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**OPERATIONAL GUIDELINES ON ECOSYSTEM-BASED
APPROACHES TO ADAPTATION**

Table of Contents

Background.....	1
Definition	1
UNFCCC Frameworks and Ecosystem- based Approaches to Adaptation	1
Ecosystem-based Approaches to Adaptation through LDCF and SCCF.....	2
Guidelines for Ecosystem based Approaches to Adaptation	3

BACKGROUND

1. The ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC) is the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt to climate change, ensure that food production is not threatened and enable economic development to proceed in a sustainable manner.”¹
2. Scientific understanding of climate impacts has dramatically increased awareness and concern for the need to respond to climate change. The publication of the Fourth Assessment Report (AR4) of the IPCC in 2007 emphasized the urgency of actions to avoid irreversible damage to human communities, development sectors and ecosystems based on the scientific consensus that, even if the international community commits to aggressively mitigate GHG emissions, climate change impacts will continue for many decades. IPCC has initiated the preparation of its Fifth Assessment Report (AR5). The report will include a comprehensive assessment on “Impacts, Adaptation and Vulnerability.”
3. In Marrakech (COP7, 2001), the Global Environmental Facility (GEF) was requested to manage the newly established climate change funds, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). The LDCF and SCCF Operational Strategy clearly states that the goal of the Funds is to support developing countries to increase resilience to climate change through both immediate and longer-term adaptation measures in development policies, plans, programs, projects and actions. Since the establishment of the LDCF and SCCF in COP7, the GEF in its role as a financial mechanism has been managing, under the UNFCCC, these two independent funds whose priority is adaptation.

DEFINITION

4. Ecosystem-based approaches to adaptation are the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change. Ecosystem-based approaches for adaptation may include sustainable management, conservation and restoration of ecosystems as part of an overall adaptation strategy that takes into account the multiple social, economic and cultural co-benefits for local communities.²

UNFCCC FRAMEWORKS AND ECOSYSTEM- BASED APPROACHES TO ADAPTATION

5. A decision made at COP10³ states that action relating to adaptation must follow an assessment and evaluation process, based on national communications and/or other relevant information, so as to prevent maladaptation and to ensure that adaptation actions are environmentally sound and will produce real benefits in support of sustainable development.
6. Recognition of the importance of ecosystems in climate change adaptation is increasing. As a response to the request made by the Subsidiary Body for Scientific and Technological

¹ UNFCCC Article 2

² CBD COP 10 Decision X/33

³ UNFCCC Decision 1/CP.10

Advice (SBSTA) at its thirty fourth session to the UNFCCC Secretariat, in the context of the Nairobi work programme, a report that provides an overview of role ecosystems can play in adaptation to climate change was produced. The Nairobi work programme aims to assist all countries, in particular developing countries, including least developed countries (LDCs) and small-island developing States (SIDS), to improve their understanding and assessment of the impacts of climate change and to make informed decisions on practical adaptation actions and measures.

7. As a response to guidance given at COP17⁴, the SBSTA will hold a technical workshop on ecosystem-based approaches for adaptation to climate change, taking in to account the role of ecosystems, including forests, in adaptation; vulnerability and impacts in ecosystems; the implementation and benefits of ecosystem-based approaches for adaptation; and lessons learned, including through the three Rio Convention.

8. The outcomes of the workshop will contribute towards making recommendations to the COP at its nineteenth session on how to best support the objectives of the Nairobi work programme; this process would further inform the organization of potential future areas of work that could also support the scientific and technical work under the Cancun Adaptation Framework, as appropriate.

9. The Cancun Agreements also recognize the need to consider ecosystems for enhanced action on adaptation. In this context, the Cancun Adaptation Framework affirms that enhanced action on adaptation should take into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional and indigenous knowledge, with a view to integrating adaptation into relevant social, economic and environmental policies and actions, where appropriate.

10. The GEF, as a financial mechanism of the Climate Convention and the managing entity of the LDCF and SCCF, is carrying out a dialogue with countries, its agencies and other stakeholders on how to meet the demand of vulnerable countries to finance ecosystem based approaches to adaptation.

ECOSYSTEM-BASED APPROACHES TO ADAPTATION THROUGH LDCF AND SCCF

11. Natural ecosystems provide a wide range of goods and services, including resources such as water, soil, forests, and fisheries on which human lives and livelihoods depend. This dependency is more direct and natural resources more critical for survival in developing countries, which makes role of ecosystems vital in operations of LDCF and SCCF. It is recognized that attention needs to be given towards vulnerable ecosystems as well. However, projects that have reducing ecosystem vulnerability to climate change as a primary objective are best addressed through GEF Trust Fund projects in the context of global environmental benefits. The operational guidelines outlined in this document, however, specifically refer to ecosystem based approaches to adaptation as defined in paragraph⁴.

12. Ensuring healthy ecosystems is already an integral part of many adaptation strategies. For example, 15.5% of sectors prioritized in NAPAs of Least Developed Countries focus on ecosystems. At least 13 of the 46 countries that had submitted their NAPAs by September 2011

⁴ UNFCCC Decision 6/CP.17

included terrestrial ecosystems in their adaptation strategies. At least five of the 46 countries that had submitted their NAPAs identified coastal zones and marine ecosystems as their priorities.⁵

13. Management, conservation and restoration of ecosystems, that is informed with climate variability and expected climate change, can maintain and restore ‘natural’ infrastructure such as wetlands and forests, whilst reducing biodiversity loss, and maintaining or enhancing ecosystem function. Furthermore, such approaches can improve the resilience of biodiversity and ecosystems to climate change so that they can continue to provide a full suite of ecosystem services. This is particularly important for sustaining natural resources on which vulnerable communities depend for their subsistence and livelihoods, and for providing alternative livelihoods in the face of climatic uncertainty. Such approaches should have a clear and robust monitoring system to track benefits to communities vulnerable to climate change.

GUIDELINES FOR ECOSYSTEM BASED APPROACHES TO ADAPTATION

14. These guidelines are aimed at clarifying criteria for projects that intend to employ ecosystem-based approaches to adaptation and at providing practical, operational advice to implementing agencies, executing agencies and project proponents that seek funding through LDCF and SCCF for such projects. The guidelines will complement the review criteria that are applied on all projects and programmes submitted to the GEF Secretariat for funding approval. The guidelines below have benefitted from earlier work done on the topic by other partners.⁶

1. Identification of communities or development projects or programmes vulnerable to climate change
 - a. Using climate science and collection of local information on perceived changes in temperature, precipitation and local environments identify communities or development projects or programmes that are at risk.
2. Identification of ecosystems and related ecosystem services necessary for communities and development initiatives.
 - a. Identify goods and services that are essential for continued survival and well-being of vulnerable communities and operations of a development programme, in particular in the face of climate change impacts. Trace the source of such goods and services to ecosystems.
 - b. Identify key ecosystem services and relevant stakeholders through ecosystem service mapping.
3. Assessment of the status and vulnerability of the identified ecosystems.
 - a. Identify ecosystems of direct importance to vulnerable communities or development programmes, and determine their boundaries
 - b. With relevant measurements, studies and local knowledge determine the status of ecosystem health

⁵UNFCCC/SBSTA/2011/INF.8

⁶ IUCN-CEM, ELAN, BirdLife et al. *Draft Principles and Guidelines for Integrating Ecosystem-based Approaches to Adaptation in Project and Policy Design: A Discussion Document.*

- c. Scope potential climatic and non-climatic threats that together may compromise ecosystem health and delivery of services
- 4. Using the assessments undertaken (Steps 1-4), establish linkages between humans and ecosystems
 - a. Under current climate conditions and future projections develop understanding of ecologically and socially relevant, as well as inter-linked, variables at suitable spatial and temporal scales.
 - b. Identify feedback linkages and loops between ecosystems and humans.
 - c. Establish direct linkages between climate change vulnerability of communities and development initiatives, and ecosystem health.
 - d. Develop an understanding of the key social processes between system components and the institutions that govern them.
 - e. Determine exposure, sensitivity and adaptive capacities of vulnerable groups and ecosystems to climate variability and future climatic change.
- 5. Development of ecosystem-based approaches for adaptation interventions based on scenario exercises, comprehensive assessments and comparison against an array of possible adaptation measures.
 - a. By using criteria developed through full and effective stakeholder participation (including those who manage and benefit from ecosystem goods and services), consider a suite of adaptation interventions that address community and/or development project vulnerability as well as the vulnerability of the ecosystems used in the (ecosystem-based) adaptation strategy.
 - b. Through cost benefit and feasibility analyses determine suitability of ecosystem-based approaches.
 - c. Consider possible trade-offs of implementing such ecosystem management alternatives at different temporal and spatial scales.
 - d. Establish multi-stakeholder teams including adaptation, resilience, disaster risk reduction, ecosystem service experts
 - e. Locate interventions within national and sub-national policies and strategies
- 6. Develop an action plan for implementation of ecosystem-based approaches to adaptation that is aligned with the GEF project criteria.
- 7. Monitoring and evaluation system that assesses project effectiveness through indicators that measure ecosystem health, provision of ecosystem services to the vulnerable populations and reduction in the level of climate risks.
 - a. Include indicators that reflect ecosystem health
 - b. Include indicators that can measure ecosystem services delivered to vulnerable populations
 - c. Incorporate mechanisms to quantitatively or qualitatively assess vulnerability and resilience of the human communities after adoption of ecosystem-based adaptation measures.
 - d. Choose indicators that reflect resilience of all the components of the human-environment system and their inter-linkages.

- e. Design monitoring systems that include both short- and long-term indicators, and operate at the most appropriate scale to assess project effectiveness and any changes in vulnerability.
 - f. Involve local communities in monitoring to enhance local adaptive capacity and monitoring efficiency
 - g. Through a participatory process, regularly monitor, and evaluate the adaptation benefits to communities, and adjust the adaptation actions as necessary.
8. There is some flexibility regarding the project design stages at which the different steps outlined above are expected to be undertaken. It is suggested that steps 1-3 be undertaken at the initial project preparation phase (PIF stage) and steps 4-7 be undertaken for the full project preparation phase (CEO Endorsement stage).