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Monitoring and Evaluating Adaptation at Aggregated Levels: A Comparative Analysis of Ten Systems

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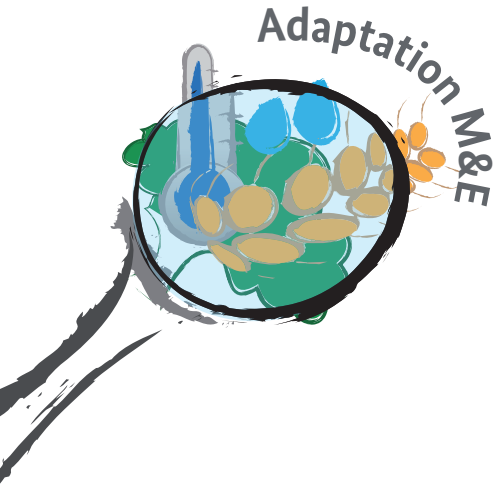

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Acronyms

AMAT	Adaptation and Monitoring Assessment Tool
ASC	Adaptation Sub-Committee (UK)
CC	Climate change
CCC	Climate Change Commission (Philippines)
CCAI	Climate Change Adaptation Initiative (MRC)
CCP	National Climate Change Program (Nepal)
CCRA	Climate Change Risk Assessment (UK)
CIF	Climate Investment Funds
CIF AU	Climate Investment Funds Administrative Unit
DAS	German Adaptation Strategy
DSROAs	Data Supply and Reporting Obligation Agreements (Kenya)
EU	European Union
GEF-LDCF/SCCF	Global Environmental Facility - Least Developed Countries Fund/Special Climate Change Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
IPCC	Intergovernmental Panel on Climate Change
KomPass	Competence Center for climate impacts and adaptation (Germany)
NAP	National Adaptation Plan/Programme
NCCAP	National Climate Change Action Plan (Kenya)
MDB	Multilateral Development Bank
M&E	Monitoring and Evaluation
M&R	Monitoring and Reporting
MRB	Mekong River Basin
MRC	Mekong River Commission
NCCAP	National Climate Change Action Plan (Philippines)
NIMES	National Integrated Monitoring and Evaluation System
NYC	New York City
OECD	Organisation for Economic Co-operation and Development
ONERC	Observatoire National sur les Effets du Réchauffement Climatique (France)
OREDD	Regional Observatory on Environment and Sustainable Development (Morocco)
PPCR	Pilot Program for Climate Resilience
RREIE	Regional Network of Exchanging Environmental Information (Morocco)
SIRE	Regional Information System on Environment (Morocco)
UBA	German Federal Environment Agency
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
VA	Vulnerability Assessment

1 Introduction

The last decade has seen the ascendance of climate change adaptation as a policy priority, reflected by increased volumes of financing for adaptation activities worldwide. This trend has led to a growing interest in monitoring and evaluation (M&E) of adaptation (e.g. UNFCCC 2010, Spearman and Gray 2011, Bours et al. 2013, Ford et al. 2013, OECD 2013) in order to ensure that such financing is justified, effective and sustainable, answering the question, 'is it leading to adaptation outcomes?'. In parallel, as adaptation is an ongoing, iterative process, development decision-makers in public and private sectors at different scales are in need of practical experiences from pilot actions to inform subsequent efforts.

To date, much of the discussion around M&E of adaptation has focused on the development of frameworks and indicator systems at the project and programme level. Relatively little attention has been paid to M&E at higher or more aggregated levels – i.e. portfolio, national, regional and international – where the institutional contexts, processes, and content for such systems are more complex and associated with more strategic questions, such as:

- How is the climate changing?
- What are the observed impacts of climate change?
- What is the progress towards meeting national/regional adaptation and development goals?
- What is the progress in implementing adaptation activities that respond to climate impacts?
- What are the benefits or results of implementing these adaptation activities?
- What works in adapting to climate change and why?

As such, the purpose of this paper is to provide an introduction to the different approaches and experiences in designing and implementing (piloting) M&E systems for adaptation at these aggregated levels. This will be done through an in-depth comparison of ten aggregated M&E systems, which will be compared according to their:

- **Context:** The policy framework for M&E of adaptation, the purpose of the M&E system, its level of application and aggregation, as well as its status as of Ocotber 2013.
- **Processes:** The institutions charged with overseeing M&E of adaptation, the process of how the M&E system has been established, and the steps involved in monitoring and evaluating adaptation.
- **Content:** The different approaches to M&E of adaptation, the data and information required for analysis, and the outputs and reporting products associated with each system.

Information for this analysis was gathered through a combination of document analysis and stakeholder interviews with key actors involved in designing and implementing the different M&E systems.

This report starts with a summary of existing aggregated M&E systems, broken down according to the framework presented above, in which the systems´ commonalities and differences are highlighted.

2 Overview of aggregated climate change adaptation M&E systems

The drive to establish M&E systems for adaptation has been gathering momentum among decision-makers at different levels who are developing adaptation strategies and fund managers who are seeking to understand the value of their investments – i.e. whether the resources invested in adaptation have led to desired adaptation outcomes (e.g. increased preparedness, reduced vulnerability, more resilient service delivery, etc.). Early experiences from adaptation M&E are emerging as more and more systems start transitioning from its design to its implementation phase.

Aggregate M&E systems for adaptation are being developed in both developing and developed countries, as well as by international bodies responsible for large-scale adaptation programming/financing. While the number of such systems being developed has grown steadily over the last five years, relatively few are fully established and operational.

Box 1: Definition of key terms:

- **Monitoring:** Systematic collection of information that enables stakeholders to check whether an initiative is on track or achieving set objectives.
- **Evaluation:** Process for measuring the impact or effectiveness of an intervention in achieving set objectives.
- **Indicator:** Measurable characteristic or variable which helps to describe a situation that exists and to track changes or trends – i.e. progress – over a period of time.
- **Aggregated M&E:** Monitoring and evaluation that combines findings from a series of assessments at lower units of analysis (e.g. project, sectoral, district-level) to achieve a meta-level (e.g. regional, national) understanding of a situation.

Table 1 below summarises those systems that are being documented and discussed in current research and policy settings. It does not offer an exhaustive list of aggregated M&E systems, as many efforts are underway particularly at the national level. Rather, the table offers a snapshot of those that are at relatively more advanced stages of development and implementation.

Table 1: Overview of aggregated M&E systems in relatively advanced stages of development

City level	
New York City (NYC)	Indicator system for tracking climate change impacts and adaptation to inform NYC's Flexible Adaptation Pathways. Four categories of indicators identified; system for gathering and managing associated data, information and knowledge proposed.
Country level	**Status**
Australia	National Adaptation Assessment Framework under development: Initial set of 12 indicators identified and currently subject of consultation; expected release in 2014.
Germany	Indicator system for reporting against the DAS (German Adaptation Strategy): Suggested indicators (103) under review; reporting expected to start in 2014.
France	Indicator system for reporting progress on the French National Adaptation Plan 2011-2015, which contains 230 measures. At least one monitoring indicator has been identified per measure. Currently operational.
Kenya	Indicator system for 'measuring, monitoring, evaluating, verifying and reporting' the results of adaptation actions under the Kenyan National Climate Change Action Plan. Long and short lists of indicators at national and county level to measure adaptation performance. System approved in 2013 and currently being established.
Mongolia	Proposed indicator system for monitoring adaptation outcomes of measures implemented under the first phase of the National Action Program on Climate Change (2011). Indicators still under development.
Morocco	Indicator system measuring climate change vulnerabilities, adaptation process and outcomes in selected sectors in two regions integrated into the Regional Environmental Information System (SIRE). Under development. Expected to be fully operational by mid-2014.
Mozambique	M&E framework addressing both national and international needs to track impacts of climate change, as well as national budget allocations/international climate finance. First design of M&E framework proposed, including a set of indicators. Under development.
Nepal	Indicator system using a harmonized results-based framework approach piloted for eight major climate change projects, which form the core of Nepal's Climate Change Program. PPCR's five core indicators will be used. Under development. At subnational level, a system will also monitor and evaluate environment friendly activities (including climate change considerations) – initial implementation phase. The linkage between the two systems has yet to be made.
Norway	Learning by doing system structured around regular national vulnerability and adaptation assessments, which are informed by surveys with municipalities, research, pilot projects and consultations. Currently operational.
Philippines	Indicator system using a results-based framework to monitor progress in implementing the National Climate Change Action Plan across its seven strategic priorities. Preliminary set of indicators developed. Under review.
United Kingdom	Regular, detailed adaptation assessments comprised of monitoring changes in climate risks using indicators, and evaluating preparedness for future climate change by analysing decision-making processes. Currently operational.
Trans-national	
Mekong River Basin	Indicator system to monitor and report on the status of climate change and adaptation in the Mekong region. Under development.
Fund level	
Adaptation Fund	Indicator system in a results-based management framework. Outcome and process indicators used to measure achievement of results under the Fund's two objectives (i.e. reducing vulnerability and increasing adaptive capacity at local and national levels), as well as Fund effectiveness and efficiency. Currently operational.
GEF-LDCF/SCCF	Indicator system to measure progress towards achieving the outputs and outcomes established under the LDCF/SCCF results framework. The Adaptation and Monitoring Assessment Tool (AMAT) Excel Spreadsheets is currently being piloted.
International Climate Fund (UK)	Indicator system structured around the Fund's 15 Key Performance Indicators divided into three dimensions: People, Environment and Influence and Leverage. Combination of output and outcome level indicators. Currently operational.
Pilot Program for Climate Resilience	Indicator system to monitor process and outcomes embedded in PPCR's logic model and results framework. Five core indicators measured through participatory, qualitative methods using scorecards and data tables. Currently operational.

The M&E systems captured in table 1 monitor progress in adaptation using different approaches based on assumptions on how adaptation outcomes are manifested:

- Monitor **climate change and its impacts** on socio-ecological systems, mostly to provide up to date context for adaptation actions being tracked.
- Monitor the **progress in implementing** adaptation actions, assuming that successful implementation actions = adaptation.
- Monitor the **vulnerability/resilience** of a system, through regular vulnerability/resilience assessments, assuming that successful adaptation = reduced vulnerability/enhanced resilience.
- Monitor the **results** (outcomes) of adaptation actions, where results are understood in terms of reduced exposure to climate stresses, enhanced adaptive capacity (often framed in terms of development outcomes), decreased sensitivity, or some combination thereof.

More than one of these approaches can be incorporated into an M&E system. Indeed, most of the M&E systems in table 1 adopt some sort of a hybrid approach, particularly those systems framed by adaptation action plans, where progress in implementation is relatively easy to track. Assessments and/or indicators are used to capture the adaptation story. Assessments are more common for the national and trans-national systems, as these types of analyses are more easily conducted for a given country or region than for a portfolio that covers a multitude of countries dispersed around the globe. The way in which assessments are used in M&E systems also varies. They can be used to contribute to the development of an M&E system (i.e. a sectoral assessments leading to the identification of adaptation actions, for which an M&E system is developed), or they can be tools in the M&E process itself (e.g. assessing preparedness for climate change in the UK). Almost all of the M&E systems (except Norway) are associated with lists of indicators ranging from five (PPCR, Nepal) to over 100 (the current draft list for Germany), demonstrating the vast array of metrics that can be used to depict adaptation at various scales. Results frameworks, which articulate cause-effect relationships on how interventions will lead to different results, are explicitly mentioned for almost half of the systems – particularly at the fund level (compare table 1), but also for the Philippines system. However, these frameworks were not prerequisites for the use of adaptation result or outcome indicators.

3 Comparative analysis of ten aggregated M&E systems for adaptation

In an effort to move beyond these broad observations, ten aggregated M&E systems were selected for a more in-depth review and compared in terms of their respective context, process and content. These ten systems were for: France, Germany, Kenya, Mekong River Commission (MRC), Morocco, Nepal, Norway, Philippines, the Pilot Program for Climate Resilience (PPCR), and the United Kingdom (UK). They were selected based on their relatively advanced stages of development/implementation, and the availability of information on their evolution. Moreover, preference was given to national systems, as the results of this analysis are intended to be of most use for stakeholders operating at this level.

3.1 M&E systems for adaptation in terms of their context

The contextual elements for each of the ten systems are summarized in table 2 below. The systems are described by their framing, purpose, level(s) of application, and approach to aggregation – i.e. the units of analysis through which information is gathered to achieve a meta-level understanding of progress in adaptation.

Table 2: Context of selected aggregated M&E systems for adaptation

Country or Program	M&E for adaptation framed in terms of	Purpose	Level(s) of application	Aggregation based on
France	2011 National Adaptation Plan (NAP)	Monitor progress in implementing NAP actions and, eventually where possible, evaluate their impacts	National	20 sectors of the NAP
Germany	2008 German Strategy for Adaptation to Climate Change (DAS)	Monitor climate change impacts and adaptation responses for the 15 action fields outlined in the DAS	National	15 action fields (including two cross-sectional fields) of the DAS
Kenya	National Climate Change Action Plan (NCCAP) 2013-2 017	Measure, monitor, evaluate, verify and report the results of adaptation actions	National County	Sector and geographic scale
Mekong River Commission (MRC)	Adaptation planning at different levels in the Lower Mekong Basin	Monitor and report on the status of climate change and adaptation in the Mekong region	River-basin	Sector and geographic scale
Morocco	System for Regional Information on Environment (SIRE)	Monitor and report on the status of climate change impacts, vulnerabilities and adaptation in two regions	Sub-national	Sector (water, agriculture and biodiversity/forests) and geographic scale
Nepal	National Climate Change Program (CCP)	Monitor progress, achievements, and lessons-learned from the implementation of the CCP	Program	Eight national projects of the CCP
	Environment Friendly Local Governance (EFLG) framework	Monitor and evaluate environmentally friendly development activities (including the integration of climate change into local development plans and programs.) NOTE: This is not a M&E system for adaptation only.	Subnational	Sectors (environment, climate, disaster risk reduction and waste management)
Norway	2008 Adaptation Action Plan; 2010 National Vulnerability Assessment	Learn what is working in adaptation and why (focusing on qualitative information) in order to inform policy	National, Municipal	Results of surveys, research, pilot projects, and consultations
Philippines	2011 National Climate Change Action Plan (NCCAP)	Monitor progress in implementing the NCCAP and evaluate the efficiency, effectiveness and impacts of the Plan	National	Seven strategic priorities of the NCCAP
Pilot Program for Climate Resilience (PPCR)	Climate-responsive development planning; PPCR activities	Monitor national progress towards climate-resilient development and monitor and report on implementation of PPCR	National Program	Projects from the 18 PPCR countries
United Kingdom (UK)	2013 National Adaptation Program (NAP)	Monitor the country´s preparedness to climate impacts in priority areas	National	Seven policy themes of the NAP

Framing: The different M&E systems were framed in terms of a mandate that arose from a number of sources, as well as in some cases by given M&E structures the evolving system has been or will be integrated in. These included:

- **National policy planning (e.g. directives, strategies, plans):** Monitoring the implementation and results of national adaptation policies, whether they are adaptation strategies (e.g. Germany, Norway), (action) plans (e.g. France, Kenya, Philippines) or programs (UK);
- **(Regional) programs and their objectives:** Monitoring progress towards meeting program objectives (PPCR, MRC and Nepal), which are oftentimes more explicitly defined than policy mandates;
- **National/regional interests in (environmental) monitoring/integration into existing M&E structures:** For example in Morocco, the opportunity to reinforce and use the Regional Environmental Information System (SIRE) to incorporate M&E of adaptation provided an entry-point for its institutionalization (in the absence of formal adaptation policies at regional level, which are currently under development). Indeed, the desire to bolster environmental monitoring processes to support adaptation monitoring is seen in other M&E systems, such as those in Germany, MRC and UK.

Purpose: When it comes to stating their overarching purpose, the M&E systems are still largely about monitoring, while only three explicitly mention evaluation (France, Kenya, and Philippines). Even where evaluation is explicitly mentioned, an associated framework is not presented or characterised as 'under development.' Digging a bit deeper, each system emphasizes one or several of the following objectives in undertaking M&E for adaptation:

- **Decision-making:** All M&E systems seek to provide outputs that inform decision-making, whether it is for the formulation and prioritization of adaptation actions or mid-course adjustments of activities already underway.
- **Accountability:** A recent OECD review of M&E systems in Germany, Nepal and UK (OECD, 2013) noted a greater emphasis on accountability in project and programme evaluations. Given that Nepal, and many other developing countries, take a programmatic approach to adaptation and/or rely heavily on external support for implementing adaptation actions, it is unsurprising that increasing accountability is more strongly considered in developing countries´ M&E systems, while developed countries´ systems are primarily concerned with monitoring progress in climate resilience. However, accountability is an implicit objective in the developed countries´ systems as well, since they help to demonstrate effective allocation and use of resources. Hence, all ten systems seek to demonstrate, to varying degrees, good use of resources (i.e. taxpayers' money, donor funds, private sector finance) to different governance bodies (e.g. National Governments, Ministries, Fund Boards, Member States, etc.).
- **Learning:** Recognising the emergent, iterative nature of understanding progress in adaptation, several M&E systems (PPCR, Nepal and Norway) emphasise learning as both an objective and output. The latter are associated with regular stock-taking reports on the state of adaptation knowledge, online and offline knowledge sharing mechanisms such as meetings and consultations where experiences and research findings can be exchanged, and continuous dialogue processes to stay abreast of what is happening and why on adaptation. Norway in particular has shied away from labelling its system an M&E system, because of its informal character as a learning-by-doing system that draws heavily on regular interactions with stakeholders at all levels to understand evolving conditions, what is needed to adapt, and what is working. Indeed, participation and consultation are essential to M&E systems that emphasise learning, which is described in the next section. **Knowledge management:** The development of M&E systems for adaptation are also seen as an opportunity for systematically gathering, organising, storing and sharing information on climate change, climate change impacts, risks, vulnerability, adaptation, etc. The Kenyan system involves the establishment of institutional arrangements – i.e. the Data Supply and Reporting Obligation Agreements (DSROAs) – to ensure that the data and information needed to track adaptation are provided to a centralised Data Repository.

Level of application and aggregation: Most of the selected systems are applied at the national level, within the context of a national strategy or plan, although there are some exceptions – i.e. the MRC which seeks to monitor and report climate change and adaptation on a basin-level, and Nepal and PPCR which take a blended national and programmatic approach or Morocco that started to focus on the sub-national level. Some systems explicitly identify other levels of application that are relevant to the functioning of the M&E process, such as Kenya which relies on county-level reporting, and Norway which relies on dialogue and activities at the municipal level. In terms of approaches to aggregation, outputs are collected according to: **sectors** (e.g. France, Kenya); **themes** such as 'action and cross-sectional fields' (Germany), 'priority concerns' (MRC), 'strategic priorities' and 'priority risk areas' (UK); **projects and programs objectives** (Nepal, PPCR); **geographic scale** (local, national, regional); or some combination thereof (Kenya, Morocco and MRC). The idea is then to combine outputs from these areas and build a story around progress (or lack thereof) in adaptation to climate change.

The approach to aggregation is largely a function of reporting structures and/or requirements: Those, that seek to integrate M&E of adaptation into existing M&E systems, may use for example established processes that are organised according to sector or governance level (e.g. Morocco, where monitoring of adaptation became part of the Regional Information System on Environment). Those systems that seek to report against priority actions of a given strategy or plan may have to aggregate their data, information and knowledge according to associated themes.

3.2 M&E Systems for adaptation in terms of their processes

The institutions, processes (both in establishing and implementing the M&E systems), and required resources and capacities are summarized in table 3 below.

Table 3: Processes associated with selected aggregated M&E systems.

Country or Program	Main institutions	Establishment process	Implementation process	Resources
France	• **ONERC** under the **Ministry of Ecology** [DEV/COOR] • Relevant ministries [IMP]	• **Legal requirement** in 2009 (system to be developed within two years) • Partially informed by sectoral vulnerability assessments (VAs) conducted in 2009 (no detailed, country-wide VA) • System developed as part of the NAP through a national **consultations process over 18-month**	• Monitoring the implementation (and sometimes the outcomes) of the NAP's adaptation actions • Evaluating the outcomes (and when possible the impacts) of adaptation actions in terms of effectiveness • Reporting and use of the results	• Not resource- intense • Implementation coordinated by the equivalent of one full time person (adaptation expert) + in-kind contributions from ministries involved
Germany	• Kompetenzzentrum Klimafolgen und Anpassung **(KomPass)** of the German Federal Environment Agency (UBA) under the Federal **Ministry for the Environment** in collaboration with various government and non-governmental agencies [DEV & COOR], joint implementation in coordination with various agencies that provide the data	• Policy requirement of the 2008 Strategy for Adaptation to Climate Change • **5-year process** initiated through three consecutive scientific studies from 2009 and up to mid-2014 (expected) to prioritise indication fields and develop draft indicators • Based on **intensive participatory, multi-stakeholder process** (policy and technical experts) since 2010 to identify relevant data sets and agree on a set of indicators	Expected as follow: • Data on the selected indictors will be gathered from various government agencies • Draft monitoring report will be reviewed by relevant government bodies at federal and state level	• Resource intensive (requiring inputs from various experts) • Inputs from a variety of government institutions at federal and state level • KomPass is composed of eleven experts (in economic evaluation, public relation, vulnerability assessment, disaster risk reduction, etc. incl. one M&E expert)
Kenya	• **Climate Change Secretariat** under the **Ministry of Environment and Mineral Resources** [DEV & COOR] • Relevant ministries, agencies and departments [IMP]	• **Policy requirement** of the 2010 National Climate Change Response Strategy • Concept developed as part of the KCCAP **over 20 months**, beginning in August 2011 • Designed by a team of international consultants through literature review and stakeholder consultations	Expected as follow: • Measurement, monitoring (and evaluation): data and information is gathered, quality checked and fed into the system • Verification of results • Reporting in appropriate formats	• Resource intensive (an estimated number of 100 people will need to be involved in setting up and running the system and it could take up to three years before the system is fully operational)
MRC Climate Change Adaptation Initiative (CCAI)	• **CCAI program team** under the MRC Environment Division in collaboration with the MRC programs and member countries [DEV & COOR] • MRC member countries [IMP]	• **CCAI program requirement** and conducted in parallel with the development of a basin-wide database • Started from scratch (no previous experience at basin level) • **On-going process beginning in January 2012** review of existing information and practices at national, regional and international levels and supported by international consultants • Based on consultations with, and approval by, MRC countries	N/A	• Development process relatively resource-intense (based on international consultants´ expertise and national and regional consultations) + support from GIZ • CCAI program team composed of technical experts (no M&E expert)
Morocco	• Regional Observatories on Environment and Sustainable Development **(OREDDs)** established in each region [DEV, COOR & IMP] • **Regional Network of Exchanging Environmental Information** (RREIE), mainly composed of representatives from deconcentrated sectoral services [DEV & IMP]	Process of integrating adaptation monitoring into the SIRE: • **Conceptualization** using vulnerability studies of the two pilot regions; assessments of existing M&E systems; identification of user needs and the development of the monitoring methodology) • **Operationalization:** indicators development based on climate change impact and vulnerability chains through a multi-stakeholder dialogues with OREDDs and RREIE representatives; • **Review process:** to allow for re-adjusting or widening the system to further sectors	N/A	• Development and implementation process relatively inexpensive and cost-efficient: adaptation monitoring integrated into an existing system and use of already available data • Process supported by GIZ, national and international consultants

Nepal (Program level)	• **Climate Change Program Coordination Committee (CCPCC)** under the Ministry of Environment [DEV/COOR] • National government sector agencies and development partners [IMP]	• Policy requirement under the 2011 Climate Change Policy • Use of the PPCR core indicators • Establishment of a Management Information system (MIS) to monitor and coordinate all indicators	N/A	• Emphasis on building on existing data and monitoring systems as much as possible
Nepal (Subnational level)	• **The Ministry of Federal Affairs & Local Development** (MoFALD) [DEV & COOR] • **Local bodies** (e.g. households, villages, municipalities, districts) [IMP]	The EFLG framework (which includes an M&E system) was developed over a 12-month process through: • Environment and climate policies review and analysis • Key stakeholders consultations at national and local levels	• Implementation will be done on a voluntary and competition basis. • Coordination committees at central, district and village level will be establish to monitor and evaluate environmentally friendly activities	N/A
Norway	• **Norwegian Environmental Agency** • **Norwegian Climate Adaptation Programme**	• 2008 Adaptation action plan • 2010 National vulnerability and adaptation assessment • 2013 Adaptation Strategy Each set out priority topics, actions, roles and responsibilities that serve as a basis for implementing adaptation. Lessons from each round sought to inform subsequent policies.	Learning-by doing process characterised by regular • Surveys of municipal actions • Commissioned research • Pilot projects • Consultations Lessons consolidated and fed into regular (every five to seven years) national assessments	• Not resource-intensive • Emphasis on building on existing initiatives and structures, not over-burdening partners (e.g. municipalities)
Philippines	• **Climate Change Commission (CCC), independent body** attached to the Office of the President [DEV & IMP]	• **Legal requirement** of the 2009 Climate Change Act • **On-going process beginning in Oct. 2012** • Designed by a team of national and international consultants with the participation of various Government sector agencies • Review and development of the NCCAP draft impact chains and indicators	N/A	• CCC includes an advisory board made up of policy and technical experts (research, private sector, civil society) • Support of national and international consultants (technical tasks); process supported by GIZ
PPCR	• **CIF Administrative Unit** in collaboration with MDBs and pilot countries [DEV/COOR] • **PPCR pilot countries** in collaboration with **MDBs** [IMP]	• **PPCR program requirement** • **Two-year process** of iterative streamlining based on regular feedbacks from pilot countries and MDBs.	In each pilot country: • Preparation of a country work plan • Establishment of baselines and targets • **Data collection, synthesis, aggregation and reporting** • Learning and revisions through meetings and discussion at national and international levels	• Not very resource intensive due to streamlined approach and capacity to draw from MDBs and sometime pilot countries expertise on M&E • CIF AU composed of M&E experts
UK	• **Adaptation Sub-Committee (ASC)** of the Committee on Climate Change (independent advisory body to Parliament) [DEV & IMP]	• **Legal requirement** of the 2008 Climate Change Act • **On-going since 2009** • Part of an on-going, learning process supported by a series of scientific studies and annual vulnerability assessments on priority themes conducted since 2010	Iterative, cyclical process: • Assessment • Planning • Reporting	• Resource intensive (detailed, annual VAs) • ASC's six Committee members are appointed by Ministers on part-time basis – mostly academics with climate change, science and economics backgrounds.

Legend: COOR = 'coordination', DEV = 'development'; IMP = 'implementation

Institutional arrangements: The Ministry of Environment is often the main institution responsible for developing and coordinating the M&E system for adaptation (e.g. France, Germany, Kenya, Nepal). However, in all reviewed cases, this is often associated with a strong interministerial implementation process. Interestingly, in the UK and the Philippines, the system is developed and coordinated by agencies that report directly to the Parliament (i.e. in UK via an independent scientific body) or to the Office of the President (i.e. in Philippines via a governmental body). It shows a high degree of dedication to the issue through the setup of new institutional structures. Other countries prefer to take a less intensive approach, largely due to limited resources and a concern around over-burdening existing structures. In such cases, adaptation M&E is almost entirely embedded into existing government structures and processes (e.g. France, Morocco, Norway).

Similarly, the actors responsible for coordinating the adaptation M&E systems can vary from being more science/research oriented (e.g. the UK Adaptation Sub-Committee is composed of seven experts including six from

academia) to more technical and policy oriented (e.g. the CIF Administrative Unit, that develops and coordinates the PPCR, is composed of M&E experts; ONERC in France is composed of adaptation experts; the MRC's CCAI program team is made up of technical experts). Some teams also offer a mix of expertise at the science-policy interface (e.g. KomPass in Germany is composed of eleven experts covering diverse topics such as economic evaluation, vulnerability assessment, public relations, and M&E; the Climate Change Commission in the Philippines includes an advisory board made up of policy and technical experts).

The institutional setup of the reviewed adaptation M&E systems are often linked to existing M&E systems to avoid the duplication of efforts as illustrated in France (linkages in practice with sectoral M&E systems), in Germany (M&E relies on existing data sets from different government level, further potential linkages of the system with sub-national M&E systems in the future), or in Kenya (linkages in theory with the National Integrated Monitoring and Evaluation System.) Elsewhere, as in Morocco or Nepal, climate adaptation is being mainstreamed into existing M&E systems. In Nepal, a 'twin track' process is underway which operates from national to local level. This is being done by integrating climate change into national budget planning and by revising the existing national development indicator system for including some climate change indicators. At the same time, specific M&E systems of adaptation are being developed at program and local levels.

M&E process: An enabling environment for climate adaptation is in place in all concerned countries. The development of the M&E system for adaptation always responds to legal, policy or programmatic requirements (e.g. France, UK, Germany, Kenya, PPCR, and MRC). This helps to ensure the sustainability of the process and stakeholders' buy-in.

Time requirements for the establishment of the reviewed M&E systems vary greatly from 18-20 months (i.e. France and Kenya respectively) up to five years (i.e. UK, Germany). Some processes also fall in between the two sides of the spectrum (e.g. the development of the PPCR's M&E process took approximately two years). But most reviewed systems are still under development (i.e. the process for Morocco and the MRC was initiated in January 2012 and for the Philippines in October 2012).To date, limited experience exists on actual implementation.

This review shows that the establishment of adaptation M&E systems is often a lengthy process. This is due to a range of factors including, but not limited to: competing, overlapping M&E systems (e.g. in Nepal various M&E frameworks already exist at different geographical and sectoral levels); the newness of the issue (e.g. MRC is setting up an unprecedented process through the development of an adaptation M&E system at river-basin level); the limited experience and lack of domestic country capacities on climate adaptation and M&E in general; and the emphasis on participatory, multi-stakeholder involvement especially for indicator selection processes. The French and Kenyan examples show that developing the adaptation M&E system at the same time as the Climate Action Plan can save resources (including time).

In addition, most processes recognize (explicitly or not) that establishing an M&E system is an iterative, on-going process of learning and revision. As such, the establishment processes are sometimes ad hoc and opportunistic, with no clear predetermined step-by-step process. Norway for example focuses on learning by doing. The country set up parallel tracks of action, assessment and policy development, whereby pilot actions were initiated early on, even before detailed national vulnerability assessments were commissioned, and results from these early experiences and subsequent vulnerability assessments were rolled into emerging adaptation policies.

Most reviewed systems put the emphasis on participatory processes to secure stakeholders' ownership and buy-in. This is key for the successful development and implementation of any system and particularly true for the indicator identification/development phase. Stakeholders' ownership is also necessary to secure data and needed information access for the measurement of indicators (i.e. most systems depend on data collected and owned by a wide range of institutions).

Resources and capacities: Limited information is available on the costs associated with the development and implementation of the reviewed systems, in part because most systems are still being developed, build on or are integrated into existing systems, and because it is difficult to evaluate critical but indirect costs such as in-kind staff time from sectoral ministries. In addition, it is difficult to separate the costs associated with establishing the M&E system from those that were incurred during relevant and simultaneous processes. For example, in France, the M&E system was developed concurrently to the national adaptation plan.

In general, the degree of resources mobilized for the development and implementation of the adaptation M&E systems can vary greatly from relatively low-cost system (e.g. the French system relies strongly on in-kind contribution from the ministries involved; no detailed and regular vulnerability assessment is being conducted) to highly resource intensive systems (e.g. the UK has already developed dozens of detailed, scientific studies and reports and detailed vulnerability assessments across various sectors; setting up and running the Kenyan M&E system is estimated to require at least 100 people for up to three years before the system becomes fully operational; Germany has developed a detailed list of more than 100 indicators based on an ambitious multi-stakeholder engagement process and will conduct regular vulnerability assessments at federal level).

3.3 M&E Systems for adaptation in terms of their content

The different M&E systems vary widely in terms the approaches they use in tracking adaptation, the data and information they require to measure progress and the outputs and associated reporting processes used to share the analyses. These content factors are summarised in table 4 below.

Table 4: Content associated with selected aggregated M&E systems

Country or Program	Approach	Data and information	Outputs and reporting
France	• Emphasis on progress monitoring • Indicator-based: use of **process indicators** and some outcomes indicators for 20 priority sectors	• Use existing sectoral M&E systems and databases • Data collection through light-touch process (e.g. number of adapted building codes) • Focus on easy-to-access data and simple information	• **Annual monitoring report** with data aggregated in terms of % of implementation • **Mid-term and final evaluation** reports of the NAP every two and four years respectively • Web access (Ministry of Ecology)
Germany	• Emphasis on climate change impacts and adaptation response monitoring • **Indicator based:** impacts and adaptation response indicators for 15 action fields + a set of 'overarching' response indicators that describe the level of adaptation activities at federal level (under development) • Response indicators are not based on a clear set of politically agreed actions at the national level.	• Based mainly on existing databases and M&E systems at national and sub-national level	• **Detailed indicator factsheets** (incl. rational, data sources, costs, etc.) to promote consistent interpretation • **Data factsheets** (for each parameter required for the indicators) documenting the metadata • **Monitoring report** to provide an overview of the current level and historic development of the approximately 100 indicators (incl. graphics) • **DAS and APA review reports** for policy decision makers • **Online information portal** to indicator factsheets and reports (to be established)
Kenya	• Emphasis on impact monitoring • **Indicator-based:** outcome- and process-based indicators measured at national and county levels • Focus on both **adaptation and mitigation**	• Use existing data & info from ministries, departments and agencies responsible for measurement • Linked with existing national M&E structures • Collection of new information that addresses CC activities	• Detailed description of the system available in a report online • • Possible reporting options include: • Annual reports or medium term plans for Ministries, Departments and Agencies • Vision 2030 progress reports • Biennial Update Report to the UNFCCC • Second National Communication to the UNFCCC
MRC	• Emphasis on context monitoring • Indicator-based: climate exposure, impacts and adaptation (implementation and outcome) indicators	• Use of existing data sources from national, regional and international levels • A database is being developed in parallel to the the M&E system	• A Status report on Climate Change and Adaptation in the Mekong River Basin every three years
Morocco	• Track changes over time • **Indicator-based:** around 30 indicators in each of the two pilot regions in order to monitor changes in vulnerability, adaptation progress and their impacts	• Data is gathered by representatives from decentralized sectoral services (RREIE network). • Linked with SIRE and existing M&E systems; emphasis on easy-to-access data and simple information. • Additional indicators which are summarized in a B-list of indicators could be included into the system at a later stage.	• **Indicator factsheets** to ensure responsibilities for data collection and to promote consistent interpretation • **The annual Report on the State of the Environment** at regional level will include a chapter on vulnerability and adaptation • The monitoring data and information will be accessible through the **web-based information system** which is currently being set up for the SIRE
Nepal **(Program level)**	• Results-based monitoring • **Indicator-based:** NCCPRF includes: a) **Program-level indicators** (based on the five core PPCR indicators and a set of indicators linked to the NAPA's priorities) and b) **project-level indicators** (specific to each project) • Qualitative documentation of lessons learnt in implementing each CCP projects	• Use of data from existing departments and agencies responsible for measurement	• **Three indicator templates** to aggregate information at sector, project and program levels • **Lesson learnt reports** to document what is working or not and why in relation to the implementation of the CCP projects • **CCP baseline assessment report** and **CCP periodic performance reports** to be disseminated to government and development partners through the CCPCC.

Nepal **(Sub-national level)**	• Result-based monitoring • 149 'environmentally friendly' indicators developed covering different sectors (including climate) and scales (from household to district)	• Data collection on how local bodies address climate adaptation include three main steps: • Data will be collected from each Village Development Committee (VDC). • VDCs will do the data input in appropriate software and submit the information to the Districts Energy, Environment and Climate Change Coordination Committee (DEECCC) • The districts will then submit the information to the relevant ministries.	• **Database and progress reports** to be submitted by DEECCC on monthly and trimester basis respectively to the Nepal Climate Change Support Program (NCCSP). • **Progress reports** to be submitted on trimester basis by NCCSP to MoSTE, MoFALD and development partners
Norway	• Emphasis on process and impact monitoring • Repeated surveys of exposure and adaptive capacity	• Data, information and knowledge coming from different formats and sources including: annual budget cycle reporting, structured quantitative surveys, formal and informal consultations, downscaled climate projections.	• **Regular national vulnerability and adaptation assessment** • Information shared through the national online adaptation knowledge sharing platform
Philippines	• **Result-based monitoring:** results chains demonstrate how activities are linked to outcomes for seven strategic priority sectors • **Indicator-based:** set of preliminary, mostly process, indicators • **Climate Change Vulnerability Indices** (CCVI) for measuring, monitoring and evaluating local vulnerability and adaptation • Focus on both **adaptation and mitigation**	• Ideally build upon existing data and monitoring systems	• **Annual monitoring reports** on the progress of the NCCAP to set priorities and budget every years • **Evaluation report** released every three years on the efficiency, effectiveness and impacts of the NCCAP
PPCR	• Results-based monitoring • Indicator-based: five core indicators at national and program levels; six optional indicators and country and project specific other indicators depending countries needs and requirements	• Combination of existing national and projects data and information (incl. project/program-specific surveys) and self-assessments by the project/program team and relevant stakeholders through reflective processes using scorecards and data tables	• **M&R Toolkit** incl. indicators factsheets to support pilot countries in their M&R efforts released in July 2013 • **Annual pilot countries progress reports** on the five core indictors (incl. results of the scorecards and data tables) • **Annual synthesis report** • Web access (CIF)
UK	• Emphasis on progress and impact monitoring • Mix of approaches: regular, detailed climate change VAs; indicators to monitor changes in climate risks, uptake of adaptation actions and climate impacts; decision-making analysis to evaluate if degree of adaptation is sufficient to address current and future climate risks (incl. economic analysis)	• Use of existing data sources that are already collected and reported by the Government or executive agencies	• A**nnual progress reports** assessing key CCRA risks (2012-2014) • **Statutory report** on the NAP every two years • **Synthesis report** every four years to inform the development of the next CCRA • Web access (CCC)

Approaches: The ten M&E systems reviewed in this analysis were quite different in their approaches, reflecting the contexts and resources described in previous sections.

- **What the systems are monitoring.** The selected systems fall under **four broad types of monitoring**. Most systems reviewed put more emphasis on monitoring **results** (i.e. Philippines, Kenya, PPCR, Nepal). They focus on tracking the effects of actions linking inputs, outputs, outcomes, impact to the achievement of specific objectives and ultimate goals. Other systems emphasize monitoring **process** (i.e. France). The focus here is on tracking the level of implementation of activities and the delivery of outputs. Some systems are also more oriented toward monitoring **context** (i.e. MRC) by tracking the socio-economic and environmental setting in which the country/region/program operates. Finally, some systems use a **hybrid** approach, monitoring one or several of the above (i.e. Germany, Norway, and UK emphasize both context and results monitoring).

Table 5: Monitoring focus of the ten analysed M&E systems

	Monitoring*	Evaluation	Target	Baseline (reference values)
France	Process and some results	Yes	No	No
Germany	Context, process, results	No	No	Corresponds to 1st assessment
Kenya	Results and some process	Yes	TBD	Yes
Morocco	Context, process, results	No	No	Corresponds to 1st assessment
MRC	Context, process, results	No	N/A	Yes
Nepal	Results	Done separately?	Yes	Yes
Norway	Context, result and lessons	No	No	No
Philippines	Results largely in terms of process	Not yet	No	No
PPCR	Results	Done separately	Yes	Retroactive**
UK	Context, process, results	Yes	No	No

**Emphasis of the system rather than focus*

*** The PPCR pilot countries have been asked to develop their baseline in 2013 retrospectively starting from the implementation date of the PPCR in each country.*

- **If and how the systems evaluate adaptation.** The reviewed systems can further be classified according to three different ways of approaching evaluation.

  First, some systems (e.g. MRC, Nepal, Morocco, Germany and PPCR) **do not encompass evaluation but strictly focus on monitoring and reporting** and are labelled as such. However, it does not always mean that evaluation is not taking place or planned. Sometimes, evaluation is conducted independently from monitoring – often because it is located under another institutional responsibility. For example, in Germany selecting and evaluating the effectiveness of the adaptation actions is the responsibility of the federal departments and states. In the context of the PPCR, the results framework is the basis for both evaluation and routine annual monitoring. However, the CIF Administration Unit (CIF AU), that runs the monitoring and reporting rounds and collects annually data on the five core indicators, does not lead, initiate or undertake evaluation activities. Instead evaluation of the PPCR project is done by the independent evaluation departments of the Multilateral Development Banks. For this reason the PPRC toolkit is only about monitoring and reporting, not about evaluation. Elsewhere, the absence of explicit reference to evaluation to date may simply reflect the newness of the issues and the general lack of experiences at national/regional level. But as experience on monitoring increases and more and more systems are expected to develop, a focus on evaluation may evolve over time.

  Second, when systems are **explicitly labelled as M&E systems** (e.g. UK, Kenya, Philippines, France), the evaluation part of the system varies from receiving relatively little attention or being under development (e.g., Philippines, France) to providing a clearer approach (e.g. Kenya, UK). In France and the Philippines, evaluation is typically framed as an extension of the monitoring process. Information gathered throughout the monitoring process is periodically assessed in detail to judge an intervention's 'efficiency', 'effectiveness', and/or 'impact'. But how exactly this evaluation is going to be done has yet to be clearly defined in both cases. The UK and Kenya case studies however already provide more developed forms of their evaluation component. For example, the evaluation system in Kenya is expected to focus on measuring the effectiveness of adaptation initiatives at different levels through the use of outcome based indicators. The UK system describes a fairly developed system for evaluating the country's vulnerability to climate change. Its approach to evaluation of adaptation comprises three distinct but complementary components: an evaluation of the implication of future climate scenarios for preparedness using trend and scenario analysis and qualitative self-assessment; and evaluation of progress against adaptation pathways using economic/cost-benefit analysis; and an evaluation of the effectiveness of policy in enabling uptake of adaptation actions and long-term decision making through policy review and analysis.

  Third, some systems may not be formally labelled as an evaluation system for adaptation (nor for monitoring), but in practice they provide a **stronger focus on evaluation** than on monitoring. For example, Norway focuses on understanding the results of adaptation actions and particularly why and how adaptation is occurring.

  Overall, the evaluation of adaptation remains largely theoretical with – concrete experiences and documentation are still extremely limited among the reviewed systems. This is partly due to difficulties in evaluating adaptation as a result of: lack of baseline (i.e. the absence of baseline against which to evaluate the impact of adaptation actions); temporal misalignment between expected impact and planning/reporting requirements (i.e., some actions can only be measured after the planning timeframe); and methodological challenges (i.e.,

the impacts of some actions are difficult to evaluate). On the latter point, the French action plan, for example, assumes that providing free access to climate projections will enhance the country's adaptive capacity to climate change. But the real impact of free access is difficult to measure because the number of downloads does not reflect any real impact.

- **How the systems are measuring adaptation.** The M&E approaches can vary greatly from simple, linear, causal-chain (for e.g. using results chains in the Philippines) to more complex, non-linear, learning-by-doing (e.g. Norway), with the latter being more organic and opportunistic. With the exception of Norway, all of the reviewed M&E systems use **indicators** to track progress in adaptation. All the reviewed indicator-based systems combine indicators with some level of **expert knowledge** for interpreting the indicators´ results.

  Most systems further combine a **mix of quantitative and qualitative methods** including: targeted research (e.g. Germany, MRC, Norway, UK), pilot projects (e.g. Norway), indicators (see next paragraph), expert judgement or group assessment (e.g. use of scorecards as part of the PPCR toolkit), vulnerability assessments (e.g. Germany, MRC, Norway, UK), structured quantitative surveys every five to ten years focusing on adaptation to provide a basis for understanding progress (i.e. Norway at municipal level for assessing progress made in integrating adaptation into their planning processes); trend and scenario analysis (e.g. Morocco, UK), and policy and economic analysis (e.g. UK), and peer-review and horizontal evaluation[1] (e.g. Nepal, PPCR, UK).

  Vulnerability assessments (VAs) inform and/or are integrated into different stages of the M&E process. In France, VAs were used to identify priority actions that the M&E system is currently tracking, but regular VAs are not part of the M&E process per se. In other cases, VAs are embedded in the M&E process for different purposes and at different stages. In the UK, a national VA is planned every five years to monitor trends in risk factors (exposure and vulnerability), observed climate impacts and the uptake of adaptation actions. The purpose is to assess the implications of vulnerability trends for the country's preparedness to climate change, in order to ascertain whether the NAP objectives are being achieved. In Norway, national vulnerability and adaptation assessments are conducted every five to eight years as a structured stock-taking of results and lessons learned on adaptation. MRC has started developing a methodology for conducting detailed VAs at regional and national (hotspots) levels on priority concerns. Elsewhere, VAs are conducted separately from the M&E process but supplement it where possible. For example, in Germany, a common methodology for developing comprehensive, Germany-wide, cross-sectoral vulnerability assessments to support climate risk prioritization and the identification of adaptation needs at the federal level is currently being developed in addition to the DAS Indicator System.

- **What types of indicators are used.** Table 6 below summarises the categories of indicators used in the different M&E systems. In most cases, indicators are organized according to specific categories (e.g. climate impact indicators, exposure indicators, vulnerability indicators, response indicators, etc.). In the cases of France and the Philippines, indicators were provided as part of their respective Action Plans without any specific categorization. Interestingly, despite references to resilience in strategic policy documents (e.g. Kenya, Philippines, PPCR), none of the systems developed so far explicitly contain resilience indicators.

[1] Horizontal evaluation refers to the combination of self-assessment and external review by peers.

Table 6: Types of indicators used in selected aggregated M&E systems

	Indicator categories					
	Climate change	**CC impacts**	**Exposure**	**Vulnerability**	**Adaptation process**	**Adaptation outcomes***
France					X	X
Germany		X			'Responses'	
Kenya					X	'Vulnerability' 'Adaptive capacity'
Morocco		X		X	'Adaptation'	
MRC	X	X			'Adaptation'	
Nepal						X
Philippines					X	X
PPCR						X
UK		X	'Risk factors'	'Adaptation action'		

**Adaptation 'outcomes' refers to the changes that have occurred as a result of adaptation measures being implemented. They are not necessarily associated with an explicitly defined results chain or framework.*

In addition to the categories listed in the table above, some systems have identified (or are discussing) other categories/subcategories of indicators in terms of **audience** (e.g. MRC with 'policy indicators' and 'assessment indicators'[2]), **geographic scale** (e.g. PPCR with 'national level indicators' and 'project level indicators'; Nepal with 'program level indicator' and 'project level indicators'; Kenya with 'national level indicators' and 'county-level indicator') and **measurement objectives** (e.g. Kenya and MRC with 'process adaptation indicators' and 'outcome adaptation indicators').

On the latter point, while 'process' and 'outcome' are rarely explicitly used to describe indicator categories (except Kenya and MRC), the distinction can be useful for understanding how different systems view adaptation performance or results. Specifically, **adaptation process indicators** track the development and implementation of measures in pursuance of adaptation (e.g. diversity of stakeholders attending adaptation meetings, number of sectoral plans that consider climate risk, etc.), whereas **adaptation outcome indicators** measure the change that has occurred as a result of adaptation measures (e.g. percentage of people residing in flood-prone areas, number of households in need of food aid, etc.).

On the one hand, the PPCR and Nepal systems are focused on measuring adaptation results by using five core outcome indicators. On the other hand, Kenya and Philippines, while also being results-focused in their approaches, use a combination of outcome and process indicators, and in very different ways. In Kenya, for example, adaptation outcomes at the national and county levels are understood in terms of vulnerability and institutional (adaptive) capacity, respectively, and are also linked to process-based indicators. The Philippines' draft indicator list is largely focused on adaptation process, suggesting that adaptation progress is understood in terms of implementing measures. France has a similar emphasis in its M&E system but does not use a results framework. For that reason it has been characterised above as a system that currently focuses on monitoring processes. Germany, Morocco, MRC and UK have developed hybrid approaches for monitoring adaptation. Therefore, their systems have indicators that capture the adaptation context (i.e. climate change, climate change impacts, risk factors, adaptation process and adaptation results).

However, distinguishing between process and outcome indicators can become confusing. With adaptation being a long-term, iterative learning process, it can be difficult to disentangle process and outcome. What may appear to be an outcome in the short-term may actually be a step in a longer-term process. The distinction can also be blurred when indicators are considered independently of their M&E systems (see example in Box 1). This may explain why they are bundled under the more generic indicator categories such as 'adaptation' (i.e. MRC, UK) and 'response' (i.e. Germany).

[2] 'Strategic indicators' are intended to be straightforward and aiming at serving policy makers. – They express a change by comparing two periods in time (e.g. temperatures will be three degrees higher in the future). 'Assessment indicators' provide more details (e.g. in June 2012 average temperatures were 30 degrees which is two degrees above the long-term average).

Box 2: Outcome indicators in Kenya

In the Kenyan system, the shortlist of ten county level outcome-based indicators includes one called, "number of ministries at county level that have received training for relevant staff on the costs and benefits of adaptation, including valuation of ecosystem services." On first reading, this can appear to be a process indicator, as it is quantifying the number of institutions involved in the delivery of a specific adaptation activity – i.e. an activity (training) occurred, x number of ministries participated. However, when understood within the larger context of the adaptation M&E system, it is labelled as an outcome indicator, because it measures the effectiveness of national initiatives to build institutional adaptive capacity at the county level. That is, the number of county level ministries that have received training, this would be a result (outcome) of efforts at the national level.

Data & information: The reviewed systems vary from being **not very data-intensive** (e.g. France, Morocco) to **highly data-intensive** (e.g. MRC, UK). The former emphasises easy-to-access data and information that is already being collected, while the latter emphasises collecting and aggregating a more diverse and complex set of data and information. Data and information are **aggregated in different ways** including: at subnational levels (e.g. federal states in Germany, counties in Kenya, regions in Morocco, municipalities in Norway), at sectoral/ministerial levels (e.g. France across 20 sectors, Philippines, Germany) and at project/program level (e.g. PPCR, Nepal).

All systems use data and information – including defined indicators – from **existing M&E systems**. Some countries (e.g. Philippines and Nepal) already have well-operating national, sectoral and local M&E systems in place (e.g. the community based monitoring systems in the Philippines), but have yet to specify how the M&E system for adaptation could be linked to those existing systems. Other countries (e.g. France, Germany, Morocco) have already established linkages with existing systems. For example, in Germany the system focuses on strengthening existing data sets and builds upon the various monitoring systems (in environmental media, for the assessment of sustainability, etc.) already in place at the state federal state level (Länder). In France, data for the system are already extracted from existing sectoral M&E systems at ministerial level. In Norway, existing networks and platforms operating at the municipal level provide the basis for the dialogue and shared learning that is critical to their approach in tracking adaptation.

Few systems intend to collect **new data and information** especially in relation to the monitoring of climate parameters (i.e. MRC). In the case of MRC, the development of the monitoring system is done at the same time as, and is closely linked to, the development of a basin-wide database and reporting system which promotes a holistic approach to M&E.

Outputs and reporting: Most reviewed systems generate (or plan to generate) **two different types of outputs**: some **supporting material** (e.g. guidelines, reporting templates, and factsheets) addressed to the developers and implementers of the systems and **reports on the process and results** of the monitoring and evaluation of adaptation activities per se addressed to the beneficiaries of the M&E systems (i.e. primarily Governments and development partners).

To date and since most reviewed M&E systems are still under development, the information available to describe the M&E systems is often scattered across multiple reports (e.g. Germany, UK) and **few 'one-stop reports'** summarizing the M&E systems in terms of rationale, development and implementation steps, approach, etc. exist – with the exception of the PPCR and Kenya. However, such background material is important for capacity building, institutional memory, and to foster a common understanding on the systems among the users; especially in a context of high staff turnover, particularly in developing countries.

The report summarizing the Kenyan M&E system provides a very detailed description of the system, including its context, governance structure, resources needed and indicators. However, the report would benefit from being simplified and shortened to facilitate its understanding – a comment that is relevant to most reports reviewed as part of this study. Often, a clear statement of the purpose, objective, context, implementation process, etc. of the system is missing. Definitions of key terms are rarely systematically included and indicators are sometimes listed without enough contextual information, meaning they can be interpreted differently by users. All of the above makes it difficult to fully understand the M&E systems. The PPCR Monitoring and Reporting Toolkit provides a good example for a short description of a system including a detailed description of each indicator and the reporting templates. The document is available on the CIF website and provides a very useful overview of the system. Similarly, the National Climate Change Action Plan of the Philippines provides very useful summary tables for each of the plan´s key priority themes listing the outcomes, output, indicators, institutions involved, activities and timeframe for each activity. These summary tables are clear, concise and easy to understand. They constitute a good basis for the development of the M&E system. Other good practices include the description of indicators through detailed factsheets to ensure a common understanding on their usability (e.g. Germany, Kenya, Morocco, PPCR).

Similarly **few monitoring and evaluation reports** are available yet. Most systems plan to produce a routine annual monitoring report (e.g. PPCR, Morocco) while evaluation reports are expected less frequently. In most cases, monitoring reports will be standalone reports but in some cases, the report will be merged with existing monitoring outputs. For example, in Morocco, the results will be integrated as part of an annual monitoring Report of the State of the Environment at regional level. In Kenya, results will be integrated into annual progress reports on Vision 2030, which is the country's long-term development plan.

Both France and the UK refer to evaluations taking place part way (i.e. mid-term, every two years) through the lifetime of an adaptation plan or program, and then at the end (i.e. every five years). The Philippines plan an evaluation of its adaptation action plan every three years until 2018, the end period of the first plan. France has already noted that the mid-term evaluation of its National Adaptation Plan will be coordinated internally and the terminal evaluation undertaken externally. In Norway, the lessons learned should be documented in the national vulnerability and adaptation assessments conducted every five to eight years and further captured in various other documents (e.g. guidebook, thematic reports). In MRC, the plan will be to develop a state of the art report on the status of climate change and adaptation in the Mekong River Basin every three years. In some cases, detailed plans have already been developed to specify the target audience, the content and layout of the monitoring and evaluation reports. However, the description of the expected outputs often remains general and the target audience is rarely explicitly mentioned in the document reviewed.

The use of illustrations (e.g. figures, tables) can facilitate greatly the reading of the results of the monitoring and evaluation processes – especially if they are linked with narratives. For example, in the UK, indicators are used to assess trends in vulnerability to climate risks and adaptation actions. For each indicator its data source and related time series of measurement, as well as its trend direction and trend implications are identified (see figure 1 below). The use of arrows to depict the trend in each indicator (increasing, decreasing or no significant trend) and the use of different colours to depict the implications of that direction of trend in terms of risk (red = risk is increasing; green = risk is decreasing; yellow = risk is neither increasing nor decreasing significantly) is a very useful way to summarize the results of the assessment.

Figure 1: Example of ASC indicators used to assess trends in risk and action for forestry ecosystem services.

Indicator type	Indicator name Source (time series)	Direction of trend	Implication of trend
Forestry (Chapter 2)			
Risk (Exposure and Vulnerability)	Percentage of timber trees (oak/beech/pine/spruce) planted in areas likely to be climatically suitable in 2050 National Forest Inventory (1970 – 2010)	↑	Oak, pine, and spruce trees have been planted in progressively more suitable areas since 1970. Beech suitability declined between 2000 and 2010, but this only affected 0.1 km^2 of forest (Section 2.5).
Action	Diversity of species delivered for planting by the Forestry Commission Forestry Commission (2005/06 and 2012/13)	↑	Number of different coniferous species delivered to the Forestry Commission increased from 11 in 2005/6 to 17 in 2012/13 (Section 2.5).
Impact	Total forest area impacted by wildfire Forestry Commission wildfire statistics (2008 – 2013)	→	Only a very low percentage of forest area (10 km^2 or less, less than 0.001% of total area) has been affected by wildfire each year (Section 2.5).

Source : ASC, 2013 http://www.theccc.org.uk/about/structure-and-governance/asc-members/

In France, the annual monitoring report provides tables for each sector covered in the National Adaptation Action Plan (see figure 2 below) with implementation percentages indicating whether or not adaptation actions and associated measures under each theme of the plan have started to compare results across the different themes. The main result of the mid-term evaluation of the National Adaptation Plan conducted in June 2013 shows that the implementation of the plan is on track with most actions and measures underway.

Figure 2: Percentage of implementation of adaptation actions and measures across four themes/ sectors of the NAP as per the NAP mid-term review of June 2013.

	Actions		Measures	
Action sheets	Total	Underway (yes/no)	Total	Underway (yes/no)
Cross-sectoral	5	100 %	5	100 %
Health	5	80 %	16	56 %
Water resources	5	100 %	20	80 %
Bio-diversity	4	100 %	22	68 %

Source: Ministry of Ecology, Sustainable Development and Energy, 2013; translated from French.

While most selected systems put a strong emphasis on stakeholder involvement, limited documented information is available to date for those systems on the monitoring and evaluation reports' review process. In France for example, the annual monitoring report is presented to, and reviewed by the National Committee for Ecological Transition, which is the committee within the Ministry of Ecology in charge of reviewing environmental policies and consisting of elected representatives and local authorities, employers, employee unions, non-profit associations and scientists.

A common trend among all reviewed systems is the use of **web-based information system** (planned or already in use) to disseminate the background materials on M&E and the monitoring and evaluation reports. The M&E outputs are often planned to be made available on existing platforms at program level (e.g. the CIF website for the PPCR) or at national level (e.g. the national online adaptation knowledge sharing platform in Norway, the ASC's website in the UK, the website of the Ministry of Ecology in France). In some cases, such as in Norway, the timing of the regular national vulnerability and adaptation assessments, which summarize lessons learned on climate adaptation, are linked to the Global assessments of the Intergovernmental Panel on Climate Change (IPCC) – a process which secures credibility and further allows for the dissemination of the results at international level.

4 Discussion on the ten adaptation M&E systems

The review of the ten M&E systems revealed a range of challenges and enabling factors that affected the design and implementation of the M&E systems. Lessons learned on key challenges and enabling factors listed below are not applicable to all of the systems but nevertheless should be noted by stakeholders interested in designing and implementing adaptation M&E at higher, aggregated levels.

4.1 Lessons learned on key challenges

Some of the more discernible challenges associated with designing, establishing and, where relevant, implementing M&E for adaptation include:

- **Conceptual ambiguity about what constitutes successful adaptation:** As discussed above, at the core of M&E systems for adaptation is the desire to understand, if adaptation is successfully taking place. This requires a fairly clear understanding of what is meant by adaptation – so stakeholders know what to track and why – i.e. is it vulnerability reduction (in which case, what constitutes vulnerability?), resilience building, risk management, etc.? Each of these understandings of adaptation comes with its own sets of definitions and disciplinary slant (e.g. poverty reduction, ecosystem management and disaster risk reduction, respectively), which can help stakeholders to define frameworks and indicators. For the systems reviewed in this analysis, however, an explicit conceptualisation of adaptation was rarely articulated, either in the M&E frameworks themselves or in the adaptation policies (i.e. strategies, action plans) that mandate and/or support them. This may in part be related to the blurred conceptual boundaries between adaptation and sustainable development – i.e. if adaptation is central (necessary) for sustainable development, then what is the practical distinction between them? Devising processes and/or indicators without a relatively clear understanding of what is to be achieved and the steps to be taken is challenging. However, given that these systems are mostly in their infancy, still under development, the absence of strong conceptual framings may also present opportunities in terms of openness and flexibility – stakeholders can experiment and learn about what makes most sense for their respective M&E context.

  Finally, differences in conceptual framings and terminology make it difficult to compare M&E systems. For example, different understandings of vulnerability, and of the elements which comprise it, make a meaningful comparison of vulnerability trends in different contexts difficult.

- **Coordination and harmonization across sectors, scales, and partners:** The use of existing M&E systems and processes for tracking adaptation makes sense in terms of reinforcing efforts to mainstream adaptation into development decision-making and efficient use of resources. However, the data, information and actors needed to undertake M&E for adaptation are situated across different sectors (e.g. agricul-

ture, transport, health, fisheries) and levels of decision making (e.g. county, national, regional). Not only do these specific data and information sources have to be located but they must also be brought together to build a coherent picture on progress in adaptation. This calls for a solid analytical framework and dedicated resources – whether in the form of a technical group (e.g. Kenya) or committee (e.g. UK) – to support this effort and the development of innovative approaches and tools for data collection and analysis.

Efforts to achieve this meta-level picture can be especially challenging in developing countries, where the presence of external partners and associated projects and programs can mean the existence of multiple and overlapping M&E systems for different audiences. Efforts in trying to harmonize the adaptation M&E of these different activities, as Nepal is trying to do through the use of the PPCR core indicators for its National Climate Change Programme, should be supported. In some cases, M&E systems for adaptation at national and local levels have been developed independently (e.g. Nepal).

Finally, the M&E of adaptation in transnational systems, such as the PPCR with its 18 countries and the MRC with its three countries, can also present a huge coordination challenge. The range in capacities, information, and other resources, overlaid by politics within and between different countries, can complicate efforts at gathering and analysing data and information in order to present a consolidated (i.e. fund-level or regional) picture of progress in adaptation.

- **Resource and capacity constraints:** Even where efforts are made to integrate adaptation M&E into existing M&E structures and processes (e.g. France, Kenya, Morocco) and measurements are made using data and information that are already being collected, there is no getting around the fact that M&E for adaptation still requires additional resources. Building on the previous points on challenges with conceptual understandings and coordination, adaptation M&E at aggregated levels requires dedicated resources for establishing frameworks and plans, gathering and synthesizing data and information, and then preparing reports to communicate status updates and lessons learned. Furthermore, successful M&E systems call for on-going stakeholder participation and capacity building, which can be resource intensive. Where existing M&E processes are stretched or under-performing, as in Kenya, these additional demands may amplify institutional weaknesses. In addition, M&E systems need to be regularly updated based on new data, information and needs to stay pertinent, which also requires resources.

- **Data and information:** Good data and information are at the core of M&E. Identifying the type and sources of information needed to measure progress in adaptation can be a challenge in itself, as it requires a detailed knowledge of what is needed (i.e. what data and information will capture resilience/vulnerability/adaptation in a given system – the framework), what is available (i.e. what data and information is already being collected, how, and their quality), and what is missing (i.e. what data and information still need to be gathered to measure adaptation). This can be part of an iterative process in indicator development for M&E systems, as it was in Germany and the UK, where ideal sets of indicators are narrowed down through an assessment of existing datasets, or as it was in the context of the PPCR where feedback from the pilot countries helped to reduce the initial number of indicators from 22 to eleven indicators (including five core indicators). The challenge in identifying datasets from which to draw for adaptation M&E is simply knowing what exists, where, and in what formats and conditions, which can be time-consuming if it they are scattered across sectors and scales and under the responsibility of different departments and agencies.

  Where relevant data is identified, quality can be variable. This is particularly true in developing countries where continuous temporal coverage is not guaranteed, spatial coverage can be uneven, and the reliability of what has been collected, particularly in the field and in remote areas through data collection officers, is not guaranteed. These have been identified as challenges in Kenya, Morocco and Nepal.

  Beyond identifying good data and information, managing it for adaptation M&E can require considerable investments in new and additional capacities. In the case of Kenya, the MRV+ system has built in a relatively detailed process and architecture for acquiring, quality checking, storing, and sharing data and information needed for M&E. The MRC system is going to involve building a basin-wide adaptation database. Even in developed countries which tend to have improved access to quality data, existing data often still need to be reprocessed or refined for usability in the context of the M&E system (e.g. UK).

4.2 Lessons learned on enabling factors

Some of the most salient enabling factors associated with designing, establishing and, where relevant, implementing M&E for adaptation include:

- **Political will and leadership:** As discussed above, establishing adaptation M&E systems requires dedicated human, financial and technical resources. Policy mandates and directives are a critical step towards ensuring these resources are made available, but deploying and managing these resources effectively requires another level of political commitment. As we have seen with the German, Kenyan and PPCR systems, for example, extensive stakeholder consultations were undertaken

over the course of 12 to 24 months in designing the M&E systems. These processes were deemed critical to securing ownership and support for the M&E systems, but were nevertheless time and resource-intense. The Nepali, Norwegian and UK systems have been shaped by a rapidly evolving policy landscape, as adaptation strategies and plans have come online to identify emerging priorities, structures and processes for streamlining adaptation action. Being aware of these developments, ascertaining their implications for adaptation M&E and managing the range of actors needed to validate and align M&E activities with policy developments requires levels of dedication and flexibility beyond what is set out in a policy document. Having a champion for the process – i.e. somebody who understands the value of adaptation M&E and serves as its spokesperson or ambassador to a wide range of stakeholders – can go a long way in getting systems established, as was observed in Kenya.

- **Multi-stakeholder participation:** Related to the previous point, stakeholder consultations are an important part of designing, establishing and implementing M&E systems. These can range from consultations with actors involved in the implementation of existing M&E systems to identify the entry-points for integrating adaptation M&E (e.g. Kenya), discussions with different stakeholders from a range of sectors, disciplinary backgrounds and levels of decision-making on the selection of appropriate indicators (e.g. Germany, Morocco, UK), to targeted meetings with those actors who are expected to be involved in the implementation of adaptation M&E to clarify the necessary procedures and capacity needs. In Norway, regular dialogue with actors at the municipal level has been the engine for their system of adaptation learning and reflection. Participatory processes are therefore mechanisms for garnering inputs needed for the design of M&E systems as well as vehicles for building awareness and support for their implementation. If sustained, they can provide platforms for continuous feedback and revision, as subsequent iterations of the systems are developed.

- **Aligning and/or integrating the evolving system with/into existing M&E structures can save resources in the long run:** Even with their recognised limitations and weaknesses, existing M&E structures and processes offer a useful basis for designing adaptation M&E systems. In fact, by understanding what works and what does not work within already existing M&E systems, new approaches get informed on how adaptation can be tracked. It also encourages the use of existing and often diverse sources of data and information. In France, for example, the Government's sectoral M&E processes provided a relatively simple entry-point for tracking progress in adaptation, as different ministries and departments took ownership of reporting on selected actions and associated indicators. In Nepal, the Ministry of Environment is using the PPCR's five core indicators, which have already been discussed and piloted in different contexts, for its entire climate change portfolio. In Morocco, a methodology for integrating adaptation monitoring into the existing Regional Environmental Information System in charge of environmental monitoring is being developed.

5 Recommendations for setting up an M&E system at aggregated levels

Based on ten M&E systems analysed in this report and lessons learned from other M&E systems in different sectors, the following recommendations are offered to those actors who are interested in designing and establishing a system for M&E of adaptation.

1. **Before developing an M&E system for adaptation, have a solid understanding of how M&E in general is perceived and managed in the region, country or program of focus, and build on that understanding.** Understanding what has come before, what works, what does not work, and what is needed to address what does not work is a powerful starting point for developing any system. A review of past experience can be comprehensive, as it was in Kenya, or relatively light and anecdotal, as in Norway.

2. **Align M&E of adaptation with decision-making processes and embed it in existing M&E structures.** Linked to the previous recommendation and consistent with ongoing efforts to mainstream adaptation into development, M&E of adaptation should be integrated into existing development structures and procedures as much as possible. The case of Norway, where tracking efforts on adaptation is integrated into annual budget reporting, is a good example. Kenya offers another, where M&E of adaptation is integrated into National Integrated Monitoring and Evaluation System (NIMES), overseen by the Monitoring and Evaluation Directorate (MED) within the Ministry of Devolution and Planning. In Morocco, M&E of adaptation is integrated into the existing Regional Environmental Information System (SIRE). Such efforts can lessen the burden of measuring progress in adaptation and reinforce the overarching message that adaptation is part of good development. The need to build on existing M&E frameworks was also one of the key recommendations made during the Adaptation Committee workshop on adaptation M&E in Fiji, in September 2013.

3. **Do not worry about starting relatively modestly and progressing incrementally.** The analysed M&E systems vary in terms of their levels of complexity and comprehensiveness. Clearly, factors such as time and resource constraints play important roles in determining the level of ambition of a system. However, the systems that are currently being implemented in full – i.e. France and PPCR – represent relatively pragmatic, simple, and flexible approaches, established with an understanding that adjustments and elaborations may be made as lessons are learned. An incremental approach can also take place in terms of scale, where M&E for adaptation is piloted in certain regions or sectors first before being scaled up and out (e.g. Morocco). A recent report (GIZ, 2013) summarizing GIZ's experience with operationalizing M&E systems at national level highlights that piloting M&E systems on a smaller scale (e.g. by focusing on sectors where partners are most cooperative) can facilitate their implementation and create momentum for stakeholder engagement. Opting for small and light approaches can make sense if there is a sense of urgency to get started on M&E of adaptation, resources are limited and there is an openness to learn, since it is still unclear to what extent more comprehensive approaches yield when measuring progress in adaptation.

4. **Be aware of and negotiate potential trade-offs between simplicity and detailed understanding.** The French case study already shows that informed trade-offs are needed at the process´ onset between analysis´ level of details and stakeholder involvement based on the objectives and the resources available. These trade-offs should be discussed and agreed upon among key stakeholders from the beginning, in order to avoid the danger of building an 'ideal' system (including an 'ideal' list of indicators) that is not feasible. As countries or programs increase their understanding of what 'successful' adaptation means in their own context, they can refine and further elaborate their systems.

5. **Limit and contextualise indicators and link them to a theory of change.** Long lists of indicators are burdensome to reporting systems, limiting their efficiency and effectiveness. The challenge in selecting indicators is to focus on key issues and information needed for decision-making. Some M&E systems have developed preliminary 'ideal' indicator lists without providing (yet) a detailed description of what they mean, which is understandable given the time needed to articulate the rationale and purpose behind each indicator – i.e. what does it represent in terms of adaptation, and why? However, offering long lists of indicators without context can leave them – and therefore the system they are representing – open to different and confusing interpretations of what is happening on adaptation. Narrowing down lists as quickly as possible so that appropriate context can be provided is important. As part of this exercise, indicators should be linked to formulated hypotheses. Indeed, logical models or theories of change can support the identification of key issues for monitoring by clearly describing the cause-effect relationship between a given indicator and its contribution to an adaptation outcome. In some cases research results are already available and facilitate the definition of areas to be monitored. For other M&E systems, the definition of hypotheses is a prerequisite for achieving results orientation. Overall, and as it was

also recommended during the Adaptation Committee Workshop on adaptation M&E in Fiji, in September 2013, indicators are not the only tools for M&E and are not always appropriate. They should be combined with other tools such as dialogues and qualitative narratives.

6. **Invest in participation.** The success of monitoring systems depends on the interests and contributions of a wide range of actors. Strong political will, incentives and powerful supporters are necessary for supplying and using data and information. Aligning monitoring objectives with stakeholder interests, ensuring that relevant issues are being monitored and evaluated, and engendering ownership for the M&E process and system are preconditions for success. For example, while senior officials may need information on high-level strategic indicators concerning outcomes and impacts of government programmes, line managers and their staff will concentrate more on the operational level of processes and services. This should be reflected appropriately in M&E structures and processes. Moreover, given the dynamic yet context-specific nature of adaptation, the needs and assumptions that underpin adaptation M&E systems must be regularly cross-checked and updated. Participatory processes are indispensable to achieving all of this and should therefore be built into the design, piloting and eventual implementation of M&E systems for adaptation.

7. **Foster science-policy linkages throughout the development and implementation of M&E systems.** The development and implementation of an M&E systems is as much a scientific process as a political process. Building on the previous point on participation, bringing scientists into the discussions is important as they can provide inputs on the selection of indicators, identification of data and information needs and sources, and on methods for calculating different indicators. This was for example the experience with indicator development in Germany and in the context of the PPCR' five core indicators. In both cases, the indicator selection has been (or is being) refined and agreed by scientists, policy and decision-makers. Indeed having scientists involved is not enough – having them interact regularly with policy experts, so that they can together define an M&E system that is scientifically sound and policy-relevant, is just as important. However this is often time consuming (minimum one year of consultations in most countries) and can involve significant investments, as scientific expertise may be scattered or weak, requiring dedicated resources to convene and supplement existing capacities.

8. **Remember data matters.** A self-evident point, but one worth reiterating – data and information are at the heart of M&E. Acquiring good quality data and information can be a challenge, particularly in developing countries, and this should not prevent actors in such contexts from pursuing M&E of adaptation. But these actors should also be aware that the reliability and credibility of their M&E systems are directly determined by the data and information that feed them. Thus, in order to avoid placing additional demands on data and information gathering procedures and undermining the quality of the inputs, adaptation M&E systems should draw from existing sources and contribute to their quality control and assurance. Moreover, a combination of quantitative and qualitative data and information should be gather, allowing for more comprehensive understandings of progress in adaptation – i.e. not only tracking how things are changing, but also why.

9. **Build in flexibility.** M&E for adaptation is still nascent and decision-makers are still figuring out what makes sense in terms of what and how progress in adaptation can best be measured and reported. With so much need for learning and iterativity, M&E systems must allow for flexibility at all levels (goals, processes, indicators, actors, tools etc.). This is especially important for those systems that seek to link several different M&E systems operating at different levels together, such as in Nepal.

10. **Explore synergies between adaptation and mitigation.** While climate change mitigation is often not as much of a policy priority as adaptation for developing countries, there are nonetheless opportunities and co-benefits associated with pursing low-carbon development pathways in such settings. Few of the analysed systems try to combine M&E of adaptation and mitigation. Explicit references to adaptation and mitigation are only mentioned in the Kenya and Philippines cases. However, synergies are sometimes explored in practice in the UK case (e.g. forestry, land use sectors). This reflects the lack of synergies between adaptation and mitigation in the various climate adaptation strategies and plans and the existing institutional arrangements with different staff and units or departments responsible for climate adaptation and mitigation.

11. **Institutionalise and incentivize learning on M&E for adaptation – not just adaptation itself!** As the momentum behind developing aggregate M&E systems grows, there is an increasing need to share early lessons and experiences. Establishing high performance monitoring systems takes years and needs continuous adjustment to a changing environment and a growing body of knowledge and experience. Systematic learning loops, regular reviews of monitoring systems allow for necessary strategic and operational corrections and improve performance. The Adaptation Committee Workshop on adaptation M&E held in Fiji in September 2013 further highlights that learning is not just about successes and good practices but also about learning/discovering factors that contribute to failures/non-delivery. Monitoring systems should explore exchange mechanisms as a source of learning and continuous improvement. This analysis is a preliminary attempt at documenting and sharing some early lessons, but should be continuously deepened through more regular online (e.g. webinars, communities of practice) and offline (e.g. workshops, meetings) interactions, where firsthand accounts and learning can be shared candidly and constructively.

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Annexes

Annex 1: List of the ten factsheets on M&E systems for climate adaptation

	Country/program	Factsheet Title
1	France	Monitoring and Evaluation of the French National Adaptation Plan
2	Germany	The Monitoring System of the German Adaptation Strategy
3	Kenya	Kenya's MRV+ System under the National Performance and Benefit Measurement Framework of Kenya's National Climate Change Action Plan (NCCAP)
4	Mekong River Commission	Lower Mekong basin-wide monitoring and reporting system on climate change and adaptation
5	Morocco	Adaptation Monitoring as part of the Regional Environmental Information System in Morocco
6	Nepal	Results based monitoring for climate adaptation in Nepal
7	Norway	Learning by doing for measuring progress in adaptation in Norway
8	Philippines	The Philippines National Climate Change Action Plan Results-based Monitoring and Evaluation System
9	Pilot Program for Climate Resilience (PPCR)	The Monitoring and Reporting System of the PPCR
10	United Kingdom	The Adaptation Monitoring and Evaluation Framework of the United Kingdom

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France: Monitoring and Evaluation of the French National Adaptation Plan

Context

Policy context

Implementation of France's 2006 National Strategy for Adaptation to Climate Change is being supported by the 2011 National Adaptation Plan (NAP). The NAP provides the first national, multi-ministerial roadmap of prioritized adaptation actions for the period from 2011 to 2015. It is a set of 84 adaptation actions supported by 230 measures across 20 sectors or thematic areas. The first NAP aims to plan adaptation actions, prevent maladaptation and ensure coherence across public policy measures relating to adaptation. Most NAP actions started in 2011.

Purpose of the M&E System

The purpose of the current system is twofold. First, the system aims to **monitor progress in implementing actions in the NAP** and their outcomes. The M&E of the NAP serves as a proxy for monitoring the resilience of the country to climate change. It is based on the assumption that implementing the NAP should reduce the country's vulnerability to climate change. Thus, implementation actions of the NAP reflect efforts in increasing the country's climate resilience. Second, the system aims to **evaluate, whenever possible, the impacts of the actions implemented**. While the plan does not specify the evaluation process, it is expected that evaluation will focus on the implementation process and the effectiveness of its actions.

Level of application and aggregation

The system operates only at the national level and aggregates 20 sectors or thematic areas.

Status as of October 2013

The monitoring of adaptation actions is operational and ongoing. The process is subject to yearly reviews. The evaluation of the adaptation actions´ effectiveness is planned as part of the NAP's mid-term (June 2013) and final (2015) evaluations. The main result of the mid-term evaluation shows that the implementation of the plan is on track with most actions and measures underway.

Process

Institutional arrangements

The **National Observatory on the Effects of Global Warming (ONERC)** is the national agency responsible for climate change adaptation under the General Directory of Energy and Climate (DGEC) of the Ministry of Ecology. ONERC leads and coordinates the development and implementation of the NAP including its M&E process in close collaboration with all other relevant ministries.

Each relevant ministry has identified a NAP focal point or **sectoral leader** for reporting to ONERC on the implementation of NAP actions in each of the 20 sectors. These sectoral leaders may be adaptation experts, M&E experts or other thematic experts depending on the capacities available and on the needs. In addition, so called ministerial action leaders are appointed for implementing adaptation actions and for reporting on the progress of implementation to the sectoral leaders.

Within the Ministry of Ecology, a National Committee for Ecological Transition - which is in charge of reviewing environmental

Photo: © MEEDDM – The National Adaptation Plan – 2010

policies and consists of elected representatives and local authorities, employers, employee unions, non-profit associations and scientists - will review the results of the M&E process and provide recommendations to ONERC on the implementation of the adaptation actions of the NAP.

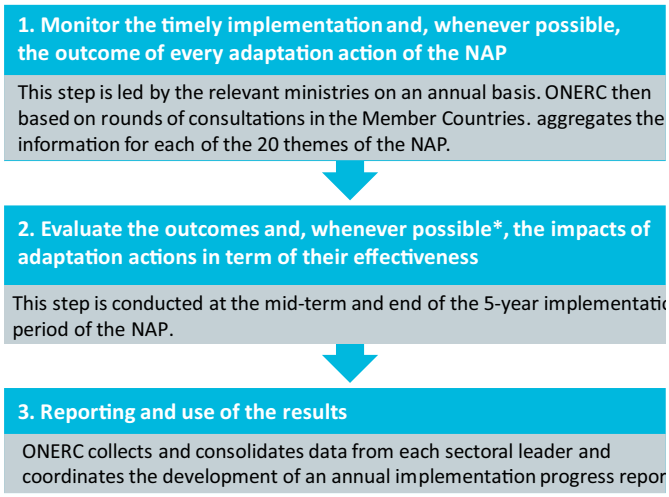
Establishment process

In 2009, ONERC conducted a national economic assessment of the costs of climate change impacts in selected sectors. To address these impacts, the Government was required by law in 2009 to set up a NAP by the end of 2011. Following a consultation process, ONERC issued a National Recommendation Report on adaptation actions in November 2010. Building on the recommendations of that report, the relevant Ministries, under the overall supervision of ONERC, developed the NAP's adaptation actions and monitoring indicators in late 2010/early 2011. The NAP was then adopted in July 2011.

Implementation process

The implementation of the NAP is carried out by the relevant ministries and coordinated by ONERC. It is based on the following key steps:

Figure 1 Key steps of the implementation process



*Evaluating the outcomes and/or impacts of some actions is not always feasible because:

a. Some actions do not have a baseline against which impacts can be evaluated.
b. Some actions can only be measured after a certain number of years that go beyond the timeframe of the first NAP.
c. The impacts of some actions are difficult to evaluate. For example, it is assumed that providing free access to climate projections will enhance the country's adaptive capacity to climate change. But the real impact of free access is not measurable, because the number of downloads does not reflect any real impact.

The mid-term evaluation focuses on identifying gaps and actions which should be strengthened or stopped in light of the outcomes/processes produced so far. The final evaluation will answer questions such as: Do the final results reflect the initial objective of each action? Which actions have failed and why? Which actions should be pursued/stopped?

Content

Approach

This is an **indicator-based system** using participatory (i.e. based on a consultation process and inter-ministerial collaboration) and semi-quantitative approaches (i.e. an implementation percentage indicating whether or not actions and measures under each theme have started is calculated for the annual monitoring report to compare results across the different themes). Changes in vulnerability at the national level are not measured.

Indicators

The NAP covers 20 sectors or thematic areas yielding a total of **84 adaptation actions that are further broken down into 230 measures**. At least one **monitoring indicator** (mainly implementation/process indicators and sometimes outcomes/result indicators) has been identified for each measure. These have been defined by the ministerial sectoral leaders in charge of implementing adaptation actions to ensure that the data and information needed for measuring those indicators are available and easy to access. **Evaluation indicators** still have to be defined. They will focus on the evaluation of adaptation actions with regard to their progress of implementation (on time and on track/complete) and to their effectiveness (i.e. evaluate, if the objective of the action has been reached).

The 20 thematic/sectoral Action Sheets are annexed to the NAP and provide a description of the adaptation actions and related measure(s), the names of the lead institution(s) and partner(s) responsible for the measure, the tools and timeframe necessary for implementing the measure and the title of the indicator(s) (see example in the extracton next page).

Figure 2 Example of a measure under the coastline action sheet, action 2 'Improve understanding of the coastline: its environment, natural phenomena, physical and anthropic development'

Measure 2.3: Improve understanding of the transit of marine and river sediment.

Little is known about coastal sediment transit. Atlases of sediment transit for continental French and overseas territories coastlines could be produced based on a numerical simulation platform to determine sediment flows over the continental shelf (as is already the case in the English Channel).

A current inventory of these transits is required in order to identify whether changes in forcing could modify these transits and to identify the consequences. These atlases would be produced as part of the process of updating sedimentology catalogues, for which a feasibility study is currently underway: a descriptive summary of the coastline and its hydrosedimentary functioning based on the inventory of knowledge about how the coastline functions, but also on predicted changes.

Lead:	DGALN
Partners:	DGPR, DGITM, CETMEF, BRGM
Tools:	Feasibility study into updating sedimentological catalogues for the French coastline
Output indicators:	Possible publication of the catalogues
Timetable:	Feasibility study in late 2011

Source: Ministry of Ecology, Sustainable Development and Energy (2010b): French National Climate Change Impact Adaptation Plan 2011 – 2015.

Data and information requirements

The data for monitoring adaptation actions are extracted from existing sectoral M&E systems (e.g. funds expenditures, website traffic tracking) by action leaders and are then aggregated at the sectoral level by sectoral leaders. Data is first aggregated using an implementation chart (i.e. monitoring indicator and output action by action) and then aggregated in terms of implementation status (i.e. on time/delayed/cancelled) to allow for a general comparison between actions and sectors. Required data for the evaluation of the NAP will be taken from existing data bases (risk mapping evolution, etc.) or collected through light-touch processes (e.g. poll of urban heat island knowledge, numbering of adapted building codes). The emphasis is on **easy-to-access data** and **simple information**.

Output and reportimg

An **annual monitoring (or implementation) report** of the NAP is presented to, and reviewed by, key stakeholders through the National Committee for Ecological Transition and communicated to the wider public via Internet. All data is aggregated in achieved percentages of the initial outcome. This is completed by **mid-term and final evaluations of the NAP** (currently scheduled at the end of 2013 and at the end of 2015). These evaluations will highlight key lessons learned at the national level and recommendations for the future. The mid-term review will be conducted internally, while the final evaluation will be conducted by an external contractor.

Table 1 Percentage of implementation of adaptation actions and measures across 4 themes/sectors of the NAP as per the NAP mid-term review of June 2013

	Actions	Measures		
Action sheets	Total	Underway (yes/no)	Total	Underway (yes/now)
Cross-sectoral	5	100 %	5	100 %
Health	5	80 %	16	56 %
Water resources	5	100 %	20	80 %
Biodiversity	4	100 %	22	68 %

Source (translated from French): Ministry of Ecology, Sustainable Development and Energy (2013): Suivi du plan national d'adaptation au changement climatique (PNACC).

Resources needed

The development and implementation of the NAP (and its M&E system) are not very resource intensive[1]. Currently the French national adaptation team at ONERC is composed of a total of five persons. Responsibility for supervising the implementation of the NAP requires the equivalent of one person on a full time basis. The Government spent a total budget of less than 500,000 EUR for the development of the NAP (and its M&E system) – which is mainly comprised of the costs associated with the consultation process over 18 months – plus in-kind staff time contribution from the various ministries involved. The implementation costs of the NAP are estimated to be approximately 171 million euros, excluding civil service staff costs over a 5-year period. No specific budget has been allocated for M&E in the NAP because M&E is a task of sectoral and action leaders who spend in-kind staff time in annual reporting to ONERC.

Lessons to date

The French opted for a **pragmatic, relatively simple, non-technical approach** to M&E of climate adaptation at the national level with a strong emphasis on **inter-ministerial collaboration** (including the development and monitoring of indicators). The approach has the advantage of being relatively inexpensive

[1] Since the M&E system is closely linked to the NAP (they have been developed simultaneously), it is difficult to distinguish the cost of the development and implementation of the NAP from the M&E parts.

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Photos: © Ira Olaleye

and avoids the high transactional costs of developing and monitoring and evaluating adaptation outcome indicators (e.g. these may require baseline data that do not necessarily exist). Such an approach might be particularly relevant and cost-effective at the initial stages of setting up an M&E system, because it helps defining the type of information that is really needed at the national level through trial and error.

The French case study highlights that informed trade-offs are needed between detailed analysis, stakeholder involvement and resource availability. The proposed interventions are relatively straightforward and are in line with the relatively simple design of the M&E system. Preliminary results from the initial implementation phase based on the NAP mid-term report of June 2013, already show that some adaptation actions did not lead to the expected results. These emerging lessons provide useful feedback for the revisions of adaptation actions and shows that learning is already taking place. So far, the French experience shows that a less technical and costly approach can provide useful results, given that stakeholders have been involved from the initial stage of the process. Some key challenges are the development and implementation of appropriate evaluation indicators and the establishment of synergies between M&E processes at the central, regional and local levels.

For further infomation

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Germany: The Monitoring System of the German Adaptation Strategy

Context

Policy context

The **2008 German Adaptation Strategy** (Deutsche Anpassungsstrategie, DAS) is the national framework for adapting to the impacts of climate change in Germany. It provides a general inter-departmental overview of key priority sectors for climate adaptation and aims to stimulate work on adaptation by various sector agencies at all levels. Its implementation is supported by the **2011 Adaptation Action Plan (APA)**, which contains general actions to be taken by the Federal government (i.e. it is not a detailed implementation plan of all climate change adaptation activities). DAS highlights possible climate impacts and options for action for these 15 sectors, so called **action fields**[1]. As a general framework, the DAS does not have an explicit timeframe but it is expected to be continuously developed. A review and update report will be released by the end of 2015.

[1] The 13 'action fields' are: (1) human health; (2) building sector; (3) water regime, water management, coastal and marine protection; (4) soil; (5) biological diversity; (6) agriculture; (7) woodland and forestry; (8) fishery; (9) energy industry (conversion, transport and supply); (10) financial services industry; (11) transport and transport infrastructure; (12) trade and industry; (13) tourism industry. The two cross-sectoral fields are: (14) spatial, regional and physical development planning; and (15) population protection.

Purpose of the M&E Sytstem

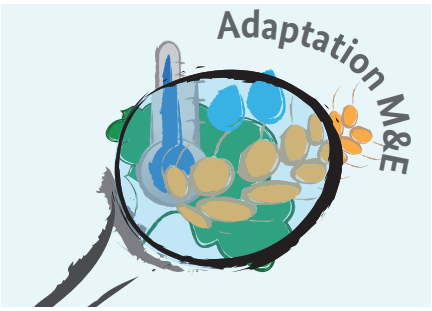
The monitoring system focuses on climate change impacts as well as on progress towards the implementation of the DAS in terms of adaptation responses along the 15 priority sectors. The purpose is not to evaluate the effectiveness of specific adaptation actions, since their implementation falls under the responsibility of many different departments at federal and state level.

Level of application and aggregation

The monitoring system aims to provide a broad, inter-departmental overview on the Federal level along 15 priority sectors. However, the system uses data and monitoring systems provided by subnational levels of government. In addition, several German states (Länder) have already established an adaptation strategy, or are in the process of doing so, and may develop climate change impact or response monitoring for their specific circumstances, while taking the DAS monitoring system into consideration.

Status as of October 2013

The monitoring system is at the final stage of development. Every indicator has been agreed on a scientific level and the political consultation is expected to be completed by early 2014. The first monitoring report of the DAS will be completed by end of 2014. It will form one part of the first review report of the DAS and the updated Action Plan, which will be released by the end of 2015 (see outputs and reporting on page 3).



Process

Institutional arrangements

The German Federal Ministry for the Environment (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit: BMU) is leading the adaptation policy process at federal level and is in charge of the DAS. The Federal Environment Agency (Umweltbundesamt: UBA) provides technical inputs and policy recommendations particularly through its Competence Centre on Climate Impacts and Adaptation (Kompetenzzentrum Klimafolgen und Anpassung: KomPass). KomPass coordinates the development of the monitoring system in close collaboration with other governmental departments and agencies. A Federal Interministerial Working Group on Adaptation to Climate Change, composed of representatives from all Federal Ministries, is in charge of promoting the active cooperation of and input from all Federal Ministries. It further acts as the decision making body to the DAS, which includes the review and approval of the monitoring system and related reports. To link the federal and state level there is also a Committee for Adaptation to Climate Change Impacts (Ständiger Ausschuss zur Anpassung an die Folgen des Klimawandels), which has been involved in developing the DAS and in the consultation process of the indicator development.

Table 1 Six-step process of indicator selection

Step	Purpose	Description
1	Classification	Identification of climate impacts and possible adaptation measures for each action field and classification according to sub-themes which were then grouped into a series of Indication Fields based on literature review and discussions among experts (see table 2)
2	Prioritization	Weighting the Indication Fields according to key criteria based on expert interviews
3	Research	Analysis of other monitoring systems (sectoral and international approaches) and search for potential data sources
4	Specification in expert discussions	Discussions among experts to fine-tune the indicators
5	Indicator factsheets	Generating Indicator Factsheets describing the specific definition and way of measurement of every indicator and review of these factsheets by experts
6	Assessment	Drafting first indicator presentations for the indicator-based monitoring report

Source: Adapted from Schonthaler et al. 2011.

Establishment process

The development of the indicator system was coordinated by the UBA. An extensive consultation process started in 2010 involving almost 400 people in about 160 institutions from federal and state government authorities, academic institutions and NGOs to identify indicators for each of the fifteen action fields of the DAS. A particular emphasis has been put on utilising existing monitoring systems and data from different levels of government and academia. The indicator selection was based on a six-step process as shown in table 1.

Implementation process

The first monitoring report will be coordinated by the UBA and prepared under the research project which has also contributed to the development of the indictors. Since most of the data is already existing, the main task is to coordinate data provision, analyse the data based on expert advise, draft the text and coordinate the political approval process. Beyond 2014, a support unit for the on-going monitoring will be created which will also maintain a website where all indicator factsheets and reports will be available.

Content

Approach

The approach is centred on an indicator-based system, whose development was supported by three consecutive studies and accompanying consultation processes (Schonthaler et al. 2010; Schonthaler et al., 2011). The DAS monitoring system will be supplemented by **comprehensive, Germany-wide, cross-sectoral vulnerability assessments (VAs)** to support climate risks prioritization and adaptation needs identification at the federal level. A common methodology is being developed under the lead of UBA by the Network Vulnerability, a group of government agencies and scientists. These VAs will use different indicators (i.e. vulnerability indicators), but will focus on similar indication fields. The VAs will form a part of the review report of the DAS.

Indicators

Under each action field there are two types of indicators: **climate change impact indicators** (i.e. How does climate change affect natural and socio-economic systems?) and so called **adaptation response indicators** (both process/implementation and outcome indicators). The response indicators have been selected to present a snapshot of the adaptation progress within each priority sector. They do not refer to a list of specific adaptation actions, because the DAS does not determine the actions to be taken by the responsible government authorities. In addition, a set of overarching response indicators that describe the level of adaptation activities on the federal level are under consultation.

An initial set of indicators (maximum 13 per action field) agreed by scientists are under discussion. These indicator proposals are currently being reviewed by government authorities for political approval. It is expected that some 100 indicators will become part of the ongoing DAS monitoring.

Since the final set of indicators has not been released yet, table 2 shows an example of impact and response indicators for the action field 'Agriculture' based on the initial research report. For each action field there is a table listing the 'Indication Field', the sub-theme and the title of the indicators.

Table 2 Sample of climate change impact and response indicators for the action field Agriculture

Indication Field	Sub-Theme	Indicators
Impacts		
Agrophenology, shifts in agro-climatic zones	Extending the growing period for cultivated plants	LW-I-1: Changes in the duration of the growth period (temperature sum/ year)
	Shifts in agrophenological phases of cultivated plants	LW-I-2: Shifts in the start of flowering and development of ears on crops (apple, oats, maize, winter barley, winter rape, winter rye, winter wheat) LW-I-3: Number of maize varieties named in the maize varieties list classified by maturity group (FAO numbers)
	De-synchronisation/synchronisation of life cycles of pests, pathogens and beneficial species	No indicator proposed
Yield and quality of crops	Changes in the stability of yields	LW-I-4: Changes in yield of winter wheat (per hectare) LW-I-5: Interannual variability of yields
Responses		
Agricultural advice	Knowledge transfer regarding adapted forms of plant and animal production	LW-R-1: Number of articles on questions of adaptation to climate change in widely-read specialised journals
	Revision of recommendations for cultivation projects	No indicator proposed
	Enhancing risk management in agricultural businesses	No indicator proposed

Source: Schonthaler et al. 2011.

Data and information requirements

The calculation of the DAS indicators is mainly based on existing governmental and non-governmental data sources. Thus, data collection and quality control will remain the task of the organisation in charge of the specific data source. The UBA is coordinating the data provision and analysis for the monitoring report. The government agencies which were involved in identifying suitable data sources have agreed to provide the respective data. The most important data gaps have been identified for the action fields 'financial services industry' and 'soil'.

Output and reporting

The main outputs of the monitoring system are listed in table 3. In addition, a website will be created where all indicator factsheets and reports will be available.

Table 3 Main outputs of the monitoring system

Outputs	Purpose
Indicator Factsheets	Detailed information on every indicator (e.g. justification, calculation formulas, data sources, allocation and interpretation aids, strengths and weaknesses, responsible actors, costs) to promote a consistent definition and interpretation of the indicators.
Data Factsheets	Documentation of metadata including the data source, geographical coverage, collection frequency and methodology, cost and format as well as contact information.
Monitoring report	Overview of the current level and historic development of the approximately 100 climate change impact and response indicators including graphics and explanations.
DAS and APA review reports	In addition to the indicator-based monitoring, a review report and update of the DAS and of the Adaptation Action Plan addressed to political decision-makers and any interested members of the public (not a scientific report) will be released by end of 2015. The report will also include a description of the methodology of the monitoring report as well as results from the vulnerability assessments.

Resources needed

The development of the monitoring system took five years and required extensive personnel resources to draft and agree on a list of indictors, identify relevant data sources and coordinate among the involved organisations. These resources were mainly provided through government funded research projects whilst many of the involved government officials supported this work as part of their regular duties. Through the research projects and consultations, substantial scientific support and inputs by various experts from a variety of institutions and sectors were provided. This sophisticated, time and resource intensive development process was feasible due to existing capacities, data and expertise available. Specific resource needs for implementation have not been specified as of now. However, the strong focus on the use of already existing data and monitoring systems will significantly limit ongoing expenses. Resources will mainly be needed for coordination.

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Lessons to date

The following lessons can be drawn from the development of the monitoring system of the German Adaptation Strategy:

- The involvement of experts, policy-makers and stakeholders of all relevant government authorities at federal and state level has fostered science-policy linkages and has led to sound indicators that meet both scientific and political requirements. This broad stakeholder engagement has facilitated the identification and utilisation of a wide range of existing data and benefits the applicability, use and acceptance of the system.
- One of the system's main outputs is a series of indicator factsheets, which describes the indicators in detail to ensure a common understanding on its practical application and interpretation.
- The system builds upon the various monitoring systems (in environmental media, for the assessment of sustainability, etc.) already in place at various spheres of government and focuses on strengthening existing data sets. This helps to keep additionally required resources for ongoing adaptation monitoring low.
- The extensive multi-year consultation process contributed to greater awareness and a sense of integrating aspects of climate change adaptation into various government authorities at federal and state level. This is an important co-benefit of the participatory approach (Rotter et al., 2013).

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Information on the vulnerability network can be found on www.netzwerk-vulnerabilitaet.de (in German)

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On behalf of
Federal Ministry Federal for Economic Cooperation and Development (BMZ)

Division
Climate Policy and Climate Financing

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Kenya: The MRV+ System under Kenya's National Climate Change Action Plan

Context

Policy context

Kenya's 2010 National Climate Change Response Strategy (NCCRS) is a national framework for addressing climate change. Its implementation is supported by the Kenya National Climate Change Action Plan (NCCAP) for 2013-2017. Under the NCCAP, a National Performance and Benefit Measurement Framework (NPBMF) has been developed to **monitor, evaluate and report results of mitigation and adaptation actions**, including the synergies between them and related socio-economic benefits. The Framework includes a system that brings together the Measurement, Reporting and Verification (MRV) of greenhouse gas (GHG) emissions and mitigation activities and the Monitoring and Evaluation (M&E) of adaptation activities, together called the **MRV+ system**. The final set of adaptation actions to be monitored and evaluated through the MRV+ system will be specified in the National Adaptation Plan (NAP), which is under development and expected to be released in 2014.

Purpose of the M&E system

By measuring, monitoring, evaluating, verifying and reporting the results of mitigation and adaptation actions, the MRV+ system will assist Kenya by:

- informing and guiding the Government on the implementation of concrete climate change response actions, whether in form of policies, projects, programmes or business ventures,
- helping the Government fulfill its international reporting obligations,
- demonstrating Kenya's climate finance readiness and providing a strong platform for attracting international climate finance flows from multilateral and bilateral development partners.

Level of application and aggregation

The MRV+ system is a national framework supported by sectoral and sub-national M&E activities. Specifically, the M&E of adaptation uses indicators that cover all nine planning sectors at both the national and county levels.

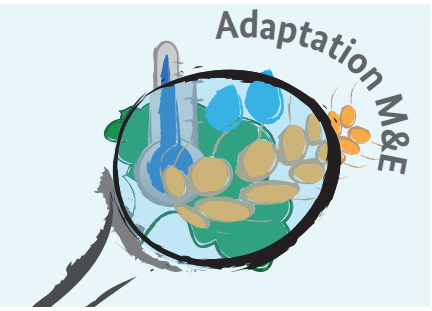
Status as of October 2013

The design of the NPBMF and MRV+ system was validated by stakeholders in 2012 and approved in March 2013. It is currently being established and it could take up to three years to become fully operational. M&E of adaptation is expected to begin once the NAP, and its associated adaptation actions, are finalised.

Process

Institutional arrangements

The MRV+ system will be **integrated into existing institutional M&E structures**, such as the National Integrated Monitoring and Evaluation System (NIMES), overseen by the Monitoring and Evaluation Directorate (MED) within the Ministry of Devolution and Planning. Thus, the MRV+ system will draw on information that has already been gathered by ministries, departments and agencies (**MDAs**) as part of its standard M&E.

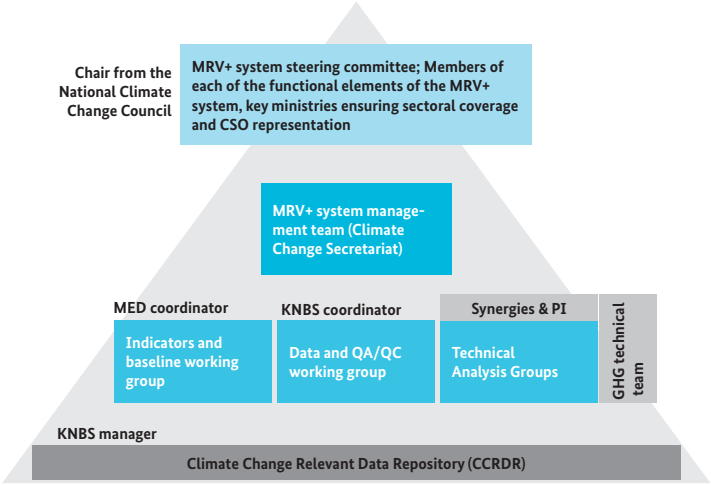


Photos: left: © Anne Hammill, right: © Julia Olivier

The system will be overseen by a **Steering Committee**, chaired by a representative from the National Climate Change Council (NCCC). The Chair will ensure that information is fed up to the NCCC and to the highest levels of government. The Steering Committee will evaluate adaptation performance against outcome-based national adaptation indicators.

The MRV+ system will be housed and managed in the Climate Change Secretariat, which is located in the Ministry of Environment, Water and Natural Resources (MEWNR). A four-person **management team** will oversee the day-to-day operations of the MRV+ system as well as coordinate the associated working groups and Technical Analysis Groups (TAGs). The management team will define the adaptation indicators, provide technical support for their measurement, and offer guidance to MDAs on M&E.

Figure 1 Proposed governance hierarchy for the MRV+ system



Source: Republic of Kenya (2012): National Performance and Benefit Measurement Framework.

As illustrated in Figure 1 an **Indicators and Baseline Working Group** will calculate baselines and indicators by using data provided by the **Data and Quality Assurance/Quality Control Working Group** (QA/QC WG). The QA/QC WG will oversee the Climate Change Relevant Data Repository (CCRDR), which will store and archive all data and information needed for the MRV+ system. The data will come from MDAs implementing NCCAP/NAP activities at the county level. MDAs will have ownership of process-based national adaptation indicators. The Technical Analysis Groups (TAGs) will then provide high-level interpretation and oversight of the synthesized information they receive.

Establishment process

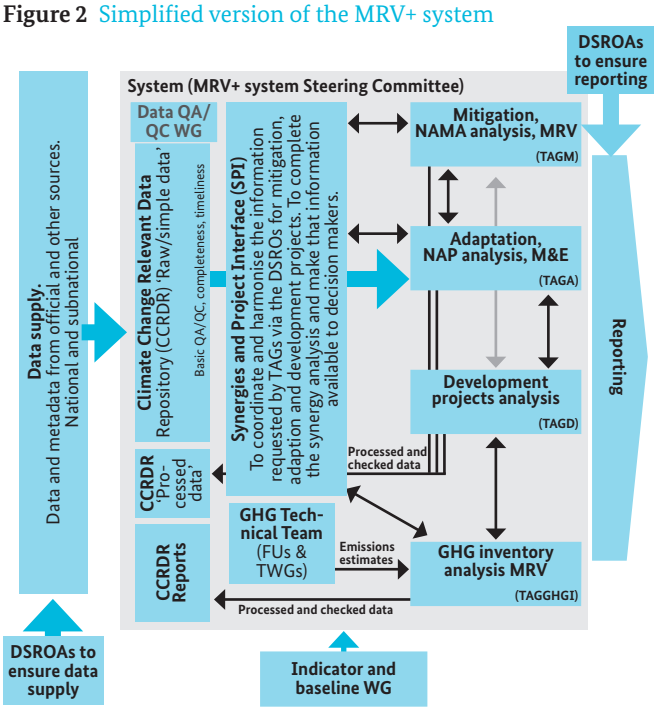
The NCCAP was developed over 20 months through a rigorous and transparent process involving expert analysis and stakeholder consultations. The design of the NPBMF was led by a team of international consultants who followed a two-step approach: Step 1 involved a review of existing practices and literature, including the data generation, indicators and reporting mechanisms used in Kenya, as well as relevant literature. Step 2 involved the design of the system, building on existing M&E structures and processes, and the development of associated guidance materials, indicators and a capacity development plan.

Implementation process

The MRV+ process contains three main stages:

1. **measurement, monitoring (and evaluation)**, where data and information is gathered, quality checked, and fed into the system;
2. **verification**, where results are cross-checked and verified; and
3. **reporting**, where results are synthesised and presented in appropriate formats.

Figure 2 Simplified version of the MRV+ system



Source: Republic of Kenya (2012): National Performance and Benefit Measurement Framework.

Figure 2 above presents the MRV+ process. Activity starts at the far left and moves right. Data is gathered and entered into the MRV+ system. The received data is subject to quality control and assurance checks to ensure that it is complete and reasonably accurate. The data is then passed on to the appropriate TAG for further quality assessments and analysis, as well as for integration into a range of outputs. The final results of the analysis exit the system to the far right in a range of reporting formats, described under 'Outputs and Reporting' below.

Content

Approach

This is an indicator-based approach measuring progress in adaptation at the national and county levels. Information on these indicators will be collected by different MDAs pursuant to annual performance contracts, work plans, budgets and other mechanisms used in existing M&E processes so that M&E of adaptation is mainstreamed into all planning sectors. While the final list of indicators to be used in the M&E of adaptation will be largely determined by the NAP, a set of long and shortlists was developed through the NCCAP process, described in the next section.

Table 1 Proposed indicator lists for M&E of adaptation in Kenya

1. Institutional adaptive capacity (top-down adaptation)	**Example**
62 national-level, process-based indicators measuring institutional adaptive capacity.	Climate change adaptation reflected in Kenya´s rangelands policy and action plan
10 shortlisted county-level, outcome-based indicators measuring the effectiveness of national initiatives to build institutional adaptive capacity at the county level.	Percentage of total livestock numbers killed by drought in the county
2. Vulnerability (bottom-up adaptation)	
62 county-level indicators to reflect the outcome of local-level actions and measure progress on county-level initiatives.	Outcome-based: average time spent by women collecting water Process-based: number of operational early warning systems in the county
10 shortlisted national-level, outcome-based indicators measuring the effectiveness of local and county initiatives in reducing vulnerability at the national level.	Many indicators taken from the list of indicators developed for assessing performance against Kenya's Vision 2030 goals (e.g. number of households in need of food aid)

Indicators

The Tracking Adaptation and Measuring Development (TAMD) methodology, developed by the International Institute for Environment and Development (IIED), was used to identify adaptation indicators that measure:

1. progress made by government institutions to increase institutional adaptive capacity from the top (national level) down to the county level, and
2. progress made by MDAs, the private sector, NGOs and communities to reduce vulnerability to climate change from local (county level) up to the national level.

For each of the 20 shortlisted outcome-based indicators a Data Sheet is provided with detailed information on methods of calculation, data sources, etc. Where possible, baseline years and expected trends with adaptation are identified. Targets have not yet been identified.

Data and information requirements

The Government of Kenya is currently measuring more than 6,000 indicators. Therefore, the measurement of adaptation indicators will use as much as possible data and information that is already being gathered. For the 20 shortlisted outcome-based indicators specific MDAs have been assigned responsibility for their measurement and existing sources of data have been identified (see Table 2 below).

Table 2 Example of data and information requirements for M&E of adaptation in Kenya

Top-Down Indicator	% population by gender in areas subject to flooding and/or drought in the county who have access to Kenyan Meteorological Department (KMD) information on rainfall forecasts
Responsible MDA	KMD
Sources of data	KMD on forecast information provision Department of Resource Surveys and Remote Sensing (DRSRS)/National Drought Management Authority for designation of drought affected areas DRSRS/Water Resources Management Authority for designation of flood affected areas Kenyan National Bureau of Statistics for population data within these areas, and data on people with access to radios

Data supply is facilitated through so called Data Supply and Reporting Obligation Agreements (DSROAs). These agreements are issued to all organisations that are required to supply data or information to the MRV+ system. The DSROAs describe both the data the supplier should provide and the reports they have to produce to help fulfill Kenya's national and international reporting obligations.

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Photos: left: © Julia Olivier, right: © Daniel Nordmann

Output and reporting

Data and information will be submitted to the Technical Analysis Group on Adaptation (TAGA). The TAGA will review the collected measurements and provide high level interpretation of progress in adaptation. These analyses will be tailored and integrated into a number of reports that meet different domestic and international reporting obligations, such as:

- Annual reports or Medium Term Plans for Ministries, Departments and Agencies
- Vision 2030 progress reports
- Biennial Update Report (BUR) to the UNFCCC (every two years starting in December 2014)
- National Communications to the UNFCCC (due periodically between BURs)

Resources needed

Up to **100 people** will need to be involved in setting up and running the MRV+ system, although not all roles will be full-time posts and therefore not all staff will have to be new. It could take up to **three years** before the system is fully operational. Other required resources include office space, meeting rooms, facilities, technology (e.g. computers, printers, copiers, software) and logistical support (e.g. access to a vehicle).

Lessons to date

Kenya's M&E system for adaptation is currently being established- so most lessons to date are related to its design. While building the system on existing M&E processes helps streamlining M&E of adaptation, Kenya's existing systems are currently under-performing. Hence, there is the danger that institutional weaknesses may be amplified by the additional burden of M&E of adaptation. As governmental capacities for M&E are concentrated in Nairobi, monitoring and reporting by data suppliers in the field might be unreliable. The quality of most data needed for M&E of adaptation is unknown and there are difficulties in finding datasets with continuous coverage. Meanwhile, different data storage systems in different MDAs hamper data and information sharing. Both the absence of specific adaptation actions and the current restructuring and devolution of government have led to some uncertainty concerning how the system will run in practice. Nonetheless, the foundation for adaptation M&E has been established. A thorough review of existing M&E structures, assessment of current capacities and needs, and regular consultations with stakeholders have helped to develop a 'Kenyanised' system that is supported by a wide range of stakeholders who are committed to operationalize it as soon as possible.

For further infomation

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This factsheet is part of a collection of factsheets and an accompanying report which can be obtained at AdaptationCommunity.net.

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Mekong River Commission: Lower Mekong basin-wide monitoring and reporting system on climate change and adaptation

Context

Programmatic context

The **Climate Change and Adaptation Initiative (CCAI)** is a regional initiative of the Mekong River Commission (MRC), an intergovernmental body established in 1995 between the governments of Cambodia, Lao PDR, Thailand and Vietnam[1]. CCAI was established in 2009 and the Member Countries agreed on a Program Implementation Plan (PIP) in 2012 through a consultation process. The CCAI is a long-term initiative and will be implemented up to 2025. It aims to guide and harmonize climate change adaptation planning and implementation through improved strategies and plans at various levels and in priority locations throughout the Lower Mekong Basin (LMB). This will be done among other things by developing and implementing a basin-wide system for monitoring and reporting on the status of climate change and adaptation in the Lower Mekong region.[2]

About the Mekong River Commission (MRC)

The MRC is an inter-governmental agency that works directly with the governments of Cambodia, Lao PDR, Thailand and Vietnam on their common specific interests — joint management of shared water resources and sustainable development of the Mekong River.

As a regional facilitating and advisory body governed by water and environment ministers of the four countries, the MRC aims to ensure that the Mekong water is developed in the most efficient manner that mutually benefits all Member Countries and minimises harmful effects on people and the environment in the Lower Mekong Basin.

Serving its member states with technical know-how and basin-wide perspectives, the MRC plays a key role in regional decision-making and the execution of policies in a way that promotes sustainable development and poverty alleviation.

Source: www.mrcmekong.org

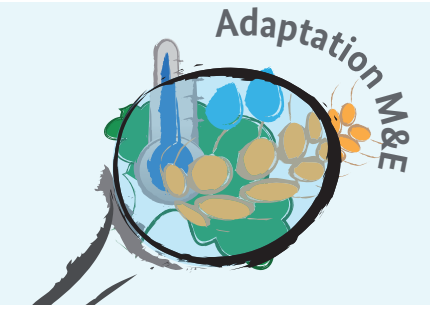
Purpose of the M&E system

The stated purpose of the monitoring and reporting system is to monitor changes in climate, impacts and vulnerability to climate change and climate adaptation actions and performance at regional, national and sub-basin levels in the LMB. Specifically, the stated objectives of the system include to:

- improve understanding on climate change,
- detect trend and magnitude of change,
- monitor **actual impacts** of climate change,
- monitor progress and performance on **adaptation planning and implementation,** and
- improve prediction and early warning on flood and drought.

[1] The mission of the MRC is: 'To promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's wellbeing by implementing strategic programmes and activities and providing scientific information and policy advice.'

[2] CCAI focuses on: (i) climate change impact and vulnerability assessment, adaptation planning and implementation in priority locations within the LMB; (ii) building knowledge and capacity at different levels (institutional, technical and managerial capacity); (iii) regional adaptation strategy supporting national frameworks; (iv) regional partnership and collaboration for sustainability of adaptation actions.



The potential target users of the system include decision-makers and planners on climate change issues at regional, national, and local levels; technical staff and researchers and other organi sations who implement climate change adaptation activities in the LMB.

Level of application and aggregation

The system operates at the **river-basin level**.

Status as of October 2013

The process is at the **early design stage**. MRC countries agreed on a concept note and an implementation plan for the design, development and operation of the system. Initial steps towards the development of the system are underway and comprise the indicator selection (including data needs and calculation methods), the calculation of some indicators and the methodology development for assessing vulnerability in selected priority themes.

Process

Institutional arrangements

The **CCAI** is under the **MRC Environment Division (ENV)**, which is a cross-sectional division of the MRC which generates data, information and knowledge to support decision-making. Beside climate change monitoring and reporting, one of the responsibilities of ENV is to establish systems for monitoring the Basin's environmental health. At regional level, the development of the climate change and adaptation monitoring and reporting system is coordinated by the CCAI in close collaboration with other MRC Programmes and the Member Countries.

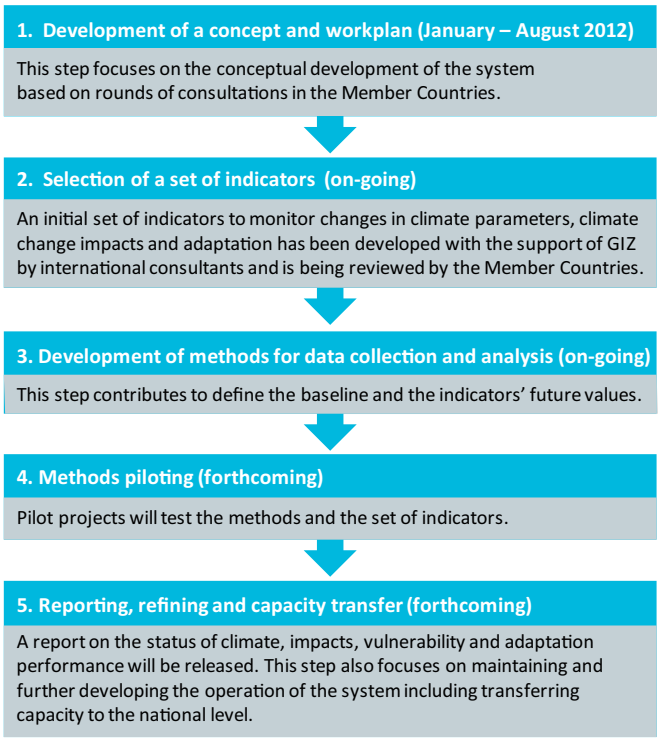
At national level, activities related to the establishment and operation of the system are coordinated by the **National Mekong Committees (NMCs)**. The implementation of the system in the long run will be the responsibility of the MRC countries in line with the MRC decentralisation process. It is expected that this responsibility will be gradually transferred from the CCAI programme to the countries. The exact institutional set up may vary from one country to another and will be decided through the development of a decentralisation plan.

The CCAI Program Document (2011-2015) mentions the establishment of a Mekong Panel on Climate Change (MPCC) as an independent expert body made up of climate change specialists from national, regional and international levels. This expert body has not been created yet as of October 2013.

Establishment process

The establishment of the basin-wide monitoring system includes the following key steps:

Figure 1 Key steps of the establishment process of the system



Implementation process

No information available yet.

Content

Approach

The proposed approach for the basin-wide monitoring and reporting of climate change adaptation in the LMB is the **indicator-based approach**. Baselines will be mainly established based on the calculation of values of climate, impacts and adaptation performance indicators over the baseline period (i.e. 1981-2010 tentatively). Data collection will be on-going using different time intervals to monitor the changes of indicators over time.

Indicators

A **draft indicator framework** proposes to focus on three types of indicators: **climate, climate change impact and adaptation indicators**. Further details on the indicators are not yet available. The final list of indicators will be consulted and agreed with MRC Member Countries. First calculation of the indicators based on available data will be conducted.

Data and information requirements

The indicators will be calculated from observed data, based on existing observation systems and sources at national, regional and global levels.

Output and reporting

Monitoring data will be analysed and used in various governance and technical reports of the MRC on both regular and by-request basis. In addition, according to the CCAI Program Document (2011-2015), one of the main proposed tasks of the - yet to be established -Mekong Panel on Climate Change (MPCC), would be to develop a report on the **Status of climate change and adaptation in the Mekong River Basin** using among others the information from the basin-wide monitoring system.

Resources needed

The exact resources needed for the establishment and implementation of the system have yet to be further clarified. Tentatively, the CCAI's Program Document (MRC, 2011) had budgeted USD 740,000 (4.65 % of CCAI's total budget) for the development and implementation of the monitoring and reporting system over the period 2011-2015. Expertise at regional (CCAI and other programmes) and national levels (Line Agencies, Climate Change Focal Agencies) will be involved at different time and in different scopes over the whole period of establishment and implementation of the system.

Lessons to date

The process of developing the basin-wide monitoring and reporting system is still at a very early stage. MRC Member Countries recognise that the development of the system is a priority activity to support adaptation at both national and regional levels. The system is urgently needed to provide sufficient data and information for analysis and reporting on the status of climate change, its impacts and adaptation performance of the region. The results in turn will guide effective adaptation strategies and actions.

So far, the initial development of the system has been time consuming. The process requires the intensive participation and validation of all Member Countries. In addition, limited (or no) experience is available on the development of M&E systems for adaptation at a river-basin level and measuring adaptation performance is perceived as one of the key challenges.

Most existing monitoring systems relevant to climate change in the basin focus on meteorological parameters and river flow. Other relevant physical parameters (e.g. soil moisture, groundwater, water quality, and land use) and socio-economic data are hardly monitored. To fill this gap, the development of the monitoring and reporting system of climate change adaptation is developed in parallel with a **CCAI database**, which will be part of the existing MRC data portal and aims to store existing and new data relevant for climate adaptation.

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Morocco: Adaptation monitoring as part of the Regional Environmental Information System

Context

Policy context

In 2009 the Government of Morocco (GoM) adopted its National Plan to Combat Climate Change (PNRC) and currently, the National Climate Change Strategy is being finalised and approved. At the regional level, there s at yet no uniform way of adaptation planning. In climate change policy development, GoM initiated a process of decentralising environmental policy planning in 2010 with the launch of the Environmental Charta. Since then, **Regional Observatories on Environment and Sustainable Development (OREDDs)** have been established in each region. They are responsible for the **Regional Environmental Information Systems (SIRE)** where environmental information is being produced and disseminated. In addition, GoM also prepared a law, which is currently under validation, on the right for general information access.

Purpose of the M&E Sytstem

There are three main objectives of the adaptation monitoring system which is currently being set up in two regions: Marrakech Tensif Al Haouz (**MTH**) and Souss Massa Drâa (**SMD**): Firstly, the system aims to assess changes in vulnerability in key sectors. Secondly, it helps monitoring adaptation interventions in the two regions and aims at giving orientations for their improvement and at recommending additional measures. Thirdly, the system is designed for acquiring and systematizing experiences. Thereby, it will contribute to the elaboration of a regional climate change strategy.

Level of application and aggregation

The system operates at the regional level. It is currently being piloted in the most **vulnerable sectors** (water, agriculture and biodiversity/forests) of the two regions mentioned: MTH and SMD.

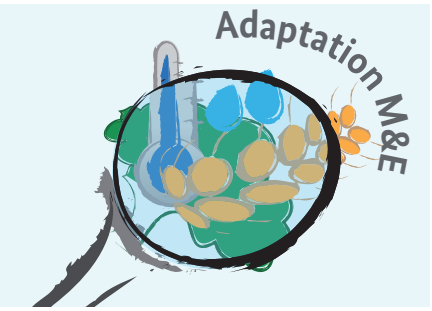
Status as of October 2013

Since early 2013, the OREDDs – with support from GIZ – have been leading a multi-stakeholder process in MTH and SMD at regional level, also involving the Environmental Department of the Ministry of Energy, Mines, Water and Environment at national level. So far, the methodology for integrating adaptation monitoring into the SIRE has been elaborated and a set of indicators has been identified. The adaptation monitoring is currently starting to become operational: indicators are being included in the web-based SIRE and the first vulnerability and adaptation report will be produced in early 2014.

Process

Institutional arrangements

At national level, the Environmental Department in the Ministry of Energy, Mines, Water and Environment is responsible for climate change adaptation and mitigation. The **OREDDs** are, according to their statute, independent from the Ministry. They have the role of monitoring the state of the environment



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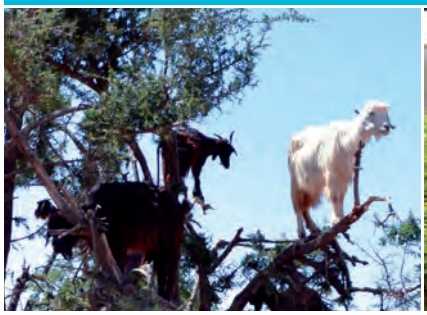


in their region, of developing tools to support decision-making and finally of managing environmental information through the SIRE and with support from the **Regional Network of Exchanging Environmental Information (RREIE)**. The RREIE is mainly composed of representatives from deconcentrated sectoral services. These representatives from sectors like e.g. water, agriculture and tourism, support the OREDDs with regard to data collection, analysis and communication of monitoring information. Since monitoring vulnerability and adaptation will be integrated into the existing environmental monitoring system, institutional structures for the definition of indicators, data collection and sharing etc. remain the same. Potential **users of the information provided by SIRE** will be, next to the deconcentrated services themselves, also research and development institutions, universities, as well as local development associations, cooperatives and the wider public. The degree of access to information depends on the user types. Access will be granted via the web-based platform.

Establishment process

In Morocco, the process of integrating adaptation monitoring into the SIRE of the two selected pilot regions comprises **eight steps** in the following three consecutive phases: the **phase of conceptualising** the system, the **phase of operationalization** and the **phase of re-adjustment** (see figure 1). During the first phase, studies were carried out that summarise the vulnerability to climate change in the two regions based on existing literature and research. Therefore, existing M&E systems and the information they produced have been assessed. Additionally, user and user needs for adaptation monitoring have been identified, and furthermore, the monitoring methodology has been developed. In the second phase, indicators were elaborated based on climate change impact and vulnerability chains, which had been developed for each sector considered (see an example for agriculture in figure 2). The indicator selection was based on a multi-stakeholder dialogue with OREDDs and representatives from the RREIE network. For the initial phase of the system, it was decided to consider only indicators which could be **informed through existing data**. Other relevant indicators where data was currently not available were classified into a B-list of indicators. For the region SMD, for example, a set of approximately 30 indicators was validated. A couple of additional indicators were retained in a B-list to be considered at a later stage. Similar to the German M&E system for adaptation, factsheets were elaborated for each of the indicators, containing information on the indicator itself, modalities and responsibilities for data collection, baseline values and interpretation. As soon as the system is integrated into the web-based platform, results can be accessed through the Internet. The system shall be fully operational by mid-2014. The third phase, a review process, will allow for re-adjusting or widening the system to other sectors, if necessary or desirable.

Figure 1 Establishment process for setting up the adaptation monitoring in two Moroccan regions.

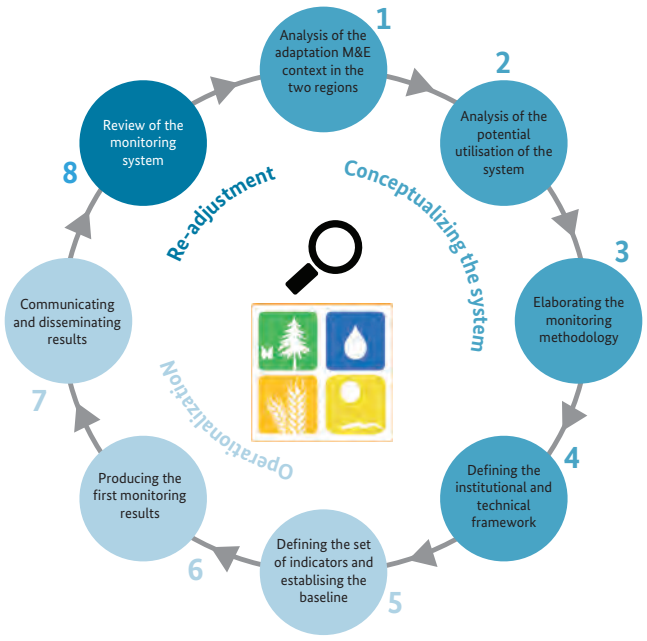


Figure by Youssef Jaouhari.

Implementation process

This paragraph outlines how the implementation will be realised from around mid-2014 onwards according to what has been agreed by those responsible for the SIRE and other key stakeholders. Based on the indicator factsheets, the sector representatives of the RREIE network will provide the data for each indicator. Depending on the data availability, not all of the indicators will be assessed annually. Monitoring information will be accessibl through the Internet.

Content

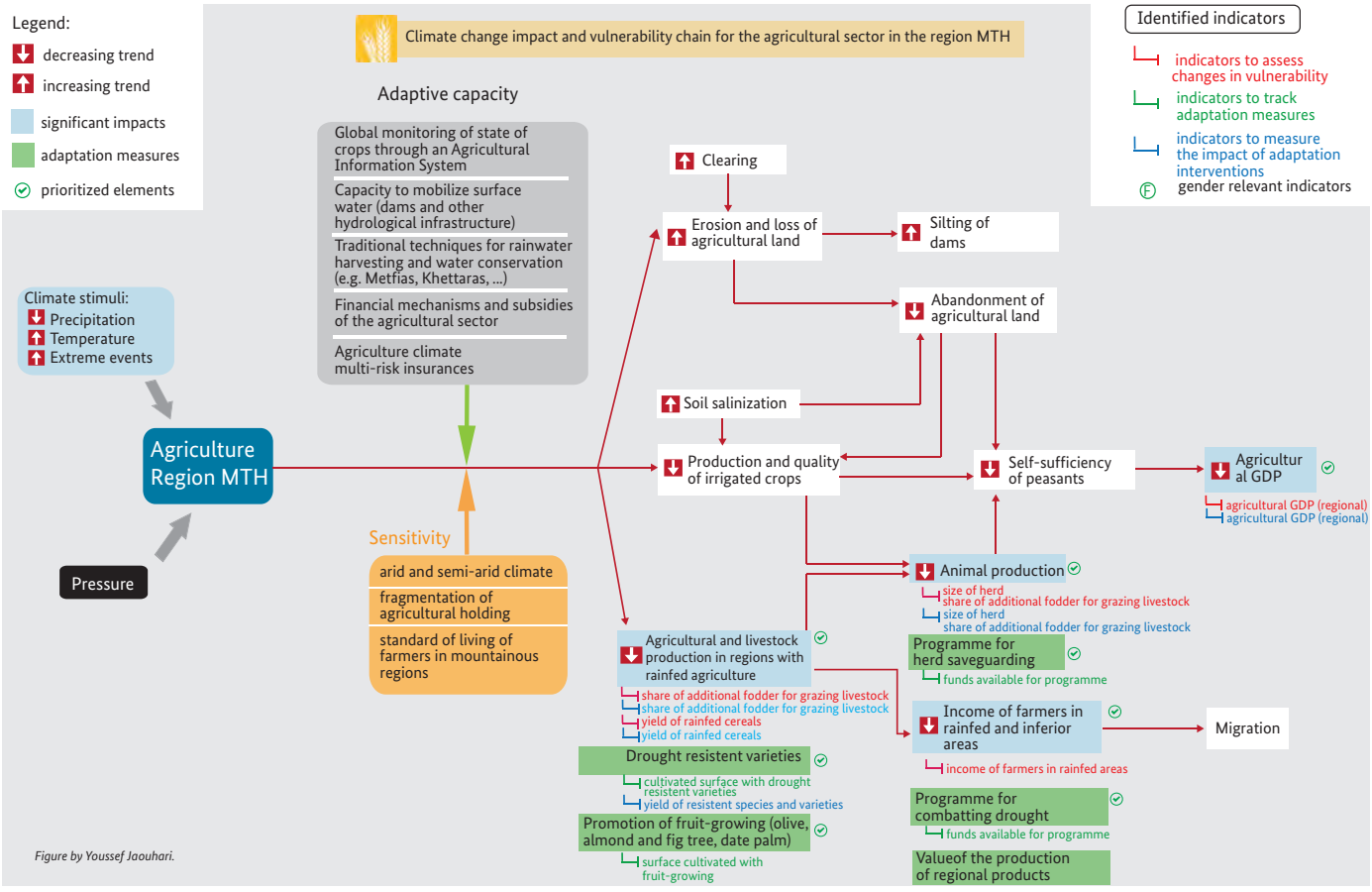
Approach

Morocco has chosen to integrate adaptation monitoring into an existing system, the SIRE. Existing structures and procedures for the definition and selection of environmental indicators in the context of the SIRE were used accordingly to the field of adaptation. The approach can be summarised as an **indicator-based system** using a participatory consultation process in order to select indicators and create ownership for data sharing. The indicators are used to monitor changes in vulnerability, adaptation measures and their impacts in two pilot regions. Changes in vulnerability and adaptation at the national level are not measured. So far, Morocco does not have a coherent adaptation planning process at regional level (e.g. Regional Plans to Combat Climate Change rarely exist and Regional Climate Change Strategies are only planned in a couple of regions). Thus, it was not possible to establish a results-based monitoring system. The current system is focusing on changes over time.

The adopted approach contains:

- the pre-selection of vulnerable sectors on which the monitoring system should focus,
- the analysis of the context for monitoring of adaptation,
- the definition of the conceptual framework of vulnerability and the establishment of climate change vulnerability and impact chains (see figure 2) as a basis for the indicator definition and selection and
- the web-based documentation of indicators with the support of indicator factsheets.

Figure 2 Example of a climate change impact and vulnerability chain for the agricultural sector in the region Marrakech Tensift Al Haouz which was the basis for the indicator development.



Indicators

Indicators have been developed based on **climate change impact and vulnerability chains**. Such a chain was developed for each of the pre-selected vulnerable sectors in the two regions. Gender was considered while developing the chain in order to make sure to have gender-sensitive indicators. Figure 2 shows an example of such a chain for the agricultural sector in the MTH region. There are three types of indicators used in the system: (1) indicators to assess **changes in vulnerability**, (2) indicators **to track adaptation measures** and (3) indicators to **measure the impact of adaptation** interventions in the region.

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Data and information requirements

The data for monitoring adaptation actions is extracted by representatives from deconcentrated sectoral services, who are part of the RREIE network, e.g. from existing M&E systems. In this initial phase, the emphasis is on **easy-to-access data and simple information**. There is a list of B-indicators which are relevant to measure, but where the data is not yet available or not easily accessible. These can be included into the system at a later stage.

Output and reporting

The main output produced by the OREDDs is the **Annual Report on the State of the Environment** at regional level. Once the integration of adaptation monitoring into the SIRE is completed, the OREDDs will include a chapter on vulnerability and adaptation into this report. Furthermore, the data will be accessible through the **web-based information system** which is currently being set up for the SIRE and in which the adaptation monitoring will be included.

Lessons to date

Morocco has opted for the integration of adaptation monitoring into **an existing system**, the SIRE. It has chosen a pragmatic and cost-efficient way to gather data through existing networks using inter-sectoral exchange platforms which have already been established. The approach has the advantage of being **relatively inexpensive**. This is also reflected by the selection of indicators: only indicators where data is already available have been chosen for the system in order to avoid high costs and to allow for the system to become quickly operational. A list of B-indicators and the planned review phase make sure that, at a later stage, the system can become more complex.

Sharing data is a big challenge in Morocco like in most other countries. The next couple of years, when the system is being operational, will show if and to what extent this will hinder the system in providing useful information for decision-makers and the wider public at regional level.

For further information

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Website of the Moroccan Ministry of Energy, Mines, Water and Environment:
http://www.minenv.gov.ma/index.php/fr/etat-env

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Nepal: Results based monitoring for climate adaptation

Context

Policy and programmatic context

At the national level, climate change adaptation activities are guided by the **2010 National Adaptation Programme of Action (NAPA)** and the **2011 Climate Change Policy**. As of June 2011, eight major projects – and associated programmes – dedicated to climate change adaptation are being implemented by the Ministry of Environment and currently form the core of **Nepal's Climate Change Program (CCP)**. These projects are intended to support the implementation of the NAPA and the Climate Change Policy and to respond to eight of the nine priority areas for adaptation identified in the NAPA.

The Government has not yet elaborated a national M&E system for climate adaptation. But efforts are underway to mainstream climate change adaptation into the existing national M&E system. In addition, the CCP is developing a programme-wide M&E system called the Nepal Climate Change Program Results Framework (NCCPRF). NCCPRF is being developed under the Strategic Program for Climate Resilience (SPCR) funded by the Pilot Program for Climate Resilience (PPCR). At the subnational level, an M&E framework integrating climate adaptation has also been developed under the Environment Friendly Local Governance (EFLG) framework. EFLG aims to mainstream environmental considerations including climate change and disaster risk reduction into local development planning processes (i.e. from household to district level) and is expected to complement the Local Adaptation Plans of Action (LAPAs) process.

Purpose of the M&E system, level of application and status as of October 2013

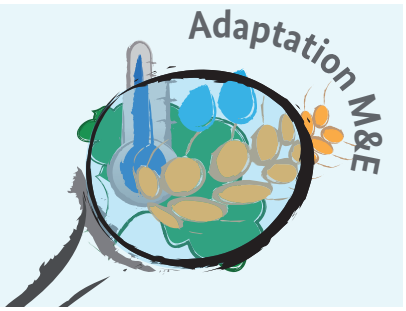
Different M&E systems for adaptation exist (or are being developed) at the national, subnational and programmatic levels as shown in table 1.

Process

Institutional arrangements

At the national level, the **National Planning Commission (NPC)** is the apex body responsible for assessing progress towards development. The national M&E system operates from national to local level. Any project/programme in Nepal has to report on progress to the NPC.

At the project/programme level, the M&E of climate change is coordinated by the **Ministry of Science, Technology and Environment (MOSTE)**, which is responsible for the central coordination of all climate change activities. Specifically, MOSTE coordinates the development of the programmes' M&E frameworks through stakeholder consultations and submits monthly adaptation progress reports to the Office of the Prime Minister. The **Climate Change Program Coordination Committee (CCPCC)**, under MOSTE, is a new institutional body in charge of coordinating the CCP and supporting the development of the NCCPRF.



At the subnational level, MOSTE is supposed to work in close collaboration with the Ministry of Federal Affairs & Local Development (MoFALD), as it has neither the human capacities nor the authority to monitor climate adaptation activities at subnational level. MoFALD is responsible for overseeing and guiding local bodies and for implementing and monitoring activities at the local level (including the implementation of the LAPAs and EFLG framework).

Table 1 M&E systems for adaptation at national, subnational and programme level in Nepal

M&E systems	Purpose	Level	Status as of October 2013
National M&E system	To measure progress towards development (including climate change adaptation), the Government has established a Climate Change Budget Code.	National	National development indicators are being revised to include some climate change indicators.
Results management framework of the Local Adaptation Plans of Action (LAPAs)	To measure progress towards the implementation of the LAPAs, which aim at integrating climate adaptation activities at the local level, using periodic household surveys.	Subnational	On-going
M&E system of the Environment Friendly Local Governance (EFLG) framework	To monitor and evaluate environmentally friendly development activities (incl. the integration of climate change considerations into local development plans and programmes).	Subnational	Initial implementation phase. EFLG was approved by the Cabinet in October 2013 and initial preparation for the baseline data collection is starting.
Nepal Climate Change Program Results Framework (NCCPRF)	To track progress, achievements and lessons learnt from the implementation of the CCP to harmonise the result-based frameworks of all climate change programmes and associated projects.	Project & Program me	Under development (baseline indicator assessment phase). CCPRF is currently being piloted for the eight projects of the CCP from 2011 to 2017.

Establishment process

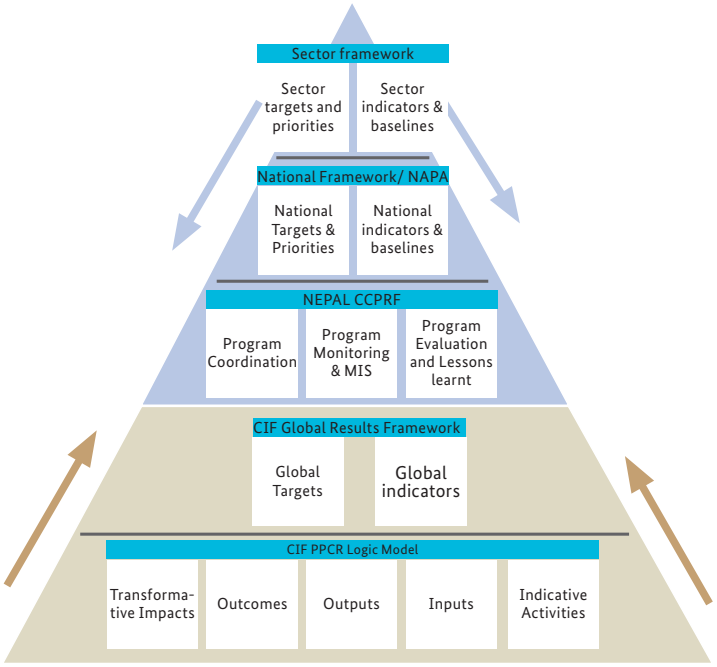
Currently, an overall step-by-step approach for the establishment and implementation of a comprehensive M&E system for climate adaptation still needs to be defined.

At project/programme level, MOSTE decided in 2013 to use the PPCR results framework for the monitoring and reporting on climate change adaptation projects. In addition, progress towards climate adaptation will also be measured against the NAPA's and sector agencies' priorities. A Management Information System (MIS) will be established to monitor and coordinate all indicators (see figure 1).

At the subnational level, the ELFG framework was developed by reviewing and analysing existing environment and climate policies as well as by consulting key stakeholders at the national and local levels over a twelve-month period.

At the project/programme level, the implementation of the NCCPRF will be done by the relevant national government sector agencies and development partners under the coordination of the MOSTE.

Figure 1 Development of the Nepal Climate Change Program Results Framework



Source: ICEM, METCOM and APTEC (2012).

Implementation process

At the subnational level, EFLG will be done on a voluntary and competition basis by local bodies from household to district level. Once a local body (e.g. households, village, municipality, district) fulfills the ELFG requirements, it will be declared as environmentally friendly and will receive incentives (e.g. award, trainings) for doing well. The implementation process will include an awareness campaign, baseline data collection, analysis and regular updating, and the establishment of coordination committees at central, district and village level to monitor and evaluate environmentally friendly development activities (incl. the integration of climate change considerations into local development plans and programmes). Recommendations on how the NCCPRF and EFLG frameworks may be linked will be made based on the lessons learnt from the piloting of the NCCRPF for the eight CCP projects.

Content

Approach

Currently, the M&E frameworks for climate adaptation at programme and subnational level are strongly based on a results-based management approach (incl. result-based indicators). NCCPRF includes an indicator-based M&E framework as well as strategies and templates for consolidating and sharing more qualitative analysis of CCP results in the form of a lessons-learnt framework as follow:

Table 2 The key components of the NCCPRF approach

Tools	Description	Purpose
Programme-level indicators	Five core indicators which all CCP projects will use (similar to the five core indicators of the PPCR) and a set of indicators linked to the NAPA's priority issues.	To evaluate the progress and achievements of the CCP against the NAPA priorities and development partner aims
Project-level indicators	Each CCP project has a set of project-specific indicators as part of their project M&E system.	These indicators will be tracked and monitored by project M&E focal points separately to the CCP
Lesson learnt reports	A template for the qualitative documentation of the experiences of implementing each of the CCP projects.	To document what has been successful and what has not worked

Indicators

At the project/programme level, NCCPRF will use the PPCR's five core indicators developed by the CIF Administrative Unit and measure them by using s**corecards and data tables**.[1] Data and information will be collected at sector and project levels by government agencies and development partners respectively. MOSTE is currently coordinating the development of the CCP baselines against which the five core PPCR indicators will be measured. Additional indicators will be identified to assess progress against the NAPA priority response areas.

At the subnational level, the EFLG framework includes a total of 149 'environment friendly' indicators ranging from household to district levels. It includes climate indicators as well as other sectoral indicators for environment (e.g. tree planting), disaster risk reduction and waste management, which directly or indirectly contribute to climate change adaptation at the local level (but they are not labeled as 'adaptation indicators').

Data and information requirements

At the national level, ways to incorporate questions of climate change into existing national surveys are being discussed to reduce the need for project and programme level data collection.

At the project/programme levels, NCCPRF will use data from existing departments and agencies responsible for measurement (e.g. the Central Bureau of Statistics, the Ministry of Finance, NPC's Central Monitoring and Evaluation Division, the Social Welfare Council).

At the subnational level, and as part of the EFLG, data and information on how local bodies address climate and disaster risk reduction; manage natural resources and construct infrastructures using environmentally friendly approaches, will be collected from household to district level. Service providers responsible for social mobilization will collect the data from each Village Development Committee (VDC). These VDCs will do the data input in appropriate software and submit the information to the District Energy, Environment and Climate Change Coordination Committee (DEECCCC).

Output and reporting

As part of NCCPRF, **three indicator templates** to aggregate information at sector, project and programme levels have respectively been developed for government sector agencies, development partners and MOSTE. MOSTE will coordinate the development of a **CCP baseline assessment report** and **CCP periodic performance reports** to be disseminated to government and development partners through the CCPCC.

[1] Refer to the PPCR factsheet for further details

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As part of the EFLG, the **DEECCCC** will submit the database (monthly basis) and progress report (trimester basis) to the Nepal Climate Change Support Program (NCCSP), one of the large-scale programme on climate adaptation in Nepal. The **NCCSP** will submit progress report to MOSTE, MoFALD and development partners (trimester basis).

IRED: Limited information is currently available on the resources required for the development and implementation of the different M&E systems for adaptation. However, the Government emphasizes the need to build on existing data and monitoring systems as much as possible, which should contribute to reduce resources.

Lessons to date

Nepal has a vibrant but complex and rapidly evolving M&E environment with numerous developments happening including M&E of climate adaptation at different levels. The linkages between the different M&E systems for adaptation from national to local levels have to be clarified. This process will require strong coordination among agencies at government and programme level. Particularly, the collaboration between MOSTE and MOFALD will be essential in bringing the NCCPRF and the EFLG frameworks together. Collaboration across sectors and scales is also hampered by high staff turnover rates in government departments, which impairs institutional memory on M&E activities. However, a common adaptation framework exists: the NAPA is widely accepted across government agencies in Nepal and provides a solid set of priorities against which progress can be measured. So far, the focus of the NCCPRF has mainly been on monitoring progress of climate change programmes and projects rather than on evaluating results – a trend that also reflects the orientation of the national M&E system.

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Norway: Learning by doing for measuring progress in adaptation

Context

Policy context

The Norwegian Climate Adaptation Programme was established in 2007 to coordinate national efforts in adaptation. In 2008, the government released a five year adaptation work programme, setting out goals and associated measures to be addressed between 2009 and 2013, including assessing Norway's current and future climate vulnerability. This led to the first comprehensive, systematic review of climate change impacts, vulnerability and adaptation needs in the country. The resulting report, 'Adapting to a Changing Climate' along with associated sub-assessments, provided a framework for identifying further adaptation actions to be taken at different levels and by different actors. Norway's 2013 White Paper on adaptation 'Climate adaptation in Norway' serves as the Norwegian Adaptation Strategy, and provides the overall policy framework for adaptation in Norway. It emphasises principles and priorities such as: adaptation as a shared responsibility, integrating adaptation in all relevant areas and using the precautionary principle for adaptation planning and decision making. The White Paper also addressed the need for coordination and efforts to strengthen the adaptation knowledge base and adaptive capacity, particularly at the local level. Together, these constitute the framework within which adaptation actions are implemented, assessments are undertaken, and lessons are learned and fed into relevant policy processes. Norway **does not have a formal M&E system** for adaptation, but uses existing systems for tracking progress. The emphasis is on adaptation as a continuous learning process.

Purpose of the M&E (learn-by-doing) system

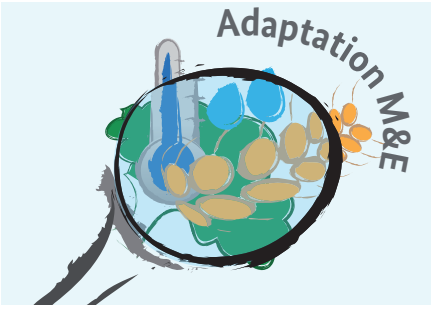
The purpose of the M&E system is to learn what is working in climate change adaptation, why, and **inform policy decisions** so that they are relevant. This is achieved through a relatively informal learning-by-doing system comprised of surveys with municipalities, research, pilot projects, and stakeholder involvement and dialogue (see figure 1). The results and lessons from these processes are captured in regular national vulnerability and adaptation assessments, which take stock of Norway's progress in adapting to climate change. The initial vulnerability assessment from 2010 will serve as a basis for future assessments.

Level of application and aggregation

The regular national vulnerability and adaptation assessments are conducted at the **country-level** every five to eight years, linked to the global assessments of the Intergovernmental Panel on Climate Change (IPCC). Many of the adaptation activities and experiences reflected in the assessments are undertaken at the **sub-national level**, through individual projects, planning processes and dialogues in Norway's 428 municipalities.

Status as of October 2013

Norway's first comprehensive national assessment was released in 2010, although learning around adaptation had started several years earlier, around 2005.



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Process

Institutional arrangements

Norway's Climate Change Adaptation Programme is coordinated by an **inter-ministerial group headed by the Ministry of the Environment** (which is responsible for Norway's climate change policies). As of 1 January 2014, The **Norwegian Environment Agency** will support the Ministry of the Environment in its adaptation work. The regular national vulnerability and adaptation assessments are prepared by an expert committee appointed by the government and representing a broad range of sectors and levels of decision-making in Norwegian society.

Establishment process

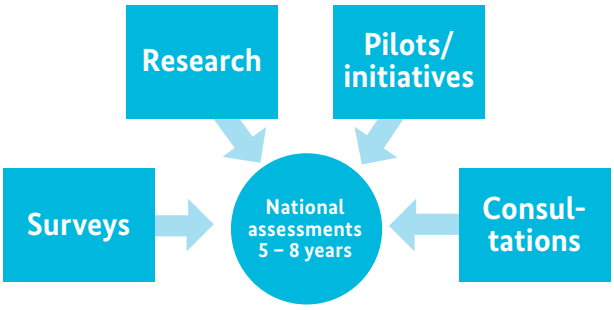
Adaptation action in Norway has followed two tracks. The first track has focused on **building adaptation as a new policy area through formal processes** such as the establishment of the inter-ministerial coordination group in 2007, the five year work plan in 2008 and the national vulnerability assessment in 2010. The outcome of these processes has been integrated into the 2013 national adaptation strategy. The second track has focused on **building adaptive capacity, particularly at the municipality level.** This work was initially organised through a five year project, housed in the Directorate for Civil Protection and Emergency Planning. This involved working closely with counties and municipalities that had already begun their adaptation processes and launching several pilot initiatives that could eventually be scaled up to the national level. An example of the latter was a series of local initiatives focused on the provision of climate services, which subsequently led to the establishment of a national center for climate services. This project approach allowed for the **flexibility needed to track and understand early progress on adaptation**. Experiences from the initial five year period have been fed in to the policy formulation process and have demonstrated the value in a learning-driven approach to M&E, where progress in adaptation was measured in terms of acquiring and applying knowledge on how to adapt.

Implementation process

Learning on adaptation is facilitated through activities that build on **ongoing initiatives and procedures**. For example, the Cities of the Future network, which was established to support climate change planning in 13 of Norway's largest cities and towns, adopted adaptation as one of its five core areas of work. This has provided a platform for sharing lessons on how different actors are adapting to climate change and what is needed to support it. Climate change adaptation is also automatically integrated into the regular reporting procedures of all government spending, associated with the annual budget cycle, ensuring that funds are spent in accordance with intended purposes. This ensures that implementing agencies are given the mandate and funds to work on adaptation. In addition to reviewing the budget prioritization and assessing whether goals are met, the reporting also provides a picture of the range of adaptation activities under way and the progress being made in their implementation, thereby adding to the pool of information about adaptation work in Norway. Further, quantitative surveys focusing on climate change adaptation at the municipality level have been undertaken every 5 – 10 years (2007, 2011 to date) to understand progress in building adaptive capacity.

The lessons from the municipal surveys, research, pilot actions, and continued consultation with different actors feed into the regular national-level vulnerability and adaptation assessments, as depicted in Figure 1 below. While some of the components of the learning system such as the annual budgetary assessments and municipality surveys are done on a regular basis, there is no overarching framework or schedule for implementing the adaptation learning system. Rather, emphasis is on taking advantage of opportunities (for dialogue, awareness raising and collaboration) as they arise and capture the learning that results from these opportunities so they can easily be fed into the national assessment process.

Figure 1 Components which feed into the regular national-level vulnerability and adaptation assessments



Content

Approach

This is a **learning-by-doing system,** where climate change actions are implemented and lessons are integrated into subsequent policy and programme decisions. It relies on the use of both formal (structured surveys, research) and informal (dialogues, network support) means of gathering lessons to understand the results of adaptation actions. This learning informs both the development of policies that respond to needs on the ground, particularly at the municipality level, and the regular national vulnerability and adaptation assessments. The 2010 assessment analysed vulnerability in terms of: a) exposure to current and future climate, and b) adaptive capacity, which was understood in terms of institutional capacity, availability of human and financial resources, knowledge base, and ability to prioritize adaptation action. Every effort is made to avoid creating parallel structures and processes that over-burden municipalities. Emphasis is given to stakeholder dialogue when developing the means, methods and tools that support adaptation so that insights into how and why adaptation is happening can be captured and inform subsequent work.

Indicators

Indicators are only used to a limited extent in Norway's system. A high level indicator related to the national goal for climate change adaptation – 'Society will prepare and adapt to climate change' – is under development.

Data and information requirements

The data, information and knowledge used in Norway's system come in different formats and from a variety of sources, depending on the mechanism used to capture learning on adaptation.

Annual budget cycle reporting, whereby ministries (from the bottom-up) report on achievements made in meeting set goals, provides a picture of some of the adaptation-related activities being implemented on the ground. Structured, quantitative municipal surveys focusing on adaptation provide a basis for understanding progress different municipalities have made in integrating adaptation into their planning processes. Formal and informal consultations and dialogues associated with the implementation of climate change activities – such as the delivery of climate services, local adaptation planning, development of green structures – serve as critical opportunities for understanding what is happening on the ground, why certain measures work and others do not, and how this can be reflected in policy. This can all be complemented with commissioned research on a whole range of climate impact and adaptation topics – from managing surface water runoff to preparing for sea level rise – that can influence discussions and future planning. Downscaled climate projections are also a part of the data and information requirements for the learning system and the current projections were done in 2009 for the first national vulnerability assessment.

Output and reporting

The regular and systematic output associated with the Norwegian system is the **country-level vulnerability and adaptation assessment**, which is linked to the timing of the IPCC assessments process. Otherwise, lessons from various initiatives are captured in guidebooks, thematic reports, and other documents, all of which are made available through the national online adaptation knowledge sharing platform: www.klimatilpasning.no.

Resources needed

Every effort is made to minimize reporting burdens on municipalities. Using existing structures for assessing and reporting adap-

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tation work, including knowledge sharing networks, has meant that there has been little need for extra resources to undertake adaptation M&E. The national vulnerability and needs assessment, which was undertaken in 2009-2010, had a total budget of 20 million kroner (approximately USD 4 million), which included costs for scenario downscaling and other commissioned research.

Lessons to date

Lessons from Norway's system for tracking progress in adaptation to date focus on **allowing for flexibility, building on existing structures and processes, and being opportunistic** when it comes to sharing knowledge and capturing learning. In terms of flexibility, Norway's process where adaptation assessments, actions and policy developments are not necessarily sequential but can take place along parallel tracks, and feed into each other along the way, allows for more responsive policy development. Existing platforms and networks for knowledge exchange and learning, both online and offline, are used and reinforced through efforts to learn about adaptation, which allows for efficient use of resources and stakeholder buy-in, as additional burdens were minimized. A proactive, opportunistic approach to gathering learning, whether through participation at a formal meeting or informal discussions with municipal authorities, have allowed decision-makers to understand what is happening on the ground and effectively ground-truth what is presented in assessments and policy frameworks.

For further infomation

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The Philippines: National Climate Change Action Plan Results-Based Monitoring and Evaluation System

Context

Policy context

The implementation of the Philippines' Climate Change Act of 2009 is being supported by the 2010 National Framework Strategy on Climate Change (NFSCC) and the 2011 National Climate Change Action Plan (NCCAP). NCCAP outlines the roadmap for adaptation and mitigation from 2011 to 2028 and focuses on seven strategic priorities (food security, water sufficiency, ecological and environmental stability, human security, climate-friendly industries and services, sustainable energy and knowledge and capacity development). The NCCAP stipulates the importance of, and the need for, an M&E system and already identifies draft impact chains and indicators for each strategic priority.

Purpose of the M&E system

The Results-Based Monitoring and Evaluation System (**RBMES**) aims to **monitor progress** toward the implementation of the NCCAP across its seven priority areas (with a focus on both climate adaptation and mitigation). Annual monitoring is expected to support priorities and budget setting every year. In addition, the system aims at **evaluating the efficiency, effectiveness and impacts of the action plan** every three years.

Level of application and aggregation

The proposed system will be implemented at the national level and will be consistent with the timeframe of the Philippines Development Plan (2011 – 2016). The system will draw upon data gathered also at subnational level and will aggregate results from the seven strategic priorities of the NCCAP.

Status as of October 2013

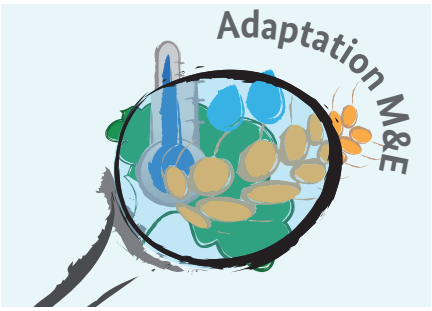
A concept for the M&E system (including a methodological framework and a revised indicator list) has been developed and is currently under review by the Government. The institutional arrangement for the RBMES is being defined and targeted for implementation in 2014.

Process

Institutional arrangements

The **Climate Change Commission (CCC)** is responsible for: (a) developing and implementing the RBMES, (b) monitoring vulnerability to climate change and (c) providing technical assistance to the Local Government Units (LGUs)[1] to monitor climate change initiatives in vulnerable communities and areas. CCC is the lead policy-making body of the government tasked to coordinate, monitor and evaluate the government's climate change related plans and programmes. The Commission is attached to the Office of the President and is an independent and autonomous agency with the same status as that of a national government agency. It includes a national panel of technical experts and an advisory board composed of 23 governmental agencies, LGUs and representatives from academia, business and non-governmental sectors.

[1] In the Philippines, all political administrative divisions below the regional level are called LGUs. LGUs include the province, the city and municipality and the barangay.



CCC works in close collaboration with the National Economic and Development Authority (NEDA), which is in charge of overseeing the performance and results monitoring for the Philippine Development Plan (PDP), for the development (and future implementation) of the system.

An **M&E Technical Working Group** composed of M&E focal persons from relevant sectoral and technical agencies was created to implement the system. LGUs and national agencies will play an important role in data gathering, consolidation, analysis and reporting.

Establishment process

The development process of the system was launched in October 2012 and is still on-going. A conceptual framework for the establishment of the system has been developed by the CCC with the participation of various Government sector agencies and the support of national consultants and an international consultant. The process which has been adapted from the 6-step approach of the WRI/GIZ Guidance Making Adaptation Count[2] can be summarised as follows:

Figure 1 Step-by-step approach used for developing the M&E system of adaptation

1. Development of adaptation hypotheses for each NCCAP intervention outcome (completed)

This step aims to test whether the outcomes of the NCCAP priorities (e.g. food security) link back to the risks and vulnerabilities each intervention intend to address (e.g. food self-sufficiency target of the Department of Agriculture).

2. Development of a theory of change for adaptation (completed)

This step aims to track results and monitor direct and indirect factors affecting those results. The theory of change (i.e. results chain or impacts chain) links the NCCAP core activities to the adaptation outcomes and is anchored on the final outputs of the concerned sector agencies.

3. Identification and development of indicators and baseline setting (on-going)

This step aims to measure achievements in terms of outputs and outcomes of the NCCAP.

4. Discussing the process of setting up and using the M&E system (on-going)

This step includes a review of existing M&E systems relevant to the

Implementation process

No information available yet.

[2] Spearman, M. and McGray, H. (2011). Making Adaptation count. World Resources Institute and GIZ.

Content

Approach

This is a **results-based M&E system**. Specifically, the proposed system is based on the NCCAP's results-chains and matrices (incl. indicators) approach. The system is made up of seven **results-chains** for each priority area. Each result chain identifies the objective and the planned immediate outcome, the planned outputs and major activities from 2011 to 2028. A matrix has also been developed for each priority area. In these matrices, the ultimate and immediate outcomes, outputs and activities are expanded to include indicators, institutions involved, as well as a time frame to carry out each of the identified activities and outputs between 2011 and 2028 (see example in figure 2).

Indicators

Output and outcome indicators have been jointly identified by the M&E Technical Working Group and the consultants through various consultations, workshops and vetting exercises with key stakeholders. The indicator list is currently under review by CCC and NEDA. The list comprises of already existing indicators appropriate for assessing adaptation in the Philippines context (drawing from the PDP, national sector agencies, and the NCCAP, see Table 1) and new indicators that may need to be produced from new studies, surveys or research to fulfil the NCCAP M&E requirements. The output indicators, either sourced from the NCCAP or the vetting exercises, reflect the output areas for each NCCAP priority theme and adhere directly to the climate change-related programme, projects and activities of national sector agencies. The immediate outcome indicators reflect the immediate outcome areas for each NCCAP priority themes and were also discussed with the national sector agencies.

In addition, **a standard system of indicators** is being developed to help harmonise existing climate change initiatives (and associated data and information) across scale and to facilitate communication, comparison and decision-making (incl. resource allocation) among agencies both horizontally and vertically. Specifically, **Climate Change Vulnerability Indices (CCVI)** based on a set of common or 'core' indicators for measuring, monitoring and evaluating local vulnerability and adaptation are being developed based on the NCCAP's thematic priorities. The objective is to support the development of a coherent and practical metrics or indicators for vulnerability and adaptation assessment that can be consistently applied at the national and subnational levels. CCVI will be determined primarily based on specific local to subnational contexts, but the data could be aggregated for national (e.g. NCCAP and PDP) and international reporting (e.g. UNFCCC National Communications).

Figure 2 Sample of the NCCAP's food security matrix

Ultimate Outcome				
1.0 Enhanced adaptive capacity of communities and resilience of natural ecosystems to climate change				
Intermediate Outcome				
Ensured food availability, stability, access, and safety amidst increasing climate change and disaster risks.				
Immediate Outcome				
1. Enhanced resilience of agriculture and fisheries production and distribution systems from climate change.				
Output Area				
1.1. Enhanced knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change.				
Indicators				
1100.1.1	Provincial level agriculture and fishery sector vulnerability and risk assessment conducted nationwide.			
1100.1.2	National and provincial agriculture and fisheries climate information and database established.			
1100.1.3	No. of researches conducted on agriculture and fisheries adaptation measures and technologies developed.			
1100.1.4	No. of appropriate CC adaptation technologies identified and implemented.			
Institutions Involved				
Lead Government Agencies: Department of Agriculture, LGUs				
Coordinating Government Agencies: DENR, DOST, CCC, DAR, DILG, DOH, DTI				
Activities	Outputs	2011 – 2016	2017 – 2022	2023 – 2028
1.1.1. Enhance site –specific knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change.				
a. Conduct of provincial-level vulnerability and risk assessments for the agriculture and fisheries.	Provincial-level vulnerability and risk assessment studies and maps produced and disseminated.	■		
b. Conduct of studies and simulation models on the impacts of climate change on major crops and livestock based on the VA and climate change scenarios.	Vulnerability of the sectors to different CC scenarios conducted.	■	■	■

Source: CCC (2011): National Climate Change Action Plan 2011 – 2028.

Table 1 Examples of preliminary indicators identified in the NCCAP's food security strategic theme

Immediate outcome 1: Enhanced resilience of agriculture and fisheries production and distribution systems from climate change.	
Output area	**Examples of indicator**
Enhanced knowledge on the vulnerability of agriculture and fisheries to the impacts of climate change	Provincial level agriculture and fishery sector vulnerability and risk assessment conducted nationwide.
Climate-sensitive agriculture and fisheries policies, plans and programmes formulated	Climate change responsive agriculture and fisheries policies, plans and budgets developed and implemented
Immediate outcome 2: Enhanced resilience of agriculture and fishing communities from climate change	
2.1. Enhanced capacity for CCA and DRR of government, farming and fishing communities and industry	Number of farmers and fisherfolk communities trained on adaptation best practices and DRR

The NCCAP's seven strategic actions are broken down into immediate outcomes. Each immediate outcome is linked to at least one output area. Between one to five preliminary indicators (mainly process adaptation indicators) have been identified for each output area.

Data and information requirements

The proposed system will build upon **existing data and monitoring systems** at national and local levels. The data will come from available secondary data sources, vulnerability mapping and assessments, simulation models of future impacts and vulnerabilities, and other literature or studies.

The Climate Change Vulnerability Index being envisioned will also be based as much as possible on variables and data already being collected by existing monitoring systems and the identification of potential proxy variables to ensure that the indices can be immediately adopted and implemented.

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Output and reporting

CCC will release **annual monitoring reports** on the progress of the NCCAP. Annual monitoring will provide information for national government agencies' priorities and budget setting every year through relevant policy issuances (e.g. National Budget Memorandum) supported by the Cabinet Cluster on Climate Change Adaptation and Mitigation. An evaluation report focusing on the efficiency, effectiveness and impacts of the plan will be released every three years to coincide with the mid-term review of the PDP and every six years for input to the preparations and drafting of a new 6-year PDP.

Resources needed

The development of the M&E system is designed as a broad, collaborative process involving various government agencies, which will provide substantial support. The process is further supported by GIZ via a consortium of national consultants and an international consultant. The core development process was initially envisaged for 10 months (11/2012 – 08/2013) but the establishment and putting into operation of the M&E system will take much longer. The resource intensity cannot be assessed before the M&E system and its institutional framework are in place. However, resource requirement will be reduced through the use of existing data and monitoring systems as much as possible.

Lessons to date

The Philippines are at the initial stages of developing their M&E system for climate adaptation and limited documented information is yet publicly available on the system since the information is currently being reviewed by the Government.

The country is not starting this process from scratch: a number of well-operating national and local M&E systems are already in place including defined indicators and associated data and the NCCAP already provides draft impact chains and indicators to draw from. One of the main challenges that emerged during the stakeholders consultation process is therefore about the need to harmonise different national M&E systems (and associated indicators) and different types of information and data across different scales, sectors and institutions to allow for comparison. As a result, a Climate Change Vulnerability Index (CCVI) based on a set of common or 'core' indicators is being developed.

The review of the NCCAP indicators also further led to a recognition that the plan needs to better differentiate the levels of results (i.e. outputs and immediate/intermediate/ultimate outcomes).

For further infomation

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Reference

Philippines Climate Change Commission (CCC) Website:
http://climate.gov.ph/index.php

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Pilot Program for Climate Resilience: The PPCR Monitoring and Reporting System

Context

Programming context

The **Pilot Program for Climate Resilience (PPCR)** is a targeted programme of the Strategic Climate Fund (SCF), which is one of two funds within the framework of the Climate Investment Funds (CIF). The PPCR provides scaled-up programmatic finance (loans and grants) to support countries' efforts to integrate climate resilience into development planning and implementation. This is done through a country-led programming process which results in an investment plan (i.e. the Strategic Program for Climate Resilience - SPCR). Projects are implemented through the **Multilateral Development Banks (MDBs)**. The PPCR currently comprises nine countries and two regional programmes. Since the approval of the programme in 2008, investment plans for all pilots have been endorsed for a total of USD 1.034 billion. A revised results framework was approved in November 2012 to support the monitoring, reporting and evaluation of the impact, outcomes and outputs of PPCR-funded interventions.

Purpose of the M&E Sytstem

The purpose of the monitoring and reporting system is to track progress towards climate-resilient development at the national level and to monitor, report and learn from the implementation of PPCR activities at country and project/programme levels. Project-level evaluation is the responsibility of the MDBs (i.e. it is not covered by this system). It is also expected that the system will guide countries and MDBs in further enhancing their own results frameworks in order to ensure that PPCR-relevant results and indicators are integrated into their country monitoring and evaluation systems. The system is currently designed to help the PPCR pilot countries in tracking their progress, but from 2014 it will also include the regional programme components.

Level of application and aggregation

The system operates at **country, regional and PPCR programme levels** over the period of implementation of the investment plan.

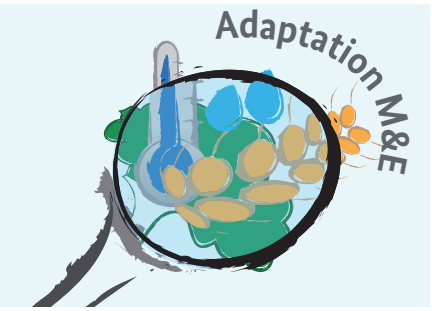
Status as of October 2013

The monitoring and reporting (M&R) process has started in 2013. As of October 2013, most PPCR pilot countries have a draft or final work plan for M&R and have established and reported baselines and expected results on the core PPCR indicators. From 2014 onwards, PPCR pilot countries are expected to report annually on results of the investment plan´s implementation within the wider national context. In 2014, the CIF Administrative Unit will start working with the PPCR regional programme components to define the best way for annual monitoring and reporting at the regional level.

Process

Institutional arrangements

The **CIF Administrative Unit** (CIF AU) has developed the system in collaboration with the MDBs and the PPCR pilot countries. The M&E team of the CIF Administrative Unit will analyze the results reports on the five core indicators from the PPCR pilot countries on an annual basis and prepare a synthesis report on results for consideration by the PPCR Sub-Committee who oversees the operations and activities of the PPCR.



Photos: © PPCR

The **PPCR pilot countries** supported by the MDBs are responsible for implementing the system. The PPCR country focal points, usually from the governments, are responsible for reporting progress on the investment plan´s implementation to the CIF Administrative Unit. They coordinate the data collection, scoring and quality assurance processes. The PPCR country´s focal point is responsible for obtaining project/programme-level data from the PPCR project implementation units/teams, for aggregating data at the country programme level and for submitting the information to the CIF Administrative Unit on an annual basis.

The **MDB task teams** support the PPCR pilot countries to ensure that they can effectively carry out their responsibilities for PPCR monitoring and reporting.

Establishment process

The development of the system was based on an iterative two-year process. An initial logic model and results framework containing 22 indicators was approved in November 2010. Based on feedback from the PPCR pilot countries and MDBs, this was streamlined to five core indicators in 2012. A format for country work plans for monitoring and reporting on these five core indicators was developed in early 2013. A PPCR M&R Toolkit to support pilot countries in their M&R efforts was developed and tested over six months and released in July 2013.

Implementation process

Each PPCR pilot country, in collaboration with the MDBs, has been implementing the revised results framework from 2012. They have the opportunity to report back on its relevance, utility and feasibility to the PPCR Sub-Committee in November 2016 to allow for potential adjustments. Implementation of the system is based on the following steps:

Figure 1 Simplified version of the MRV+ system

1. Preparation of a country work plan for M&R

Country work plans specify the indicators, key responsibilities and deadlines for M&R and are submitted to the PPCR Sub-Committee for information.

2. Establishment of baselines and targets

In 2013, PPCR pilot countries retrospectively established their baselines and reported baselines and expected results to the CIF Administrative Unit.

3. Data collection, synthesis, aggregation and reporting

Pilot countries report annually on the five core indicators to the CIF Administrative Unit. Country and synthesis.

4. Learning and revisions

Reports used for discussions and lessons learning at national and international levels to inform and improve ongoing and future projects and programs; opportunity to review the PPCR Results Framework and its core

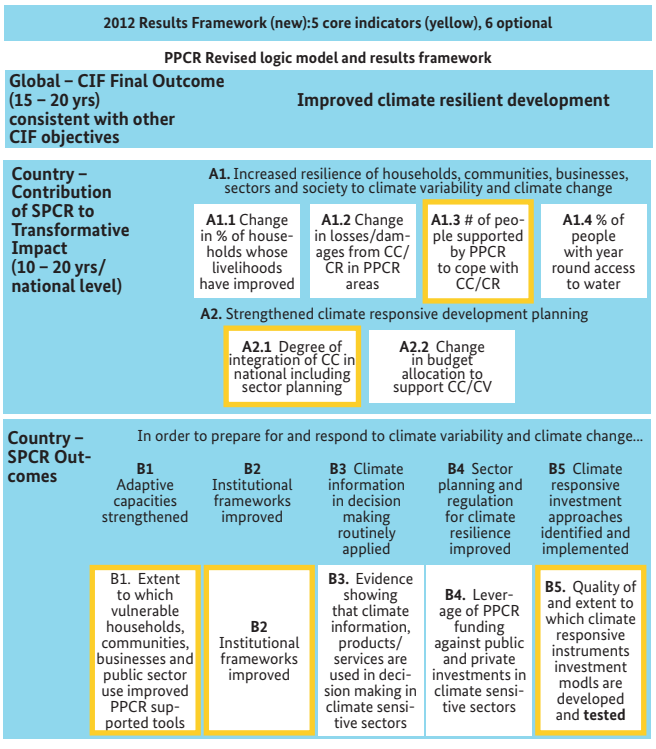
Content

Approach

The revised results framework contains 11 indicators. Five of these indicators are core indicators, measured and tracked across all the PPCR pilot countries (see table below) at the level of the investment plan (programmatic level). These core indicators allow country results to be aggregated and synthesized. The remaining **6 optional indicators** (see Figure 2) as well as country and project specific other indicators may be used depending on the countries' specific needs and requirements.

Monitoring of the five core indicators is a country-driven process embedded in a **logic model** and results framework. The logic model demonstrates the cause and effect chain from the project/programme inputs and activities to project/programme outputs and outcomes resulting in potential national or international impacts (including long term transformational impacts). The **results framework** links the objective at each level of the results framework (i.e. the results statements) with the indicators. It is designed to operate both within existing national M&E systems and within the MDBs' own managing for development results (MfDR) approach (see Figure 2 below).

Figure 2 PPCR Revised Logic Model and Results Framework (five core indicators in yellow, the rest are optional indicators)



Source: PPCR (May 2013): PPCR Pilot Countries Meeting. Monitoring & reporting: core indicators.

Indicators

The five core indicators are as follows:

1. Degree of integration of climate change into national including sector planning (data collection: at national level, scorecard method, baseline data needed)
2. Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience (data collection: at national level, scorecard method, baseline data needed)
3. Quality and extent to which climate responsive instruments/ investment models are developed and tested (data collection: at project/program level, scorecard method)
4. Extent to which vulnerable households, communities, businesses and public sector services use improved PPCR supported tools, instruments, strategies, activities to respond to climate variability and climate change (data collection: at project/program level, data table)
5. Number of people supported by the PPCR to cope with the effects of climate change (data collection: at project/program level, data table).

The core indicators are measured in a participatory way by means of a combination of qualitative and quantitative methods using **scorecards and data tables** in Microsoft Excel. Each scorecard lists 4 to 5 key questions that assess progress in implementing PPCR activities using a score from 0 (no) to 10 (yes/completely). The scoring is informed by evidence, which is collected and presented at a key stakeholder meeting with the PPCR country focal point and representatives from government, private sector and civil society. The purpose of the meeting is to find agreement on the scores and provide justifications with narrative descriptions. The presentation of the data reports to a wider stakeholder group helps to ensure quality, transparency and accountability.

Figure 3 Example of Haiti's scorecard for Indicator 2 showing the quantitative scores. Score each cell with a score between 0 and 10 where 0 = No, 5 = Halfway and 10 = yes completely Notes: For the quantitative scoring qualitative evidence is provided in form of a short description.

Monitoring and Reporting Scorecard for PPCR Core Indicator 2 baseline					
PPCR Core Indicator 2: Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience Data Collection Method: Data scored at the country level					
Haiti Strategic Plan for Climate Resilience (SPCR)					
SPCR Endorsement date: May 2011 SPCR Completion date: June 2019					
Government capacity Complete below the sectors identified as priority in the SPCR. Insert other priority sectors or ministries below (optional)	Are information, studies and assessments addressing climate change, variability and resilience available?	Is the necessary climate change expertise available?	Do national/sector initiatives and legislative policies expressly address climate change and resilience?	Does the government/ sector participate in the coordination mechanism?	Score
a	b	c	d	e	f
Haiti government	3	1	1	0	13 %
Sector 1: INFRASTRUCTURE	0	1	0	0	3 %
Sector 2: AGRICULTURE	2	2	0	0	10 %
Sector 3: URBAN/COASTAL PLANNING	3	3	0	0	15 %
Sector 4: METEO SERVICES	3	1	0	0	10 %
Score each cell with a score between 0 and 10 where 0= No, 5= Halfway and 10= yes completely					
Coordination mechanism Name the coordination mechanism below	Is the coordination mechanism function, e.g. established, effective and efficient?	Does it coordinate climate resilience interventions other than those funded by PPCR?	Is there a broad set of non-governmental stakeholders involved?	Is the relevant climate resilience information in the public domain?	Are females and males participating equally?
CIAT Climate Resilience Sub Committee	0	0	0	0	0 %

Score each cell with a score between 0 and 10 where 0= No, 5= Halfway and 10= yes completely
Notes: For the quantitative scoring qualitative evidence is provided in form of a short description.
Source: www.climateinvestmentfunds.org/cif/content/haiti-baselines-and-expected-results-august-2013.

The PPCR M&R Toolkit provides guidance for each core indicator, including information on: reasons for its use, technical definitions, methodology, data sources and data collection, responsibilities for M&R, and quality assurance.

Data and information requirements

The scoring of core indicators 1 and 2 is based on existing national data and information (e.g. national policy planning documents; national repositories from the civil society and PPCR stakeholder community; existing project/programme/SPCR documents; recent data sources from national systems such as population data from census bureaus, etc.). The scoring process is based on self-assessments by the project/programme team together with relevant stakeholders through reflective processes. The assessment of indicators 3, 4 and 5 is based on actual data from ongoing projects, including project/programme-specific surveys, and data from national systems, e.g. the census.

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Photos: © PPCR

Output and reporting

The PPCR pilot countries have to report to the CIF AU on the five core indicators on an annual basis. The CIF AU then aggregates and synthesizes the data, publishes each country's report as well as a synthesis in a separate document. In addition, summarized information on monitoring and reporting in the PPCR is captured in the PPCR semi-annual operational reports, the CIF annual report and other relevant publications. All reports are made available on the CIF website.

Resources needed

CIF AU has had on average 3 full time equivalent M&E specialists to lead and coordinate the M&E for all four funds of the CIF, including the PPCR. However, CIF AU works with and through the MDBs, which have their own M&E capacity, consultants and independent evaluation departments. Therefore a larger number of people is involved. Some PPCR focal points also have recruited M&E expertise.

Lessons to date

The PPCR system for M&R provides a flexible and streamlined approach to track progress towards climate-resilient development and the implementation of PPCR activities over a diverse and complex landscape of 18 countries on an annual basis. Using the same **core indicators** allows for comparability across countries. The combination of five core indicators and six optional indicators further provides flexibility to respond to countries' specific needs. The system only **indirectly measures resilience** building as this would require more in-depth assessments over time. The development of the system was time consuming, because it required a process of trust building, and acceptance of trade-offs between national and global requirements and between scientific and political needs.

The PPCR toolkit, through the use of **scorecards, provides a relatively new approach to the M&R of climate adaptation**. The system puts as much emphasis on the learning process (i.e. agreeing on the scores through participatory processes) as on the results (i.e. the scores per se). The scorecards and data tables are intuitive and user-friendly. Scores cannot simply be compared across countries, because similar scores are likely to mean different things in different countries' contexts. The scorecards were designed to track progress within each country over time. As such, the approach calls for a thorough documentation of the evidence base through narratives as well as a robust peer review mechanism.

The first round of monitoring and reporting using the toolkit shows that the approach is useful and could be used beyond the programme level. For example, the Government of Nepal reworked the scorecards and asked each ministry to use the scorecard approach to score the degree of integration of climate change into planning in their sector. In addition, the Ministry of Science, Technology and Environment of Nepal uses the PPCR M&R system for its climate portfolio as a whole.

For further infomation

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Reference

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United Kingdom: The UK Adaptation Monitoring and Evaluation Framework

Context

Policy context

The **UK Climate Change Act (2008)** is the legally binding framework for climate change mitigation and adaptation. One of the Act's requirements is for the Government to commission a UK-wide **Climate Change Risk Assessment (CCRA)** every five years. The CCRA provides a basis for monitoring preparedness for climate change in the UK. The first CCRA, published in 2012, gives a detailed analysis of 100 major risks from future climate change across 11 key sectors/themes on basis of their likelihood, the scale of their potential consequences and the urgency to address them. Another requirement of the Act is for the Government to present to Parliament a **National Adaptation Programme (NAP)** setting out the Government's objectives, policies and proposals for adaptation that will address the risks identified by the CCRA. The first NAP report was published in 2013 and contains a list of 31 objectives across seven policy themes, each with underlying objectives and associated actions. The NAP report states the need for a monitoring and evaluation framework that will 'identify whether the actions and policies contained in the Programme are making a difference to our vulnerability in the near-term'.

Purpose of the M&E system

The framework aims to monitor and to evaluate the progress made in implementing the NAP. Specifically, it assesses:

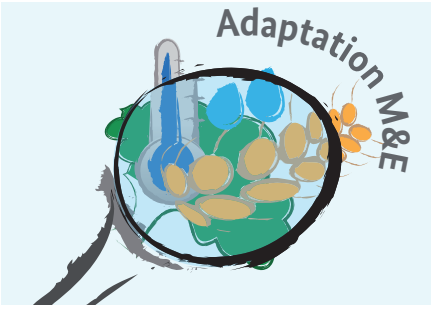
- whether the NAP's objectives help to address the risks identified by the CCRA,
- the relative contribution/importance of each of the NAP actions for meeting the NAP's objectives and
- whether the implementation of the listed actions in the NAP, as well as of any other adaptation action, contribute in the near-term to reduce the countrys vulnerability to climate change.

Level of application and aggregation

The M&E framework operates at the national level. Local level monitoring is not generally used, but where it is possible, national-level indicators and their underlying data will be spatially disaggregated to local and/or regional scales in order to identify trends in vulnerability that are more relevant at sub-national level. The M&E framework is applied to each of the 31 objectives across the seven NAP policy themes.

Status as of October 2013

The development of the framework was initiated in 2010 and is still on-going. It is expected to be completed in 2015. The Climate Change Act requires that the NAP's assessment is conducted every two years. As the NAP was published in 2013, the first statutory assessment using the M&E framework will take place in summer 2015, followed by its second assessment in 2017. The second CCRA is due at the end of 2017, which will inform the second NAP of 2018.



Lord Krebs; Chair of the Adaptation Sub-Committee

Process

Institutional arrangements

The **Department for the Environment, Food and Rural Affairs (Defra)** coordinates UK Government policy on adaptation. The **Committee on Climate Change (CCC)** is an independent, statutory body that reports to Parliament on progress made in preparing for climate change.

The **Adaptation Sub-Committee (ASC)** of the CCC provides independent expert advice to the Government on its preparation of the CCRA and fulfils the CCC's statutory responsibility to report to the UK Parliament on its assessment of the Government's progress in implementing the NAP. As such, the ASC is responsible for developing and implementing the M&E framework for the NAP.

The **Environment Agency (EA)** is an Executive non-departmental Public Body responsible for advice and guidance on adaptation through its Climate Ready service. EA's role in M&E should be to provide data and advice to inform the ASC's statutory assessments of progress.

Establishment process

The framework was initiated in 2010 and is expected to be completed in 2015 (5-years process). The main steps are as follow:

Figure 1 Key steps of the establishment process of the UK M&E framework

1. Conceptual development (2010 – 2011)

ASC developed a conceptual approach to M&E for adaptation.

2. Identification of key risks at national level (2012)

The Government released the first UK-wide Climate Change Risk Assessment (CCRA) which identifies 100 major risks from future climate change.

3. Systematic development and testing of the framework (incl. identification of an initial set of indicator on key risks) (2012 – 2014)

Pilot countries report annually on the five core indicators to the CIF Administrative Unit. Country and synthesis.

4. Consolidating, updating , reporting and disseminating results (June 2015)

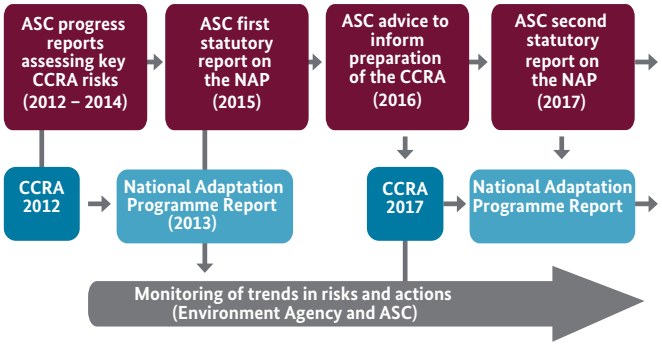
ASC will deliver its first statutory report on the NAP in June 2015. The report will bring together all the analysis since 2012 and further update those results.

The development of the M&E framework is part of an ongoing learning process supported by a series of technical, peer-reviewed studies and progress reports to develop and use indicators to assess how the country is preparing for the risks and opportunities from climate change. In undertaking its annual assessments, the ASC has engaged with multiple stakeholders (i.e. academics, policy teams in Government, experts in statutory agencies, non-governmental organisations, business representatives and local government) to seek expert views on indicator development and assistance with obtaining data.

Implementation process

The preparedness of the country to climate change will be monitored and evaluated through an iterative, cyclical process of assessment, planning and reporting with each cycle building on the previous one (see the adaptation policy cycle in figure below).

Figure 2 Monitoring and evaluation cycle of the UK Climate Change Risk Assessment (CCRA) and the UK National Adaptation Programme (NAP)



Source: ASC (2013): Managing the land in a changing climate.

Content

Approach

The approach is based on **regular, detailed vulnerability assessments** to monitor past and current trends in the country's exposure and vulnerability to climate change, the uptake of adaptation actions and the observed climate impacts. In doing so, the potential for further uptake of adaptation actions and for the effectiveness of policies to enable adaptation is identified. (See key components of the framework in the table below.)

Indicators

The NAP covers seven policy areas with a total of 31 objectives that are further broken down into 374 actions. Each action has a responsible institutional authority for implementation (mainly department agencies but also NGOs, research institutes and private sector actors). The ASC is currently developing indicators to assess progress toward each objective and, where it is possible, toward the implementation of the individual actions. These indicators will be used, regularly updated and refined for evaluating the NAP every two years.

Table 1 Key components of the framework for each of the seven NAP policy themes

	Key components	Purpose	Approach and tools
Monitoring	**1. Monitor past and current trends in risk factors and the observed climate impacts** (on-going since 2012)	To assess the likely implications of any trends in exposure and vulnerability to climate change risks and to identify the factors that may contribute to any observed trends in risks.	• **Vulnerability assessments** combining **indicators and expert knowledge** to interpret the trends identified by the indicators
Monitoring	**2. Monitor the uptake of adaptation actions that may contribute to addressing climate risks**	To assess the level of implementation of actions set out in the NAP and the uptake of any other adaptation actions not included within the NAP.	• **Vulnerability assessments** • Updates from the responsible institutions on the implementation of the NAP actions. • Identification of other adaptation actions not listed in the NAP
Evaluation	**3. Evaluate the implications of future climate scenarios for preparedness**	To project different trend scenarios of the assessed indicators to evaluate implications for preparedness	• **Trend and scenario analysis** • **Expert judgement** and interpretation of the different scenarios' implications for preparedness
Evaluation	**4. Evaluate progress against adaptation pathways**	To identify the technical and realistic potential for additional uptake of low regret adaptation measures and to evaluate progress against those pathways.	• **Economic/cost-benefit analysis** of the different adaptation actions to identify opportunities
Evaluation	**5. Evaluate the effectiveness of policies in enabling the uptake of adaptation actions and long-term decision-making**	Identify potential policy barriers to adaptation and ways to strengthen policy support climate adaptation.	• **Policy review and analysis** based on results from the above components (points 1 to 4) supported by policy experts

Figure 3 Example of ASC indicators used to assess trends in risk and action for forestry ecosystem services

Indicator type	Indicator name Source (time series)	Direction of trend	Implication of trend
Forestry (Chapter 2)			
Risk (Exposure and Vulnerability)	Percentage of timber trees (oak/beech/pine/spruce) planted in areas likely to be climatically suitable in 2050 National Forest Inventory (1970 – 2010)	↑	Oak, pine, and spruce trees have been planted in progressively more suitable areas since 1970. Beech suitability declined between 2000 and 2010, but this only affected 0.1 km^2 of forest (Section 2.5).
Action	Diversity of species delivered for planting by the Forestry Commission Forestry Commission (2005/06 and 2012/13)	↑	Number of different coniferous species delivered to the Forestry Commission increased from 11 in 2005/6 to 17 in 2012/13 (Section 2.5).
Impact	Total forest area impacted by wildfire Forestry Commission wildfire statistics (2008 – 2013)	→	Only a very low percentage of forest area (10 km^2 or less, less than 0.001% of total area) has been affected by wildfire each year (Section 2.5).

Notes: the direction of the arrow depicts the trend in that indicator (increasing, decreasing or no significant trend). The colour of the box depicts the implications of that direction of trend in terms of risk (red = risk is increasing; green = risk is decreasing; yellow = risk is neither increasing nor decreasing significantly). The text explains ASC's interpretation of the trend.

Source: ASC (2013): Managing the land in a changing climate.

Three indicator categories have been developed for each NAP objective:

1. **Exposure and vulnerability indicators**, to monitor **trends in risk**
2. **Adaptation action indicators**, to monitor **the uptake of actions** that contribute to reduce vulnerability
3. **Climate impact indicators**, to monitor **impacts** whenever possible (i.e. it requires a long time series to distinguish any trend or attribution to climate change).

For each indicator its data source and related time series of measurement, as well as its trend direction and trend implications are identified (see examples in figure 3).

Data and information requirements

The system mostly draws on existing data sources that are already collected and reported by the Government or its executive agencies. For example, data on flood risk and water resources are provided by the Environment Agency. The data used is reported primarily at the national level, although where possible indicators are measured using locally available data and time series (i.e. the information is aggregated across local authorities to show trends at local, regional, and national levels). In some cases, the ASC has combined existing datasets to develop indicators.

Output and reporting

Key outputs include:

- **Annual ASC progress reports (from 2012 to 2014)** provide an update on the development and application of the M&E framework and summarize the results of the vulnerability assessments conducted on the key policy themes.
- **ASC statutory reports on the NAP (every two years)** assess to what extent the country is becoming more or less vulnerable to climate change. The first statutory report on the Government's progress in implementing the NAP will be due in June 2015. The report will bring together all results that have been identified since 2012 and will cover the seven NAP policy themes.

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Left: (from left to right): Prof. Martin Parry, Prof. Jim Hall, Prof. Sam Fankhauser, Dame Anne Johnson, Sir Graham Wynne; Adaptation Sub-Committee members

- **ASC synthesis report:** To inform the next CCRA to be released in 2017, ASC will produce a synthesis in 2016 on new evidences and on the outcomes of the preparedness assessment.

Resources needed

The ASC has had a team of six staff members (who form the ASC's secretariat) to support the six Committee members from 2010 onwards. The latter are mostly academics appointed by Ministers on a part-time basis (two-days a month). The Secretariat comprises a mixture of economists and analysts. The costs of running the ASC are approximately £650k a year. Additionally, the ASC will have spent around £500k between 2011 and 2014 for research to develop indicators and undertake the analysis for the annual progress reports.

Lessons to date

The approach of the UK to M&E of climate adaptation is based on the climate risk management framework (i.e. focus on monitoring exposure, vulnerability and impacts). The linkages between mitigation and adaptation are also explored whenever possible (e.g. implications of climate change for energy supply and demand or land use issues).

A major component of the framework focuses on regular, detailed vulnerability assessments on priority themes to understand trends in the country's vulnerability to climate change. This is a sophisticated, rigorous and scientific approach going beyond the use of indicators to assess vulnerability. The framework comprises of a mix of qualitative and quantitative tools including expert evaluation on the interpretation of the indicators and economic and policy analysis. The system further promotes learning by considering why vulnerability may be changing and the integration of new knowledge into the policy planning cycle.

This approach is resource-intense and requires strong political support. The development and implementation of the framework is conducted by an independent body which allows for a clear separation between research and policy. Policy and decision makers are involved at different stages of the monitoring and evaluation process through consultations, workshops and meetings.

For further information

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Reference

Adaptation Sub-Committee website:
www.theccc.org.uk/about/structure-and-governance/asc-members

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