Contributing to Sustainable Development with Ecosystem-based Adaptation

Ecosystem-based Adaptation
in High Mountainous Regions of Central Asia

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Manual how to help people adapt to Climate Change through green solutions

INTRODUCTION

Climate change (CC) will affect every aspect of human life and every sector needs to adapt to its adverse impacts. Agricultural activities suffer from heat waves, late frost events and changes in water availability. Increasing numbers of natural hazards resulting from extreme weather events damage infrastructure. Warming temperatures favor the spread of diseases to formerly unaffected regions. Seasonal changes in precipitation patterns will have an effect on harvests or (ski) tourism leading to loss of income. These are only examples highlighting the additional burden CC puts on people´s livelihoods and the economic development of every country.

It is high time to take action! The Paris Climate Agreement, the 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (SDGs), and the transition to a Green Economy set the respective frame for the global community. In these global treaties, negotiation processes and financing mechanisms, CC mitigation and adaptation are crosscutting issues and are given top priority as basis for a low-carbon and climate resilient development into a flourishing future. Ecosystem-based Adaptation (EbA), as an approach to help people adapt to climate change and generating lots of co-benefits (e.g. alternative income opportunities), contributes to reaching the SDG targets and provides a frame for developing policies and strategies such as Nationally Determined Contributions, National Adaptation Plans and Green Economy Programs.

In the framework of a Regional project on EbA in the high mountainous regions of Central Asia, financed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and implemented by GIZ, the EbA approach has been applied and tested. Concrete activities have been implemented with communities, as well as aspects of EbA have been integrated in policy processes, showing the great potential of EbA to get prepared for an uncertain future. A guideline how to apply EbA, also in other regions, is elaborated and can be used to replicate the approach.

The official signing of an agreement implementing the project in Dushanbe, Tajikistan.

Presentation of the results of a workshop on planning of adaptation measures in the Naryn region, Kyrgyzstan.

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EBA STEPS INFOGRAPHIC

SUMMARY OF EBA STEPS

A GIZ-led project on EbA has developed a method for designing and implementing a climate change adaptation strategy in a participatory way, with a particular focus on EbA. The developed method is based on the Conservation Measures Partnership's Open Standards for the Practice of Conservation (hereafter: OS-based EbA method), the leading adaptive management framework in the field of biodiversity conservation and sustainable ecosystem management.

The main beneficiaries of the OS-based EbA method are rural communities. These communities benefit from the method not only because it supports adaptation planning and practice, but also through increased understanding and awareness of climate change. Secondary beneficiaries are regional and national policy makers, as well as research, development and biodiversity conservation communities.

OVERVIEW OF OS-BASED EBA METHOD

The method consists of eight essential steps, including a number of sub-steps. It includes a climate vulnerability assessment, which evaluates the vulnerabilities of ecosystems, as well as vulnerabilities of people who depend on them, via ecosystem services.

Step 1 - Define thematic and geographical scope:

The thematic and geographical scope of the planning process is determined by its social scope, i.e. the community which is conducting the process and its ecosystem use and dependencies. The main purpose of this step is to understand the (spatial) linkages between the ecosystems, its services and the communities' well-being. The scoping step combines participatory facilitation techniques such as ecological drawings and seasonal calendars with a systematic analysis of the thematic and geographical scope.

Step 2 - Describe the current and desired state of ecosystems:

The main purpose of this step is to analyze the viability of important ecosystems to provide services today and in the future within the planning area.

The method uses viability analysis based key ecological attributes (KEAs) to describe the current and desired state as well as the overall viability of important ecosystems within the planning area.

Step 3 - Identify conventional and currently observed climate change related threats to ecosystems:

Climate change does not affect ecosystems and communities in isolation, but adds to and often interacts with existing conventional anthropogenic threats (human activities that directly reduce the viability of ecosystems). Therefore, the planning team first identifies and prioritizes current observed climate change related and conventional threats on ecosystems. Based on threats projected climate change impacts are analyzed in the next step.

Step 4 - Understand vulnerabilities of ecosystems and communities to climate change:

EbA needs to look at future as well as observed climate change related hazards and impacts in order to be effective. EbA also needs to consider and manage the inherent uncertainty of projections of future climate and the resulting impacts on ecosystems and communities under a ranger of plausible climate scenarios. The OS-based EbA method achieves this by first deriving seasonally and locally specific climate projections from general circulation models.

Step 5 - Summarize the socio-economic and ecological situation:

The results of Steps 1-4 are summarized in a conceptual model of the socio-economic and ecological system of the planning area and will be presented as a box-and-arrow diagram. The diagram shows the most important ecosystems that contribute to livelihoods and human wellbeing, the climate-related and conventional direct threats (the latter with their respective contributing factors) and the relationships among all of them.

Step 6 - Re-evaluate project scope and goals:

If ecosystem viability, conventional threats and climate change related threats are jointly taken into account, the conclusion can possibly be that some ecosystems will not be viable in the long term, or that some of the set goals need to be downgraded. If this is the case, adaptation scope and goals need to be adjusted.

Step 7 - Identify and select interventions that reduce community vulnerability:

Planners identify key intervention points, brainstorm draft interventions to address these factors, then select based on criteria such as feasibility, climate robustness, likely effectiveness and available resources. The method allows not only identifying ecosystem-based interventions, but also complementary non-ecosystem based interventions aimed at reducing community vulnerability. The impact hypothesis (or theory of change) for each intervention is expressed as a results chain.

Step 8 - Implement, monitor, adapt and learn:

Based on the results chains from the previous step, the planning team develops monitoring plans for indicators relating to goals and objectives respectively. Learning questions can be used to capture the experience generated during implementation.

Ensure follow-up:

The implementation and adaptive management of adaptation interventions, as well as learning from them, will often continue over a long time, and sometimes beyond the lifespan of the project that initially devised them. This is because of the long-term character of climate change adaptation. The method supports the planning team to take specific steps to ensure the long-term follow-up of adaptation measures, through awareness raising and capacity development, the establishment of long-term implementation funding mechanisms, access to expertise and the establishment of networks of practice. Ongoing, long-term monitoring of ecosystem health and community vulnerabilities is crucial to providing inputs to allow adaptation solutions to evolve to be effective in changing conditions.

Outlook:

The OS-based EbA method can be adapted to the specific needs of its users and will continue evolving in the future. The method can be combined with a wide range of other existing planning approaches and methodologies.

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