

Submission to SBSTA¹ from Conservation International regarding Ecosystem-based Adaptation: Lessons, Good Practices and Tools January 2017

SUMMARY AND RECOMMENDATIONS

Ecosystem-based adaptation (EbA)—the use of biodiversity and ecosystem services as part of an overall strategy to help people adapt to the adverse effects of climate change—offers long-term adaptation benefits by maintaining ecosystem services that are critical for enhancing resilience to climate change and can also support mitigation efforts.² Examples of EbA include protecting watersheds to provide water management and flood regulation services, restoring coastal habitats such as mangroves to defend against coastal erosion and storms, and adopting agricultural and forestry practices that promote biodiversity, forest conservation and topsoil regeneration.

Conservation International proposes the following specific recommendations to the Nairobi Work Programme (NWP):

- Identify and compile relevant recommendations to support countries in their national adaptation planning processes, particularly related to the integration of EbA adaptation policies and action plans.
- Prepare recommendations for undertaking vulnerability assessments to help governments and other actors determine the extent to which climate change may affect people and ecosystems, including guidance for incorporating participatory planning approaches.
- Promote the inclusion of adaptation outcome indicators in monitoring and evaluation systems used by governments at the national and subnational levels as well as in monitoring frameworks required by donors, accompanied by on-going, long-term financial support to undertake outcome assessments for many years beyond the completion of the project.
- Undertake further work to identify and test indicators for monitoring and evaluating the outcomes of EbA activities, including the development of sub-indicators and technical recommendations, which may need to be context specific.
- Share information on adaptation outcomes that can be achieved through EbA and indicators that can be used to measure them, as well as case studies, with policy makers, donors and practitioners, to encourage their adoption.
- Work with countries and practitioners to improve the processes and methods for evaluating the economic costs and benefits of EbA activities, including the collection of relevant data and development of robust valuation models.

¹ As invited in FCCC/SBSTA/2016/2 paragraph 15(c)(i)

² For more information, see www.conservation.org/eba

Contact:

Maggie Comstock | Director of Climate Policy | mcomstock@conservation.org

LESSONS LEARNED AND GOOD PRACTICES: ADAPTATION PLANNING PROCESSES THAT ADDRESS ECOSYSTEMS

Addressing institutional governance to facilitate effective national adaptation planning

Effective adaptation planning is essential to address the national and local impacts of climate change. Natural ecosystems can play an important role in supporting adaptation efforts, while also providing additional social and environmental benefits. Through CI's experience working with countries on their adaptation strategies, we have learned that it is critical to identify and address issues related to governance from the beginning of the planning process. For example, the implementation of climate policies and adaptation activities likely spans several ministries within a national government. To avoid confusion or delays in the development and implementation of a national adaptation plan, planning activities must respond to the existing division of responsibilities within the government, including oversight roles, budgetary authority and relevant policies. In parallel, efforts should be made to identify and address capacity gaps and potential barriers in the existing institutional structure.

After assessing the institutional planning framework and addressing key gaps, countries can begin to determine and prepare specific adaptation options grounded in the local context of climate risks and impacts. Once these adaptation strategies are compiled and incorporated into the national adaptation plan, countries should develop long-term implementation strategies that promote on-going coordination between relevant ministries, national institutions, sub-national governments and stakeholders. Implementation efforts should be monitored to assess and report on progress. The national adaptation plan should be reviewed and updated to incorporate the lessons from implementation and increase national capacity over time.

CI, in partnership with International Union for Conservation of Nature (IUCN) and the IUCN Commission on Ecosystem Management, and in close consultation with BirdLife International and the United Nations Environment Programme, developed a tool to guide national planners and decision-makers from across the government to integrate ecosystem-based approaches throughout the adaptation planning process.³

The formulation of this [Tool for Integrating Ecosystems into Climate Change Adaptation Planning](#) builds on CI's experience piloting and implementing EbA projects in marine, coastal, forest and agricultural ecosystems in fourteen countries around the world. The approaches through which ecosystems can be reflected in adaptation efforts can be summarized in four categories: (1) minimizing negative biodiversity and ecosystem impacts within an adaptation planning process (environmental safeguards), (2) addressing ecosystem and biodiversity conservation within adaptation planning (adaptation in conservation), (3) minimizing negative impacts of climate change on ecosystem services (adaptation for protection of ecosystem services) and (4) mainstreaming ecosystems in adaptation planning (ecosystem-based approaches to adaptation or EbA).⁴ These options for integrating ecosystems into adaptation efforts are not mutually exclusive; however, some approaches may be more appropriate than others in a specific national and local context.

³ Conservation International and IUCN. (2015). *Tool for Integrating Ecosystems into Climate Change Adaptation Planning. Linking Biodiversity and Ecosystems into the National Adaptation Planning Process*. Arlington, VA.

⁴ Ibid.

RECOMMENDATION

- **Identify and compile relevant recommendations to support countries in their national adaptation planning processes, particularly related to the integration of EbA approaches into policies and action plans.**

Assessing climate vulnerabilities

Climate change is already having negative impacts on communities and ecosystems from the local to the global scales. Vulnerability assessments are a tool that can help governments and other actors determine the extent to which climate change may affect a range of social, institutional and ecological factors.⁵ The assessment provides evidence to inform priority sectors or regions that experience the worst outcomes of climate impacts, and also identifies the ecosystems that help buffer the consequences of such events.

Vulnerability assessments should be employed at the beginning of a project to evaluate both the resilience of the socio-ecological system and the long-term sustainability of the EbA intervention. The results from the assessment, alongside participatory approaches to adaptation planning, can guide site selection for EbA activities. Engaging stakeholders at the earliest stages of the EbA planning process is essential to understand the impacts of climate change on communities. While spatial climate risk assessments can identify vulnerable geographic areas, not all individuals or communities in a specific area share the same exposure to risk or the same capacity to adapt.

The assessment should also consider targeted needs of communities and should take into account the potential to be applied at local or larger scales. Assessments at the local scale have proved to be valuable planning tools to guide EbA implementation on the ground. Regional-scale assessments, however, are better situated to consider larger ecosystem processes, and to inform regional and national planning.

The utilization of participatory planning approaches as part of vulnerability assessments can also inform program goals, identify adaptation pathways and reveal potential co-benefits of the intervention. For example, including agricultural and fishing communities in the vulnerability assessment and planning processes has helped to prioritize ecosystem restoration and management as a response to climate risks. CI has used a variety of methods for conducting vulnerability assessments for EbA planning in South Africa,⁶ the Philippines,⁷ and Brazil.⁸ In our experience, a thorough assessment can take up to a year to complete, depending on funding, institutional capacity and governance.

RECOMMENDATIONS:

- **Prepare recommendations for undertaking vulnerability assessments to help governments and other actors determine the extent to which climate change may affect people and ecosystems, including guidance for incorporating participatory planning approaches.**

⁵ Donatti C.I. et al. (2015). *Ecosystem-based Adaptation in marine, terrestrial and coastal regions as a means of improving livelihoods and conserving biodiversity in the face of climate change. Results and lessons learned*. Technical report. Conservation International, Arlington, VA.

⁶ Bourne, A. et al. (2015). *A Climate Change Vulnerability Assessment for the Namakwa District, South Africa: The 2015 revision*. Conservation South Africa, Cape Town.

⁷ Boquiren, R., Di Carlo, G., Quibilan, M.C. (Eds). (2010). *Climate Change Vulnerability Assessment of the Verde Island Passage, Philippines*. Technical report. Arlington, VA: Conservation International.

⁸ Pereira, R., et al. (2013). *Climate change vulnerability assessment of the Discovery Coast and Abrolhos Shelf, Brazil*. Arlington, VA: Conservation International.

Conducting economic analyses

Cost-effectiveness analysis and cost-benefit analysis are two means of comparing the efficiency of EbA versus non-EbA approaches. Information on costs and benefits across multiple EbA interventions would strengthen planning and funding decisions. CI conducted ex-post economic analysis on a sample of three of the organization's existing EbA projects. The results indicate that EbA can be, but is not always, the less-expensive option;⁹ however, the EbA approach often provides additional non-monetary benefits¹⁰ such as managing and conserving biodiversity and other ecosystem services on which many communities are highly dependent for their livelihoods. In this exercise, the challenges of applying economic analyses to EbA projects also became clear, including significant knowledge, data and methodological gaps, particularly in terms of quantifying and monetizing the multiple co-benefits of EbA.

In 2015, IUCN conducted a deep analysis of the knowledge gaps for economically assessing EbA activities. The report findings identified that detailed assessments are needed to build the economic case for EbA, but would require that these valuations "...are based on robust methodologies that are developed with appropriate guidance; differentiate between different costs and sectors; incorporate biodiversity and species; are based on gender (and other groups) disaggregated data; and account for co-benefits."¹¹ The report also noted that these assessments can take place before the project is initiated, during implementation as well as after completion. Optimally, such assessments should be conducted before project initiation, since the information generated should provide one component of the decision context regarding which adaptation option(s) are actually implemented.

RECOMMENDATIONS:

- **Work with countries and practitioners to improve the processes and methods for evaluating the economic costs and benefits of EbA activities, including the collection of relevant data and development of robust valuation models.**

LESSONS LEARNED AND GOOD PRACTICES: MONITORING AND EVALUATING THE IMPLEMENTATION OF ECOSYSTEM-BASED ADAPTATION

Identifying indicators for measuring the outcomes from EbA activities

Monitoring and Evaluation (M&E) of climate interventions allows policy makers, donors and practitioners to evaluate the impacts of investments, monitor project effectiveness and measure progress towards national climate goals. However, M&E remains a methodological challenge for EbA, as there is not currently consensus on how to measure the adaptation outcomes of these projects. Additionally, EbA efforts are often context-specific to the ecology and livelihoods associated with the intervention, making national-level monitoring difficult.

Many EbA projects simply measure the implementation of project activities, or *outputs* (e.g., hectares of wetlands rehabilitated, farmers implementing particular practices), but do not assess the actual

⁹ Black, D., Turpie, J. K., & Rao, N. (2016). Evaluating the cost-effectiveness of ecosystem-based adaptation: Kamiesberg wetlands case study. *South African Journal of Economic and Management Sciences*, 19(5), 702-713.

¹⁰ Bourne, A., Muller, H., de Villiers, A., Alam, M., & Hole, D. (2017). Assessing the efficiency and effectiveness of rangeland restoration in Namaqualand, South Africa. *Plant Ecology*, 1-16.

¹¹ Rizvi, A.R., Baig, S., Verdone, M. (2015). *Ecosystems Based Adaptation: Knowledge Gaps in Making an Economic Case for Investing in Nature Based Solutions for Climate Change*. Gland, Switzerland: IUCN. v + 48 pp.

adaptation *outcomes* that EbA can deliver. To address this gap of monitoring outputs but not outcomes, CI reviewed more than 60 existing EbA projects to identify relevant adaptation outcomes and create a preliminary set of quantitative indicators to measure adaptation outcomes of EbA. The process for identifying indicators begins with an EbA intervention designed to address a particular climate impact, and includes the outputs of the intervention and identifies measurable outcomes. (See Figure 1.) The outcomes and proposed indicators are grouped according to their effects on assets, food security, health, water and livelihoods. Currently, these indicators are being reviewed and revised with feedback from multiple organizations and will be finalized by 2017.

As with all adaptation activities, EbA projects should be monitored before, during, and after implementation. Ongoing monitoring beyond the lifetime of the project is particularly important to demonstrate the long-term outcomes of EbA activities. For this reason, project proposals and budgets for EbA should reflect the long-term nature of monitoring for these initiatives, including a Theory of Change to explicitly state the links between activities, outputs, outcomes and project goal.¹² Concrete examples of the long-term outcomes of EbA activities can help justify increased investments and make a business case for this important adaptation strategy.

RECOMMENDATIONS:

- **Promote the inclusion of adaptation outcome indicators in monitoring and evaluation systems used by governments at the national and subnational levels as well as in monitoring frameworks required by donors, accompanied by on-going, long-term financial support to undertake outcome assessments for multiple years after project completion.**
- **Encourage project implementers to identify and test indicators for monitoring and evaluating the outcomes of EbA activities, including the development of sub-indicators and technical recommendations, which may need to be context specific.**
- **Share information on adaptation outcomes that can be achieved through EbA and indicators that can be used to measure them, as well as case studies, with policy makers, donors and practitioners, to encourage their adoption.**

¹² McKinnon, M. C., & Hole, D. G. (2015). Exploring program theory to enhance monitoring and evaluation in ecosystem-based adaptation projects. In D. Bours, C. McGinn, & P. Pringle (Eds.), *Monitoring and evaluation of climate change adaptation: A review of the landscape. New Directions for Evaluation*, 147, 49–60.

Figure 1. Examples of EbA interventions that could lead to adaptation outcomes, and suggested indicators that could be used to measure such outcomes. All indicators should be compared to the baseline condition, prior to EbA implementation.

