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Recommendations for Adaptation M&E in Practice

Discussion Paper

August 2013



Background of the Paper

This paper aims at synthesising the experiences made so far with adaptation Monitoring & Evaluation (M&E) to key messages for adaptation practitioners and decision-makers. It intends to supplement existing guidelines and training material by providing recommendations 'from practice to practice'. It is based on GIZ's experience¹ with operationalizing adaptation M&E systems at national level and includes comments from participants of several workshops.

Comments on this discussion paper are welcome! Please contact Timo.Leiter@giz.de.

Practical experiences at national level

There is not *the one and only* approach to monitoring and evaluating climate change adaptation. Appropriate solutions for M&E depend on, among others, the:

- level of application: M&E with a focus on national/sub-national level, for projects and programmes or at an aggregated level in case of portfolios of multiple projects, e.g. from international or national adaptation funds;
- **objective and intended use** of the M&E system, for example: tracking progress of implementation of adaptation plans, results-based steering of adaptation processes, monitoring of climate change impacts, reporting to international conventions; and
- capacities and resources of implementing institutions.

Thus, M&E systems need to be developed for a particular context. The following examples illustrate the diversity in national contexts and the corresponding variety of processes and approaches for adaptation M&E.

¹ Experiences from the project '*Inventory of Methods for Adaptation to Climate Change* (IMACC)' on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the project '*Effective Adaptation Finance (M+E Adapt)*' as well as the '*Climate protection programme for developing countries*' on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).



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Country	The Philippines
Context / starting point	The Philippines adopted a comprehensive National Climate Change Action Plan (NCCAP) in 2011. The NCCAP includes goals, adaptation measures, results chains and draft indicators for seven priority areas of action. In 2012 the Philippine Government launched a process of developing a results- based monitoring and evaluation system to follow NCCAP's implementation.
Envisaged approach	 A multi-stakeholder cooperation process with different agencies and institutions under chairmanship of the Climate Change Commission (CCC) is taking place. A newly established M&E Working Group is supporting the process. The process is focusing on the verification of result chains and indicators following the World Resource Institute (WRI) / GIZ Guidance 'Making Adaptation Count'. The WRI/GIZ approach fits well since the NCCAP already specifies results chains and draft indicators. The process emphasises linking to and utilizing relevant M&E systems and Government Performance Systems in the country.
Capacity input	 National and international consultants are providing technical inputs and know-how. The process is supported by the GIZ project 'Support to the Climate Change Commission in implementing the NCCAP'. Various involved sector agencies feed in their contributions and expectations, particularly in regard to linkages with existing M&E systems.
Further reading	 The development process of the NCCAP M&E system is summarized in a Method Brief available at <u>www.AdaptationCommunity.net</u> → Knowledge → <u>M&E</u> The NCCAP can be downloaded here: <u>http://climate.gov.ph/index.php/documents/category/11-national-climate-change-action-plan-nccap</u>
Country	Kenya

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Context / starting point	In March 2013 the Kenya Climate Change Action Plan (KCCAP) was released. The Government decided to develop a 'National Performance and Benefit Measurement Framework (NPBMF)' for monitoring results of mitigation and adaptation actions. It will include Measurement, Reporting and Verification (MRV) in line with international reporting obligations. Further objectives are to present guidance for the implementation of climate change response actions and to attract international climate finance.
Envisaged approach	 Development of the NPBMF system envisaged over the next 2-3 years. Strong focus on development of indicators. Envisaged are 'Top 10' outcome indicators at national and at sub-national level, respectively. Integrated consideration of adaptation and mitigation.
Capacity input	 Technical expertise is provided by several international projects to support the development and implementation of the NPBMF. External funding for the M&E system may continue to be required.
Further reading	 The Kenya Climate Change Action Plan can be accessed here: <u>http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=37</u>





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Country	Morocco
Context / starting point	In Morocco, regional Observatories for Environment and Sustainable Development (OREDDs) are currently setting-up a regional environmental information system (SIRE). Two observatories are now integrating adaptation M&E in their SIRE.
Envisaged approach	 The M&E system is set-up in two regions for vulnerable sectors (water, agriculture, natural resources and forests). The indicator development is organized in a multi-stakeholder process led by the OREDDs. It is based on climate impact chains summarizing vulnerabilities and adaptation efforts for each region and vulnerable sector. The M&E system development uses the existing environmental monitoring systems. Due to limited resources, only a limited number of indicators is defined that can be informed by data which is already being gathered. The time required for the process is up to one and a half years.
Capacity input	 Technical expertise from national and international experts. Process supported by the GIZ projects 'Adaptation to Climate Change in Morocco' and the 'Climate Protection Programme for Developing Countries' Participation of regional stakeholders in national and international workshops on adaptation M&E, facilitated by GIZ.
Further reading	 Department of Environment of Morocco: <u>http://www.minenv.gov.ma/index.php/fr/etat-env</u>
Country	Tunisia
Context / starting point	Since 2007, three sectoral adaptation strategies and action plans have been elaborated in Tunisia (agriculture, water resources and ecosystems; health and tourism). In 2012, the Tunisian Ministry of Environment has begun the development of a National Strategy on Climate Change (NSCC).
Envisaged	At national level:
approach	 The Tunisian Observatory for Environment and Sustainable Development (OTEDD) is in charge of monitoring natural resources and the state of the environment in Tunisia. After a regional workshop on adaptation M&E in 2012, OTEDD launched the set-up of a national adaptation M&E system. The system will be piloted in the agricultural sector and will be linked to its sectoral adaptation strategy Currently, adaptation indicators are being drafted
Capacity input	 A regional workshop on adaptation M&E with participants from Algeria, Morocco, Mali and Tunisia was held in October 2012 supported by the GIZ project 'Climate Protection Programme for Developing Countries' A study to develop indicators has been financed by GIZ-IMACC
Further reading	 Homepage of OTEDD: <u>http://www.environnement.gov.tn/index.php?option=com_content&task=view&id=1</u> <u>7&Itemid=245⟨=english</u>





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Country	Germany
Context / starting point	The German Adaptation Strategy (Deutsche Anpassungsstrategie, DAS) was adopted in December 2008 as a strategic framework for the adaptation process in Germany. An indicator and reporting system is being developed by the Federal Environment Agency (Umweltbundesamt, UBA) to document progress of adaptation at federal level and monitor climate change impacts in Germany.
Envisaged approach	 The indicator system development is based on the DPSIR (=Drivers, Pressures, State, Impacts, Response) concept as originally developed by OECD for Environmental Quality Monitoring. The indicators are structured along the 13 'action fields' (e.g. human health, agriculture, water, energy) and 2 cross-cutting topics (i.e. regional and [urban] land use planning and civil protection) of the DAS. The indicator development is organized in a multi-stakeholder process led by the Federal Environment Agency (UBA). Indicators are primarily based on existing data sources and M&E systems. A comprehensive fact sheet will be developed for each indicator including a definition and details about its measurement.
Capacity input	 The indicator development is supported through a large research project involving experts for all of the strategies' 'action fields' Comprehensive technical inputs by numerous government and non-government institutions are required. From the start until the first indicator report it will have taken five years.
Further reading	 The development process of the German indicator system is summarized in a Method Brief available at <u>www.AdaptationCommunity.net</u> → Knowledge → <u>M&E</u> The proposed list of indicators together with an English Summary of the development process can be found here: <u>http://www.anpassung.net/cln 339/nn 1472172/SharedDocs/Downloads/D E/Arbeitsstandsbericht Indikatoren 2011.html</u>
Country	South Africa
Context / starting point	The South African National Climate Change Response White Paper requires the development of a 'Climate Change Response Monitoring and Evaluation System' in order to 'monitor the success of responses and replicate the ones that have worked well' (Chapter 12). It also specifies the monitoring of climate change impacts. The Department of Environmental Affairs (DEA) leads the development process of the M&E system.
Envisaged approach	 DEA has started a stakeholder dialog to develop a common understanding around the objective and purpose of the M&E system. A national workshop and several round table discussions took place. DEA has commissioned several studies to inform the draft M&E system
Capacity	 Parts of the development of the M&E system have been publicly tendered

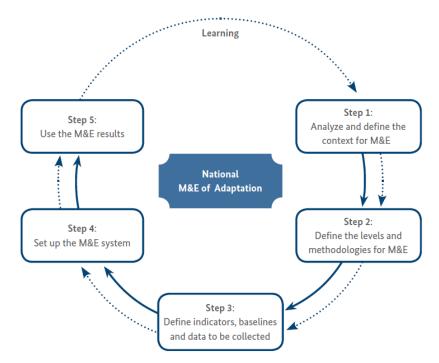
 The GIZ projects 'Climate Support Programme' in South Africa and GIZ-IMACC have provided financial assistance and technical input.
 The National Climate Change Response White Paper can be downloaded

 Further
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 The National Climate Change Response White Paper can be downloaded here: http://www.info.gov.za/view/DownloadFileAction?id=152834



A systematic approach to developing national adaptation M&E systems

GIZ has developed a <u>five step approach to systematically develop a national M&E system</u> for adaptation to climate change.^{2,3} The approach begins with describing the context and objectives of the M&E system which determine suitable methods and indicators. Considering the future use and user groups of the M&E system from the start is a key aspect of the development process. Similarly important is continuous learning and adjustment of the M&E system once it is in place. GIZ's five step approach is illustrated below.⁴



GIZ's approach for developing and implementing M&E for adaptation at the national level.

Recommendations for developing national adaptation M&E systems

The following presents recommendations based on experiences with adaptation monitoring and evaluation at national level. They are informed by GIZ's work with national and subnational institutions and include insights from several workshops on the topic.^{5,6}

Step 1: Analyse and describe the context

Develop a clear objective of the M&E system and consider its future use

It has proven beneficial if a **national policy document clearly mandates the development** of an adaptation M&E system, as is the case for example in South Africa, Mexico and the

² Here, the term 'national level' is also meant to include larger government areas at sub-national level such as federal states or provinces, particularly in larger countries.

³ For the project level, GIZ has developed a similar five step approach which is described in the guideline *Adaptation made to measure. A guidebook to the design and results-based monitoring of climate change adaptation projects* (also available in Spanish and French). An updated version will be available by Oct 2013. ⁴ For further details please see the **GIZ Factsheet** on <u>National Monitoring and Evaluation of CC Adaptation</u>

⁵ Workshop reports can be accessed at <u>www.AdaptationCommunity.net</u> \rightarrow Exchange \rightarrow <u>Workshops</u>

⁶ GIZ has also developed new **training modules on adaptation M&E** to promote capacity building. <u>The training modules</u> are part of the OECD training course "*Integrating Climate Change Adaptation into Development Planning*" and will be available from Oct 2013 at: http://www.oecd.org/dac/environment-development/



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Philippines. Ideally the mandate also specifies an accepted coordinating body and a time frame to get things moving.

The first task to be addressed by a coordinating body usually is to seek clarity on what the **overall aim and objective** of the M&E system will be. For instance, if a national climate change strategy exists, the purpose might be to monitor its implementation and the achievement of specified results. Apart from focusing on national plans, the M&E system might aim to assess whether a country as a whole or particular regions reduce their vulnerability to climate change. Another purpose could be to build or upgrade a climate change impact monitoring system, i.e. measure how far the country is already being affected by climate change.

During the clarification of the objective of the M&E system it is also key to consider **how the M&E system will be used** once operational, i.e. which decision processes it aims to inform and how the information is disseminated to the desired user groups.



Key message: As illustrated by the six examples documented above, there is **no 'one-size-fits-all'** solution to adaptation M&E. Clarity on the **purpose** of an M&E system, i.e. what it intends to achieve and who will use the generated information is key to the development of a useful M&E system.

Engage relevant institutions and promote joint ownership

At the beginning of the M&E development process it is recommended to summit representatives from relevant national and subnational government, academic and other institutions to outline the **benefits of adaptation M&E** and jointly develop the objective of the system. A **participatory approach** is particularly important since climate change affects a multitude of sectors which are governed by different ministries and other institutions whose collaboration is required to operationalize the system. Relevant government institutions are often at different stages of recognizing the importance of adaptation and may ask why such a system is needed at all. Thus, before engaging in discussions about the technical details of M&E it is important to approach key stakeholders, explain to them the potential usefulness of adaptation M&E and get their **commitment** to supporting the process. **Examples from practice**:

- In South Africa, the Department of Environmental Affairs has started a stakeholder dialogue through a national workshop and multiple round table discussions to develop a common understanding of the purpose of the M&E system to later inform its technical design process.
- In Mexico, representatives of relevant institutions came together at a national workshop to agree on key actions and draft a timeline for the development of the M&E system. Participants highlighted the value of this joint meeting since it has not been common for so many institutions to collaborate.

Key message: Involve relevant institutions and explain the rationale for adaptation M&E. Be prepared to deal with resistance. Outline how an M&E system can inform adaptation, how it links to national processes (e.g. a national strategy) and why a joint development is necessary and beneficial. Ensure commitment from key stakeholders.

Step 2: Define the levels and methodologies for M&E

Identify relevant national policies, processes and institutions

Once objectives and user groups of the M&E system have been defined it is helpful to identify existing policies and processes in the country that the M&E system could link to. For example, in South Africa the national flagship programme *Long Term Adaptation Scenarios* (LTAS) is developing climate change scenarios, impact assessments and development

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scenarios, which could inform an adaptation M&E system.⁷ In Tunisia, the Observatory for Environment and Sustainable Development (OTEDD) plans to add adaptation indicators into its regular monitoring processes. Linking the M&E system to existing processes can reduce costs and aid its future use. However, existing processes may have limited flexibility as they have been designed for other purposes. Furthermore, care should be taken not to rely on processes or institutions that may have too limited capacities.



Key message: Identify national policy, administration and research processes that are of relevance to adaptation M&E. Connecting with existing processes can facilitate broader ownership and aid the implementation and integration of the M&E system into existing structures.

Develop a context-specific M&E methodology based on agreed objectives

The appropriate method for adaptation M&E depends very much on the objectives set out under step 1. If the objective of the M&E system is to measure whether results of adaptation actions have been achieved, **results chains** can be useful to illustrate how actions may lead to the desired results (theory of change). The results chain specifies the cause and effect relationships between actions and results and the underlying assumptions. Indicators can then be formulated for the different stages of the results chain.⁸ This approach has been used in the Philippines.

The use of results chains depends on clearly defined adaptation actions and intended results which are not always specified at national level. To measure adaptation progress, an M&E system can also focus on indicators that describe risk factors or adaptive capacities as practiced for example in the UK by the Adaptation Sub-Committee.⁹ Another approach is to measure adaptation progress based on **vulnerability assessments**, since adaptation generally aims to reduce vulnerability to climate change. This requires a consistent methodology to assess vulnerability. So far only few countries have conducted nation-wide climate change risk or vulnerability assessments. GIZ is currently developing a methodology to use vulnerability assessments to measure adaptation results.

If the objective of the M&E system is mainly to monitor climate change impacts, **impact chains** can assist in mapping how climate stimuli lead to negative (or positive) effects and how these in turn lead to follow-on effects. The method of impact chains is explained on the <u>Climate Information: Global and Regional Adaptation Support Platform (ci:grasp</u>).¹⁰

As illustrated by the four case studies above, different national contexts can lead to different approaches:

- In the <u>Philippines</u>, the National Climate Change Action Plan did already include **results chains** and the objective of M&E was defined as monitoring whether proposed outcomes will be achieved. Thus, the focus of developing the M&E system was on verifying these results chains with relevant stakeholders and developing appropriate indicators and measurement procedures.
- In <u>Germany</u>, the national Adaptation Strategy names 15 priority fields of action (such as agriculture, water, forestry). To monitor adaptation progress, scientists distilled a list of key climate change impact and response indictors for each of the priority

⁷ The summary for policy makers and technical report of Phase I of the **LTAS project** can be downloaded here: <u>http://www.sanbi.org/programmes/threats/climate-change-and-bioadaptation-division/climate-change-adaptation-policy</u>

⁸ How results chains can be used to monitor adaptation projects is explained in the GIZ guidance "*Adaptation made to measure*" (also available in French, Spanish and German). An update will be available October 2013.

⁹ The Adaptation Sub-Committee belongs to the Climate Change Commission which provides independent advise to the UK government. <u>http://www.theccc.org.uk/about/structure-and-governance/asc-members/</u> ¹⁰ GIZ has also commissioned a study to develop **impact chains for climate stimuli in coastal areas** including

¹⁰ GIZ has also commissioned a study to develop **impact chains for climate stimuli in coastal areas** including flooding, tropical storms, ocean warming and sea level rise. The study will be available on www.AdaptationCommunity.net by end of 2013.





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sectors which are currently being reviewed by government agencies. It is envisaged to regularly report on the indicators and make results available online.

• Morocco has developed **impact chains** for several sectors and climate stimuli. Adaptation responses can be linked to identified vulnerabilities which will be the basis for monitoring whether adaptation contributes to a reduction in vulnerability.



Key message: The appropriate methodology to monitor and evaluate adaptation depends on the objective and context of the M&E system and should be aligned with national political and administrative processes. Possible methods include, but are not restricted to, results chains, impact chains and vulnerability and risk assessments.

Step 3: Define indicators, baselines and data to be collected

Identify existing data sources and ensure sustained access

The adaptation M&E system requires data and information, some of which may already be surveyed by existing monitoring systems, for example on water use, agricultural outputs or weather extremes. Experience from several countries has proven it helpful to compile an **'inventory' of existing data and monitoring systems** that could be relevant for adaptation. Whilst existing systems will typically not make direct reference to adaptation to climate change, combing or rearranging data from these sources can inform adaptation M&E. For instance, data on rainfalls and flooding could be combined with data on agricultural yields to monitor climate change impacts.

Since the M&E system will depend on data which is gathered by other institutions (e.g. different ministries, the statistical bureau or the weather service), issues of **data ownership and access** will arise. In addition, some data may have to be provided from local entities which may have limited capacity or resources to provide it. These aspects have to be addressed during the participatory development process of the M&E system. In some cases, a solution could be that institutions do not provide the raw data, but process the data directly and provide the results to the coordinating body of the adaptation M&E system. Examples from practice:

- In Tunisia, a <u>metadata catalogue</u> has been developed that provides an overview of the wealth of already existing data that is gathered by a multitude of government and research organisations.¹¹ Such an overview can aid the selection of relevant data for the adaptation M&E system.
- In Germany, adaptation indicators proposed by experts where categoriesed according to the availability of underlying data. It was tried to rely as much as possible on existing data sources to limit the required resources for data collection.¹²



Key message: It is useful to compile an overview of existing data and information from all levels of government including national and international organisations. Issues of data access and ownership have to be addressed to ensure the sustained use of the data.

Define indicators that focus on the benefits of adaptation

¹¹ The process is described in a Method Brief available on <u>www.AdaptationCommunity.net</u> → Knowledge → <u>Climate information</u>. Further details can be found in a report commissioned by GIZ: <u>https://gc21.giz.de/ibt/var/app/wp342deP/1443/wp-content/uploads/filebase/climateinformation/ci-tools/GIZ-Deskstudy_Metadata&Catalogue_07-Sep-2011.pdf</u>

¹² Further details of the categorization are explained in the English summary of a report by the Federal Environment Agency:



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Many M&E methods make use of indicators. Since adaptation is very context specific, there is not a general set of indicators that could easily be transferred to different contexts. The formulation of good indicators for adaptation depends on what the M&E system tries to assess. Indicators can be classified according to what they are measuring, e.g. whether they focus on climate change impacts (e.g. amount of area being flooded), on components of adaptive capacity (e.g. planning processes and investment decisions consider climatic risks), or on results of adaptation actions (e.g. crop yields stabilized despite weather extremes).

In the context of international climate finance it is emphasized that indicators should be able to demonstrate the additional **benefits of adaptation**. Since 'business as usual' development efforts also aim to improve economic, social and/or environmental conditions it is not always easy to demonstrate the so called 'additionality' of adaptation, i.e. how far actions really help to make people and ecosystems more resilient and to safeguard investments and living standards against negative impacts from climate change. A good starting point is to examine which factors drive vulnerability and then focus on what needs to be changed to reduce the risks posed by climate change and by other societal and economic stressors.¹³

Examples from practice:

- In Germany, experts discussed and proposed indicators for each of the fifteen priority fields of the adaptation strategy based on a set of criteria including reflection of the current scientific knowledge and ability to demonstrate cause-and-effect relationships.¹² It has generally been more difficult to formulate indicators for adaptation results than for climate change impacts. The proposed indicators are currently in a final review by government agencies to check their alignment with policy targets.
- In the Philippines, stakeholders and experts have discussed draft indicators based on the results chains in the National Climate Change Action Plan. Similar to the experience from Germany, agreeing on a final definition of indicators in process with multiple stakeholders often takes longer than expected, partly because issues of data access, interpretation and alignment with policies have to be clarified.



Key message: Adaptation indicators need to be tailored to the specific context.
Indicators should try to focus on the benefits of adaptation, i.e. how adaptation actions contribute to a reduction of vulnerability. If the adaptation M&E system succeeds in demonstrating real benefits of adaptation this could strengthen political support and help secure funding.

Step 4: Set up the M&E system

Allow sufficient time and gradually improve the M&E system

Experience has shown that it often **takes more time than expected** to develop and implement an M&E system. In Germany, the M&E development process included an intensive consultation with a large number of federal and state authorities, academia and others which has taken more than four years. In the Philippines, the development was shortened by the availability of results chains in the National Strategy; yet the process of verifying them and agreeing on indicators has taken more than a year and is still ongoing.

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¹³ Further advise on how to formulate adaptation indicators based on a theory of change can be found in GIZ's publication 'Adaptation made to measure' (also available in French and Spanish). The updated version of the guide to be released by October 2013 will include a **repository of adaptation indictors** form development cooperation projects in various sectors.



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A number of **obstacles** are likely to be faced in developing and implementing the M&E system including resistance or lack of interest from major partners, limited cooperation and political support and perhaps capacity constraints. To counter these it may be helpful to **pilot the system** on a smaller scale, i.e. focusing on sectors where partners are most cooperative. This could also be a way to start if resources are limited.

In any case, it will not be possible to establish a 'perfect' adaptation M&E system right from the start. A pilot phase can be used to test its application and create momentum among stakeholders. Over time the system can be gradually improved.



Key message: Set realistic timelines for the development of the system and be prepared to face obstacles. A pilot phase can facilitate the implementation and create momentum for stakeholder engagement. Feedback processes can help to gradually improve the M&E system.

Establish cooperation agreements and secure funding

By definition adaptation M&E systems are intended for continuous operation in order to monitor the progress and results of adaptation strategies or actions over a longer period of time. This should be adequately reflected during its development process. The lead or coordinating agency needs to seek agreement with all involved partners on **who will do what with which resources**. The medium term institutional backing and **coverage of running costs** needs to be ensured – even more so if the M&E system development is



supported by an international or bilateral project.

Key message: A clear agreement from all involved partners that lays out who is providing what (e.g. data, human capacity) and where resources will come from can help secure the implementation and continuous operation of the M&E system, particularly if its development was co-funded by international donors.

Step 5: Use the M&E results

Ensure that information from the M&E system is used to inform decisions

The development of the M&E system should already consider how the system can be used, i.e. how the generated information can be provided to the intended target audience. Experience with reporting formats like State of the Environment reports has shown that they often create little impact. Therefore, the information from the adaptation M&E system needs to be presented in the right way for the target audience to make a difference. Depending on the objective of the M&E system its information should feed into the relevant decision processes, i.e. key results should on a regular basis inform the responsible departments, policy makers and their advisors.

In the UK, the Adaptation Sub-Committee, an independent advisory body to the government, prepares annual progress reports on adaptation in vulnerable sectors. These reports include clear **policy recommendations** to promote adaptive actions and reduce vulnerability.¹⁴ So far, advice from the Adaptation Sub-Committee has influenced a number of legislations and policies such as the Government Water White Paper on how to make better use of water resources as well as the incentive scheme for flood defenses.¹⁵



Key message: The design of the M&E system and the dissemination of its information need to be aligned with decision processes and needs of the target audience to ensure the generated information are acted upon. Different reporting formats can be utilised to address multiple target audiences.

¹⁴ The progress reports can be downloaded here: <u>http://www.theccc.org.uk/publications/</u>

¹⁵ The influence on policy is documented here: <u>http://www.theccc.org.uk/about/our-impacts/</u>