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Monitoring & evaluation for climate change adaptation: A synthesis of tools, frameworks and approaches



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List of acronyms

AMAT	Adaptation monitoring and assessment tool
ARCAB	Action Research for Community Adaptation in Bangladesh
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CBA	Community-based adaptation
CCA	Climate change adaptation
CCAI	Climate change adaptation interventions
CoBRA	Community-based resilience assessment
CoP	Community of Practice
CRF	Climate resilience framework
DAC	Development Assistance Committee
DFID	UK Department for International Development
DME	Design, monitoring, and evaluation
DRR / DRM	Disaster risk reduction / management
EPA	Environmental Protection Agency
EWS	Early warning system
FAO	United Nations Food and Agriculture Organisation
GEF	Global Environmental Facility
GEF-EO	Global Environmental Facility – Evaluation Office
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IDS	Institute of Development Studies
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
ISSET	Institute for Social and Environmental Transition

JICA	Japan International Cooperation Agency
LDCF	Least Developed Countries Fund
LFA	Logical framework approach
M&E	Monitoring and evaluation
MDG	Millennium Development Goals
MERL	Monitoring, evaluation, reflection, and learning
NAPA	National adaptation programmes of action
NGO	Non-governmental organisation
NRM	Natural resource management
OECD	Organisation for Economic Co-operation and Development
PMERL	Participatory monitoring evaluation reporting and learning
QBS	Qualifications-based selection
RBM	Results-based management
SCCF	Special Climate Change Fund
SCR	Strengthening climate resilience
TA	Thematic area
TAMD	Tracking adaptation measuring development
TANGO	Technical assistance to non-governmental organisations
ToC	Theory of change
UKCIP	United Kingdom Climate Impacts Programme
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WFP	United Nations World Food Programme
WRI	World Resources Institute



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Foreword

This report comes at a critical moment. Climate change threatens to reverse progress towards sustainable development, and threaten lives and livelihoods around the globe. Governments, development agencies, the private sector, and other stakeholders can and should address climate change directly and strongly – and many are doing so already. The next question is what works, what does not, why, and how? Frankly, we currently don't have a clear picture in that respect. Climate change adaptation policies, programmes, and projects need to effect change from international governance down to individual behaviour change, and everything in between. These interventions need to be embedded in an analysis of a threat unprecedented in human history, but deliver change at the household level as well. A daunting task, indeed, and one that we are only beginning to understand.

The good news is that many promising efforts are underway, and not only by governments, multilateral organisations, development agencies, businesses, think tanks, and knowledge institutes. Some of the world's poorest communities are already formulating practical ways to adapt to the impacts of global climate change, and it is perhaps the higher-level stakeholders who need to be learning from them. There is too much we do not know about adaptation and resilience to climate change; just "doing good" may not be good enough to make a lasting adaptation difference. Are these community-level experiences being recognised and learned from? How do regional and global policy and strategy efforts towards climate change influence adaptation practices at local levels? Monitoring and evaluation, when done well and with an eye towards generating new knowledge and facilitating learning, can be one of our most promising approaches for documenting and disseminating what works.

Monitoring & evaluation for climate change adaptation: A synthesis of tools, frameworks and approaches is a step in the right direction. The authors have compiled a comprehensive collection of monitoring and evaluation tools, frameworks, and approaches, and reviewed them thoughtfully and succinctly. With this manual, programme managers, policymakers, and researchers can easily identify which materials would be most useful to them. The report extends the kind of adept guidance and spot-on analysis that helps development professionals do their jobs. At the same time, it identifies gaps and challenges that need to be addressed in the rapidly-evolving field of climate change adaptation. Vulnerable communities have much to contribute to global efforts to tackle climate change. The next challenge for us is to be better at identifying and communicating what works so that lessons can bring benefits to many others.

Introduction

This report represents a synthesis and summary of frameworks for the monitoring and evaluation (M&E) of climate change adaptation (CCA) interventions, with a specific focus on international development projects and programs.

The objective of this report is to:

- Provide an easy-to-read synthesis of current adaptation M&E resources, frameworks, and approaches so that practitioners are able to more easily identify the information and tools that are most relevant to their needs.
- Provide a short analysis of the “state of play” of adaptation M&E guidance, identifying key themes and reflecting upon gaps and future priorities.

We recognise that the resources reviewed here were developed for different, and sometimes specific, purposes. As a result, we have not sought to recommend or “score” tools, as their value and relevance will depend on the context in which they are applied. Instead, we have aimed to provide a subjective assessment of each resource in terms of its purpose, a summary of content and approach, its potential application, and the contribution it makes to our broader understanding of adaptation M&E. We recognise that more work in this field is on-going, and that in some cases the resources reviewed in this report are also evolving. Consequently, this report provides a “snapshot” review at a given point in time. We plan to update this report in 2014, taking into account feedback on this first edition as well as new resources which are due to be published.

Why monitoring and evaluation matters

Climate change represents a “wicked problem” insofar as it is deeply complex, intractable, and resistant to solution. Climate change threatens to reverse gains made toward sustainable human development and compromise the lives, health, and livelihoods of people across the globe. Climate change adaptation represents a new focus of development programming, although not an entirely novel one. Rather, this programming builds upon existent practice. However, CCA is not simply development “business as usual.” There is a consensus that for CCA to be done well, it must be tailored specifically to the challenges and dilemmas posed by climate change. What precisely that means, however – and how to measure it – has wide interpretations. Climate change adaptation is a relatively new field, and to date the implementation of adaptation

measures has been limited. This places even greater emphasis on understanding what works (or not), when, where, how, and why. Monitoring and evaluation can play a central role in this process, especially where knowledge is shared between and across adaptation projects and programmes.

A common question raised is, given the long-established expertise and experience of monitoring and evaluating development activities, why do we specifically need to consider M&E practice in the context of climate change adaptation? Climate change adaptation poses challenges of unprecedented scale and scope, which cut across normal programming sectors, levels of intervention, and timeframes. Furthermore, climate adaptation exhibits a number of characteristics, which are not necessarily unique to adaptation, but do require specific consideration if monitoring and evaluation is going to be effective. These characteristics include:

- **Long timeframes.** Climate change is a long-term process that stretches far beyond the span of programme management cycles. The real impact of CCA may not be apparent for decades. How then to define and measure achievements?
- **Uncertainty about actual climate change patterns and their effects in a given locale.** While we are confident that climate change will trigger more severe adverse weather events globally, it is unclear exactly how and when changes will unfold, and what their consequences will be in situ. Some locations are also likely to be affected very deeply, but by indirect means. For example, drought exacerbates rural-to-urban migration. Even if a city is not at all affected by increased frequency and severity of drought, an influx of rural poor from a neighbouring region may overwhelm the city's functioning and services.
- **Shifting baseline data and changing contexts.** This issue is of particular interest to M&E specialists, and is related to the above two points. The normal approach to programme evaluation includes collecting baseline data against which progress can be tracked. However, climate change itself is both unpredictable and taxing on local ecosystems and populations. Comparison of pre- and post- intervention data thus loses validity.
- **Measuring non-events.** Particular adverse weather may not occur during the programme cycle, and 'success' may constitute stabilisation or preparedness rather than improved conditions. For example, a programme to improve the capacity of a typhoon-prone provincial government to cope with disasters will not be tested if no typhoon hits during the actual programme cycle. Meanwhile, in a context of increasing drought, maintaining rather than improving a community's level of water security may constitute considerable achievement. While this may be widely understood among practitioners, it may be difficult to convince sceptical donors or policymakers with these kinds of results.
- **Inappropriateness of universal indicators.** While there are clear-cut indicators for climate change itself, adaptation must be grounded in the context, scale, sector, and nature of the endeavour, all of which vary widely. Moreover, many aspects of adaptation are 'soft' (e.g. institutional capacity, behaviour change), and for some key dimensions qualitative assessments are most appropriate. It may be difficult to aggregate community-level programme indicators at higher scales or, conversely, for national- or international-level ones to capture the effectiveness of interventions at the individual or household level.
- **Contribution vs. attribution.** M&E approaches usually seek to demonstrate that changes can be attributed specifically to a project: for example, that a village's improved food security is due to an agency's agricultural extension programme. However, the complexity, multi-sectoral nature, scales, and long timeframes of climate change require a modified approach to M&E. Stakeholders instead need to demonstrate how their policy or programme contributes to an overall adaptation process that is largely shaped by external factors. This may require the appropriate and judicious use of process and proxy indicators.

- **Diversity of key definitions and terms.** There has been a proliferation of CCA technical terminology. Basic concepts like “adaptation” and “vulnerability” are being defined in different ways by different agencies. There is considerable overlap and duplication of key terms; meanwhile more specialised ones (e.g. “transformative resilience”) may be essential to one agency or document but poorly understood beyond it. There can also be confusion about some of the nuances (e.g. “adaptive capacity” vs. “ability to adapt”).

Given these challenges, a growing number of organisations responsible for funding and delivering climate adaptation interventions are now examining how to best approach M&E of CCA interventions. In addition, CCA programming itself has evolved, becoming both more ambitious and more widespread, and placing even greater emphasis on understanding two related questions: are we doing the right things and are we doing things right? As we unpack these questions, further challenges become evident, including lack of consensus on key concepts and definitions, lack of clarity on what constitutes achievement, and the extent to which CCA is mainstreamed into existing efforts or constitutes a discreet area of intervention.

Climate change presents challenges of a scope unprecedented in human history, but ones that will also unfold more slowly and unpredictably than development interventions usually account for. The result is a growing focus on development interventions which seek to enhance resilience to climate change and incorporate adaptation measures, but a nascent evidence base that informs decision-making. CCA M&E, when done well, can serve both to demonstrate the effectiveness of policies and programs, and to generate new learning. To date, there has been some disconnect between CCA experts, and M&E specialists. It is imperative to bring these two communities together. Traditional approaches to M&E need to be modified to meet the unique needs of CCA programming, and meanwhile monitoring and evaluation can offer concrete justification and new knowledge to inform further CCA initiatives.

Why this study was needed

There has very recently been a proliferation of CCA M&E initiatives, guidelines, and frameworks. There is considerable overlap between some of these, but also very important differences in approach, methodology, and intended audience. The flurry of new materials, combined with the unique challenges posed by climate change itself, can be daunting. In early 2012, SEA Change conducted a needs assessment for knowledge materials for CCA M&E (Bours 2013). Among the key findings was a strong demand for an over-arching, comprehensive document that would help M&E practitioners and CCA programme managers understand the state of play of CCA M&E, and also provide guidance in choosing which materials are best suited to the needs at hand. This report has been written specifically to fill this gap. It should be noted that we have written this for a professional audience, including CCA specialists and M&E experts. As such, we assume a readership with working knowledge of key concepts, constructs, and agencies which are involved in this arena.

Structure of the report

This report has three parts:

1. A brief introduction and overview

2. Summary of the content

A summary and recommendations of key CCA M&E guidelines, toolkits, and frameworks that have been published in English. This is the main body of this report, and it constitutes a comprehensive



overview of existent M&E operational guidelines. The materials are listed in chronological order, with the older manuals first. (When there are several documents in a series, the collection is ordered according to its most recent major publication.)

Each chapter begins with a short table which highlights the key approach, audience, and strengths of the framework that is being reviewed. It should be noted that we have exercised some discretion and selectivity. For example, we have only flagged documents with detailed, in-depth guidance for developing CCA indicators – not every single report that mentions indicators.

The summary table is followed by a brief overview of the materials, reviewing its content, approach, intended audience, and applicability. We conclude with a few remarks and recommendations concerning the framework as a whole. These brief chapters systematically lay out the logic and approach of each document (or series of documents) in a way that will enable an audience of professional CCA and/or M&E specialists to sort through and choose which framework would best fit their own needs and purposes.

3. Analysis and conclusion

In this section, we discuss and synthesise the state of the art of CCA M&E. In this analysis, we review the evolution of CCA programming, and the accompanying M&E frameworks. In doing so, we identify key developments, as well as gaps and missteps. Our analysis reviews the unique challenges posed by climate change scenarios and how M&E can be tailored to suit them, and select a few key issues for further analysis and discussion. We conclude with overall recommendations and next steps for practitioners and researchers.

July 2007

Monitoring and evaluation framework for adaptation to climate change

Sector relevance: All			
Most relevant for: M&E specialists and practitioners, especially those within the UN system			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	●
Literature review / summary of adaptation M&E approaches		Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided	●	Sub-national / community	
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	●
Detailed case studies provided		Rural emphasis	●
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			



Purpose

The United Nations Development Programme (UNDP) and the Global Environment Facility (GEF) are seeking to address urgent and immediate adaptation needs in response to climate change within seven Thematic areas (TAs). These TAs represent key climate change-sensitive development objectives and priorities identified by the UNDP, GEF, and Intergovernmental Panel on Climate Change (IPCC):

- agriculture/food security
- water resources and quality
- public health
- disaster risk management (DRM)
- coastal zone development
- natural resource management (NRM)
- infrastructure.

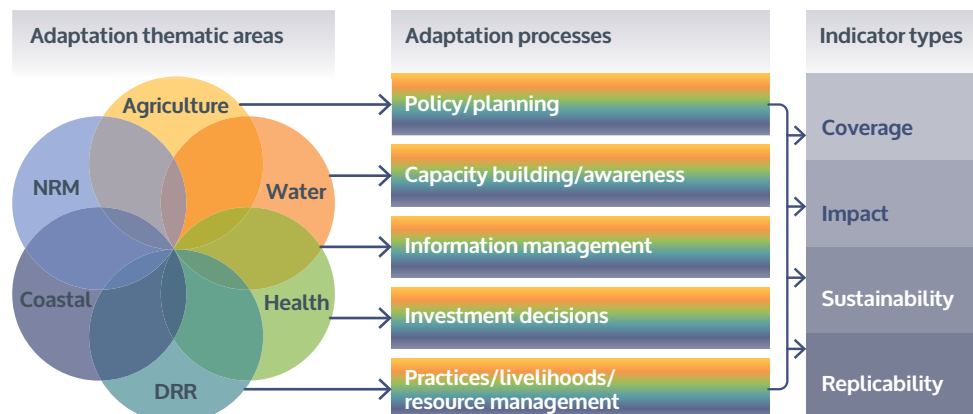
This document is intended to guide UNDP staff in the design of M&E frameworks for CCA initiatives within these TAs, and to ensure that logframes can be aggregated to track progress of an overall portfolio that is in alignment with Millennium Development Goals (MDGs).

Summary of content and approach

This report provides a framework for climate change adaptation across seven TAs. The framework for both the portfolio and project levels was developed with a focus on National Adaptation Programmes of Action (NAPAs) under the Special Climate Change Fund (SCCF) and resilience under the Least Developed Countries Fund (LDCF). It provides useful insights into the need for multi-level M&E frameworks and was a valuable starting point for many later M&E resources.

While this document does not address conceptual or theoretical matters in great detail, it provides useful insight into some of the most fundamental issues which need to be tackled in establishing an M&E framework for climate change adaptation interventions, and which have since been further elaborated on in more recent materials. It provides clear and concrete instruction on designing logframes and indicators that would be used to measure an aggregated portfolio of endeavours in terms of coverage, impact, sustainability, and replicability. The accompanying graphic further distils these principles and challenges into specific kinds of outcomes, outputs, and indicators with linkages to flagship UNDP initiatives.

Figure 1: Derived from Kurukulasuriya 2008: 3



There is a significant and useful section on potential ways to evaluate CCA programs / projects (including a section on the question of attribution). The framework is designed to group and aggregate indicator data upwards into overall portfolios, something which may be challenging in practice. Various sample or candidate indicators are provided for these. The approach differentiates between “standard portfolio/project scale indicators,” applicable across all TAs, and “supplementary indicators,” which are defined for each TA.

Applicability and contribution

This document represents one of the first attempts to develop an M&E framework specifically in relation to adaptation interventions, in this case those funded through the SCCF and the LDCF. It provides a useful insight into the challenges of linking portfolio level goals and objectives to project level goals, objectives, outcomes and outputs (i.e. a traditional logframe) in the context of climate adaption. This portfolio multi-level approach is interesting, but very focused on UNDP structures and goals and, as such, may not be readily adaptable to others.

The example project level indicators (UNDP 2007, tables 5-11) provide a useful illustration of the types of indicators which can be developed for each of the Thematic Areas, and there is also a description of indicator types. The framework encourages the use of consistent units of measurement at the project level in order to be able to aggregate project results within UNDP’s Thematic Areas. However, CCA programming poses critical challenges to approaches like this, which define and set standardised indicators that can be linked to and aggregated at high levels. It is very difficult to devise generic indicators that are measurable, meaningful, and useful. Some of the suggested indicators seem either oversimplified (e.g. number of communities involved in projects) while others are vague and/or difficult to measure (e.g. perceived percentage change in participation). Furthermore, if interpreted as targets, such indicators could encourage “quantity over quality.”

The framework remains a good example of an overall M&E approach that does link and aggregate standard indicators within key sectors, but there are now more detailed and developed strategies for doing this (see, for example, the 2012 AMAT guide). Those who are seeking guidance on the thornier issues posed by M&E for CCA may wish to consult other documents, which tend to reflect the more nuanced recent literature and learning.

References

UNDP, 2007. UNDP Monitoring and evaluation framework for adaptation to climate change, draft for comments. United Nations Development Programme (UNDP). Available from: www.seachangecop.org/node/139

Kurukulasuriya, P., 2008. UNDP monitoring framework for climate change adaptation, presentation. United Nations Development Programme (UNDP). Available from: www.seachangecop.org/node/140



Evaluation of adaptation to climate change from a development perspective

Prepared for Global Environmental Facility (GEF) Evaluation Office and Department for International Development (DFID)

Sector relevance: All			
Most relevant for: M&E specialists and CCA programme managers			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development		National	●
Example logframe / logic model provided		Sub-national / community	
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	
Detailed case studies provided		Rural emphasis	
In-depth discussion / guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

This GEF/DFID-supported literature review was “intended to provide an assessment of the state of the art and identify main gaps in evaluation of climate change adaptation interventions” (Hedger *et al.*, 2008a: 10). The report does not aim to provide practical support for M&E but instead takes a strategic look at key documents. It is aimed at evaluation professionals and adaptation policy analysts and seeks to “inform the evaluation community about adaptation, rather than explain evaluation to adaptation analysts” (p. 10). Written in 2008, the report focuses on evaluation (as opposed to monitoring) and represents one of the earlier attempts to consider the challenges of evaluating climate adaptation interventions. As such, it has been a useful foundation for further work in this field.

Summary of content and approach

“Whilst there has been much attention focused on the effectiveness of adaptation in reducing climate change vulnerability, and so potential impacts, it is rarely appreciated that if done badly, (adaptation) interventions can actually exacerbate the effects of climate change. This is termed ‘maladaptation.’”

Hedger *et al.* 2008a: 29

The report seeks to address three critical questions:

- Why are evaluations of climate change adaptation interventions needed?
- What are the key issues involved in evaluating climate change adaptation interventions?
- What approaches to and methods for adaptation evaluation have or could be used at different levels?

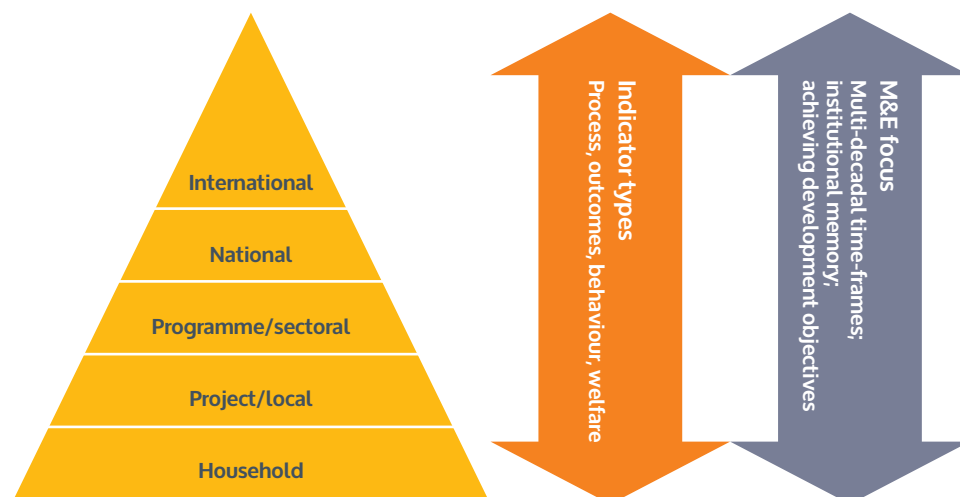
In responding to the first two questions, the report discusses the relationship between the evaluation of adaptation interventions and broader development agendas. Climate change adaptation interventions cut across both sectors and levels of programming, which poses important institutional challenges for both donors and implementers. Moreover, the fact that initiatives are “often funded at an international level [but] need to deliver outcomes at the household level” (Hedger *et al.* 2008b: 1) can pose further difficulties. The main report sets out how these topics were viewed at the time of publication in considerable detail. Hedger *et al.* (2008) urge “the climate change adaptation industry... to build a consensus about what is successful adaptation and ways to measure it, so that there is a clearer framework for evaluation of interventions intended to deliver it” (p. 6).

The authors then move on from the conceptual discussion to address the third question, i.e. what are the existent methods and frameworks for CCA M&E. The report explores various approaches that were in use to monitor CCA at different levels, from transnational down to household levels. They then sketch a preliminary framework and highlight next steps to pursue. They present a “pyramid of adaptation evaluation” (p. 45, and see Figure 2) which highlights different levels, indicators, and M&E approaches, and make a strong argument for improved evaluation strategies which are more coherent, streamlined, and effective.

Applicability and contribution

The document is a good resource for CCA practitioners; it broadly covers adaptation and could be particularly relevant for evaluators looking at adaptation projects for the first time. Importantly, as part of the discussion, it usefully relates related programmatic areas (e.g. DRR, livelihoods and NRM) to CCA and introduces evaluation techniques that were emerging in CCAI at that time, like outcome mapping. The discussion on multi-level CCAI is well presented along with a very useful diagram, which helps the reader quickly grasp the different scales of CCA. There is some material on CCA indicator development, but no specific example indicators are provided. Generally, the material does not lend itself so well to practical application, as it does not provide specific guidance on M&E implementation.

Figure 2: Derived from Hedger et al. 2008b: 4



This report outlines the broad scope and complexity of CCA evaluation issues and approaches. The authors discuss political as well as technical dimensions that must be addressed, and discussion deftly ranges from the international to household levels of CCA programming. Although some of the newer materials are more detailed, this remains an excellent foundation document, especially regarding conceptual and theoretical matters.

References

Hedger, M.M., et al., 2008a. Evaluation of adaptation to climate change from a development perspective, desk review. Institute of Development Studies (IDS) / AEA Group. Available from: www.seachangecop.org/node/128

Hedger, M.M., et al., 2008b. Evaluation of adaptation to climate change from a development perspective, summary document. Institute of Development Studies (IDS) / AEA Group. Available from: www.seachangecop.org/node/129

August 2011

Tracking progress for effective action

Sector relevance: All, with special reference to DRR			
Most relevant for: M&E practitioners			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators	●	International	
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

This paper concerns monitoring and evaluation methods and processes for climate change adaptation, with an emphasis on DRR. It is intended to provide guidance to national-level practitioners by providing: a theoretical and conceptual overview of CCA programming; reviews of key M&E approaches; and practical recommendations for appropriate M&E strategies. The framework has a focus on DRR and its overlap with CCA.

Summary of content and approach

**“Business-as-usual’
DRM will fail without a
significant shift in how risk
calculation and intervention
design incorporate
climate modelling and
associated uncertainty...
Compartmentalised,
sectoral approaches [also]
are not effective in meeting
the complexity of the
realities and challenges
on the ground. Integrated
approaches are needed
to incorporate different
approaches to diverse drivers
of vulnerability.”**

Sanahuja 2011: 12

This document is concerned with examining the current [as of mid-2011] state of monitoring and evaluating various GEF adaptation projects / programs / initiatives. It begins with a context-setting section which describes the adaptation process, the relationship between adaptation and development, and how typical M&E methods might be utilised within it. There is a particular emphasis on “integration of adaptation and disaster risk management, development, and poverty alleviation [which] offers a more coherent approach to tackling the challenges, risks and hazards related to a changing climate” (Sanahuja 2011: 11). That said, Sanahuja emphasises that “business-as-usual” approaches to DRR and DRM need to be modified significantly to meet the increased demands and uncertainties posed by climate change. He identifies resilience as the main organizing principle for adaptation programming, and breaks this concept down into five dimensions that must be addressed: governance, risk assessment, knowledge / education, risk management / vulnerability reduction, and disaster preparedness / response. There is further discussion concerning the overall development of M&E systems for adaptation by various agencies.

The report reviews key challenges and opportunities for M&E of adaptation, building upon issues raised in the UNDP (2007) and UNFCCC (2010) papers. In particular, data quality and availability challenges are discussed in some detail. The development of indicators for adaptation scenarios is then deliberated, including a helpful differentiation of types of indicators that could be selected. The document subsequently discusses and gives some guidance on the use of the then-existing M&E frameworks, i.e. UNDP, UNFCCC and IDS, and provides an overview of candidate indicators for various climate change adaptation situations.

One of the most original and innovative parts of this study are the guiding questions for practitioners. This question-based approach facilitates applicability to a range of situations. A useful and practical definition of types of indicators is provided alongside sample indicators and cases studies of how process indicators have been used at national level. Finally, a selection of NAPAs from different are touched upon, with summaries presented in the appendices.

Applicability and contribution

The document is broad in its coverage of monitoring and evaluating climate change adaptation, with very helpful clarification of terms, issues, and gaps. The reader is taken through a whole process which is a useful exercise, and importantly some of the steps could be adapted and used on actual projects. However, the manual works better as a conceptual overview for practitioners than as a hands-on guide for them. The introductory sections are very strong and well-written, but the guidelines themselves are less developed. Some steps of this process seem to be conducted at a high technical level and may be difficult for some readers to actually follow. The debate on indicators and developing CCA M&E systems is similar in this respect. This report’s main strength is its thorough discussion of the challenges of adaptation as well as examples and methods to tackle these challenges.

Reference

Sanahuja, H. E., 2011, Tracking progress for effective action: A framework for monitoring and evaluating adaptation to climate change, report. Global Environment Facility Evaluation Office (GEF-EO). Available from: www.seachangecop.org/node/105

August 2011

Learning to ADAPT

Prepared for Institute of Development Studies, Christian Aid and Plan

Sector relevance: All, particularly DRR			
Most relevant for: Practitioners			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	●
Detailed case studies provided		Rural emphasis	●
In-depth discussion /guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

This manual (Villanueva 2011a) represents “a methodological contribution to the emerging debate on monitoring and evaluation (M&E) in the context of climate change adaptation and disaster risk reduction” (p. 6). Aimed primarily at an audience of national-level practitioners, it serves to frame CCA within the development and DRR programming, while also highlighting key differences and challenges, and their implications for M&E. It then makes a strong case for M&E systems that are tailored to these unique circumstances, and presents key principles to better capture the involved complexities and dynamics.

Summary of content and approach

“Beyond evaluating delivery of results, M&E can potentially offer promising avenues for learning, which is critically important for developing effective programmes that facilitate climate change adaptation.”

Villanueva 2011a: 10

This manual presents a practical and well-presented framework for strengthening climate resilience. It is structured around three main parts. The first orients CCA within existing DRR and development paradigms, exploring overlap, limitations, and key distinctions. For example, it argues that typical DRR approaches to calculating risk and resilience to various hazards are too limited for the more dynamic and unpredictable demands posed by climate change. In other words, a business-as-usual approach to DRR M&E will be entirely inadequate to the demands posed by climate change. The M&E implications are discussed thoughtfully, and in language that is accessible to non-specialists.

The next section reviews current CCA/DRR M&E efforts. The author notes that CCA initiatives are proliferating, but an evidence base is only beginning to emerge. Various evaluation approaches are then discussed and compared. There is useful discussion on evaluating sub-national programs beyond the conventional world of logframe-based (input-output-outcome) evaluations, with an emphasis on promoting learning. The report puts a particular emphasis on three key shortcomings that are common to M&E of CCA and need to be addressed:

1. Deterministic approaches that focus on input/outputs over process.
2. Most approaches remain static rather than dynamic.
3. Effectiveness (achievement of results) and efficiency (in economic terms) are dominant approaches, at the expense of learning and assessment of what CCAs are (or are not) really achieving.

A strong case is made that all three are cause of real concern, and that alternatives need to be found which do a better job of both expanding the evidence base on CCA and also of measures which capture the dynamics and complexities at hand. M&E efforts to date, the author argues, have failed to do this.

The final section of the paper provides guidance on how to better approach M&E for CCA. There is a useful section on how indicators may be derived for CCA along with some examples of candidate indicators. However, the main emphasis is on meaningfully measuring and evaluating adaptation against a backdrop of shifting benchmarks and evolving weather patterns. The author makes a strong case for process-based evaluations, and lays out the following principles for effective M&E of CCA interventions: effectiveness, efficiency, equity, legitimacy, and sustainability (see Table 1).



Table 1: The ADAPT principles
Adaptive learning and management: recognises experience-based learning and needs to deal with uncertainty .
Dynamic baselines. Recognises changing conditions of adaptive capacity and vulnerability and provides real-time feedback.
Active understanding. Recognises differing values and interests.
Participatory. Recognises adaptation as a context-specific process and the need for triangulation of information and decision-making.
Thorough. Avoiding maladaptation, evaluating trade-offs. Recognises multiple stressors and processes across scales.
Villanueva, 2011c: 9

Applicability and contribution

This document is well-written and structured for CCA practitioners, and it is easy to quickly find particular sections which can be readily applied to issues one may be grappling with in one's current work. It especially emphasises generating new knowledge and learning, and would be especially welcome to those who are interested in innovative approaches to M&E that go beyond logframes and results-based management. This report is very well written, and it makes an excellent effort to distil discussion of complex problems into clear and practical guidance for practitioners. However, those who are seeking a clear step-by-step roadmap may prefer other materials which give more specific direction.

References

- Villanueva, P.S., 2011a. Learning to ADAPT: monitoring and evaluation approaches in climate change adaptation and disaster risk reduction – challenges, gaps and ways forward, SCR Discussion Paper 9. Strengthening Climate Resilience (SCR). Available from: www.seachangecop.org/node/103
- Villanueva, P.S., 2011b. SEA Change webinar *Learning to ADAPT*. Available from: www.seachangecop.org/node/520
- Villanueva, P.S., 2011c. *The Learning to ADAPT principles*, presentation . Available from: www.seachangecop.org/node/109

Monitoring and evaluation for adaptation

Sector relevance: All			
Most relevant for: Policymakers and M&E specialists			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided	●	Sub-national / community	
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	●
Detailed case studies provided		Rural emphasis	
In-depth discussion /guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

Purpose

This paper represents the first systematic, empirical assessment of the M&E frameworks being used by development agencies with adaptation-specific or adaptation-related projects and programs. The authors systematically reviewed 106 initiatives funded by six bilateral donors, in order to assess the characteristics of M&E systems that were actually being used, how indicators were being selected, and what approaches appeared to be the most fruitful.

Summary of content and approach

This document provides a thorough 'walkthrough' of M&E in a climate change adaptation setting with a particular emphasis on the logframe approach. It provides considerable material on the development of a range of CCA indicators in various contexts and settings.

The authors confirm that results-based management (RBM) and an accompanying logical framework approach (LFA) were by far the most common approaches in use by development agencies engaged in CCA programming. They call for use of an appropriate combination of binary, quantitative, and qualitative indicators, and note that the level of detail varies widely according to scale of activity, sector, level of intervention, and particular donor. They highlight the importance of M&E systems that are sensitive to the specific complexities of CCA programming, including the "longer time horizon of potential climate change impacts" (Lamhaug 2011: 10) which may extend for decades beyond the length of a project cycle, and argue for complementing individual programme evaluations with syntheses of efforts at the national or regional level. They also highlight that CCA is consistent with good development practice, and as such encourage "refinement rather than replacement of development agencies' existing M&E frameworks" (p.10).

The authors outline five categories of adaptation activities:

- Climate risk reduction
- Policy and administrative management for climate change
- Education, training, and awareness on climate change
- Climate scenarios and impact research
- Coordination on climate change measures and activities across relevant actors.

They continue to discuss how to tailor and, in turn, evaluate adaptation programs in each of these areas, and they include many concrete examples of both interventions and indicators. They also compare and contrast various donors' approaches, and note that the JICA approach which is based on "a few measures of overall vulnerability" (p. 29) can be advantageous, compared to most logframes which detail indicators linked to every component of an intervention.

Those interested in national-level policy for climate change adaptation and initiatives within more developed countries may also wish to consult Mullan *et al.* (2013), a later report in this series. This second paper examines lessons learned from national climate change adaptation planning among OECD countries, with case studies of Mexico, the United Kingdom, and the United States. One of the authors' overall findings concerns M&E. They note that there is "limited progress" (2013: 11) in evaluating CCA policies and programs, and observe that their "effectiveness... has seldom been evaluated, as actions have only recently been initiated, and comprehensive evaluation metrics do not yet exist" (p. 52). While this paper raises more questions than it answers, it is an important reflection on key issues facing policymakers.

Applicability and contribution

The 2011 paper provides a systematic overview of CCA M&E practice, particularly concerning results-based management and logical framework approaches. The document is useful reading for CCA practitioners, and is especially oriented for those working on bilateral or multilateral funded projects/programs. The broad overview of programming may be informative to those developing new CCA policy or other initiatives, and consulting this document may assist with devising a good logframe and indicators in a climate change adaptation setting. M&E practitioners can especially benefit from the practical discussion of CCA indicator development, accompanied by tables with concrete examples. The depth of the research (106 projects are considered) provides a valuable insight into current adaptation M&E in a development context. However, the scope of the paper does not consider in detail the degree to which logframe approaches address the key adaptation M&E challenges raised in other literature. It also does not contrast the approaches used in the cases reviewed with emerging frameworks tailored specifically to the adaptation context. This is not a criticism – the paper does not seek to identify new approaches – however it does mean that it has limited utility for those seeking a guide or tool for M&E system development, especially one that looks beyond conventional logframe approaches.

References

Lamhaug, N., Lanzi, E. and Agrawala, S., 2011. Monitoring and evaluation for adaptation: Lessons from development co-operation agencies, OECD Environment Working Paper 38. Organisation for Economic Co-operation and Development (OECD). Available from: www.seachangecop.org/node/121

Lamhaug, N., 2012. SEA Change webinar *OECD monitoring and evaluation for adaptation*. Available from: www.seachangecop.org/node/500

Lamhaug, N., 2012. OECD monitoring and evaluation for adaptation, presentation. Available from: www.seachangecop.org/node/172

Mullan, M., Kingsmill, N., Kramer, A. Am. and Agrawala, S., 2013. National adaptation planning: Lessons from OECD countries, OECD Environment Working Paper 54. Organisation for Economic Co-operation and Development (OECD). Available from: www.seachangecop.org/node/2548

AdaptME Toolkit

Sector relevance: All			
Most relevant for: Practitioners			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	
Literature review / summary of adaptation M&E approaches		Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators		International	
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	●
Detailed case studies provided		Rural emphasis	
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

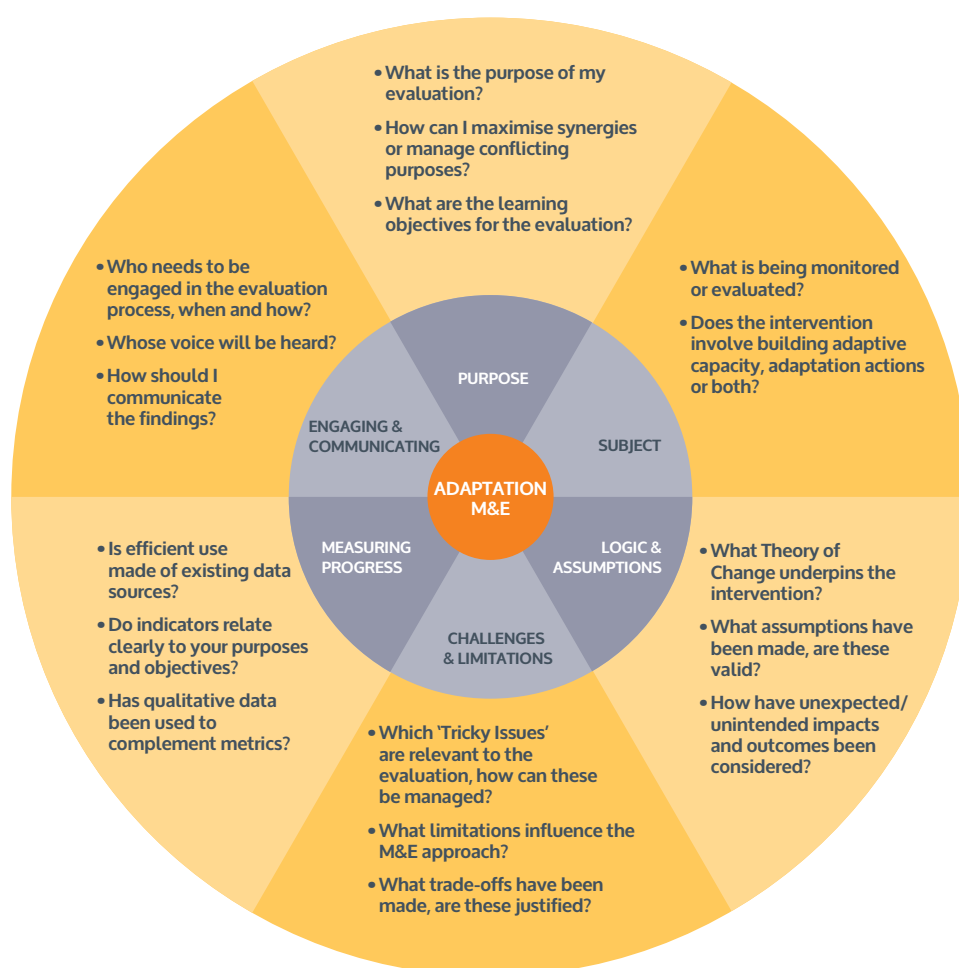
Purpose

This toolkit above all serves a practical purpose: to equip practitioners with critical information and guidance with which to devise a CCA M&E framework that fits their programme, context, and purposes. It is not a directive or comprehensive set of instructions; indeed, the author emphasises that there is no one-size-fits-all approach. Rather, it offers a flexible resource which can be used to design a whole M&E system or to tweak existing systems to better account for the challenges of adaptation M&E. AdaptME takes a question-based approach, enabling users to more readily apply key concepts to their own priorities. Since its launch, the AdaptME toolkit has been cited in a number of policy documents including the European Commission Guidelines on developing adaptation strategies, which support the implementation of the European Adaptation Strategy, and the OECD Environment Working Paper 54, National adaptation planning: lessons.

Summary of content and approach

This document is very much what it says – a straightforward and directly applicable toolkit for climate change M&E practitioners. There is limited discussion on adaptation generally, however the toolkit explains the importance of M&E within the adaptation process and outlines specific challenges for those seeking to monitor and evaluate adaptation interventions. In so doing, it places a strong emphasis on M&E as a learning tool. AdaptME emphasises the importance of context and the fact that there is no one-size-fits-all approach to adaptation M&E.

Figure 3: Pringle, Gawith and Street, 2012



This means that instead of providing step-based directions, the framework instead poses key questions. A question-based approach can be particularly useful as it enables users to consider adaptation M&E within a range of different contexts. These 10 core questions, graphically illustrated and categorised in Figure 3, help users to evaluate CCA interventions more effectively and in a way which is most relevant to their context.

Each chapter includes further questions and guides the reader to more detailed information if required. AdaptME is designed to be flexible; it can be used as the basis for a new M&E system or it can be applied to an existing system or framework to enhance the degree to which it accounts for climate adaptation considerations.

Applicability and contribution

The document is really a set of flexible guidelines for practitioners wanting an applicable framework for evaluating CCA interventions / programs. Its approach is practical, orienting the reader to the most pertinent challenges regarding CCA M&E. The AdaptME Toolkit also outlines various options for addressing the issues that have been highlighted. This document is especially helpful in bridging conceptual / theoretical dilemmas with practical tasks.

The only consideration is that it may not be so readily usable by persons new to climate change adaptation; the user would need a good general understanding already. It is deliberately succinct, tackling the immediate challenges of adaptation M&E in relatively short chapters. However, each section refers the reader to other key documents where a more detailed discussion of key issues can be found. While not specifically aimed at any one level, it would seem most applicable to project and programme interventions.

References

Pringle, P., 2011. AdaptME Toolkit for monitoring and evaluation of adaptation activities, manual. United Kingdom Climate Impacts Programme (UKCIP). Available from: www.seachangecop.org/node/116

Pringle, P., 2012. SEA Change webinar *Asking the right questions – monitoring and evaluating climate adaptation*. Available from: www.seachangecop.org/node/519

P. Pringle, M. Gawith and R. Street, 2012. Asking the right questions: monitoring and evaluating climate adaptation. Presented at the Adaptation Futures 2012 International Conference on Adaptation, Arizona, USA.

June 2012

Climate change adaptation monitoring and assessment tool (AMAT)

Sector relevance: All			
Most relevant for: M&E specialists and CCA programme managers			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	●
Literature review / summary of adaptation M&E approaches		Mixed-methods emphasis	
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided	●	Sub-national / community	
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	●
Detailed case studies provided		Rural emphasis	
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

Purpose

The AMAT tool is designed to enable the GEF to measure outputs and outcomes from various LDCF/SCCF portfolios and aggregate them in order to report progress at an international level. It is intended that this will ultimately enable GEF to track and examine common indicators over time in order to assess progress and identify measureable achievements.

Summary of content and approach

AMAT is a GEF “tracking tool” (p. 1) that serves to document progress across the overall agency’s results framework for climate change adaptation. Each funded project is required to report against at least one specified objective, outcome, and output indicator defined in its menu of options. Reporting is required at three points in time: at CEO endorsement/approval request; at project/programme mid-term; and at project completion. This tool is designed to only monitor information that is explicitly aligned with the agency’s logframe, so that data can be aggregated and reported at a global level. The document issues brief, explicit directions for how to fill out the specified forms correctly, together with some examples.

Applicability and contribution

This framework was not designed to be a full-fledged toolkit. It does not discuss concepts or issues, nor does the tool justify, challenge, or explain the agency’s overall results-based management framework. Rather, it is a set of instructions that funded programs should follow for reporting purposes, and so its application in other contexts may be limited. However, it does provide succinct example of how CCA objectives, outcomes, and indicators might be categorised, and aggregated. It also highlights the difference between resources developed to support adaptation M&E more generally, and those developed for a specific programme or portfolio. AMAT presents more top-down approach to M&E, and it includes a pre-defined list of indicators (although there is some scope for additional indicators to be used). As a result, there is limited scope for other approaches to be incorporated. There is a strong focus on tracking progress against specified indicators, rather than a more nuanced exploration of what worked (or not), how, and why.

References

GEF, 2012. Climate change adaptation – LDCF/SCCF Adaptation monitoring and assessment tool (AMAT), guidance note. Global Environment Facility (GEF). Available from: www.seachangecop.org/node/2483

GEF, 2012. Climate change adaptation – LDCF/SCCF Adaptation monitoring and assessment tool (AMAT), Excel tracking file. Global Environment Facility (GEF). Available from: www.seachangecop.org/node/2484

Participatory monitoring, evaluation, reflection and learning (PMERL) project for community-based adaptation

Prepared for International Institute for Sustainable Development

Sector relevance: All, but especially DRR, rural livelihoods, poverty reduction, and vulnerable populations			
Most relevant for: Field-level practitioners			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	
Guidance on indicator development	●	National	
Example logframe / logic model provided	●	Sub-national / community	●
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	
Detailed case studies provided		Rural emphasis	●
In-depth discussion /guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

The CARE manuals offer a clear step-by-step guide together with tools, recommendations, checklists, and references for community-based approaches to CCA programme design, monitoring, and evaluation. Designed to be used by field-level project teams, the materials are useful, practical, and easily understood and applied at the local level.

"Existing reporting frameworks are often not designed with the flexibility and feedback mechanisms in place to learning from and respond to uncertainty. PMERL provides a systematic way for organisations supporting CBA to account for change."

Ayers et al. 2012: 56

Summary of content and approach

The 2012 manual is comprehensive and practical, and aimed directly at practitioners working in community-based adaptation contexts. It does an excellent job of explaining the issues at hand, and then outlines specific and practical guidance. The established CARE CBA Monitor, Evaluate, Reflect on and Learn (MERL) strategy is at the heart of the approach, and clearly guides the process of developing pragmatic adaptation solutions at the community level. In particular, the authors call for four interrelated strategies to improve the capacity of local communities to adapt to climate change:

- Promotion of climate-resilient livelihoods.
- Disaster risk reduction.
- Capacity development for local civil society and government institutions.
- Advocacy, social mobilisation, and empowerment.

The manuals present an array of methods for practitioners, and note lessons learned from past experiences in other adaptation projects. The 2012 document reviews key concepts and guidance on how to prepare a participatory DME strategy, and then outlines fourteen "tools" that can be implemented in the field. The tools consist of participatory learning and action activities that are meant to be conducted at the village level, with local partners and communities themselves. The tools are:

- shared learning dialogues
- service provider analysis
- adaptation visioning
- envisioning future climate scenarios
- mapping behaviour change journals
- mapping
- visual documentation
- access, use, and control
- most significant change
- EXCECO (interview tool)
- hazard and response force-field analysis
- trend analysis through timelines and seasonal calendars
- rain calendars
- quarterly reflection meeting guide

Many of these will be familiar to anyone with PLA experience, however the authors have made some effort to select and tailor the activities specifically for a CCA programming context. The step-by-step guides are well-written and easy to follow, and while ideally one would build from the previous activity, they can also be used flexibly and selectively. While much of the content is general for community-based design, monitoring, and evaluation, the authors do highlight the specificities of adaptation programming, and thoughtfully walk the reader through key options and recommendations.

The supplemental Frameworks of milestones and indicators (2010) is a short, useful attachment for those seeking examples to help inform their logical framework. The manuals, meanwhile, place relatively more emphasis on participatory learning and action approaches.

The materials also do a real service in highlighting the importance of gender mainstreaming within climate change adaptation. This is not just a rhetorical commitment: the authors make a strong case for why the two are linked, and include tools and activities designed to inform gender-sensitive DME in order to build the adaptive capacities of the most vulnerable. The supplemental short briefing paper (CARE 2010c) presents the issues succinctly, but the topic is also addressed in an integrated way across all the documents.

Applicability and contribution

This is an outstanding resource tailored to community-based practitioners working in adaptation situations. However, it is primarily aimed at users with a good knowledge of local-level rural livelihoods programming: there is not much preamble on technical issues on adaptation, nor does it address interventions on a larger scale. The outlined approaches are a refreshing change from the narrow focus on logframes and performance measures; however methods would be time-consuming in the field, and while they would be participatory and engaging, it would take some higher-level skills to analyse findings and prepare reports and logframes based on this data. The results would also be difficult to aggregate and compare.

References

Ayers, J. *et al.*, 2012, CARE participatory monitoring, evaluation, reflection & learning (PMERL) for community-based adaptation (CBA), manual. CARE. Available from: www.seachangecop.org/node/564

Rossing, T., 2013. SEA Change webinar *Monitoring and evaluation for community-based adaptation (CBA): Unpacking the CARE PMERL and ARCAB approaches and their inter-connection Part 1: CARE PMERL*. Available from: www.seachangecop.org/node/1859

CARE, 2010a. Framework of milestones and indicators for Community-based adaptation (CBA), Framework. CARE. Available from: www.seachangecop.org/node/117

CARE, 2010b. Community-based adaptation toolkit. CARE. Available from: www.seachangecop.org/node/77

CARE, 2010c. Adaptation, gender and women's empowerment, briefing paper. CARE International. Available from: www.seachangecop.org/node/209

2012

Climate resilience framework (CRF) training manuals

Sector relevance: All			
Most relevant for: Urban planners, policymakers			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material	●	Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators		International	
Guidance on indicator development		National	
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	
Detailed case studies provided	●	Rural emphasis	
In-depth discussion /guidance on designing / planning CCA M&E activities	●	Urban emphasis	●
In-depth discussion / guidance on climate change adaptation programming	●		

Purpose

These manuals constitute a series of training guides designed to assist city planners, managers, and partners assess and build resilience to climate change in urban settings. There are three manuals which are organised around key themes: establishing resilience principles, understanding vulnerability and risk, and building resilience. The support materials are a SEA Change webinar, a summary PowerPoint presentation, and an article that was published in the peer-reviewed journal *Climate and Development*.

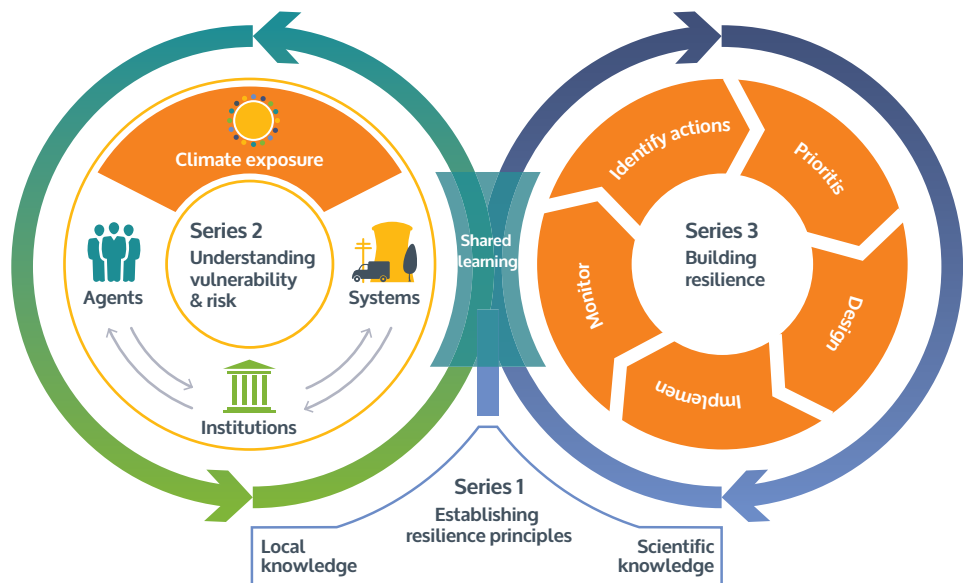
Summary of content and approach

This series of documents provides an overarching conceptual framework and training tools for CCA practitioners working in urban settings. The framework is ready to be used by trainers and facilitators, with exercises, mapping tools, tables, and so forth that support each module. Overall, the conceptual framework is a genuine step-by-step approach. CCA materials by other authors are often heavily oriented toward rural contexts; this initiative is very different insofar as it addresses the important niche of urban planning. The authors explain, "the key elements of the CRF are urban systems, social agents, and institutions, and, for each, the degree to which it is exposed to climate change hazards. Within the framework, building resilience means:

- Identifying the exposure of city systems and agents to climate hazards;
- Identifying and strengthening fragile systems by strengthening the characteristics that reduce their vulnerability to climate hazards;
- Strengthening the capacities of agents to both access city systems and develop adaptive responses;
- Addressing the institutions that constrain effective responses to system fragility or undermine the ability to build agent capacity" (ISET 2012a: 5/11).

Figure 4 graphically presents its overall CCA approach.

Figure 4: Derived from ISET 2012a: 4/11



It should be emphasised that these manuals do not solely focus on M&E *per se*. Rather, they are overall conceptual and analytical tools and, indeed, the final M&E section has not yet been published. The first training manual is concerned with establishing adaptation / resilience principles. Methods provided to do this appear innovative and aim to elicit, explain and define the resilience challenge clearly to the developing population working group or groups. The second focuses more on the actual risks / vulnerabilities that are faced by the target population and looks to clearly assess and map this out. Various tools and techniques are provided to facilitate this. The third goes on to look at how the population working group can build resilience. Specific resilience actions are defined and prioritised which then enables the group to develop an overall adaptation / resilience strategy.

The overall approach of the three training manuals is well designed and should build the capacity of its participants concerning CCA. However, the materials are a work in progress: sections 3.11 – 3.16 which appear in the table of contents of the third manual are missing from the actual body of the document. These sections include monitoring and evaluation, and so for the time being M&E practitioners should look to other materials.

Applicability and contribution

The ISET materials are unique insofar as they specifically address climate change adaptation within urban settings – a crucial gap. They provide useful conceptual and practical guidance through promoting adaptation and resilience in cities, especially those in Asia. The documents are very much manuals for trainers designing and delivering a course: substantive discussion is interspersed with detailed instructions for group activities and so forth. While together the ISET manuals serve as an excellent primer to CCA in cities, they are introductory and the monitoring and evaluation section is still unpublished, which greatly limits its utility for the audience of this synthesis report. The (2012) journal article by Tyler and Moench presents an important but succinct overview that would appeal to more specialist and technical audiences.

References

ISET, 2012a. Climate resilience framework: Training materials – Establishing resilience principles, manual. Institute for Social and Environmental Transition (ISET). Available from: www.seachangecop.org/node/1654

ISET, 2012b. Climate resilience framework: Training materials – Understanding vulnerability & risk, manual. Institute for Social and Environmental Transition (ISET). Available from: www.seachangecop.org/node/1656

ISET, 2012c. Climate resilience framework: Training materials – Building resilience, manual, . Institute for Social and Environmental Transition (ISET). Available from: www.seachangecop.org/node/1657

Tyler, S. and Moench, M., 2012. A framework for urban climate resilience, framework. Institute for Social and Environmental Transition (ISET). Available from: www.seachangecop.org/node/1651

Tyler, S., 2012. SEA Change webinar *Building climate resilience, a simpler way to approach adaptation practice?* Available from: www.seachangecop.org/node/498

Tyler, S., 2012. Building climate resilience, a simpler way to approach adaptation practice?, presentation. Available from: www.seachangecop.org/node/562

July 2011

Making adaptation count

Sector relevance: All			
Most relevant for: M&E practitioners, CCA programme managers, policymakers			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	●
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion /guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

“Practitioners planning interventions should recognise that not all development is adaptation and not all adaptation leads to development.”

Spearman and McGray
2011: 11

This manual presents a useful framework and to lead the user through the design and development of M&E systems for CCA programming. It provides guidance that encompasses both conceptual and practical matters, and places a strong emphasis on matching an intended programme to environmental, institutional, and other key contexts. It is designed to be flexible, and it makes a point of addressing dilemmas and challenges in a way which encourages one to make sound decisions about them.

Summary of content and approach

This report is divided into four chapters “designed to provide a roadmap for adaptation and development practitioners on how to design and implement project-level monitoring and evaluations systems” (p. 7). The first section outlines core concepts surrounding M&E for climate change adaptation programs, with an emphasis on what makes them different from standard development programs. This is followed by a useful section on lessons learned from CCA interventions worldwide.

The authors then take the reader through six steps to develop an M&E system for their own CCA requirements. Country examples are provided on how an M&E system was developed for specific CCA situations. The six steps are shown in Figure 6.

Each step is discussed in a thoughtful and accessible way, supplemented by useful case studies from around the world (e.g. Climate change adaptation in Africa: A snapshot of M&E in practice, “Bolivia: Piloting the national adaptive capacity framework, and so forth). There is also analysis of advantages and disadvantages of key issues and approaches, with acknowledgement that the key to good CCA M&E is not rigidly applying a certain framework, but rather appropriate tailoring to the context and programme at hand. For example, they include an excellent discussion on the best use of process and outcome indicators to define and measure adaptation effectiveness.

The authors also encourage confronting inherent contradictions, tensions, and trade-offs, which facilitates sound decision-making when choosing amongst options.

Figure 5 (below): Derived from Spearman and McGray 2011: 8

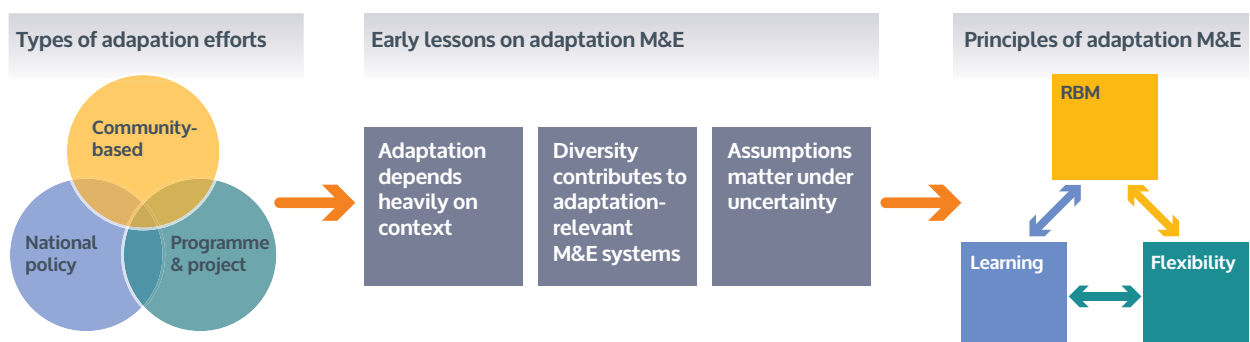
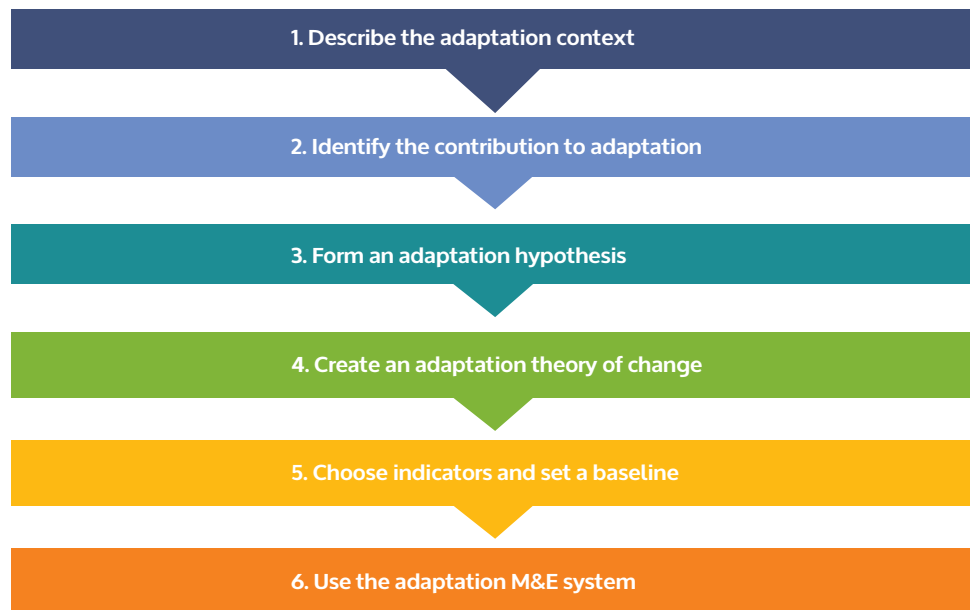


Figure 6 (right): Derived from Spearman and McGray 2011: 23



Applicability and contribution

This excellent manual is well-structured and practical, and includes the good use of diagrams to illustrate concepts. The authors provide readers with a flexible template for establishing an M&E system for CCA projects /programmes at the national level. Their guidance is clear and easy to follow, but not “dumbed down” or oversimplified. Indeed, Spearman and McGray walk the reader through complex issues and suggest options, and lay groundwork that is further developed in the later (2012) GIZ document *Adaptation made to measure*. The pace of the approach is well-considered and the careful selection of lessons learned from previous CCA interventions should be of real use to practitioners.

References

Spearman, M. and McGray, H., 2011. *Making adaptation count: Concepts and options for monitoring and evaluation of climate change adaptation, manual*. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), and World Resources Institute (WRI). Available from www.seachangecop.org/node/107

Spearman, M., 2011. SEA Change webinar *Making adaptation count*. Available from: www.seachangecop.org/node/522

August 2012

Adaptation made to measure

Sector relevance: All			
Most relevant for: M&E practitioners, CCA programme managers			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	
Literature review /summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators		International	
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion /guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		

Purpose

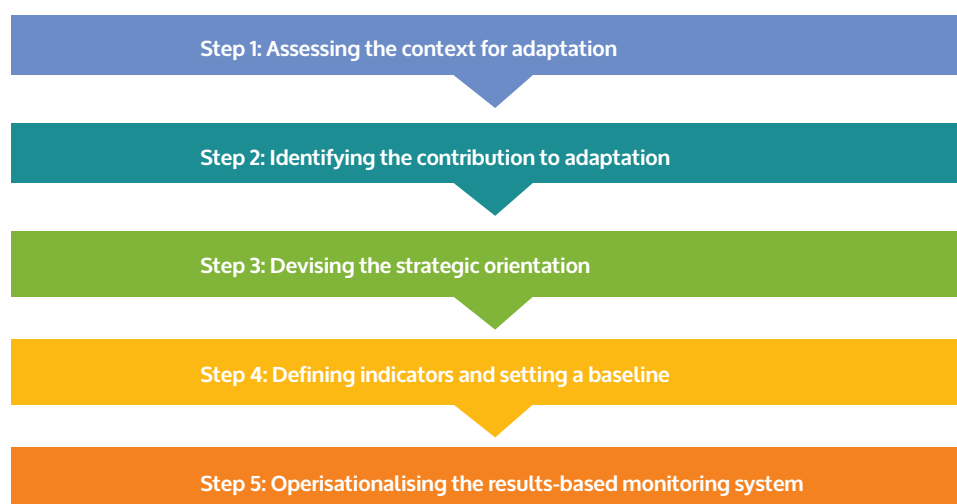
This manual is intended to inform the design and monitoring of climate change adaptation projects, and particularly seeks to equip the reader to take a systematic approach towards developing adaptation projects and results-based systems to monitor them. There is a step-by-step guide, with each stage of analysis illustrated by concrete examples.

Summary of content and approach

Olivier, Leiter and Linke (2012) first give an overview of basic definitions and concepts, as well as challenges to M&E in a context of climate change. They note that CCA overlaps with established relief / development programming, but there are important characteristics that also set it apart. These specificities include extended timeframes, uncertainties about localised climate change trends, and the complexity of determinants. They also address how these sorts of issues pose methodological dilemmas for meaningful M&E.

The emphasis of the report is on a practical section which outlines a step-by-step approach to designing an adaptation project and setting up its monitoring system (see Figure 7). Five steps to designing a results framework and monitoring system are identified and described in some depth, with specific outcomes to ensure that the practitioner is on track.

Figure 7: Derived from Olivier, Leiterand, and Linke 2012: 11



Each of these steps is addressed in detail, with accompanying graphic representations. This guide draws upon many of the concepts developed in Making adaptation count (Spearman & McGray, 2011), which was also prepared for GIZ. Each of the steps is further illustrated by specific examples from a GIZ project in India: Climate change adaptation in rural areas. This gives the framework a practical flavour and the effective use of this case study helps the reader to understand how each step might be applied in reality. The guide does an excellent balancing act between giving enough background information on key concepts, without becoming mired in detailed technical matters. The authors deftly walk the reader through the issues at hand practically and succinctly; each section also includes referrals to those looking for further information. Complexities are broken down into critical dimensions, and the authors ask guiding questions more than give detailed instructions. Altogether, this approach enables a thoughtful practitioner to design a solid M&E system for a CCA programme.



Applicability and contribution

The guide is highly relevant and useful to a broad professional audience. The examples from the project in India reinforce the clear focus on developing countries and working at the project level, however the steps would also be useful in other contexts. There is no sectoral focus and while the examples provided are rural in nature, there appears no impediment to applying the five steps in an urban setting.

This guide is highly relevant to those working at project level on adaptation activities in developing countries and provides a practical yet sufficiently flexible framework for planning M&E processes. This is one of very few field-ready guides which can be applied and, as such, it illustrates how we might move from descriptions of the concepts and challenges to the implementation of M&E.

References

Olivier, J., Leiter, T. and Linke, J., 2012. *Adaptation made to measure: A guidebook to the design and results-based monitoring of climate change adaptation projects*, manual. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Available from: www.seachangecop.org/node/1661

Scholz, V., Leiter, T. and Bours, D., 2013. *SEA Change / GIZ webinar Climate change adaptation M&E in practice; adaptation made to measure – and what is needed next?* Available from: www.seachangecop.org/node/1722

Scholz, V., Leiter, T. and Bours, D., 2013. *SEA Change / GIZ webinar Climate change adaptation M&E in practice; adaptation made to measure – and what is needed next?*, presentation. Available from: www.seachangecop.org/node/1799

Monitoring & evaluation for community-based adaptation

Sector relevance: All			
Most relevant for: Technical audience			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators		International	
Guidance on indicator development		National	
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

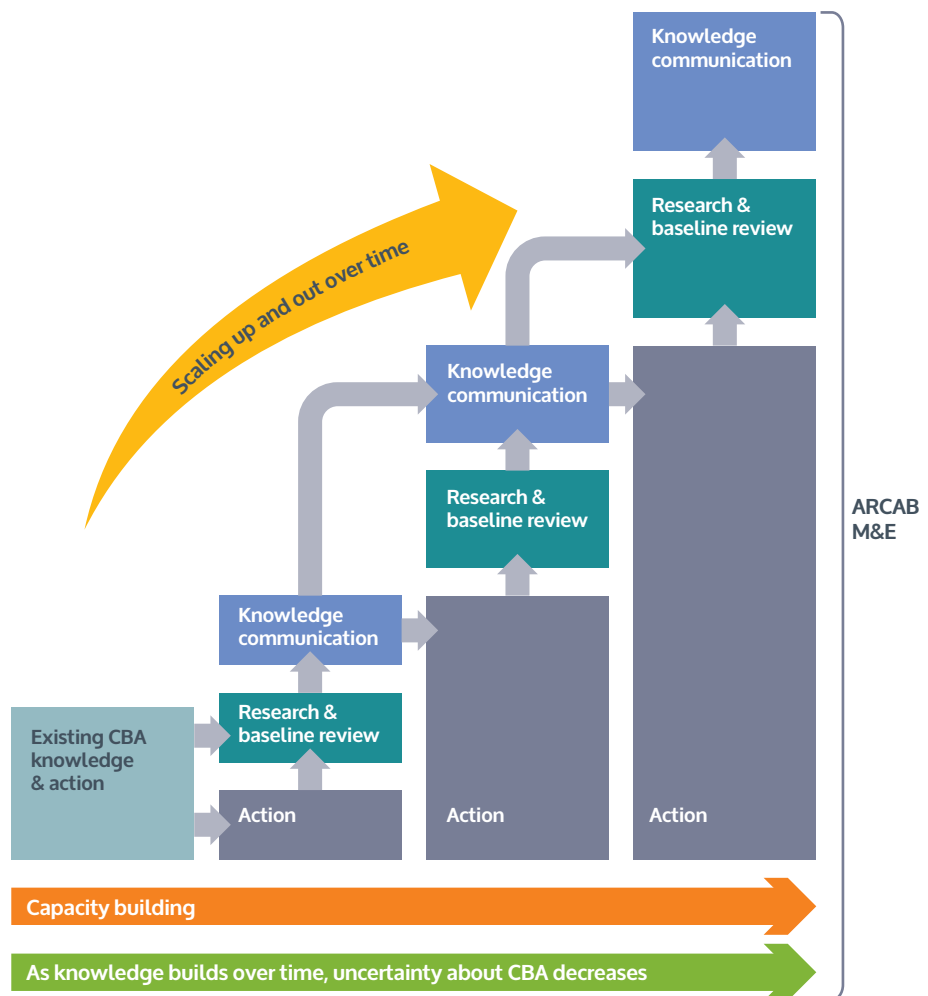
Purpose

These documents (draft framework paper, final baseline strategy paper and, most importantly, a major December 2012 assessment report) report on a community-based CCA M&E case study in Bangladesh. Together they present an overall framework that was applied to this case study, and it is intended to be useful for other countries and climate change contexts as well. ARCAB itself is a participatory action research project which seeks to demonstrate a bottom-up approach to CCA DME, and to develop a “learning tool” that can be applied more broadly.

Summary of content and approach

ARCAB was designed to contribute to current knowledge gaps on how to plan, deliver and measure the effectiveness of community-based adaptation. The methodology sets M&E adaptation priorities that focus on the needs of climate-vulnerable poor communities, including institutional responsiveness, their access to information, and “livelihood decision-making” (ARCAB 2012b: 17). The programme was designed and developed in a bottom-up participatory way together with communities vulnerable to different kinds of climate change hazards. Figure 8 outlines the research and action strategy.

Figure8: Derived from
ARCAB 2012b: 5



The ultimate aim is to achieve “transformed resilience” that is sustainable over time, “beyond business as usual,” scaled up (i.e. mainstreamed at an institutional level), and scaled out (i.e. reaches those beyond local project boundaries). The ARCAB approach is intended to inform a broad audience and be applicable beyond the Bangladesh case study.

The three documents discuss many critical issues pertaining to community-based approaches to sustainable climate change adaptation. However, they are somewhat repetitive, and the programme is long-term and ongoing. The publications to date reflect a work in progress. Those who appreciate detailed flow charts and other graphic models might welcome how extensively they are used throughout the reports, but some may find them too “busy” or confusing to follow. Somewhat ironically for a CBA initiative, the materials are abstract and pitched at a high technical level, and while there is much discussion of principles and strategies, it is not clear how these are playing out on the ground. The materials thus far would appeal more to an audience of evaluation research theorists and methodologists than to field-level managers or practitioners.

Applicability and contribution

The ARCAB programme is a very interesting ongoing CCA initiative, insofar as it seeks a bottom-up approach among highly vulnerable populations who are at risk of diverse climate hazards. It therefore has important applications for community-level projects beyond the Bangladesh case study itself. However, the model appears to be resource-intensive. While this may appropriately reflect the needs of a pilot project with a strong research and learning component, it does raise questions about transferability and cost-effectiveness. This is also an ongoing, long-term initiative, and some key components still have not yet come to fruition. For example, although the authors highlight that the programme will scale up and out, so far this has been limited in scope. This is an important initiative, but to date the publications are abstract and aimed at a narrow, specialist audience; materials for broad professional use are not yet available. Those seeking practical guidance, tools, or lessons learned are advised to consult other publications instead.

References

Faulkner, L., 2012. ARCAB M&E and baseline strategy for CBA, final report. Action Research for Community Adaptation in Bangladesh (ARCAB). Available from: www.seachangecop.org/node/1981

Ayers, J. and Faulker, L., 2012. ARCAB M&E framework paper for community based adaptation, draft paper. Action Research for Community Adaptation in Bangladesh (ARCAB). Available from: www.seachangecop.org/node/191

Faulkner, L. and Ali, S.M.I., 2012. Moving towards transformed resilience: Assessing community-based adaptation in Bangladesh, Report. Action Aid Bangladesh, Available from: www.seachangecop.org/node/1901

Faulkner, L., 2013. SEA Change webinar *Monitoring and evaluation for community-based adaptation (CBA): Unpacking the CARE PMERL and ARCAB approaches and their inter-connection* – Part 2: ARCAB approach. Action Research for Community Adaptation in Bangladesh (ARCAB). Available from: www.seachangecop.org/node/1969



Adaptation M&E discussion papers

Sector relevance: All			
Most relevant for: M&E specialists and CCA programme managers			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review		Quantitative emphasis	
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft	●		
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	
Detailed case studies provided		Rural emphasis	
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

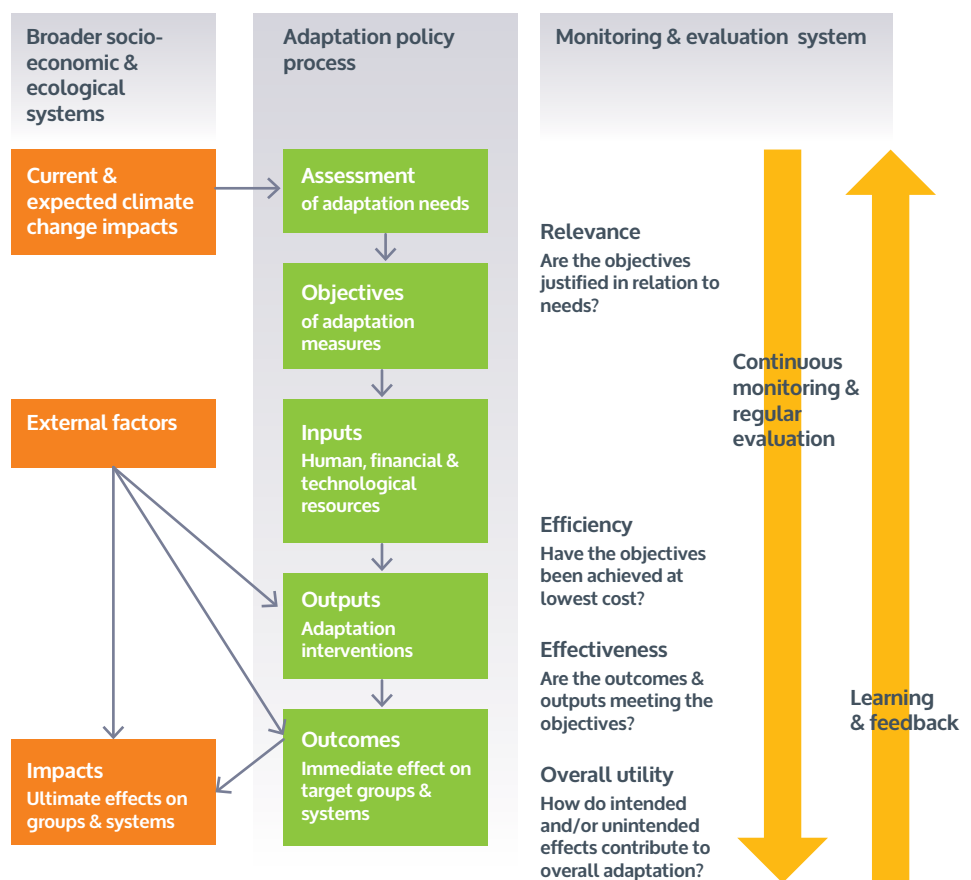
Purpose

These two papers provide succinct summaries and overviews of key CCA M&E issues and methodological challenges. The 2010 report offers a brief synthesis of relevant evaluations to date, with an eye towards identifying knowledge gaps and lessons learned. It is a short snapshot of evaluation challenges and experiences at the time of writing. The 2013 paper builds upon these themes further, but focuses on promoting agency evaluation processes that are “continuous and flexible... and subject to periodic review” (UNFCCC, 2010: 1), and address the most pertinent methodological challenges at hand. Together, these two documents describe UNFCCC progress and thinking with regard to adaptation M&E. The 2013 paper formed the basis for discussions at a workshop on monitoring and evaluation held in Fiji in September 2013.

Summary of content and approach

These documents describe existent CCA M&E frameworks, providing a useful summary of the “state of play” regarding adaptation M&E. They review CCA M&E across projects, policies and programs, as well as analysis on CCA cost effectiveness. One particularly useful section is a succinct discussion in the 2010 paper about the selection of CCA indicators: their complexity and various considerations in their selection. Process and outcome indicators are also compared and contrasted. There is a summary on lessons learned, good practices, and knowledge needs. Figure 9 (below) graphically illustrates an M&E framework tailored to CCA contexts, and includes outputs (measurable products and services), outcomes (short- and medium-term effects of the outputs), and impacts (long-term effects).

Figure 9: Derived from UNFCCC 2010: 6



Applicability and contribution

The syntheses described are of use for a broad range of climate change policymakers. They are not innovative, but they do squarely face the challenges that set CCA M&E apart from typical development programmes. These identified issues include the unique complexities of adaptation programming (e.g. uncertainties and long timeframes); lack of agreed metrics to measure reduced vulnerability; and how to attribute impacts and effects. These two papers succinctly describe a good range of many of the most relevant topics. The section on CCA indicators could be taken as a useful first discussion on the development of CCA indicators for new practitioners; the comparison table is also useful in this respect. The documents, however, are both very brief and provide an overview of the current adaptation M&E landscape rather than a detailed discussion of some of the complexities involved. As such, they are good summary overviews, but do not provide any specific guidance for implementation.

References

UNFCCC, 2010, Synthesis report on efforts undertaken to monitor and evaluate the implementation of adaptation projects, policies and programmes and the costs and effectiveness of completed projects, policies and programmes, and views on lessons learned, good practices, gaps and needs. United Nations Framework Convention on Climate Change (UNFCCC). Available from: www.seachangecop.org/node/1426

UNFCCC Adaptation Committee, 2013, Draft scoping paper: Workshop on monitoring and evaluation of adaptation. United Nations Framework Convention on Climate Change (UNFCCC), Adaptation Committee. Available from: www.seachangecop.org/node/2349

March 2013

Tracking adaptation and measuring development (TAMD)

Sector relevance: All			
Most relevant for: M&E specialists and CCA programme managers			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	●
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators	●	International	●
Guidance on indicator development	●	National	●
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed	●	M&E approaches that link levels of intervention	●
Detailed case studies provided	●	Rural emphasis	
In-depth discussion / guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming	●		



Purpose

TAMD presents a “twin-track” toolkit that approaches CCA M&E as “a combination of how widely and how well countries or institutions manage climate risks (Track 1) and how successful adaptation interventions are in reducing climate vulnerability and in keeping development on course (Track 2)” (IIED 2012: 1). Its overall aim is to enable practitioners to assess an intervention’s outputs, outcomes, and impacts within and across sectors and levels of programming.

Summary of content and approach

This series provides a thorough and detailed study of how one particular framework can be applied to the adaptation context. The first (2011) document is very readable and practical, and overall the focus is well-suited for CCA practitioners who already have a good understanding of adaptation and are looking for a conceptual framework that can be readily applied to their programme / project situation. It begins by discussing the area of climate change adaptation at length and importantly includes detailed topics such as timelines, vulnerability and attribution. It also includes an interesting categorisation of CCAI, visualised in Table 2.

“Results frameworks most often aim to assess the efficiency of adaptation funding and interventions, measured as ratios of outputs (goods and services delivered – benefits) to inputs (the intervention – costs). However, this approach tends to neglect the wider – and ultimately more important – issue of effectiveness or how well adaptation interventions and investments perform in delivering their stated objectives.”

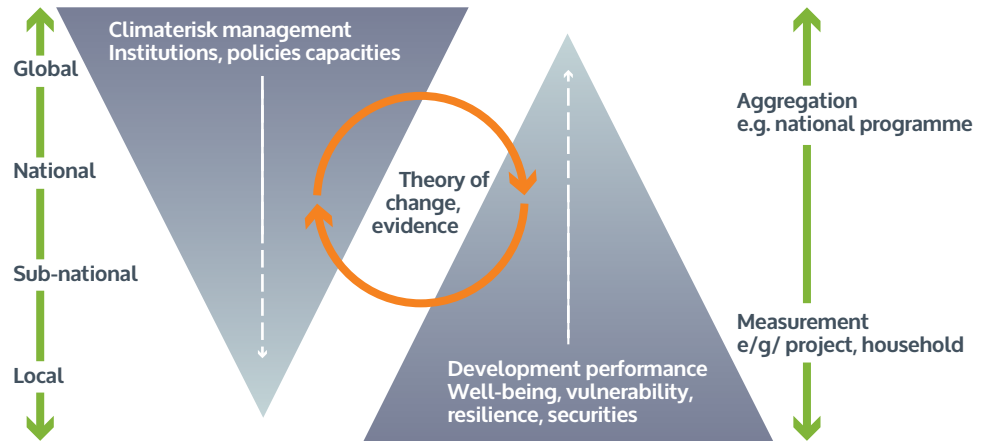
Brooks et al. 2013: 7

Category of adaptation	Type of action	Examples
Addressing the adaptation deficit	Resilience building	<ul style="list-style-type: none"> • Livelihood diversification to reduce poverty in context of climate variability • Crop insurance, seasonal forecasting, other agricultural innovation including irrigation • Early warning systems for DRR
Adapting to incremental changes	Climate proofing	<ul style="list-style-type: none"> • Upgrading of drainage systems to accommodate greater runoff due to more intense precipitation • Adapting cropping systems to shorter growing seasons, greater water stress and heat extremes (e.g. through crop substitution, irrigation, new strains) • Improving DRR systems to cope with more frequent and severe extremes
Adapting to qualitative changes	Transformational change	<ul style="list-style-type: none"> • Phased relocation of settlements away from areas at existential risk from sea-level rise • Shifts in emphasis in large-scale economic activity away from areas/resources threatened by climate change (e.g. away from water-intensive agriculture, climate-sensitive tourism, high-risk marine resources, to less sensitive activities) • Transformation of agricultural systems from unsustainable (under climate change) intensive rain-fed or irrigated agriculture to lower input e.g. pastoral or agropastoral systems

Brooks et al. 2011: 13

The actual framework further details this twin-track approach, demonstrating how the two tracks constitute a parallel process that influence one another in a feedback loop. The 2013 document by the same lead authors goes on to provide much more detailed guidance in how specifically to design and measure appropriate outputs, outcomes, and impacts across sectors and “tracks.”

Figure 10: Derived from Brooks et al. 2013: 14



The 2013 follow-up paper is not simply an updated version of the first; it has quite a different orientation and intended audience. The discussion is both at a higher level overall, and includes much more “nitty-gritty” detail concerning the theory and practice of climate change adaptation programming. This includes more specific direction regarding indicator development, linkages between different levels and sectors of programming, and transformational change over the long term. It includes specific examples and delves into more technical discussions, e.g. ranking/scoring household vulnerability, accounting for confounders, and applying theories of change. One strength of this document is its extensive list of sample indicators clustered into categories, together with advice on how to judiciously choose and develop them. This document would be of more interest to M&E specialists. For programme managers, it is on the one hand helpful insofar as it includes detailed instructions for systematically applying the TAMD framework; however those seeking more general, conceptual guidance may actually find the broader 2011 document more useful.

Applicability and contribution

The IIED documents together provide useful and readable guidance to a wide professional audience. The 2011 is one of the most accessible overviews of the issues surrounding CCA M&E, and the conceptual framework is a helpful analytical tool. The 2013 document, meanwhile, provides narrower but more in-depth direction for those seeking to systematically apply the framework itself.

References

Brooks, N. et al., 2013. Working paper 5: TAMD, an operational framework for tracking adaptation and measuring development, working paper. International Institute for Environment and Development (IIED). Available from: www.seachangecop.org/node/1695

IIED, 2012. TAMD, a framework for assessing climate adaptation and development effects, Briefing paper. International Institute for Environment and Development (IIED). Available from: www.seachangecop.org/node/1699

Brooks, N. et al., 2011. Working paper 1: Tracking adaptation and measuring development (TAMD), working paper. International Institute for Environment and Development (IIED). Available from: www.seachangecop.org/node/118

March 2013

The TANGO approach to livelihoods resilience measurement and evaluation

Sector relevance: Food security / rural livelihoods			
Most relevant for: Food security and M&E specialists and academics			
Type of resource		Method / Approach	
Practical step-by-step guide		Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	●
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	
Training guide / training material		Logical framework approach as primary M&E focus	
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators		International	●
Guidance on indicator development		National	●
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	●
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion / guidance on designing / planning CCA M&E activities		Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			

Purpose

This series of six documents provides a comprehensive review of conceptual and theoretical issues surrounding resilience to food security shock, particularly the “continuous cycles of crisis” (Frankenberger *et al.* 2012: 1) in the Horn of Africa and the Sahel. These technical papers systematically review literature and existent approaches, formulate a “theory of resilience,” and explore how to measure it.

Summary and approach

“M&E systems for measuring the impact of resilience programming should prioritise approaches that engage local actors and affected communities, and include measures of success that are meaningful to them. Measures of resilience must be culturally appropriate and employ benchmarks for success that are culturally-relevant. There is no one size fits all.”

Frankenberger and Nelson 2013a: 15

This collection of documents very systematically analyses the concept of resilience, how it has emerged as a key construct to frame whether and how vulnerable populations withstand shocks and crises, and how it might be measured. The thematic emphasis is on livelihoods, DRR, and food security. CCA further frames the agenda insofar as it exacerbates the severity and unpredictability of extreme weather, however these materials do not always emphasise CCA per se.

Two of the documents (Frankenberger *et al.* 2012 and Frankenberger *et al.* 2013) are in-depth literature reviews on food security, albeit with different emphases and orientations. Together they offer a very detailed discussion of key issues. The first is more conceptual, presenting how resilience has emerged as a “new paradigm for programming” (p. 6) and what this programming entails. The second is much narrower in scope: it systematically reviews and summarises evidence on key topics related to vulnerability, resilience, and food security (e.g. market access and value chains) and, very importantly, highlights where the knowledge gaps are.

Two technical papers (Constas and Barret 2013; Barrett and Constas 2013) further advance the field. One paper “advance[s] a theory of resilience as it applies to the challenges of international development” (Barrett and Constas, 2013: 1) and discusses the implications for programming and measurement. The second (Constas and Barret 2013) is probably more useful to those interested in CCA M&E. It considers “metrics, mechanisms, and implementation issues” for measuring resilience to food insecurity. The authors present a “theoretically-based set of measurement principles” (p. 10) that may be of keen interest to a technical or academic audience. Neither of these papers, however original and important, would be useful for someone looking for practical materials to use in the field. They are technical papers pitched toward specialists.

The final document in the series (Frankenberger and Nelson 2013a) is an overview of the entire technical research project (a summary report is also available: Frankenberger and Nelson 2013b). This paper reviews the conceptual and theoretical constructs of resilience, presents an original framework (see Figure 11), and discusses principles and practices surrounding the measurement of resilience in the field. The framework itself integrates the elements of livelihoods, DRR, and climate change that underpin vulnerability, and it emphasises that assets, institutions, strategies, and behaviours that come together to frame resilience. Emphasising that resilience is “a dynamic process that involves change over time” (Frankenberger and Nelson 2013a: 3), they go on to “move resilience measurement forward” by identifying key principles that must be considered. While the question of measuring resilience is not resolved, the TANGO project presents some of the most thorough and thoughtful analysis on the subject to date.

Applicability and contribution

The portfolio of six papers by the TANGO project approaches a challenging topic in a very systematic way, and the papers are fully grounded in both theory and evidence. They are, and should be, influential and they represent important advancements in defining and measuring resilience. These papers are, however, technical and oriented toward a specialist and academic audience. While some of the material may be of interest to practitioners, they are not in themselves practical field tools.



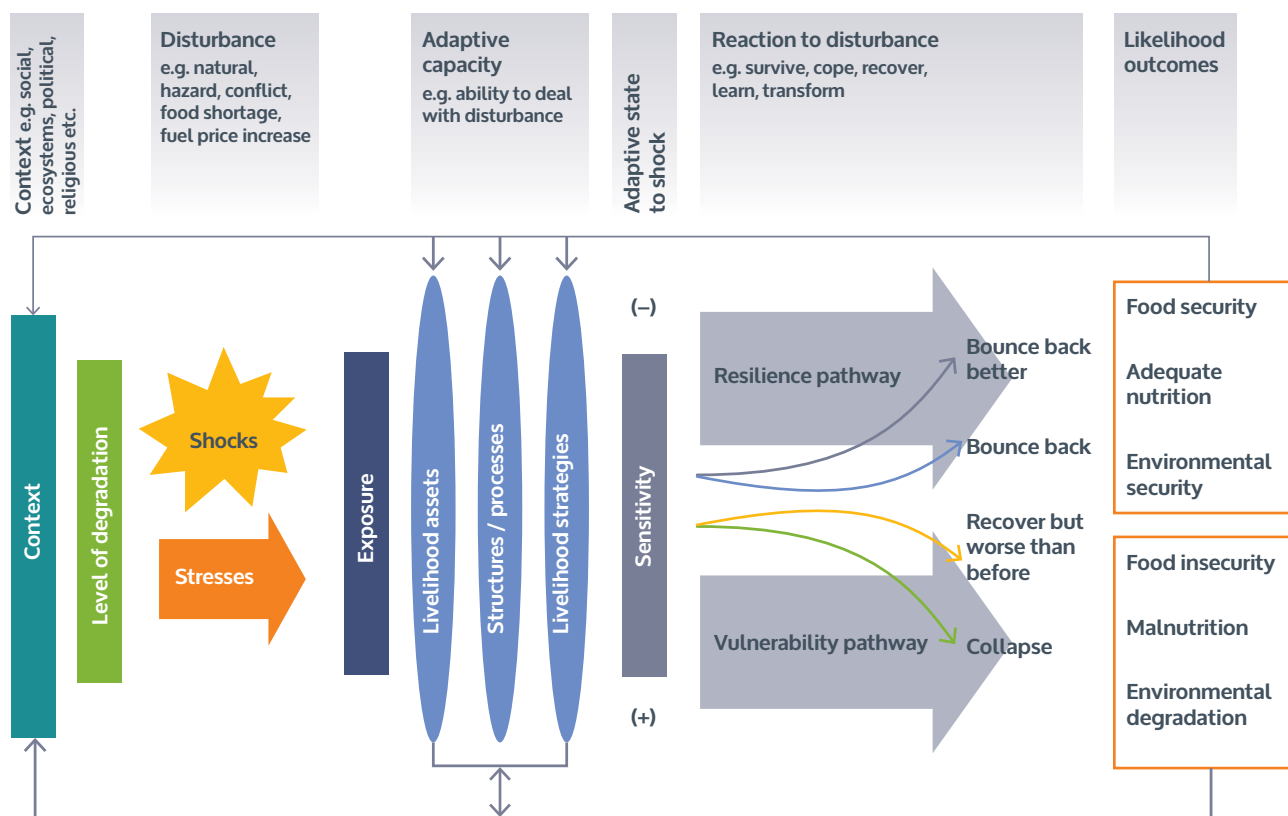


Figure 11: Derived from **References**
Frankenberger and
Nelson 2013b: 11

Barrett, C.B. and Conostas, M.A., 2013. Toward a theory of resilience for international development applications, revised draft for comments. Cornell University. Available from: www.seachangecop.org/node/2467

Conostas, M.A. and Barrett, C.B., 2013. Principles of resilience measurement for food insecurity: Metrics, mechanisms, and implementation issues. Cornell University. Available from: www.seachangecop.org/node/2465

Frankenberger, T. and Nelson, S., 2013a. Background paper for the expert consultation on resilience measurement for food security. TANGO International, United Nations Food and Agriculture Organisation (FAO) and the United Nations World Food Programme (WFP). Available from: www.seachangecop.org/node/2463

Frankenberger, T. and Nelson, S., 2013b. Summary of the expert consultation on resilience measurement for food security. TANGO International, United Nations Food and Agriculture Organisation (FAO) and the United Nations World Food Programme (WFP). Available from: www.seachangecop.org/node/2464

Frankenberger, T., Swallow, K., Mueller, M., Spangler, T., Downen, J. and Alexander, S., 2013. Feed the future learning agenda literature review: Improving resilience of vulnerable populations. TANGO International, United States Agency for International Development (USAID). Available from: www.seachangecop.org/node/2466

Frankenberger, T., Spangler, T., Nelson, S. and Langworthy, M., 2012. Enhancing resilience to food security shocks in Africa, discussion paper. TANGO International. Available from: www.seachangecop.org/node/2547

April 2013

Community-based resilience assessment (CoBRA) conceptual framework and methodology

Sector relevance: Livelihoods			
Most relevant for: Programme managers and M&E practitioners			
Type of resource		Method / Approach	
Practical step-by-step guide	●	Qualitative emphasis	
Detailed conceptual framework / theoretical review	●	Quantitative emphasis	
Literature review / summary of adaptation M&E approaches	●	Mixed-methods emphasis	●
Training guide / training material		Logical framework approach as primary M&E focus	●
Initiative in progress / working paper / draft			
Content		Applicability	
Detailed list of suggested indicators		International	
Guidance on indicator development		National	
Example logframe / logic model provided		Sub-national / community	●
Theory of change, logframe, or logic model development discussed		M&E approaches that link levels of intervention	●
Detailed case studies provided	●	Rural emphasis	●
In-depth discussion / guidance on designing / planning CCA M&E activities	●	Urban emphasis	
In-depth discussion / guidance on climate change adaptation programming			



Purpose

“It is important to note that resilience, like vulnerability and risk, is a dynamic concept. In addition resilience is a multi-dimensional concept that requires the simultaneous measurement of several factors, both short and long term. This goes against the current orthodoxy of monitoring and evaluation practice, which tends to be highly sectoral.”

UNDP 2013: 4–6.

The CoBRA project is seeking to support drought and disaster risk reduction programs with “robust analytical tools” (UNDP 2013: 3) to better measure short- and long-term programming impacts. It particularly intends to bridge relief, development, and climate change adaptation endeavours in the Horn of Africa and beyond. The focus is on quantifying socio-economic and environmental impacts of community-level programs, and integrating short-term projects into coherent long-term strategies.

Summary of content and approach

This excellent field guide departs from the situation of increasing drought in the Horn of Africa and then guides the reader through a methodology to define resilience in a multi-dimensional way at the local level, gather the data, and then quantify and report on the findings. The authors bridge community-based, bottom-up approaches with the need for more aggregated-level data that can be compared between times and places. Although the introduction emphasises that the framework is quantitative, in fact a mixed-methods strategy is outlined. The data that is collected is largely qualitative, but then quantified through community-based ranking and scoring activities.

Applicability and contribution

Although developed out of a specific geographical and hazard context, the method could be applied outside of this context. The authors do an especially good job of sorting through the many components and dimensions of ‘resilience’ and then suggest very concrete and practical ways to apply this at the community level. The document is also very readable, with useful visual aids. The authors build upon technical literature and rework it into field-friendly materials. However, some sections are a bit over-simplified. More explicit guidance would be useful surrounding methodological challenges in analysing and transforming community-level participatory research data in the way that the authors recommend. It would be especially helpful if the authors issued an accompanying technical paper which more thoroughly addresses the theory and evidence base that informed this guide. Nevertheless, this is an interesting, important, and innovative manual, especially for seeking approaches that are both community-based and quantifiable.

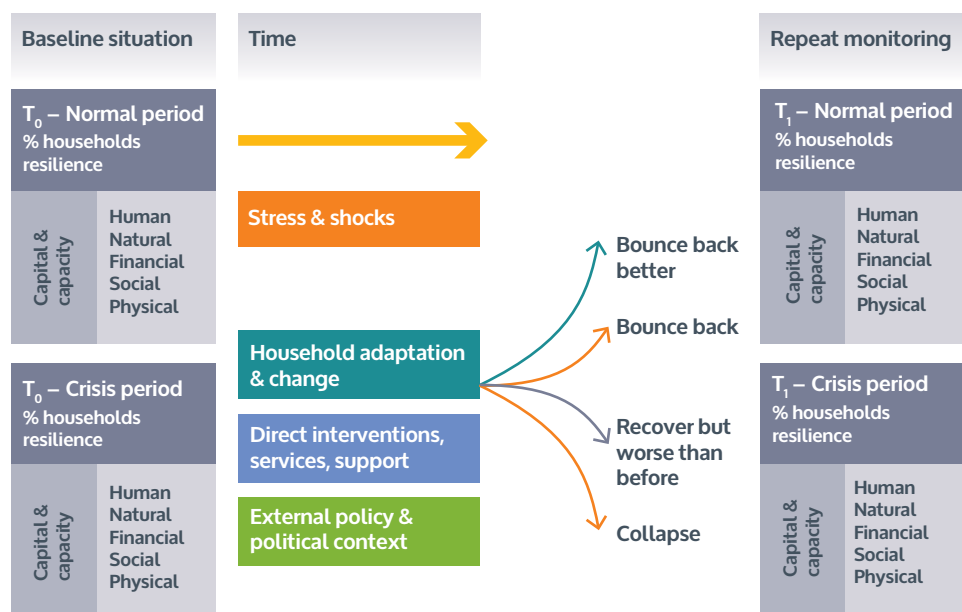


Figure 12: Derived from UNDP 2013: 10

References

UNDP, 2013. Community based resilience assessment (CoBRA): Conceptual framework and methodology, paper. United Nations Development Programme (UNDP). Available from: www.seachangecop.org/node/1788

Analysis and conclusions

This report presents a comprehensive summary of existent frameworks for monitoring and evaluation of climate change adaptation (CCA) relevant to international relief and development agencies. We see that the approaches range from broadly theoretical and technical, to practical guidance documents that lay out M&E tasks to follow. In this synthesis, we analyse the current landscape and trends of CCA M&E. In so doing, we identify key gaps, and dilemmas facing our community of practice.

In a development context, CCA is characterised by a rapidly-evolving medley of policies and programs. New initiatives are being rolled out by various agencies, and following on from this are accompanying analytical frameworks and approaches to M&E. However, there is a perception that the evidence base informing CCA is still fragmentary and nascent. Smit and Wandel's (2006) observation is still relevant: "studies of adaptation to climate change have provided many insights but to date, [they] have shown only moderate practical effect in reducing vulnerabilities of people to risks associated with climate change" (p. 289). Monitoring and evaluation of CCA can and should serve not only to document and demonstrate the effectiveness of interventions, but also to generate knowledge, learning, and evidence to inform this emerging area of policy and programming. M&E presents a crucial opportunity for generation and dissemination of applied research in a new field.

The frameworks, toolkits, and other materials that are reviewed in this synthesis report present an array of guidelines that have been developed to inform CCA M&E. There is overlap between many of the materials, but key distinctions do emerge. These differences often centre on such topics as sectoral or geographic focus; level of intervention (i.e. community, national, international); whether or not they challenge or follow conventional thinking and practice around results-based frameworks; and policy versus programmatic orientation. Some are also very 'field-friendly' while others are more theoretical; both have important places in the literature.

Conceptual framing of the adaptation M&E challenge

We can see a clear progression of key ideas and concepts driving the recommended guidelines, which have evolved significantly in just a few short years. One of the most central questions is what climate change adaptation is seeking to achieve. The earlier frameworks focus on defining and measuring adaptation in order to enhance resilience in the face of climate change, and reduce vulnerability to extreme or uncertain weather conditions.



These efforts were often modelled on disaster risk reduction (DRR) efforts, albeit with important modifications to reflect longer timeframes and greater uncertainty.

Thinking and practice has been steadily outgrowing this approach. Climate change adaptation involves a broad range of interventions, from global policy down to individual behaviour change. Moreover, resilience / vulnerability has been criticised as being too static, and presumptive of the continuation of overall socio-ecological contexts. More current approaches recognise that these contexts themselves may change, perhaps profoundly. Therefore, resilience to withstand shocks may be inadequate. The capacity to adjust to radical changes in overall social and ecological conditions will be crucial. This is being called different things by different authors and agencies, including “transformed resilience” (the ARCAD project documents) and “transformational change” (Brooks *et al.*, 2011). Others, meanwhile, continue to use the language of resilience/vulnerability, but with a new emphasis on diverse and dynamic underpinnings (see, for example, UNDP’s 2013 CoBRA framework). “Adaptive capacity” (and similar variants) has emerged as a key term (e.g. Villanueva, 2011; Spearman and McGray, 2011) which emphasises the ability to adjust to potentially radical changes in context, not just withstand shocks.

In other words, there has been an evolution in thinking about climate change adaptation from resilience to adaptability to transformation. This is most coherently described by Folke *et al.* (2010), whose influential journal article on “resilience thinking” sets “transformability” apart. They describe transformability as “the capacity to cross thresholds into new development trajectories” (p. 1). This is quite a difference emphasis, and it highlights that climate change adaptation may well represent facilitating radical changes to socio-ecological systems. They further clarify that “the attributes of transformability have much in common with those of general resilience... Transformational change often involves shifts in perception and meaning, social network configurations, patterns of interactions among actors including leadership and political and power relations, and associated organisational and institutional arrangements” (p. 5). It should be highlighted that such transformations are not necessarily positive or intended: indeed, climate change may usher in forced transformation on a mass scale that is characterised by extreme hardship. Some CCA programming is now seeking ways to frame and facilitate positive transformations; TANGO is producing some especially interesting materials in this respect. There are obviously challenges for defining, measuring, and planning “transformation,” but it is also a very logical response to the challenges at presented by climate change.

Moving from theory to practice

In terms of the actual published guidelines, the earlier materials were often stronger conceptually than practically, and often somewhat simplistic in terms of actual execution. The UNDP (2007) framework, for example, remains influential but some of the details, including example indicators, reflect uncertainties about how adaptation concepts would actually translate into concrete practice. Sanahuja’s (2011) framework for GEF, meanwhile, provides a strong and insightful conceptual overview of adaptation to climate change adaptation thinking. However, its scope is relatively narrow (it does not stray far from DRR approaches) and the practical aspects are under-developed compared to later materials. However, new does not necessarily mean improved. While many of the more recent frameworks are more practical and field-friendly as a whole, certain gaps and problems still stand out.

One clear and concerning trend is increased efforts to consolidate and aggregate indicators which can be reported on a global level. Our concern is that a good deal is being lost. The UNDP’s (2013) CoBRA guide, for example, has many excellent and innovative features, including its effort to bridge community-level participatory research and large-scale monitoring and reporting frameworks. This is the kind of important and welcome effort that is at the heart of many CCA M&E challenges today. However, there is concern regarding considerable methodological pitfalls



and challenges when transforming qualitative, local, participatory data into quantitative targets in this way. The (2012) AMAT guide is predominantly focussed on assisting funded programs to report against a pre-defined menu of quantitative indicators, an approach which does not easily lend itself to capturing local specificities, or of gathering and disseminating new learning about the evolving field of climate change adaptation. Brooks *et al.* (2011) argue that “adaptation and climate resilience encompass a wide variety of measures, processes and actions, operating at different temporal and spatial scales, and this diversity needs to be reflected in any framework for the evaluation of adaptation” (p. 10). Unfortunately current trends within several agencies are turning away from this nuanced approach.

The challenge of appropriate indicators

A number of authors make very strong cases for the use of process and proxy indicators. The rationale for this is that due to the many dimensions and long timeframe of climate change adaptation, we cannot assess the outcome *per se* during a project cycle. What can be done instead is to measure processes and use proxies that better capture an initiative’s impact. Such indicators usually are embedded within a theory of change, i.e. a visualised “roadmap” which identifies a causal pathway of change, with specific steps identified that would bring about intended outcomes. Theory of change models are well-suited for CCA M&E, because although the ultimate goal and timeframe may extend far beyond the reach of the initiative at hand, the model would identify concrete steps along the way which can be defined, measured, and evaluated in the near term. It thus defines clear increments, but without losing sight of an overall climate change context. If well-designed, a theory of change provides a more flexible approach than conventional logframes, potentially enabling better consideration of unintended and unexpected impacts and outcomes (Pringle 2011).

Discussion of indicators is a key feature within much of the literature. While indicators can play a key role within the M&E process, they need to be considered within a broad and nuanced understanding of adaptation performance and progress. This is not reflected in all of the frameworks and resources reviewed, some of which appear to be driven by reporting convenience rather than assessing meaningful impact. We feel that the identification of both output and process indicators is critical in a conceptual tool which gracefully ties together various dimensions and needs of a CCA M&E system. Yet, development of process indicators has fallen by the wayside in some of the most recent publications. The most probable explanation for this is that they do not lend themselves towards aggregated quantitative targets. We are further concerned that the impetus behind this happening is donor-driven and top-down, and problematic on other grounds as well. Climate change adaptation is an evolving area of programming and policy, and there is much to be learned. Rigid and narrow M&E frameworks lose the opportunity to gather and disseminate learning, which requires both output and process indicators. A few years ago, materials were emerging that were designed to innovatively harness M&E for applied research, and reflect a complex and dynamic process with local specificities. Unfortunately, the trend has turned subtly in another direction. The climate change and M&E communities need to challenge this, and to formulate clear alternatives.

Maladaptation and fit

Two other M&E challenges that stand out concern maladaptation and fit. Maladaptation is discussed quite widely in the literature. Hedger *et al.* (2008) explained that, “if done badly, [adaptation] interventions can actually exacerbate the effects of climate change. This is termed maladaptation” (p. 29). One example are measures to protect coastal properties from storms, which may be highly cost-effective in the short term, but actually compromise environmental integrity in the long run.

Maladaptive programs may indeed meet targets, but actually cause harm. This raises the issue of whether M&E that is focussed narrowly on the achievement of immediate project objectives is really appropriate.

The second, separate issue is whether or not initiatives are actually fitting climate change adaptation needs. This is an emerging point that is only beginning to be addressed in the literature. Many donor agencies are now directing funding towards CCA, and as a result partners are seeking to frame proposals in these terms. There are concerns that CCA may become superficial 'window dressing' with which to attract funding for projects which, however valuable in other respects, do not meaningfully contribute to CCA. Monitoring and evaluation, when harnessed for applied research and learning purposes, can expose potential maladaptation as well as help to assess the degree to which an intervention contributes to the achievement of relevant adaptation objectives.

Where to next?

In the years ahead, we hope to see an improved evidence base to inform CCA policy and practice. This would lead to more nuanced strategies, including how to better and more effectively mainstream CCA efforts into existing development practice. As Smit and Wandel (2006) observe, "adaptations are rarely undertaken to climate change effects alone" (p. 289), and effective M&E can play an important role in improving our understanding of the complex socio-economic and environmental contexts within which adaptation occurs. Meanwhile, further refinement of both analytical and operational approaches to defining and measuring resilience and transformation will be useful. Given a diverse body of approaches, this will help communities, countries, and agencies build a common understanding of adaptation and how to achieve it. There remains considerable work to be done in how to link evaluations of different levels and scales of intervention (e.g. household, community, national, and global). However, in attempting to integrate M&E across multiple levels we must avoid the pitfalls of over-simplifying assessments or stifling innovation. Too often the emphasis on learning which adaptation inventions are working, or not, and why is constrained by complex and overlapping donor reporting mechanisms which do little to foster learning or build capacity to make more effective adaptation decisions.

A key message from our research is that there is a need to harness M&E not just for accountability to donors, but to generate new knowledge and evidence that is shared beyond a narrow community of specialists. This means moving beyond the dissemination of evaluation findings to a more critical and creative process of knowledge exchange. This requires the establishment of arenas in which the lessons emerging from adaptation M&E can be exchanged, challenged and tested, such that M&E becomes a tool for improvement and learning, not a simply mechanism for reporting and accounting.

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