID projects. However, the USAID tool does not have the level of specificity needed for desktop integration of climate change considerations into specific development projects or for identification of adaptations that will enhance the resilience of development projects. The focus of this tool is on providing guidance for a participatory process.

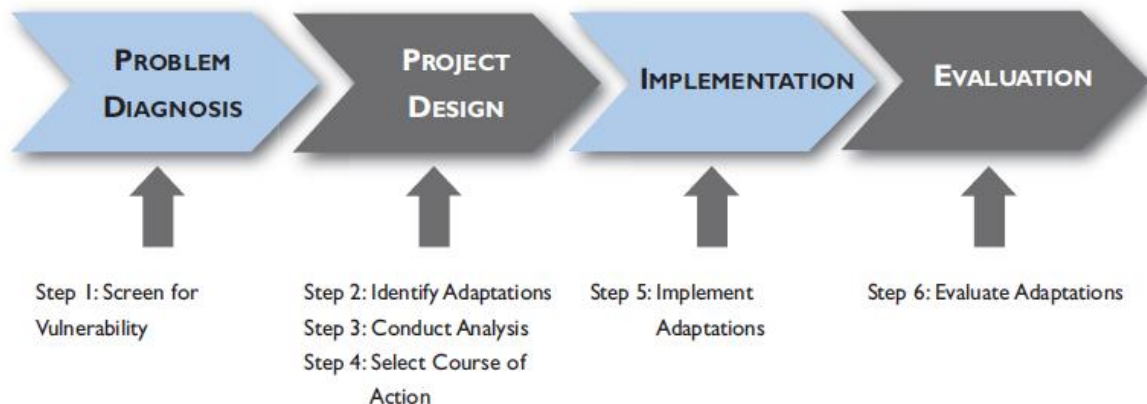


Exhibit 6. USAID project cycle and the vulnerability and adaptation approach.

Source: USAID, 2007, p. 6.

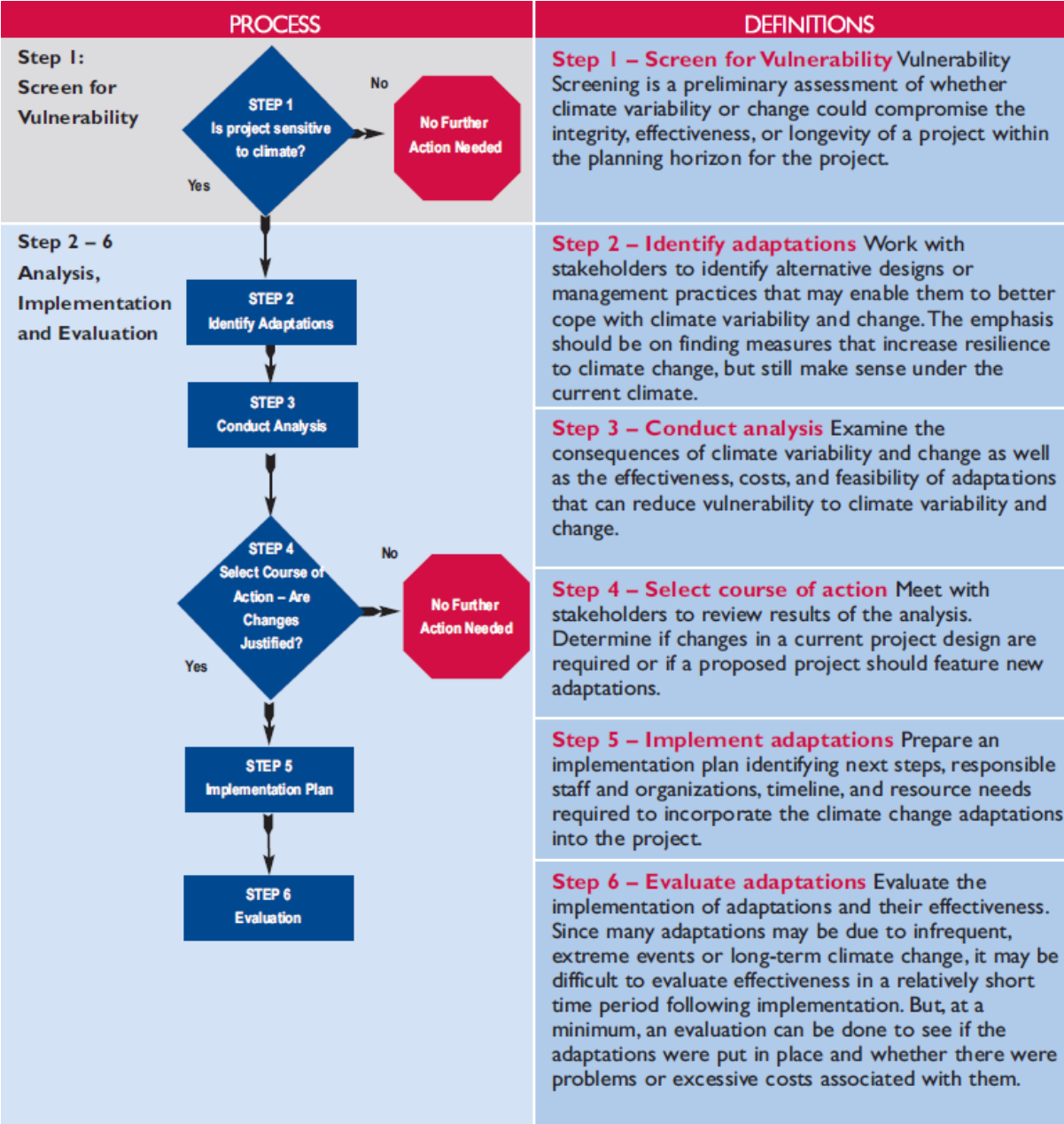


Exhibit 7. USAID steps to incorporate climate change into project planning.

Source: USAID, 2007, p. 11.

Section 2.5. Tool typology

Tool category: General guidance document
 Entry point in project cycle: Not applicable
 Specific proposals for adaptation: Not applicable

2.6 United Nations Environment Programme

In April 2008, the United Nations Environment Programme (UNEP) published *UNEP Sourcebook: Integrating Adaptation to Climate Change into UNEP Programming* (UNEP, 2008). This document is intended as a reference guide to assist UNEP Task Managers and workshop participants in integrating climate change concerns in project and program development. The sourcebook includes discussions on climate science, climate impacts, adaptation, climate risks, screening tools, and case studies.

Each section includes a lengthy discussion of the topic, citations of key literature for further reference, and a comprehensive bibliography. Two discussions of tools are relevant to this report. The first is in “Part 5: Climate change risks – What are the major types of climate risks faced in UNEP’s portfolio?” In addition to the discussion and literature lists, this section contains a table and accompanying descriptions of tools for use in vulnerability assessment. The tools are categorized by criteria that describe the tool, including present vulnerability, problem definition, development futures, evaluation of adaptation, strategic planning, multi-stakeholder analysis, and stakeholder participation. This document does not propose using a single tool, rather it recommends selecting the tool based on the nature of the problem at hand (see Exhibit 8).

The other relevant section of the sourcebook is “Part 6: Climate change tools – What tools are currently available for screening projects regarding the integration of climate risks into project design?” This section includes descriptions of a range of tools used for information generation, decision support, adaptation planning and risk management processes, vulnerability assessment, and project design. The sourcebook does not recommend any particular tool over another but provides good descriptions of each tool and compares tools along a number of criteria, as illustrated in Exhibit 9.

Potential toolkit for Vulnerability/Adaptation Assessments

Tools	Present vulnerability	Problem definition	Development futures	Evaluation of adaptation	Strategic planning	Multi-stakeholder analysis	Stakeholder participation
1. Agent-based simulation modeling			✓		?	✓	?
2. Bayesian analysis				✓			
3. Brainstorming	✓	✓	✓	✓	✓	✓	✓
4. Checklists/ multiple attributes	✓			✓		✓	✓
5. Cognitive mapping	✓	✓	✓				✓
6. Cost-effectiveness/ Cost-benefit/ Expected value			✓	✓			
7. Cross-impact analysis			✓	✓			
8. Decision conferencing			✓	✓			
9. Decision/probability trees				✓			
10. Delphi technique	✓		✓	✓		?	?
11. Environmental assessment/ Strategic environmental assessment			✓	✓	✓		?
12. Expert judgement	✓	✓	✓	✓	✓	✓	
13. Focus groups	✓	?	✓	?		?	✓
14. Indicators/ mapping	✓		?			?	?
15. Influence diagrams/ Mapping tools	✓		✓		✓		✓
16. Multi-criterion analysis				✓			
17. Ranking/dominance analysis/pairwise comparisons	✓		✓	✓			✓
18. Risk analysis			?	✓			
19. Role-play	✓		✓				✓
20. Scenario analysis	?	?	✓	?	✓	✓	✓
21. Stakeholder consultation	✓	✓	✓	✓		✓	✓
22. Stakeholder Thematic Networks	✓	?	✓		?	✓	
23. Vulnerability profiles	✓	?	?			✓	✓
24. Wealth ranking	✓						✓

Exhibit 8. Tools identified for risk assessment by the UNEP sourcebook.

Source: UNEP, 2008, p. 46.

Section 2.6. Tool typology

Tool category: General guidance document

Entry point in project cycle: Not applicable

Specific proposals for adaptation: Not applicable

Tool	Audience	Screening level	Spatial scale	Training time	Application time	Main data type	Economic
PRECIS (UK Met Office)	all	Input tools	multi-scale	varying	varying	Quantitative	No
Vulnerability assessment (ILRI et al)	donors	policy	national	unknown	2-6 months	Quantitative	not at present
SERVIR (USAID, NASA)	all	various	local, regional	none	<1 month	Quantitative	No
SDSM (Environment Agency)	gov't, donors, other	project	multi-scale	half-day	<1 month	Quantitative	No
CAIT (WRI)	all	program	national	none	<1 month	Quantitative	No
NAPA Platform (UNITAR)	gov't, donors, NGOs	project, program	multi-scale	none	NA	NA	No
CLEAR (SEI)	all	various	multi-scale	varying	varying	Quantitative	Yes in future
CRISTAL (IISD/IUCN/SEI/Intercooperation)	all	project	local, regional	1 hour	<1 month	Qualitative	not at present
ADAPT (World Bank)	all	project	local, regional	none	<1 month	Qualitative	No
Adaptation Wizard (UKCIP)	all	various	multi-scale	none	<1 month	Qualitative	not at present
UNDP Country Database	Country offices	Project	National	20 minutes	<1 month	Quantitative and Qualitative	No
Climate Quick Scans (DGIS)	donors	project, program	multi-scale	none	<1 month	Qualitative	No
Preparedness for Climate Change (Red Cross/Crescent)	NGOs	program , policy	National	none	> 6 months	Qualitative	No
Climate Change Adaptation Guidance Manual (USAID)	donors	policy, project	local, regional	-	2-6 months	Quantitative and Qualitative	not at present
ORCHID (IDS/DFID)	donors, NGOs	program	regional, national	none	2-6 months	Qualitative	yes
CCA/UNDAF Guidance (UNDP)	Country offices	program	national	none	> 6 months	Qualitative	No

Exhibit 9. Comparison table of a subset of the tools introduced in Part 6 of the UNEP Sourcebook.

Source: UNEP, 2008, p. 62.

3 Relevance of Reviewed Tools to the GEF

We surveyed the tools that development agencies use to screen their projects and programs for climate vulnerability and risk. Our broad objective was to develop a framework for a GEF climate risk and vulnerability desktop tool. This tool would be used by the GEF Secretariat, STAP, and project proponents as appropriate to analyze and account for climate risks when preparing project information forms (PIFs) or program framework documents (PFDs), reviewing/screening

PIFs/PFDs, and submitting project/program documents for GEF CEO Endorsement. Such a tool should be operational and low cost, assist a number of audiences, and constitute part of the project risk assessment approach.

The tools we reviewed fall roughly into three categories:

1. General guidance documents
2. Comprehensive risk assessment tools
3. Operational screening tools.

General guidance documents: These documents are not specific enough to provide useful insight into development of a GEF climate risk and vulnerability tool. Included in this category are the UNEP sourcebook (UNEP, 2008), the UNDP stocktaking report (Olhoff and Schaer, 2010), and the USAID vulnerability and adaptation approach (USAID, 2007). The UNEP sourcebook is a reference guide that contains useful information on climate change but has no specificity on connecting climate change considerations to project funding. The UNDP stocktaking report provides a comprehensive vision of the role climate change considerations can play at the project and program levels but does not provide specific tools to apply the concepts presented to project analysis and review. Finally, the USAID approach is actually guidance for a participatory process. It provides little in the way of tying climate change considerations to development projects in a way that project proponents or managers could apply themselves.

Comprehensive risk assessment tools: Among these tools are the UNDP Quality Standards on Adaptation to Climate Change (UNDP, 2009) and the GIZ Climate Proofing tool (GTZ, 2010). Both tools include rapid screening as the first step in a detailed climate risk assessment. This type of detailed climate risk assessment may generate useful knowledge, especially at the project level. However, it will not necessarily prove useful for the GEF purpose of creating a desktop tool that can be used to integrate climate change considerations into project and program development, selection, and evaluation. This is, in part, because the level of effort necessary for a full assessment does not match with the GEF funding process. Nevertheless, the rapid screening components of these tools are promising and could be used to assist in development of a climate risk and vulnerability tool for GEF that proponents or managers could readily apply.

Operational screening tools: Among the tools reviewed, only one provides an operational screening tool – the ADB’s screening checklist. This tool is most similar to what is envisioned for a potential GEF climate risk and vulnerability tool. Namely, it provides simple worksheets, with questions about climate impacts of the project, and brief guidance about projected climate changes that non-climate experts can use to assess the climate risk associated with a project. This checklist allows project proponents as well as project evaluators to easily access a common set of indicators about climate risk and speak in a common language when addressing climate change in development projects. It appears that the World Bank ADAPT tool may also fall into this category, but we cannot draw that conclusion without inspecting the tool itself.

See Exhibit 10 for a summary of the salient features of each of the tools reviewed above. In our judgment, the best examples of tools that GEF could use to address climate risk and vulnerability are the ADB screening checklist, the rapid screening elements of the UNDP Quality Standards on Adaptation to Climate Change, and the GIZ Climate Proofing tool. The World Bank ADAPT tool is

intriguing and worthy of further investigation. Taken together, we conclude these tools will be useful in developing a framework for a GEF climate risk and vulnerability tool.

Exhibit 10. Tool typology for all reviewed tools

Section (agency)	(i) Tool category	Entry point in project cycle	Specific proposals for adaptation
2.1 (ADB)	Operational screening tool	Project concept/preparation stage	Facilitates vulnerability assessment only
2.2 (World Bank)	ADAPT – operational screening tool; Knowledge Portal – information tool	Project concept/preparation stage	Facilitates vulnerability assessment only
2.3 (GIZ)	Comprehensive risk assessment tool; screening step – operational screening tool	Screening step – project concept/preparation stage	Screening step – facilitates vulnerability assessment only; subsequent steps – address adaptation specifically
2.4 (UNDP)	Stocktaking report – general guidance document; quality standards – comprehensive risk assessment tool	Project concept/preparation stage; project review	Explicitly addresses adaptation and allows for bypass of vulnerability assessment if justified
2.5 (USAID)	General guidance document	Not applicable	Not applicable
2.6 (UNEP)	General guidance document	Not applicable	Not applicable

4 GEF Climate Risk and Vulnerability Tool Framework

In this section, we provide our conclusions and recommendations on how a GEF climate risk and vulnerability tool might be structured. Essentially, this is a framework or road map for the development of a GEF climate risk and vulnerability tool. We begin by discussing two critical issues that must be addressed before a framework for a GEF climate risk and vulnerability tool can be defined. This is followed by a proposed framework.

The first critical issue is whether the GEF’s focus on GEBs would cause significant differences in the design or use of a climate change screening tool compared to the traditional focus on development. Unlike the agencies reviewed in Section 2, development is not a stand-alone objective for the GEF because it is tasked with providing incremental funding to development projects that provide GEBs. Consequently, the GEF is concerned not just with the resilience of a specific development project but also with the sustainability of the GEBs produced or preserved by that project over time (see the “Selection of risks” column in Exhibit 1 for an example of potential risks to GEBs in all GEF focal areas).

A traditional development agency should address two basic questions when integrating climate considerations into their development projects. First (often used for screening purposes), is the resource, sector, or region vulnerable to climate change? Second, is the project intervention itself vulnerable to climate change? By way of an example, one could screen all projects in the African Sahel as vulnerable because they are located in a drought-prone area. But if the project is funding the development of improved governance regimes, the project itself may face no climate risk and

indeed may reduce vulnerability of the region to climate change. In order to understand the climate risk of any particular project, both questions must be asked.

However, for the GEF, a third question is also relevant: are the GEBs produced or preserved by the project sustainable in the face of climate change? This third question is the major difference between developing a climate risk and vulnerability tool for the GEF and simply using the tools developed by other development agencies. In many cases, this third question may be a more detailed assessment of the first question (Is the resource vulnerable to climate change?). Instead of using this question as a quick screen, however, a more explicit assessment of GEB sustainability may be appropriate.

Probably, most notable in the GEF's context is unparalleled potential of this institution to support projects increasing climate resilience through ecosystem-based approaches (e.g., ecosystem based adaptation). Earlier analysis conducted by STAP suggested that the majority of GEF projects, though often implicitly; do provide some benefits relative to climate change risks through support for foundational activities contributing to improved governance capacity and better management of natural resources. Better protection and management of key habitats and natural resources can benefit livelihoods by protecting and enhancing delivery of ecosystem services even in the face of climate change and variability. However, there is a significant difference when these measures are designed taking into account area-specific climate scenarios and risks, whether current or future, as opposed to non-explicit "no-regrets" measures by chance. The risk for the GEF can be substantial in the latter instance because interventions designed without explicit recognition of climate risks also have the potential to lead to maladaptation. Furthermore, when planning and implementing ecosystem-based approaches for adaptation, potential trade-offs in ecosystem services need to be considered. In particular, a project focusing on adaptation will likely prioritize different ecosystem services than, for example, a project designed for the conservation and sustainable use of biodiversity. Accordingly, while delivering greater local benefits, such projects may actually deliver fewer GEBs, at least in the short term. According to the STAP analysis of selected GEF projects, approximately one third were judged to possibly lead to maladaptation – or an actual increase in climate risks ([GEF/C.39/Inf.18](#)).

Overall, the primary difference between tools available outside the GEF and a potential tool designed specifically with GEF processes in mind is one of structure. Because of the nuances between climate risks to the resource, the project, and GEBs, it is likely that a GEF climate risk and vulnerability tool would need to be different in type or in focus from the existing tools reviewed in Section 2. It is also possible that a GEF climate risk and vulnerability tool may need to add a component beyond anything that exists in the tools reviewed in Section 2, for example, by explicitly asking project proponents and/or managers to consider climate risks to GEBs. This issue merits further consideration during tool development.

The second critical issue is the choice between developing the GEF climate risk and vulnerability tool as a stand-alone supplemental tool and integrating climate resilience considerations into existing GEF tools. Rather than create a new or parallel set of programs and policies to cope with climate change, it makes sense to incorporate climate change considerations into existing decision-making where possible. Mainstreaming climate resilience considerations into existing tools or frameworks avoids duplication and overlap, which can draw on limited time and resources available for accomplishing the broader objectives of the GEF.

Not all of the documentation required and tools available for project proponents to acquire GEF funding were reviewed. We fully expect that a review of GEF procedures and tools will be

necessary when a GEF climate risk and vulnerability tool is developed. Nevertheless, we do suggest a scope and framework for integrating climate change risks into the GEF funding process below.

In principle, given the important coordination and standard setting role played by the GEF Secretariat along with the significant impact climate variability may have on GEBs, the GEF should have its own tool for integrating climate change considerations into its funding decisions. Although some implementing agencies already have a climate risk and vulnerability screening tool, many do not. Furthermore, implementing agency climate risk tools do not always operate at the project level (and harmonizing them would be difficult), they may not focus on the sustainability of GEBs, and screening procedures are often internal documents or processes to which GEF staff do not have access. Consequently, we recommend the integration of a GEF-specific screening tool into the GEF project preparation, development, and evaluation stages of the project cycle. This tool should operate in principle much as the ADB “screening checklist,” the GIZ Climate Proofing tool “screening worksheet,” and the UNDP “Quality Standards” rapid screening step. In other words, it should operate as a desktop tool to facilitate rapid analysis for vulnerabilities using simple categorical questions. Guidance similar to the ADB’s “Environments, Hazards and Climate Change” appendix may also merit integration as a reference for project proponents.

The climate risk and vulnerability tool should be simple, qualitative, and categorical because the purpose of the tool is not to develop a quantitative understanding of climate change risks but simply to identify vulnerable projects in order to solicit more information about how the project proponent intends to ensure the sustainability of the GEBs delivered by that project. The tool should be useful to and a required activity for both project proponents as they develop their project documentation and the STAP as they evaluate projects. In our judgment there are two places where this tool can be easily integrated into existing GEF practices – the PIFs/PFDs and in the focal area tracking tools. In principle a GEF climate risk and vulnerability tool fully integrated into both of these existing activities would provide an enhanced capability to reduce climate change risks to the entire GEF investment portfolio.

The existing format for PIFs and PFDs already includes a category dealing with risks, including climate change risks that might prevent the project/program objectives from being achieved. This format also allows project proponents to describe measures addressing risks to be further developed during the project/program design. This could provide an existing opportunity for a rapid assessment at the PIF submission stage. Because the approved PIF provides a framework for the project, inclusion of climate risks in a serious way at this stage could leverage the generated knowledge through full project preparation and design.

The other additional existing activity that could integrate climate change considerations is the focal area tracking toolset. This toolset was designed to measure progress in achieving outputs, results, and outcomes established at the portfolio level for each strategic objective in each focal area. It is our understanding that under current practice, tracking tools are submitted to the GEF Secretariat at three points in the project development process: prior to CEO endorsement or approval, within three months of a project mid-term evaluation report, and with the project’s terminal evaluation and final completion report. This means that this tool can serve a dual function – both stimulating project proponents to consider the climate risks of their proposed project as well as providing project evaluators and others with the means to monitor and evaluate the climate risk of individual projects as well as entire project portfolios.

Existing GEF tracking tools have changed over time from one GEF replenishment period to another and between focal areas. Others are only recently established. However, the tools typically include

data sheets or scorecards for identifying qualitative threats or ranking threats to a project along an ordinal scale, such as “high, medium, low, N/A” or “0, 1, 2, 3.” There is often room for comments, explanations, and identification of next steps. A new section pertaining to the potential climate risks to a particular project could easily be added to such a tool. In fact, this is exactly what the ADB REA checklists (see Exhibit 11) and the GIZ Climate Proofing tool screening worksheet do (see Exhibit 3).

Note that the climate risk and vulnerability tool we describe here would facilitate a rapid vulnerability assessment only. However, in our judgment it is both possible and desirable to develop an adaptation guidance tool to support project proponents in identifying vulnerability reduction measures. For such a tool we strongly recommend emulating the UNDP “Quality Standards” vision of an adaptation tool that is accessed immediately upon concluding that some climate change risk exists in the rapid screening step. This allows the user to bypass any detailed vulnerability assessments and focus immediately upon ways to reduce vulnerability. This tool could be as simple as the ADB’s “Environments, Hazards and Climate Change” appendix (see Exhibit 12), but focused on effective adaptations along each of the GEF’s focal areas. We do not pursue the structure of an adaptation tool further here, but recommend further assessment of its likely value to project proponents and its potential substance, scope, and format.

REA checklists are prepared to support the environmental categorization of a project. It is to be attached to the environmental categorization form that is to be prepared and submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department.

The checklist is to be completed with the assistance of an Environment Specialist in a Regional Department. The checklists focus on environmental issues and concerns.

To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on:

- ▶ Involuntary resettlement
- ▶ Indigenous peoples planning
- ▶ Poverty reduction
- ▶ Participation
- ▶ Gender and development

REA checklists are available for many different sectors.

- ▶ Agro Industrial Projects
- ▶ Airports
- ▶ Buildings
- ▶ Chemical-based Industrial Projects
- ▶ Fisheries
- ▶ Forestry
- ▶ General
- ▶ Governance and Finance
- ▶ Hydropower
- ▶ Irrigation
- ▶ Mining Industry
- ▶ Petrochemical Industrial Projects
- ▶ Ports and Harbours
- ▶ Power Transmission
- ▶ Roads and Highways
- ▶ Sewage Treatment
- ▶ Solar Energy
- ▶ Solid Waste Management
- ▶ Thermal Power Plants
- ▶ Urban Development
- ▶ Water Supply
- ▶ Wind Energy

Exhibit 11. REA checklists.

Source: ADB, 2011a.

Exhibit 12. The ADB's REA Checklist Climate Change and Disaster Risk Questions.

Source: ADB, 2011b.

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
<ul style="list-style-type: none"> ▪ Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? 			
<ul style="list-style-type: none"> ▪ Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost? 			
<ul style="list-style-type: none"> ▪ Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> ▪ Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)? 			

If a full GEF climate risk and vulnerability tool, integrated into both PIFs/PFDs and tracking tools, is not possible in practice, we suggest a series of initial steps toward integrating climate change considerations into GEF funding decisions. The most obvious point of entry to ensure serious

consideration of climate risks is the STAP screen. According to our companion analysis of non-SPA projects funded in GEF-4, only 29% of STAP screening documents addressed climate variability or change. Enhancing the rigor of the STAP review regarding climate change considerations is an important first step that could generate significant climate change risk reduction benefits immediately.

A second possibility is more institutionalization of climate change considerations within the existing GEF procedures. Educating project proponents on the importance of the PIF risk section and specifically addressing climate change risks may enhance the attention given to this issue by project proponents. Redeveloping the risk section of the PIF so that climate change risks are not an ancillary consideration but pulled out as a highlighted issue, would further emphasize to project proponents the importance of addressing climate change risks. Having an enhanced climate change risk description in the PIF would enable more oversight and review of projects to ensure they do not put GEBs at risk.

If either of the above options is pursued, additional efforts will likely be required in order to ensure that there is sufficient knowledge and information on climate risks to GEBs available. As one example, Parties to the Convention on Biological Diversity have recognized a number of knowledge and information gaps that prevent the full consideration of climate change elements in biodiversity investments. These include:

- Information on the costs of biodiversity loss within the evaluation of climate change-related actions;
- Downscaled climate models to assess local and regional impacts;
- Access to bioclimatic models;
- Information on the links between biodiversity-based livelihoods and climate change.

Finally, if a full GEF climate risk and vulnerability tool is not possible in practice, we propose a more detailed review of the practices and procedures of other development agencies in assessing climate change risks using their own tools, as described in Section 2. Our descriptions and conclusions above are drawn largely from the formal documentation of these implementing agencies. It became clear over the course of the workshop that these agencies do many things in practice that may be of benefit to the GEF in integrating climate change considerations. In the absence of a formal tool integrating these concerns (which would allow the GEF to learn by doing), we suggest that interviews with other development agency staff, project proponents, and technical review personnel could generate a wealth of information to enhance learning from peer agencies.

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