

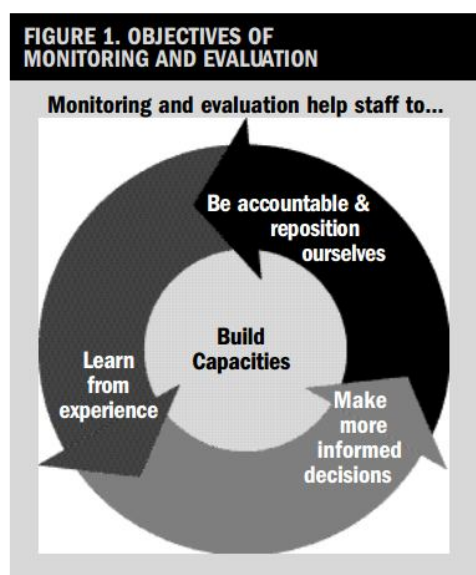
Strengthening Capacity on M&E of Climate Change Adaptation Initiatives in Southeast Asia¹

RESOURCE MATERIAL

Introduction to Monitoring and Evaluation (M&E)

The value of monitoring and evaluation (M&E) is closely linked with the effectiveness of development interventions that an organization or a country implements in order to meet its desired goal. The entire M&E process aims to understand what works well and what does not, and thereafter, propose measures to adjust accordingly.

According to the United Nations Development Programme (UNDP), M&E enhances the organizations' effectiveness "by establishing clear links between past, present, and future interventions and results." This will help in fine-tuning programs and strategies of the organization. UNDP further noted that without M&E, one cannot claim that a development intervention is successful or that progress has been made.



The Asian Development Bank (ADB) has an Independent Evaluation Department (IED), in charge of independently and systematically evaluating ADB policies, strategies, operations, and special concerns that relate to organizational and operational effectiveness. There are two levels of evaluation in ADB:

- self-evaluation, conducted by those responsible for designing and implementing a country strategy, program, or project; and
- independent evaluation undertaken by IED.

It should be noted that M&E is an integral part of the project management cycle. M&E does not only help build the organization's portfolio but it also builds the capacity of its staff (Figure 1; Source: UNDP Handbook on Monitoring and Evaluating for Results).

¹ This resource material is prepared by ICLEI-SEAS as supplement for Session 3 of "Beyond the Climate Change Adaptation Cycle: Learning and Re-learning - A Platform for Knowledge Exchange and Training. Session 3 is jointly organized by ICLEI-SEAS and the Asia Pacific Adaptation Network (APAN).

Box 1. Definition of Terms

Monitoring is performed while a project is being implemented to improve project design. It should be a continuing function that provides managers and stakeholders with “early indications of progress, or lack thereof, in the achievement of results. (UNDP)” Monitoring entails regular tracking of inputs, activities, outputs, outcomes and impacts of development activities at various levels -- project, program, sector and national (World Bank).

Evaluation studies the outcome of a project to inform the design of future projects. Evaluation is “the process of determining the worth or significance of a development activity, policy or program... to determine the relevance of objectives, the efficacy of design and implementation, the efficiency or resource use, and the sustainability of results. An evaluation should (enable) the incorporation of lessons learned into the decision-making process of both partner and donor.” (World Bank)

Box 2. M&E: What Can They Do for Me?

Excerpts from: Monitoring and Evaluating Urban Development Programs, A Handbook for Program Managers and Researchers. Bamberger, Michael and Hewitt, Eleanor. World Bank Technical Paper no 53. (Washington, D.C.: 1986) Available at <http://web.mit.edu/urbanupgrading/upgrading/issues-tools/tools/monitoring-eval.html#Anchor-Good-41427>

Evaluation and monitoring systems can be an effective way to:

- Provide constant feedback on the extent to which the projects are achieving their goals.
- Identify potential problems at an early stage and propose possible solutions.
- Monitor the accessibility of the project to all sectors of the target population.
- Monitor the efficiency with which the different components of the project are being implemented and suggest improvements.
- Evaluate the extent to which the project is able to achieve its general objectives.
- Provide guidelines for the planning of future projects.
- Influence sector assistance strategy. Relevant analysis from project and policy evaluation can highlight the outcomes of previous interventions, and the strengths and weaknesses of their implementation.
- Improve project design. Use of project design tools such as the *logframe* (logical framework) results in systematic selection of indicators for monitoring project performance. The process of selecting indicators for monitoring is a test of the soundness of project objectives and can lead to improvements in project design.
- Incorporate views of stakeholders. Awareness is growing that participation by project beneficiaries in design and implementation brings greater “ownership” of project objectives and encourages the sustainability of project benefits. Ownership brings accountability. Objectives should be set and indicators selected in consultation with stakeholders, so that objectives and targets are jointly “owned”. The emergence of recorded benefits early on helps reinforce ownership, and early warning of emerging problems allows action to be taken before costs rise.
- Show need for mid-course corrections. A reliable flow of information during implementation enables managers to keep track of progress and adjust operations to take account of experience.

Relevance of M&E for CCA

Adaptation is defined in various ways by organizations working on the said field. While there are related concepts within individual definitions, it boils down to the principle that “addressing adaptation to climate change demands holistic thinking and action. Multi-discipline, multi-sector and multi-stakeholder arenas require different ways of thinking and working together than do conventional, more structured thematic areas.” (Sanahuja, 2010).

It is important to continually assess adaptation measures being implemented to ensure that they are still appropriate and relevant to target stakeholders. Furthermore, the tools and methodologies used to integrate CCA into development planning should be updated regularly to include emerging issues and trends.

In Southeast Asian countries, there are already a number of efforts both at the national and local level to mainstream CCA in development planning. There is a vast knowledge base available on the said topic. It has also been widely accepted that a combination of adaptation tools is needed in order to produce desired outcomes. Each tool has its own strengths and weaknesses, and may or may not work for a particular area. However, what is often overlooked by most organizations and entities implementing CCA interventions is the importance of monitoring and evaluation (M&E).

The United Nations Framework Convention on Climate Change M&E Synthesis Report as cited by Sanahuja (2010) stated that:

“Monitoring and evaluation of projects, policies and programmes forms an important part of the adaptation process. Ultimately, successful adaptation will be measured by how well different measures contribute to effectively reducing vulnerability and building resilience. Lessons learned, good practices, gaps and needs identified during the monitoring and evaluation of ongoing and completed projects, policies and programmes will inform future measures, creating an iterative and evolutionary adaptation process.”

Suffice to say, the establishment of an M&E framework for CCA is quite complex because of the cross-cutting concerns that CCA initiatives intend to address. There are also CCA interventions which are sector-specific in nature and as such, require more customized set of indicators.

Challenges for Monitoring Adaptation

Hedger, et al. (2008) wrote that “no single intervention will deliver CCA.” It is very diverse and impacts can cut across sectors and scales. Moreover, funds for CCA intervention often come from international levels but outcomes are expected to be cascaded down to the household level. This implies that CCA interventions are delivered through various institutional mechanisms. Lastly, CCA tackles challenges coupled with risk and uncertainty.

For UNDP, adaptation is about achieving development effectiveness through system-wide resilience. However, there are inherent challenges when you talk about measuring adaptation. Some key questions that need to be answered include:

- What are the proxies for adaptive capacity and reduced vulnerability?
- What are the relevant parameters/indicators within the context of adaptive capacity and development state etc.?
- How can results be aggregated from “project”- to “portfolio”-levels?
- How to predict in the context of future changes?

UNDP also noted that the complexity of CCA adds up to the challenge of M&E. When talking about CCA M&E, the following parameters need to be examined closely:

- **Attribution:** climate change risks compound effects of natural climate variability (weather) and other non-climate related determinants of vulnerability. Micro- and macro data are necessary.
- **Relevance:** Achieving development objectives over longer periods of time than project lifetimes. How robust are inferences in a future changed climate?
- **Calibration:** Climate-related hazards that affect development outcomes are changing – a moving baseline. How do we evaluate successful adaptation in a dynamic temporal and spatial context?

Box 3. General Challenges of Adaptation

- The nature of adaptation
 - The long timescales associated with climate change and its impacts.
 - The uncertainty associated with projected impacts and the related challenges of defining a long-term vision of the outcome of adaptation and agreeing on levels of acceptable risk.
 - The multi-sectoral and multi-stakeholder nature of adaptation.
 - Reversed logic, which means that the measure is successful by default when nothing happens.
- Adaptation lacks an agreed metric to determine effectiveness
 - The outcomes of evaluations of adaptation projects, policies and programmes may not always be directly comparable.
 - Vulnerability assessments require value judgments, and any attempt to define and measure vulnerability must be the result of a consultative, stakeholder-driven process, rather than the result of technical analysis resulting in a simple metric.
- The difficulty of attributing cause and effect
 - As adaptation entails a range of projects, policies and programmes across sectors and levels, their effect may be difficult to distinguish from the effects of other sectoral activities.
 - If indicators are needed in order to show that a particular project, policy or programme has been cost-effective, then it will be essential to find ways to attribute measured successes to those individual actions.
- Unintended negative side effects
 - The Organization for Economic Cooperation and Development (OECD) recommends caution in using indicators, as their application may have unintended negative side effects.

Source: Adapted from UNFCCC/SBSTA/2010/5 as cited by Sanahuja, H.E. (2010). Tracking Progress for Effective Action A Framework for Monitoring and Evaluating Adaptation to Climate Change. Available at [http://www.seachangecop.org/files/documents/Final_Draft_Study_of_Frameworks_on_Adaptation_\(HS_August_2011\).pdf](http://www.seachangecop.org/files/documents/Final_Draft_Study_of_Frameworks_on_Adaptation_(HS_August_2011).pdf)

Developing M&E Indicators and Setting up Measurement Schemes for CCA

Reed, et al. (2009) explained that “standard development and environment indicators are unable to reflect the nature of adaptation, which is about capacity, behavior, and risk-reducing measures for the advancement of development outcomes.” On the other hand, Villanueva (2011) shared that one of the issues on M&E for CCA is that it often fails to factor the uncertainty and complexity of climate change impacts. Villanueva

recommended that M&E indicators should be adaptive, dynamic, active, participatory, and thorough (ADAPT).

On the other hand, as indicated in the training manual developed by the German Federal Ministry for Economic Cooperation and Development (BMZ) on “Integrating Climate Change Adaptation into Development Planning,” selection of good indicators should be SMART.

- S – Specific: the indicator is valid and describes the underlying issue
- M – Measurable, practicability: rely on sound data obtained through reproducible methods independent from the individual collectors of the information
- A – Attainable (only applicable to targets)
- R – Relevant: address an important issue for the users and related to the objective of the M&E.
- T – Time-bound: related to time and milestones so that progress can be shown during the course of implementation.

Developing an M&E system for CCA²

The topic of M&E for CCA is slowly gaining prominence in the development agenda. There are already a number of frameworks relating to the subject matter. This resource material zeroes in on the framework developed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the World Resources Institute (WRI).

It should be noted that this framework is limited to the scope and extent of research and consultations done by partner organizations. M&E practitioners may need to adjust according to the specific needs and conditions of the area where the CCA intervention is being implemented. This framework outlines a six-step process with an endgoal of designing an adaptation-relevant M&E system for developing countries.

1. **Step 1: Describe the Adaptation Context** – As noted in previous sections, adaptation is a highly diverse subject matter. As such, it is important to examine the process from a multi-sectoral perspective. Both climatic and non-climatic factors should be considered in determining adaptation priorities. The conduct of vulnerability and risk assessment is a key step that can help flesh out adaptation context.
2. **Step 2: Identify the Contribution to Adaptation** – Under this framework, M&E of adaptation interventions is examined under three dimensions, namely: adaptive capacity, adaptation actions, and sustained development in a changing climate.
 - Adaptive capacity – builds capacity of vulnerable population
 - Adaptation actions – addresses specific climate risks and involves enhancement or management of bio-physical systems
 - Sustained development – endpoint of adaptation resulting to human well-being and economic welfare.
3. **Step 3: Form an Adaptation Hypothesis** – An adaptation hypothesis describes how the expected outcomes of proposed measures address a specific vulnerability. Some examples of hypotheses include:

² This section is heavily drawn from the report titled Making Adaptation Count: Concepts and Options for Monitoring and Evaluation of Climate Change Adaptation published by GIZ GmbH on behalf of BMZ and the World Resources Institute. Full report available at http://pdf.wri.org/making_adaptation_count.pdf

- Water: Community access to weather monitoring and prediction data, combined with community-managed water resource systems, can lead to greater water use efficiencies and improved adaptive capacities.
- Land Use: Village-level land-use maps can provide a range of options for different rainfall scenarios. They can lead to stabilization of yields from rain-fed farming, and greater food and economic security.

- Examples from a community-based adaptation project of the M.S. Swaminathan Research Foundation as cited by GIZ and WRI

4. **Step 4: Create an Adaptation Theory of Change** – Since adaptation is coupled with risks and uncertainty, it is important to have a Theory of Change (ToC) to link core activities with expected outcomes. The ToC serves as a guiding tool for practitioners to illustrate the relationship of primary activities, outputs, and outcomes including assumptions that may enable or prevent success. ToC helps “identify and correct false assumptions, integrate new information into a strategy, or pinpoint the reasons for achievements or failures.”

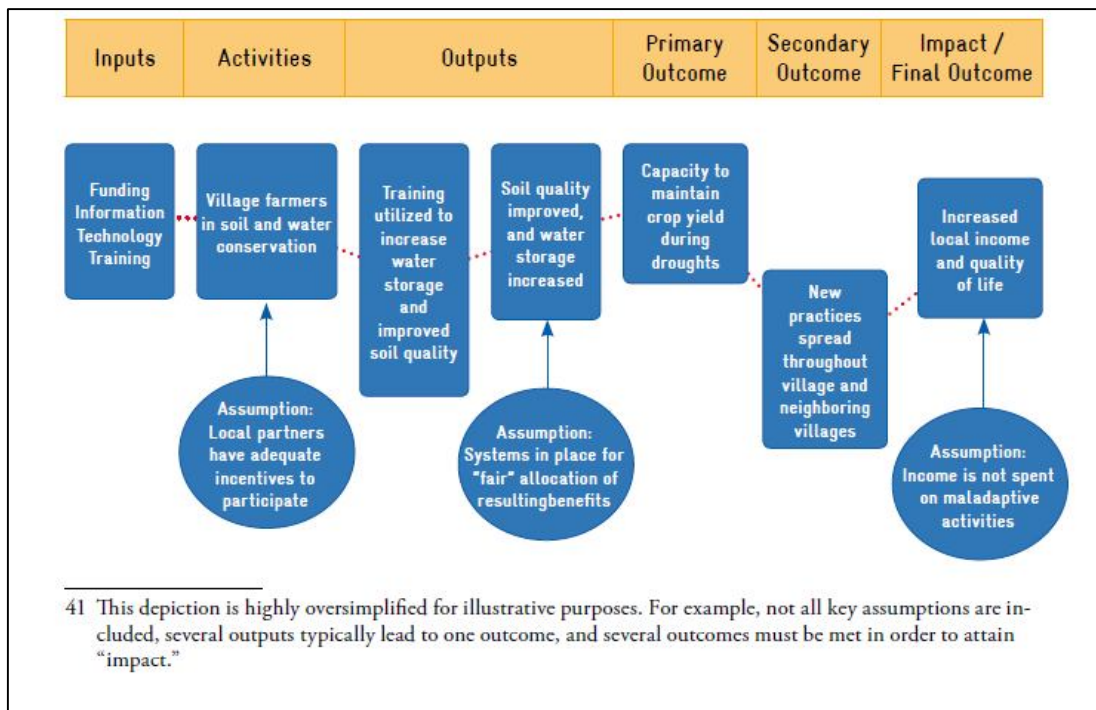


Figure 2. Example Theory of Change with Assumptions

5. **Step 5: Choose Indicators and Set a Baseline** – To simplify the process of devising key indicators, this framework recommends breaking down the process using the three dimensions of adaptation discussed in Step 2.

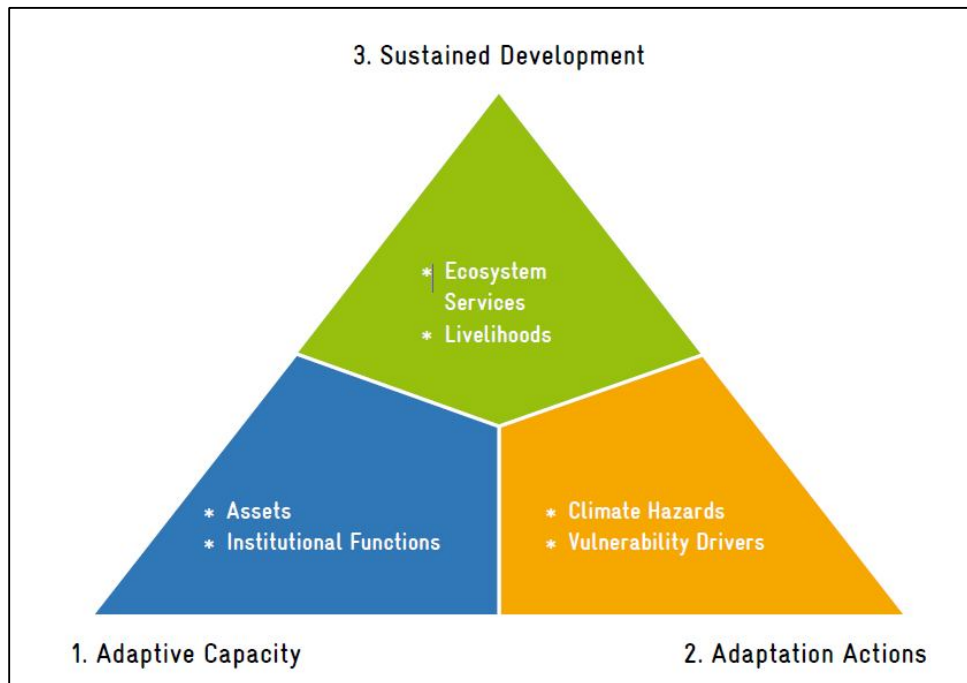


Figure 3. Example Indicator Sets for Each Adaptation Dimension

6. **Step 6: Use the Adaptation M&E System** – Once the system has been designed, practitioners should continuously improve the process by constant feedback loops and regular consultation with partners.

Box 4. Good M&E Design Has Five Components

Excerpted pieces from: “Designing Project Monitoring and Evaluation.” Lessons and Practices, no 8. Operations Evaluation Department. 6/1/96 (emphasis added) Available at <http://web.mit.edu/urbanupgrading/upgrading/issues-tools/tools/monitoring-eval.html#Anchor-Good-41427>

Good monitoring and evaluation design during project preparation is a much broader exercise than just the development of indicators. Good design has five components:

1. Clear statements of measurable objectives for the project and its components, for which indicators can be defined.
2. A structured set of indicators, covering outputs of goods and services generated by the project and their impact on beneficiaries.
3. Provisions for collecting data and managing project records so that the data required for indicators are compatible with existing statistics, and are available at reasonable cost.
4. Institutional arrangements for gathering, analyzing, and reporting project data, and for investing in capacity building, to sustain the M&E service.
5. Proposals for the ways in which M&E findings will be fed back into decision making.

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