

Making Adaptation Count:
Concepts and Options for Monitoring and Evaluation of
Adaptation to Climate Change
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Executive Summary

Adaptation, Development, and Monitoring and Evaluation

The impacts of climate change increasingly threaten the achievement of poverty reduction and other development objectives, including the 2015 Millennium Development Goals (MDG). Research suggests that impacts over the course of the 21st century, if unaddressed, could cause a 5–10 percent loss in global gross domestic product (GDP), with poor countries' wealth declining in excess of 10 percent.¹ Even more significant are the potential threats to human security—reduced agricultural production, heightened water scarcity, exposure to droughts, floods, storms, and diseases.²

As developing country governments and their international partners grow increasingly aware of these threats, they are turning to options for adapting to climate change in the development context. However, the national, sectoral, and project-based adaptation plans and policies now emerging are largely in their infancy and relatively untested. Monitoring and evaluation (M&E) of such initiatives, as they are implemented across the developing world, will be critically important for judging their effectiveness and making decisions on which efforts to scale up as climate impacts intensify. Industrialized countries and donor agencies channeling billions of dollars into adaptation finance, including under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC), will require such systems as an important dimension to the adaptation initiatives they support.

About This Publication

This paper aims to provide adaptation and development practitioners with a practical framework for developing M&E systems that can track the success and failure of adaptation initiatives in the development context. It is based upon a series of convenings, case studies, and interviews conducted by the World Resources Institute (WRI) in collaboration with the German Agency for International Cooperation (GIZ), with financial support from the German Federal Ministry for Economic Cooperation and Development (BMZ). In particular, the authors reviewed M&E systems in the planning and implementation stages for several relevant GIZ and Kreditanstalt für Wiederaufbau Bankengruppe (KfW or German Development Bank) natural resource management and adaptation projects in India.

We expect adaptation M&E practice will evolve substantially in the years ahead. We offer this guidance in the hope that capturing early lessons in adaptation can propel future successful efforts. This paper addresses the planning, design, and early implementation stages of adaptation interventions. The key framework can also serve as a basis for funders and their partners to develop or analyze programmatic agendas, formulate evaluation questions, or supplement guidance on M&E in a specific sector or thematic area.

¹ Stern 2006.

² UNDP 2008a.

The core principles presented in this report center around the importance of M&E as a tool to shape successful adaptation efforts. We also recognize, however, that M&E can serve other useful purposes. For example, it can help identify positive synergies between efforts toward adaptation and other objectives, such as economic growth or climate change mitigation.

The guidance presented here is limited to the scope of our research and consultations and has not yet been substantially tested in the field. Practitioners will undoubtedly need to adjust their use of this paper to the unique needs of specific interventions, and to existing M&E systems and management standards. Furthermore, analysis of adaptation strategies and efforts beyond the intervention level are largely beyond the scope of this paper. Very different methodologies may be needed to assess, for example, large-scale, countrywide adaptation strategies, or sector-wide adaptation efforts. Finally, as practitioners, governments, and other development cooperation partners progress in this emerging field, much remains to be tested and learned about “what works” in adaptation and how to measure it.

Summary of Key Findings

This report consists of four chapters designed to provide a roadmap for adaptation and development practitioners on how to design and implement project-level monitoring and evaluation systems. The key content of each chapter is summarized below.

Chapter 1: The Role of M&E in Adaptation

The report first highlights the importance of M&E for improving adaptation in a developing country context and identifies several core concepts that characterize how M&E for adaptation differs from M&E for other aims:

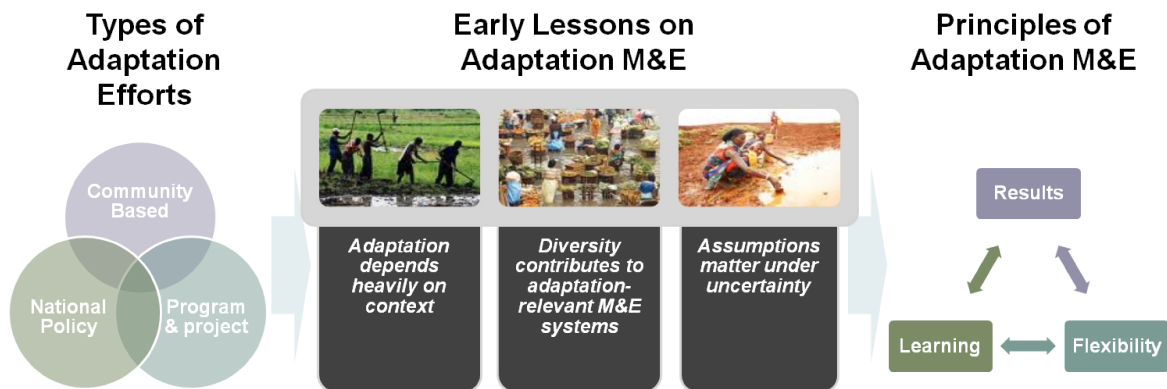
- No one set of adaptation indicators or single type of M&E system will work for all adaptation interventions. Indicators must be chosen based on the relationship between planned adaptation activities and the socio-economic, environmental and climatic context in which they will be implemented.
- M&E systems play two critical roles in ensuring effective adaptation: they support the long-term process of learning “what works” in adaptation; and they provide a tool for practitioners to manage their work in the context of the uncertainty surrounding climate change impacts.
- Practitioners encounter many challenges in designing and using M&E systems for adaptation, including achieving results in both long and short timeframes, and dealing with the cross-sectoral nature of adaptation interventions.
- Competing priorities for how to use M&E can create tensions that practitioners must face in order to design effective M&E systems for adaptation. These include whether M&E supports bottom-up or top-down decision-making, and whether M&E as a tool for learning can be reconciled with its role in supporting accountability.

Chapter 2: Lessons from Early Adaptation Efforts

Chapter 2 explores lessons learned for M&E from early adaptation efforts in the developing world, and identifies an emerging set of principles for adaptation M&E. These provide the foundation for the step-by-step approach we then propose in Chapter 3 for establishing an M&E system.

- Adaptation in the development context can be broadly categorized by three types of efforts – community-based adaptation, program and project-based adaptation, and national policy initiatives. These areas have evolved separately to meet specific needs, and each requires M&E systems tailored to meet those needs.
- Broad early lessons on the use of M&E for adaptation *can* be seen across the types of adaptation efforts noted above. First, defining adaptation success requires consideration of the context in which adaptation activities occur. Second, a diversity of inputs – including information and participants – contributes to successful adaptation M&E systems. Third, tracking assumptions is an important component of M&E systems for adaptation, in order contend with the uncertainties associated with climate change.
- Three principles underpin effective M&E systems for adaptation interventions: design for learning; manage for results; and maintain flexibility in the face of uncertainty.

Figure ES-1. Building on Early Lessons in Adaptation M&E



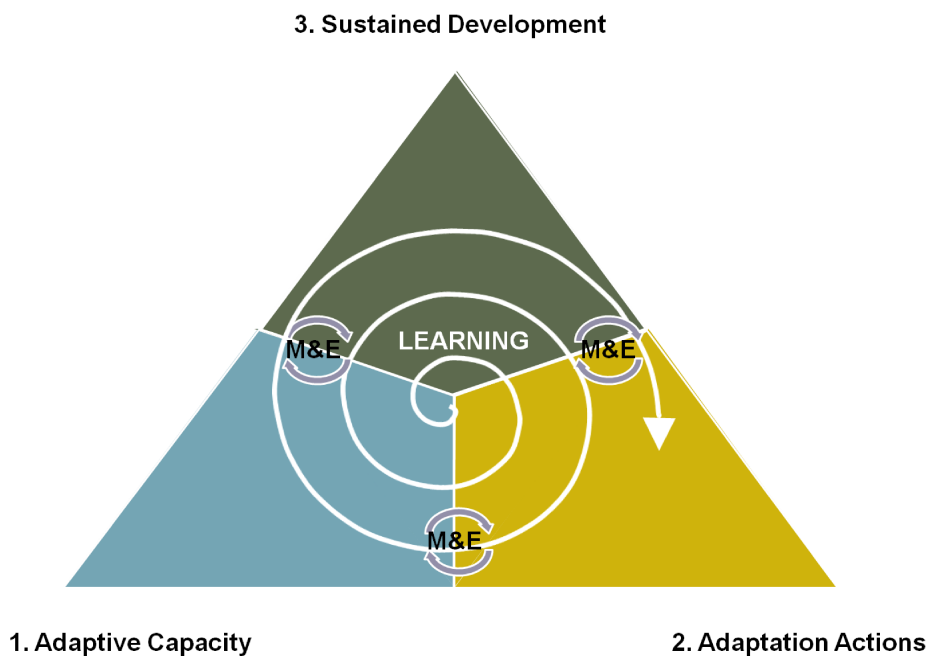
Chapter 3: Steps and Options: Developing M&E Systems

The bulk of the report presents a comprehensive six-step process to develop adaptation-relevant M&E systems for use in developing countries. Development practitioners can apply these steps either to develop an M&E system for an adaptation project or program, or to identify ways to monitor and evaluate the adaptation components of a development intervention. The steps also can help funders and practitioners to gauge the utility of existing M&E systems for adaptation initiatives.

Each step raises key design and implementation questions for practitioners to address. The steps are organized around three key dimensions of adaptation (see Figure ES-2), and example indicators for each dimension help practitioners identify criteria for defining a given project's contribution to adaptation.

- **Step 1 Describe the Adaptation Context** – Since the nature and quality of adaptation depends heavily on context, it is essential for practitioners to understand the climate and non-climate factors and populations that will affect and be affected by the interventions they plan. Conducting a climate vulnerability and/or climate risk assessment early in the intervention design process helps practitioners and their partners, for example, to identify and reflect stakeholder-driven priorities.
- **Step 2 Identify the Contribution to Adaptation** – Adaptation is many things to many actors and stakeholders, and *attribution* of any given set of activities to a known outcome is impossible. Instead, this paper proposes a three-part framework constructed around possible *contributions* to the adaptation process: adaptive capacity, adaptation actions, and sustained development in a changing climate. Funders and their partners can use this framework to, among other things, define high-level goals or outcomes. Practitioners can use it to characterize types of lessons learned from the M&E systems of various adaptation interventions.

Figure ES-2. Three Dimensions of Adaptation



- **Step 3 Form an Adaptation Hypothesis** – To test the validity of a location-specific approach to adaptation, practitioners can formulate an adaptation hypothesis for each major expected outcome. For example, crop diversification might be a strategy for a farming village to manage increasing climate variability. The hypothesis might be that the use of a particular seed blend will reduce crop sensitivity to extreme temperatures and drought, thereby improving average yield and overall average food security. The intervention results would show whether the tested approach yielded the quality or degree of intended behavioral or environmental changes.
- **Step 4 Create an Adaptation Theory of Change** – In light of the many uncertainties surrounding adaptation interventions, a theory of change is a helpful tool for practitioners to illustrate the relationship between an intervention's components, expected results, and assumptions about factors that can enable or inhibit the likelihood of achieving success. Practitioners can use a theory of change to identify and correct

false assumptions, integrate new information into a strategy, or pinpoint the reasons for achievements or failures.

- **Step 5 Choose Indicators and Set a Baseline** – Choosing appropriate indicators for adaptation requires rooting an intervention's goals within its specific climate change and development context. Practitioners can use the three adaptation dimensions shown in Figure ES-2 to characterize indicators by type of outcome, and devise a baseline to measure progress within each. This step illustrates two sets of example indicators within each adaptation dimension. In this chapter we describe 'assets' and 'institutional functions' as two types of indicators that are particularly useful in describing **adaptive capacity**. Under **adaptation actions** we highlight activities and decisions that address particular 'climate hazards,' or work to reduce 'vulnerability drivers.' And we propose 'ecosystem services' and 'livelihoods' as two useful types of indicators for demonstrating the long-term and systematic needs of **sustaining development** in a changing climate.
- **Step 6 Use the Adaptation M&E System** – This step guides practitioners through how to implement the M&E system developed through the previous five steps. Adaptation-relevant M&E systems can be used by practitioners to demonstrate the relative contribution of interventions to the adaptation process and answer evaluation questions related to, for example, performance, efficiency and effectiveness. We highlight the differences between activity and outcome monitoring, and discuss the importance of results-based management, flexibility, and learning, including through regular feedback loops and engagement with partners.

Chapter 4: Conclusions

The report concludes by highlighting ways to "learn by doing" in the development of M&E practice for adaptation. It proposes several important areas for further development and research.

- **Think outside the project box:** The challenges of M&E for adaptation are largely shaped by factors outside the individual project cycle. Therefore, developers of M&E systems need to move toward measuring changes in broader systems.
- **Explore options for overcoming barriers to participation:** Further work is needed to understand how technology, capacity building, and wise use of financial resources can reduce the costs associated with stakeholder participation in M&E, improve inclusion processes, and scale up use of participatory approaches.
- **Link existing M&E systems:** Stronger connections between bottom-up and top-down information and decision making could help focus scarce resources by eliminating duplicate reporting structures, sharing common relevant information, and potentially improving accessibility and transparency. Integrated adaptation M&E systems could also be used to link disparate sectoral or thematic activities.
- **Promote experimentation:** Useful experimental approaches for adaptation from the developed world are beginning to gain traction in the development sphere. M&E will play an important role in helping to learn when such approaches have value and how they can be adjusted to specific locations.
- **Face tensions and trade-offs openly:** M&E of adaptation presents challenges in a world of limited resources, where it is rarely possible to manage multiple processes for a given place, issue, or activity. Open discussion of tensions and trade-offs can ensure that a given system is used appropriately, and that its results are not misunderstood, misinterpreted, or used for cross-purposes.