On behalf of:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

of the Federal Republic of Germany

Implemented by:

ponre Viet Nam

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

# MONITORING AND EVALUATION FOR ECOSYSTEM-BASED ADAPTATION - CASES FROM THE PROVINCES HA TINH AND QUANG BINH

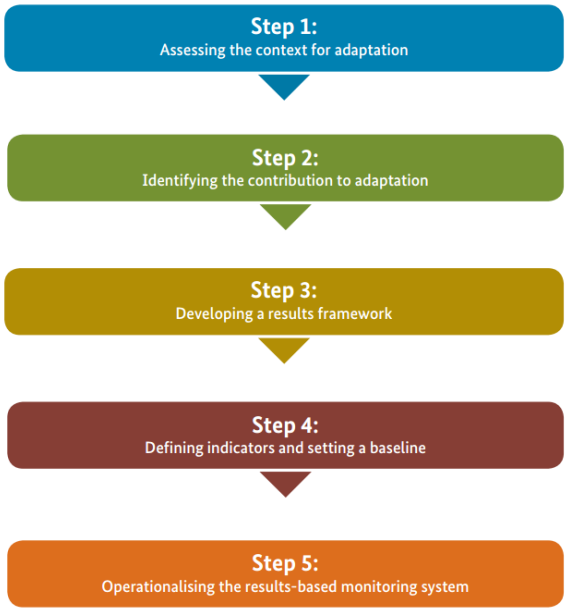
## Why Monitoring and Evaluation?

The need to deal with and react to changing climatic conditions all over the globe, yet particularly in developing countries has gained a sense of unprecedented urgency over the last years. In this context, climate change adaptation measures that increase resilience to the adverse effects of climate change are becoming more and more central. An upcoming strategy for successful and sustainable climate change adaptation is so-called Ecosystem-based Adaptation (EbA). which the Convention of Biological Diversity (CBD) defined as *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.*

Effective monitoring and evaluation (M&E) of adaptation activities is critical for building a strong, global evidence base around EbA measures and for assessing the wide, diverse range of interventions being implemented to address it. At the global level, monitoring and evaluation is a tool for identifying and documenting successful projects and approaches and tracking progress toward common indicators. At the project level, the purpose is to track implementation and outputs systematically, and measure the effectiveness of projects, while strengthening understanding around the many multi-layered factors underlying EbA. By doing so, it can also prevent future implementation problems (such as mal-adaptation). An M&E approach was developed for the pilot activities of the project 'Strategic Mainstreaming of Ecosystem-based Adaptation in Vietnam' in Ha Tinh and Quang Binh province. Its methodology shall be elaborated upon in this factsheet.

## Methodology

The methodology utilized for the project 'Strategic Mainstreaming of Ecosystem-based Adaptation in Viet Nam' was based on recommendations given in a concept note on the topic prepared as part of the project. The concept note in turn often used the GIZ guidebook 'Adaptation made to measure' (2013) as its reference point. In 'Adaptation made to measure', the GIZ suggests a five-step approach to monitoring and evaluating adaptation activities. When applying this methodology to EbA, where an underlying understanding is that economy, society and ecosystems are intrinsically linked in their functioning, the environmental, economic and social impact of climate change needs to be taken into account each step of the model.




Five step model of GIZ's 'Adaptation made to measure' framework

## In practice

**Step 1: Assessing the context for adaptation.** The standard procedure for assessing context within EbA is a vulnerability assessment. This tool is used to measure the vulnerability and resilience of a specific ecosystem (and its services), as well as the vulnerability, resilience and adaptive capacity of human communities. It forms the basis for outlining options and barriers to EbA measures. In the project 'Strategic Mainstreaming of Ecosystem-based Adaptation in Viet Nam', an extensive vulnerability assessment for socio-ecological systems (VASES) was done in Ha Tinh and Quang Binh province, as part of which coherent systems were identified based on social, economic and ecological factors. Thereby, the above described understanding of society, ecology and economy being strongly interlinked was acknowledged. Vulnerabilities to climate change on all three levels were considered; based on these, a ranking of both the most important and the most vulnerable socio-ecological systems in the provinces as well as response mechanisms could be identified. In addition to this extended approach, fast track vulnerability assessments were conducted to identify pilot sites and measures for the provinces. These were coordinated with the outcomes of the VASES approach.

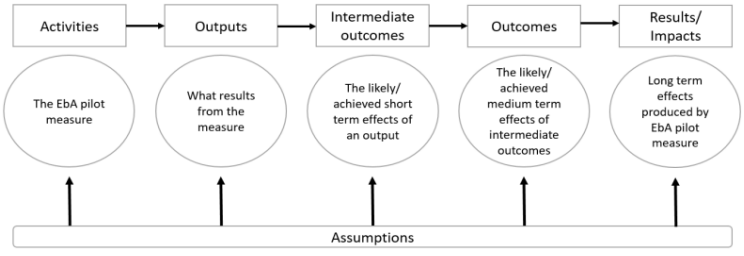
**Step 2: Identifying the contribution to adaptation.** For identifying the contribution of a measure to adaptation, 'Adaptation made to measure' suggests making use of the three dimensions *Building adaptive capacity, Measure for reducing identified risks/vulnerabilities* and *Successful development despite climate change (sustained development)*. Sin ce the contribution to adaptation was already majorly defined in the fast track vulnerability assessments, developing an additional table for this point was optional. For Ha Tinh, a table for the following overall measures was developed: *Providing capacity development activities within the EbA pilot measure - dealing with droughts;*

*Enhancing the natural ability of terrestrial ecosystems to adjust to water scarcity;*

*Developing healthy ecosystems that are resilient to changing climatic conditions (different slope sections of the terrestrial ecosystems are more resilient to droughts);*

*Aligning the pilot with the local government's orientation on proper land use (maintaining natural forests instead of monoculture acacia), and enhancing farmers' commitment (farmers are interested in protecting their natural forests as they understand the values provided by the pilot).*

**Step 3: Developing a results framework.** For the results framework, the concept note suggested a structure as shown below. However, EbA requires an iterative, flexible and adaptive process to prevent mal-adaptation. Due to the complexity and dynamic character of EbA measures, it was decided to take the results framework further and work with a Theory of Change approach to develop outputs, outcomes and impacts. This model allows for more intermediate re-evaluation, based on monitoring during the project, which needs to be an option during the project lifetime, as activities may change. An example of a Theory of Change can be found in the Annex I of this fact sheet.



Results framework as suggested in the concept note

**Step 4: Defining indicators and setting a baseline.** Based on the results framework, indicators were then identified for short-term outputs, medium-term outcomes and long-term impacts. Here, it was important to include both qualitative and quantitative indicators, and to define all of these

according to 'SMART' criteria (indicators need to be specific, measurable, attainable, relevant and time bound). This can be achieved by first, defining the subject (taken from the afore developed results framework); second, specifying the quantity of change; third, specifying the quality of change; fourth, defining a time horizon; fifth, specifying disaggregation (i.e. by gender, geographical reference) if applicable; and finally, combining all five steps into one subject-specific indicator for short, medium- and long-term time frames. This procedure is repeated for each theme as defined in the results framework. The definition of indicators is crucial for the M&E process and was thus done extremely thoroughly. An example of an indicator table for Quang Binh province can be found in Annex II.

Baseline data was gathered in cooperation with the DONREs and GIZ project staff in the initial phase of the pilot implementation.

**Step 5: Operationalizing the results-based monitoring system.** For useful operationalization of the M&E system, it is important to systematically monitor the change process. For this, data needs, data sources, the data collection method, data analysis method and responsibilities need to be identified. An example of one operationalized indicator table for Quang Binh is given in Annex III. In addition to generating the above named criteria, an M&E plan with and for partners at different levels as well as training for partner staff needs to be developed to ensure the sustainability of the pilot measures and their effects when the project is phased out. This step has already been initiated by developing a manual for the implementation and usage of the M&E tables for Ha Tinh and Quang Binh. Specific on-the-ground training on doing M&E for and with the partners is however still needed.

## Challenges and Recommendations

When operationalizing the monitoring system, multiple challenges arise: First, EbA is often also related to changes in people's awareness and capacity in terms of knowledge. Measuring this is only possible to a limited degree, as assessments can solely be done through qualitative interviews, which still will only reveal people's actual knowledge on EbA-related topics (or lack of it) to a certain extend. Second, EbA measures often only prove effective after many years, and regularly in a time frame that lies outside of a project scope. This is also the case for the pilot measures in Ha Tinh and Quang Binh province. It is thus highly important to prepare thoroughly described indicators, and to ensure a timely and all-encompassing handover to stakeholders who can monitor the activities over a longer time period and who will work with the results of the M&E (see step 5). In the case of the project 'Strategic Mainstreaming of Ecosystem-based Adaptation', this task will be taken on by the provincial Departments of Natural Resources and Environment (DONREs).

Furthermore, unexpected changes and divergences from planned developments are normal and inevitable when working with a complex approach like ecosystem-based adaptation, where elements of vulnerability and resilience of nature, economy and society all need to be taken into consideration. This point was factored in when developing the results framework in style of a Theory of Change (step 3) which allows for changes in planned outputs, outcomes and impacts. Here, it is core to be open and pay attention to such changes, and to understand their origins. In case of unexpected alternative developments, the following questions should be kept in mind:

- What is the different outcome? Is it better, worse, or just different from what was planned and expected?
- What created the different outcome? A results framework usually makes use of very specific assumptions. Maybe, these assumptions were wrong, or were not exhaustive enough in terms of the factors they included did not include enough factors. Alternatively, other external

changes occurred which could not be planned for.

- Can positive (or negative) changes be attributed to one's project/work? Or were changes based on other factor or actors, and the project actually did not manage to contribute to this change? This point might be very hard to prove, as ideally, one would also do surveys and interviews with a 'control community' which did not get project support, to see how their situation has evolved. This, however, is very time consuming. It is simpler to retrospectively ask the project community about their opinion on how different factors and actors (project- and not project-related) have influenced their situation since the project has started (University of Oxford 2014).

In more general terms, there clearly exists a need for the development of practical EbA-specific M&E guidance for practitioners that builds on existing M&E frameworks. The manual on implementing M&E for EbA that has been developed as part of the EbA project contributes to filling this gap.

At national level, it is necessary to include EbA M&E in legal frameworks and to link it to other M&E concepts that have been developed as part of country-specific guidelines such as Viet Nam's National Adaptation Plan.

**Sources**

CBD Convention on Biological Diversity. (2009). *Connecting biodiversity and climate change mitigation and adaptation: Report of the second ad hoc technical expert group on biodiversity and climate change. CBD Technical Series No. 41.* Montreal: Secretariat of the Convention on Biological Diversity.

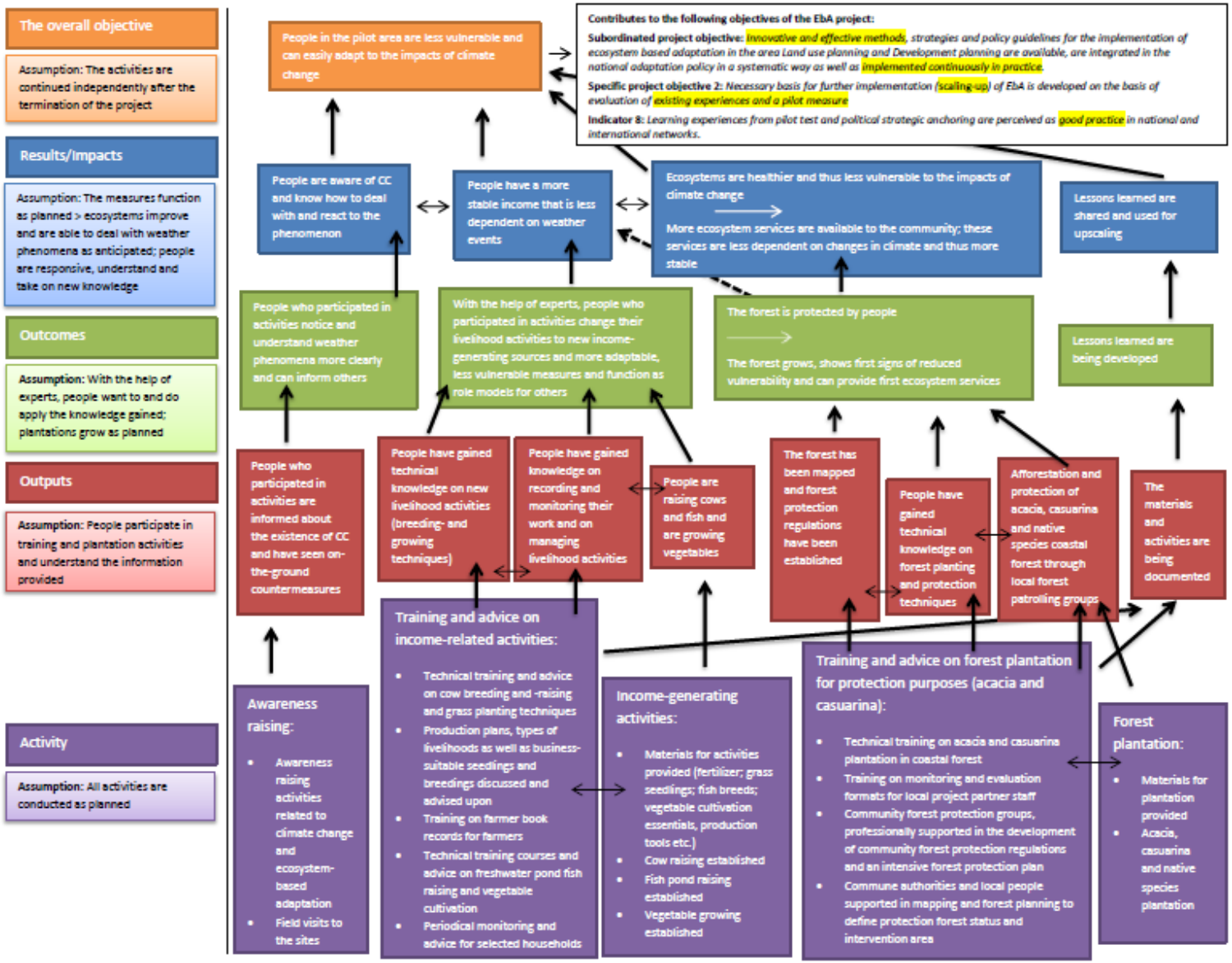
GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit. (2013). *Adaptation made to measure - A guidebook to the design and results-based monitoring of climate change adaptation projects (Second edition).* Eschborn: Deutsche Gesellschaft für Internationale Zusammenarbeit.

University of Oxford. (2014). *A step by step guide to Monitoring and Evaluation.* http://www.geog.ox.ac.uk/research/technologies/projects/mesc/guide-to-monitoring-and-evaluation-v1-march2014.pdf

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Project Strategic Mainstreaming of Ecosystem-based Adaptation in Viet Nam
14 Thuy Khue, Hanoi, Viet Nam
T +84 4 39 34 49 51
F +84 4 39 34 49 50
I www.giz.de/viet-nam

## Annex I

Results framework for Quang Binh province, based on a Theory of Change model. For Ha Tinh province, a similar model was developed, yet the activities were divided into one instead of two training and advice categories, in addition to the categories *Awareness raising, Material provisioning* and *On the ground/implementation*.



## Annex II

Identification of indicators for the subject *income-generating activities* in Quang Binh province.

| Steps | Process Indicator | Outcome Indicator | Impact Indicator |
|---|---|---|---|
| **1. Define subject** | ***Income-generating activities*** | Income-generating activities | People have a more stable income that is less dependent on weather events |
| **2. Specify quantity of change** | 1. A total of ten breeding cows and 2 800 kg of grass seedlings to grow on an area of 400-500m$^2$, for ten households<br>2. On average, 3 400 fishes per household for 10 households<br>3. A total 12 kg of vegetable seedlings (including 7 different vegetable species), 3000 m$^2$ of net for reducing impacts of heat and rain, and 500 kg of bio-fertilizer, for ten households | 10% of the households | 35% of the households |
| **3. Specify quality of change** | Provided and new livelihood activities initiated | Working with alternative livelihood activities, first income increases visible | Increase and more stabilized/reliable income |
| **4. Define time horizon** | 12.2016 – 1.2017 (2 months) | 2016 – 2018 (2 years) | 2016 – 2024 (8 years) |
| **5. If applicable, specify disaggregation (i.e. by gender, geographical reference)** | Men and women in Hoa Binh village, Quang Trach district, who have been selected for the pilot | Men and women in Hoa Binh village, Quang Trach district | Men and women in Hoa Binh village, Quang Trach district |
| **Combine 5 steps into 1 indicator (specific to subject)** | Within two months (12.2016 – 1.2017), a total of ten breeding cows and 2 800 kg of grass seedlings to grow on an area of 400-500m$^2$; 34 000 fishes; 12 kg of vegetable seedlings (including 7 different vegetable species); 3 000 m$^2$ of net for reducing impacts of heat and rain, and 500 kg of bio-fertilizer have been provided to a total of 30 households in Hoa Binh village, Quang Trach district, including men and women alike, and the work with the new livelihood activities has been initiated. | 10% of the households in Hoa Binh village, Quang Trach district (men and women alike) have started working in alternative livelihoods and are experiencing first increases in income within the first two years. | 35% of the households in Hoa Binh village, Quang Trach district (men and women alike) have increased and stabilized their income through the new livelihood activities within 8 years (2016 – 2024). |

## Annex III

Example of an operationalized indicator table for a process indicator (short term) in Quang Binh province.

| **Indicator** | **Data need (how do you intend to quantify the indicator?)** | **Data source (where will the data come from?)** | **Data collection method (which methods will be used, frequency)** | **Data analysis method (how will the data be analysed?)** | **Responsibility (who will be responsible for collection, analysis, storage?)** | **Costs (what are the estimated costs?)** |
|---|---|---|---|---|---|---|
| 13 trainings on climate change and how to react to it are provided for a total of 650 participants in Hoa Binh village, Quang Trach district and four other communes in Quang Binh province within one year (2016 – 2017). For Hoa Binh village, men and women receive the training equally. For the other four communes, women, youth union- and farmer association members are prioritized. | - no. of trainings conducted<br><br>- no. of participants that attended the trainings<br><br>- no. of communes where trainings have been conducted<br><br>- distribution male and female participants (in absolute numbers or percentages) for trainings | - primary data (fieldwork)<br><br>- secondary data (project reports, training reports) | - interviews<br><br>- document review<br><br>- once at the end of 2017 | Description in text form and absolute numbers and visualization (graphs) for distributions | - district and commune for collecting data<br><br>- DONRE for analysing, storing and reporting | This category needs to be filled in by the monitoring institution |