



Roundtable on Ecosystem-Based Adaptation in the context of South-South Cooperation

Discussion Paper

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International Ecosystem Management Partnership
国际生态系统管理伙伴计划



1. Introduction

This discussion paper is prepared for the Roundtable on Ecosystem-Based Adaptation in the context of South-South Cooperation to be held on 19 November 2013, at the margins of the 19th Session of the Conference of the Parties to United Nations Framework Convention on Climate Change (UNFCCC). It elaborates the role of EBA in the adaptation portfolio, provides new evidences and good practices of EBA on the ground, identifies the importance of South-South Cooperation in promoting EBA, calls for enhancing EBA in the context of South-South Cooperation including through multi-lateral financing mechanisms, and mainstreaming EBA into National Adaptation Plans.

2. What is the role of EBA in the portfolio of adaptation initiatives?

Countless evidences including recent findings of the Intergovernmental Panel on Climate Change (IPCC) have made it clear that most ecosystems are under the threat of increasing climate change impacts, and if not adapted timely, would pose unprecedented threats to lives, livelihoods and life-supporting systems of human beings. In addition, healthy ecosystems and their services provide opportunities for sustainable development and many benefits while at the same time providing defense against the negative effects of climate change due to their natural ability to adapt to climate variability and change. That is why parties to the UNFCCC have well recognized at its 14th Session the vulnerability of critical ecosystems to climate change and the role of ecosystem services¹ for climate change adaptation and disaster risk reduction, and proposed **Ecosystem-based Adaptation (EBA)**. It has ever since become an increasingly important pillar of the adaptation portfolio for both national actions and international cooperation. The Cancun Agreement which set the foundations for the enhanced action on adaptation recognizes the need to consider ecosystems for enhanced action on adaptation. Parties to the UNFCCC are now working towards enhanced knowledge on EBA and its benefits under the Nairobi Work Programme.

EBA has many definitions, but its most popular definition is *an approach to work with nature to maximize ecosystem services for adaptation and build resilience of vulnerable ecosystems*, for the well-being of vulnerable communities to climate change.

Since adaptation is ecosystem and community specific, EBA is a must in the climate change adaptation portfolio, without which any adaptation plans and policies would malfunction. Clearly there is a need to ensure that the scarce funds for adaptation are invested in the most cost-effective options and that initial investments carry with them minimal long-term maintenance costs. EBA is one of the most cost-effective, durable and pro-poor solutions which falls an integral part of national and international adaptation portfolio.

¹ Ecosystem services are the benefits people obtain from ecosystems. These include *provisioning services* such as food; *regulating services* that affect climate and water cycle; *cultural services* that provide recreational and spiritual benefits; and *supporting services* such as nutrient cycling (MA, 2005).

3. What are the new evidences and good practices of EBA on the ground?

Although EBA as a new concept was proposed through the negotiation process of UNFCCC since 2008, real actions and practices using ecosystem-based approach to adapt to the environment have been on the ground since the history of human being.

The first joint workshops on ecosystem-based adaptation (EBA) and regional networking coordination for the UNEP-NDRC global project *“Enhancing Capacity, Knowledge and Technology Support to Build Climate Resilience of Vulnerable Developing Countries”* were held from October 14-18, 2013 in Beijing, China. The project, funded from the GEF Special Climate Change Fund (GEF-SCCF) aims to build climate resilience using an ecosystem management approach in least developed countries with three pilot countries in arid and mountain ecosystems (Mauritania and Nepal respectively) and small island developing states (Seychelles).

More than 60 participants from 16 countries and 15 global/regional networks attended the workshops, with key representations from GEF, UNEP, NDRC, UNDP, UNFCCC, and IUCN. The EBA workshop focused on activities in the three pilot countries and shared experiences and lessons from other countries, such as Vietnam, South Africa, and China with demonstrated EBA projects as well as explored mechanisms for financing and up-scaling EBA. Understanding that ecosystem-based adaptation is trans-boundary in nature as ecosystems do not recognize national boundaries, the regional networking coordination workshop assessed opportunities for coordination between inter-regional networks. It served as a good platform to share insights on how existing regional networks working on EBA can work together in disseminating relevant information to stakeholders.

From the extensive deliberations throughout the workshops, some of the key messages that emerged include:

- The project is the “first mover” in catalyzing global and regional collaborations on EBA under the GEF guidelines, in particular within the framework of South-South Cooperation;
- There exists an extensive body of knowledge and information on EBA that this project can build on;
- There is a need for long-term research and rigorous monitoring and evaluation for evidence-based decision-making. In addition, monitoring and evaluation should be long-term and continue beyond the life cycle of the project;
- Important to contextualize EBA within relevant broader contexts such as the National Adaptation Plan (NAP) process to ensure that it is not a stand-alone activity;
- There is need for innovative mechanisms to leverage financing for EBA activities through the various sources available;
- Existing networks are significantly complex, however there are a lot of lessons that we can learn from major existing initiatives, which warrants the establishment of an inter-regional working group.

During the two workshops, new evidences on EBA were presented and good practices shared. Box 1 and Table 1 below reflect the rich evidences on the ground.

Box 1: The Green Wall in the heart of the Takalamakan Desert

The Green Wall of the Taklamakan Desert in Northwest China stretches for 436 km through the heart of the Desert. It was constructed over a period of 15 years but based on 50 years' long-term ecological research. This shows how human ingenuity and science can overcome tremendous environmental barriers of fiercely dry and hot conditions to develop new, green ecosystems that provide adaptation services such as protection of infrastructure.

The total cost of investment on the Green Wall is about 1/3 of the BAU to protect the road by removing sand, plus a remarkable increase in indigenous biodiversity in desert. This is a typical example of ecosystem-based adaptation (EBA). Long-term ecological research is of fundamental importance for forging EBA interventions. Applied research should be conducted in collaboration with both the private and public sectors to ensure that appropriate up-scaling of EBA interventions are triggered. The good practices and technologies can be shared and transferred to Africa, in particular in support its Great Green Wall of the Sahara and the Sahel (GGS) which needs to go far beyond simple tree planting, but adapting climate change, securing food supply and livelihood, conserving biodiversity and exploring new value chains and generating new income. There are consequently considerable synergies between the two green walls in China and Africa.



Table 1: EBA interventions in developing countries

Ecosystem group	Country	EBA Interventions: Descriptions
Greater Mekong Sub-region	Lao PDR	EBA in provincial planning; GEF NAPA Project; EBA in Northern Lao.
	Cambodia	Enhancing resilience of rural communities in protected areas.
	Thailand	Check dams for recurring floods; Moral rice network; Sustainable land management at smallholder level: H.M. Bhumibol Adulyadej initiative; Coastal erosion: Bamboo.
	China	National Adaptation Strategy; Vegetation restoration and soil erosion in Loess Plateau; Water supplement for wetlands.

Ecosystem group	Country	EBA Interventions: Descriptions
Mountains	Rwanda	Land rehabilitation; Alternative livelihood options.
	China	Ecosystem Management; Alternative livelihood; County Planning.
	Nepal	Institution Setting-up; Capacity Building; Watershed restoration.
Coastal	Albania	Building adaptive capacities with stakeholders; Vulnerability Risk Assessment and prioritization; Adaptation Actions and measure; Soft & hard (reforestation, embankment).
	China	Financial inputs and government interventions; Wetlands restoration through freshwater supply; Mangrove restoration: site & suitable species; Nature reserves (91 reserves, 18% coastal); Institutional development (SFA) – RAMSAR; R&D; National Legislation and policy development.
	Vietnam	National strategy - ICZM with focus on adaptation; Livelihood approach (co-management); Hard dykes and embankments; Mangrove restoration; Environmental awareness.
	Seychelles	Flood protection; Hard and soft measures; Livelihood vulnerability approach; Education.
Arid	Kenya	Ecological restoration around protected areas for resilient ecosystems and communities; Restoration of degraded natural areas to enhance water recharge and storage; Protecting and restoring natural infrastructure such as mangroves; Training and capacity building program; Management of invasive species.
	Iran	Sand dune fixation; Forest plantation, carbon sequestration; Run off control, farm wind breaking, crop diversification, knowledge management, legislation improvement of participatory.
	China	Non irrigation afforestation; Water saving agriculture; Use of unconventional water.
	Mauritania	Capacity building; Multi-use green belt.

4. Why EBA is important for SSC in climate change?

Developing countries are more dependent on ecosystem services than industrialized countries and face common challenges of conservation and livelihood. Their ecosystem-based approaches are more cost-effective and easy to apply in similar conditions. Hence South-South Cooperation is of particular importance for EBA.

On the other hand, South-South cooperation has become an emerging pillar of international cooperation on climate change, complementing North-South cooperation which has been and will still be the main driver in assisting developing countries to combat climate change. South-South cooperation on climate change has a focus on adaptation which is urgently needed by developing countries, with ecosystem-based adaptation (EBA) being the main theme. South-South cooperation on climate change has mostly been limited to bilateral mechanisms such as China-Africa. Yet innovative multilateral vehicles are being explored as an important dimension. The GEF-SCCF funded project on Ecosystem-based Adaptation has been developed and is now being implemented in three pilot countries Mauritania, Nepal and Seychelles, with co-financing to the three pilot countries from the Government of China. UNEP is the implementing agency and National Development and Reform Commission of China the executing agency.

The project is defined by many as a “**First Mover.**” It is the first South-South Cooperation project through multilateral mechanism, which benchmarks ecosystem-based approaches to adaptation under the GEF Operational Guidelines. In addition, the project will help enhance the role of GEF and the UN system in facilitating and promoting South-South Cooperation on climate change.

5. How can EBA in the context of SSC be enhanced through multi-lateral mechanisms?

The GEF is the first multilateral funding mechanism which has issued “Operational guidelines for Ecosystem-based Approach for Adaptation.” This has in essence formed the major building block for adaptation in developing countries. The Guidelines cover the series of actions need to be taken in undertaking EBA, including identification of vulnerable ecosystems and communities, assessment of ecosystem vulnerabilities and establish linkages with communities, development of EBA for interventions and an action plan for implementation, as well as monitoring and evaluation system to assess project effectiveness. These guidelines would provide a connection between ecosystem services and well-being of vulnerable communities.

EBA can be used as a main approach for addressing issues of trans-boundary ecosystems, there are needs to be more investments from the Special Climate Change Fund (SCCF), and in particular, when it deals with trans-boundary river basins such as the Greater Mekong Sub-region. UNEP has since 2009 made EBA the Flagship Programme, mobilizing all available resources and expertise to undertake EBA project in the Nile River Basin and mountain systems in Africa, Asia and Latin America. UNDP has prioritized EBA as one its signature programmes on climate change adaptation. All these efforts have laid solid foundation for mainstreaming EBA into National Adaptation Plans in the future.

6. How can EBA be mainstreamed and integrated into NAPA implementation and NAPS

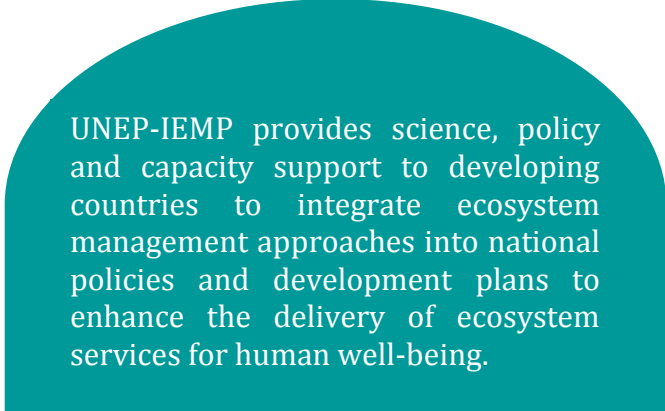
EBA needs to be part of a broader climate change adaptation and development strategy. It must bridge multiple sectors and stakeholders and through multiple temporal and special scales. EBA can be prioritised through participatory decision-making process, and should engage traditional & indigenous knowledge. Mainstreaming EBA needs mind set change of decision-makers, especially those favour hard infrastructure options with inherently biased views and experiences. Evidence based communication of EBA to decision-makers is hence of utmost importance. Mainstreaming EBA also means synergies between EBA and other approaches such as community-based adaptation and micro-credit. Other approaches that EBA could and must complement include poverty alleviation and disaster risk reduction, and in this context methods and tools to quantify the multiple benefits of EBA are important in convincing policy-makers and investors.

Many countries have included EBA in their National Adaptation Plan for Actions (NAPAs) such as those of Pacific Small Island Developing States, Kiribati, Samoa, Solomon Islands, Tuvalu and Vanuatu. They all included ecosystem-based actions for adaptation, half of all identified actions in Kiribati. A comparative analysis of EBA and engineering options has been undertaken for Lami town, Fiji. Given the long term perspective of the EBA and the NAPs (National Adaptation Plans), countries have started showing interest in using EBA approach into the NAP process. UNEP is assisting countries on both process, to implement NAPAs and embarking on the NAPs with EBA being an integral part of these processes. 80% of UNEP's portfolio of adaptation projects funded from GEF and non-GEF resources is using ecosystems and their services to help countries build their resilience to climate change. Examples include:

- i. Coastal defense through mangrove maintenance and/or restoration in Tanzania, Cambodia, Djibouti, Comoros,
- ii. Conservation and restoration of forests to stabilize land slopes and regulate water flows in Afghanistan, Nepal, Uganda and Rwanda;
- iii. Establishment of diverse agroforestry systems to cope with increased climate risk in Cambodia, Lesotho and Madagascar
- iv. Managing ecosystems to complement, protect and sustain hard infrastructure in Djibouti, Madagascar and Tanzania;
- v. Using Ecosystems to protect forests from wildfires in Mauritania.

Lessons learnt from the implementation of the first generation of NAPA implementation of adaptation projects are showing that EBA:

- i. Provides numerous opportunities for natural solutions to manage the impacts of climate change;
- ii. Provides social, economic, environmental co-benefits;
- iii. Requires comparatively small investment relative to long term benefits;
- iv. Key challenges restrain implementation (lack of information, lack of financial resources institutional resistance, temporal limitations),
- v. Incorporates best science and local knowledge and fosters knowledge generation and diffusion and strategic monitoring.
- vi. Is participatory, transparent, and culturally appropriate while embracing gender and equity appropriately.



UNEP-IEMP provides science, policy and capacity support to developing countries to integrate ecosystem management approaches into national policies and development plans to enhance the delivery of ecosystem services for human well-being.

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