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Tracking Adaptation and Measuring Development (TAMD) in Kenya

Appraisal and Design Phase Report

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TAMD Appraisal and Design Phase Report:

Appraisal of Existing Monitoring and Evaluation Systems in Kenya and Design of TAMD Prototypes

Prepared John Mayhew

March 2013

Executive Summary

This report describes the status of national monitoring and evaluation systems in Kenya and investigates the potential for further implementation of the Tracking Adaptation and Monitoring Development (TAMD) approach.

In 2012, the Government of Kenya instigated a process that led to the production of the Kenya Climate Change Action Plan. The plan covers mitigation and adaptation actions, and describes the monitoring, reporting and verification (MRV) system required to measure performance. The launch of TAMD coincided with the action plan development process, and the TAMD approach was identified as the most suitable methodology for adaptation indicator development. As a result, Kenya has a climate change action plan and MRV system, recently approved by government, in which the TAMD methodology has been applied.

However, there are still many challenges to address before the MRV system will be effective:

- During the Action Plan development process a high-level climate risk assessment was performed. This underscored the need for further vulnerability assessments across the priority sectors of water, agriculture, tourism, transport and wildlife. No system has yet been established to do this, and currently the risks and means to address them do not, in general, feature in sector plans and strategies.
- Further prioritisation of adaptation effort within and between sectors is required in order to target resources effectively. Much more effort is required to understand and address the vulnerabilities of hard-hit communities.
- Information required to monitor progress on adaptation currently flows from district to national level within ministries, but there is no sharing between sectors, and there are limited opportunities to capture information from the communities that are the target of top-down adaptation initiatives. With the creation of a new federal system, there is an opportunity for counties to make links across sectors and between local government bodies and community representatives to improve adaptation monitoring and evaluation.
- Until the formation of the Climate Change Secretariat in 2012, coordination of climate change adaptation activities was largely absent. The mandate of the Secretariat is still evolving. Recognition of the value of its work by other ministries is essential if its coordinating role is to be effective. Few ministries currently appear to recognize the value of monitoring and evaluation for demonstrating the link between expenditure and desired outcome.
- As yet, there is no national platform for data sharing on adaptation. A climate change data repository has been proposed in the Action Plan, along with institutional arrangements to facilitate data sharing, capture, quality control, storage and analysis for reporting. However, there is much work to do before the system becomes operational.
- The Ministry of State for Planning and National Development (MPND) plays a key role in existing monitoring and evaluation activities. Yet many monitoring and evaluation teams seconded to the Central Policy Units in other ministries are under-resourced. Target ministries are reluctant to supply individuals with the necessary sectoral expertise to assist with indicator measurement and data collection. At present, MPND staff are unable to keep up with monitoring and reporting of existing Vision 2030 indicators, so expanding the remit to cope with additional adaptation indicators currently appears to be a step too far.

The Kenya Climate Change Action Plan outlines a number of MRV-related interventions that provide solutions to these challenges. The scope of the proposed work is large and funding for these interventions has yet to be allocated.

The TAMD initiative is in a position to provide funding for one of these interventions. The recommended intervention is entitled "effectiveness assessment of adaptation at county level". It tackles the challenging issue of monitoring progress on adaptation within a new county government structure by developing mechanisms for information exchange with the most vulnerable communities. The intervention is described in the table below:

Project name:	**Effectiveness assessment of adaptation at county level**
Target institution:	An arid and semi-arid county where local adaptation is being supported by funding, social mobilisation and technical inputs e.g. Isiolo, Garissa
Project aim:	To show how adaptation monitoring and evaluation can be used to guide collective action for local climate adaptation, and to assess how well collective action on climate adaptation benefits the climate vulnerable poor.
Necessary pre-conditions:	Agreement with county authorities and local groups that climate adaptation initiatives can be assessed.
Key project activities:	• Identify suitable county cases • Assess climate risk management by local authorities and customary groups through planning and other activities • Negotiate how monitoring and evaluation system design, baselines setting and other interventions can be achieved with local stakeholders • Survey available data on vulnerability, climate observations, local organisation for collective action, map formal and informal planning processes etc • Set baselines • Design a monitoring and evaluation system with local actors • Implement the monitoring and evaluation system • Assess changes in climate risk management • Assess how well collective action for climate adaptation benefits the climate vulnerable poor • Derive lessons for county level support of climate adaptation by local groups
Outputs:	Annual reports on climate adaptation actions and results
Benefits:	• Information for County governments to help improve climate adaptation planning and implementation • Improvements in climate risk management of County authorities

This intervention relates closely to a priority of the emerging National Adaptation Plan for Kenya – that of developing adaptation plans at a county level based upon local development needs and climate vulnerabilities. The Ministry of Development for Northern Kenya and Other Arid Lands, in conjunction with the Kenya Metrological Department and the Ministry for Planning, has initiated support for local climate adaptation across the current districts of Isiolo, Garba Tula and Merti (these districts will constitute the new County of Isiolo). The process of assessing development needs and climate vulnerabilities is well advanced, mechanisms for identifying adaptation priorities at Ward level have been established and a county level committee is in place to administer a county level fund for supporting the implementation of Ward level adaptation plans.

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Key Acronyms

KCCAP	Kenya Climate Change Action Plan
MED	Monitoring and Evaluation Directorate
MPND	Ministry of State for Planning, National Development and Vision 2030 (now the Ministry of Planning and Devolution)
NCCRS	National Climate Change Response Strategy
NIMES	National Integrated Monitoring and Evaluation System

A note on adaptation and resilience – from an ecosystems perspective resilience and adaptive capacity are distinct while descriptions of social systems often use the terms interchangeably. This report addresses mainly how social systems respond to climate change, so for simplicity the term adaptation has been used with the assumption that it is a means to achieving climate resilience.

1. Introduction and Context

The aim of the appraisal was to assess the M&E systems currently in use in Kenya and how the TAMD approach[1] to assessing the developmental effectiveness of climate adaptation investments could enhance them. A similar appraisal was carried out in other countries.

These Appraisal and Design Phase reports describe the degree to which climate change adaptation has been mainstreamed into development planning, the existing M&E systems for development in the economic and social sectors, and the systems currently in place for the M&E of climate change and adaptation interventions. They present the components of a national evaluative framework for climate adaptation and identify interventions that could be appropriate for testing the utility and feasibility of the TAMD approach.

The appraisal in Kenya drew on primary and secondary data, including the SC6[2] experience of developing the Capacity Development Plan. The SC6 team held in-depth interviews with a range of experts, including staff from the Ministry of Environment and Mineral Resources[3], the Meteorological Department, the Ministry of Fisheries, the Monitoring and Evaluation Directorate at the Ministry of State for Planning, National Development and Vision 2030, the Kenya National Bureau of Statistics, the Ministry of Livestock, and the Ministry of Energy.

1.1 Current and Future Climate Effects and Vulnerabilities

The Government of Kenya's (GoK) National Climate Change Response Strategy (GoK 2010) investigated climate vulnerability and potential future responses. It concluded that "the evidence of climate change in Kenya is unmistakeable": in many areas rainfall has become irregular and unpredictable; extreme and harsh weather is now the norm; and some regions experience frequent droughts during the long rainy season while others experience severe floods during the short rains.

The **current climatic situation** has been reviewed in the recently published Kenyan Climate Change Action Plan (GoK 2012). There has been a general warming over land stations with some cooling over coastal locations and near large water bodies. A reduction in cold extremes has also been observed over the arid and semi-arid lands. There are, however indications that some of the observed trends may be related to urbanisation. Rainfall trends vary with location; some showing a trend towards wetter conditions over recent years, but the majority not showing any significant trends. The annual rainfall shows either neutral or slightly decreasing trends due to a general decline in the long rains season (March to May). The short rains season (October, November and December), on the other hand, shows a positive trend in some locations, with the season extending into January and February in recent years.

[1] The Tracking Adaptation and Measuring Development (TAMD) approach offers a 'twin track' framework for use in many contexts and at many scales to assess and compare the effectiveness of interventions that directly or indirectly help populations adapt to climate change. TAMD emphasises the need to assess development interventions in the light of changing climate risks. The TAMD approach was elaborated by IIED, Garama 3C ltd and Adaptify. See http://www.iied.org/tracking-adaptation-measuring-development , http://pubs.iied.org/search.php?k=TAMD%3A+A+framework+for+assessing+climate+adaptation+and+development+effects&z=+

[2] SC6 2012c. Capacity Development Plan. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

[3] Now the Ministry for Environment, Water and Mineral Resources

Future climate change projections were reviewed by the Stockholm Environment Institute (2009) from a suite of downscaled global models for Kenya. The situation is described as follows:

- **Temperature:** The projections indicate future increases in mean annual temperature (average monthly temperatures) of broadly 1 to 3.5 ºC over the range of models by the 2050s. Global temperature increases will lead to increases in sea level.
- **Rainfall:** The changes in precipitation are more uncertain. All the climate models show that rainfall regimes will change but these vary with season and region. Most models project that rainfall will increase on average, though some project rainfall reductions in some months for some areas.
- **Extreme events:** The projections for extreme events vary widely. Many models indicate an intensification of heavy rainfall in the wet seasons, particularly in some regions, and thus greater flood risks. Droughts are likely to continue, but the projections are more varied and even contradictory.

These projections are supported by a more recent review (SC3, 2012) carried out for the Kenyan Climate Change Action Plan, which provides a breakdown of changes for the 2030s and the 2050s (see Table 1).

Table 1: Summary of Global Circulation Model (GCM) based climate change in Kenya. Statistics are relative to a 1960-1990 baseline (mid-range A1B emissions scenario).

Climate Variable	2030s	2050s and beyond
Temperature	No GCM simulations suggest temperatures in the future will be cooler than present. Mean annual temperatures are projected to increase by between 0.8 - 1.5°C across the country by the 2030s. Droughts are projected to become more extreme over the coming decades.	Mean annual temperature may increase by between 1.6 - 2.7°C by the 2060s. There is good GCM agreement that temperatures may increase by 3°C by 2100. Droughts are likely to occur with similar frequency to the present but with increased severity. This is linked to increases in temperature affecting evaporation rates rather than reduced precipitation. GCM projections indicate that hot days could occur on 19 - 45% of days by the 2060s. Under emissions scenarios A2 and A1B, GCM projections suggest that there will be no cold days or nights by the 2090s.
Precipitation	Rainfall seasonality is projected to remain the same. There is considerable GCM disagreement over the extent of mean annual rainfall change. Projections range from a 5% decrease to a 17% increase by the 2030s. Almost all the GCM simulations show wetter conditions in October to December. The RegCM3 regional model predicts that increased rainfall in northern Kenya could be restricted to areas west of the Rift Valley.	Rainfall seasonality is considered likely to remain the same. There is considerable GCM disagreement over the extent of mean annual rainfall change, ranging between no change to a 26% increase by 2050s. The RegCM3 regional model indicates there may be greater rainfall in the west of the country. Rainfall events in the short and long rainy seasons are likely to become more extreme.

In summary, there is agreement between models that temperature will increase over the coming decades (very likely), but little agreement over future rainfall patterns (an increase in the frequency of droughts is about as likely as not). Nevertheless, rainfall events are likely to become more extreme, thus the risk of flooding is likely to increase. The adaptation response therefore needs to be robust to a wide range of possible climate outcomes.

1.2 National Approaches to Mainstreaming Climate Change Adaptation

Kenya has a long-term development blueprint for the country called Kenya Vision 2030[4] (GoK 2007), which aims to transform Kenya into "a newly industrialising, middle-income country providing a high quality of life to all its citizens in a clean and secure environment."

The first Medium-Term Plan (2008-2012) of Vision 2030[5] has three pillars. The economic pillar focuses on tourism, agriculture, manufacturing, trade, information technology, and financial services. The social pillar concerns education, health, environment, water and sanitation, population, urbanisation and housing, gender, vulnerable groups and youth. The political pillar addresses efforts to improve governance and the rule of law along with decentralisation plans. Developments within the pillars hinge on several crosscutting transformational themes, mainly investment in physical infrastructure and information communication technology, land and public sector reforms, and human resource development.

This development-focused framework provides the foundation for two recent climate change initiatives: the National Climate Change Response Strategy (NCCRS) and the Kenya Climate Change Action Plan (KCCAP).

The **National Climate Change Response Strategy**[6] (GoK 2010) objectives are to:

- Enhance understanding of the global climate change negotiations process, international, agreements, policies and processes and most importantly the positions Kenya needs to take in order to maximise beneficial outcomes of these negotiations,
- Assess the evidence and impacts of climate change in Kenya,
- Recommend robust adaptation and mitigation measures needed to minimise risks associated with climate change while maximizing opportunities,
- Enhance understanding of climate change and its impacts nationally and in local regions,
- Recommend vulnerability assessment, impact monitoring and capacity building needs,
- Recommend research and technological needs and avenues for transferring existing technologies,
- Provide a conducive and enabling policy, legal and institutional framework to combat climate change,
- Provide a concerted action plan, resource mobilisation plan and robust monitoring and evaluation plan.

[4] See http://www.vision2030.go.ke/cms/vds/Popular_Version.pdf
[5] See http://www.planning.go.ke/index.php?option=com_content&view=article&id=334:the-first-5-year-vision-2030-medium-term-plan-mtp-1-&catid=1:latest-news&Itemid=53
[6] See http://www.environment.go.ke/images/complete%20nccrs%20executive%20brief.pdf

The strategy highlighted the size of the climate challenge facing Kenya and the large amount of cross-sectoral effort needed to address it. Subsequently, it was felt that the strategy should be supported by an action plan that set out the practical institutional and technical actions required to deliver effective adaptation.

The **Kenya Climate Change Action Plan**[7] (GoK 2012) sets out a low-carbon climate-resilient development pathway, which aims to help meet Vision 2030 goals through actions that address both sustainable development and climate change. This pathway can also help the Government achieve the Millennium Development Goals and other internationally agreed development goals without compromising the environment and its natural resources.

The Kenya Climate Change Action Plan:

- Provides technical information and evidence for the preparation of the National Adaptation Plan that will address vulnerability to the impacts of climate change and building adaptive capacity and resilience,
- Documents climate adaptation activities that are already underway, planned and recommended,
- Develops a comprehensive set of potential and priority adaptation actions to address climate impacts per sector,
- Supports the integration of climate change adaptation into relevant new and existing policies, development and budgetary planning processes and strategies, within all relevant sectors and across different levels,
- Outlines a proposed structure for a monitoring, reporting and verification system for both mitigation and adaptation, known as the MRV+ system,
- Describes proposed adaptation indicators.

Note: The budgeting process for the implementation of the KCCAP has only recently begun and finance has not yet been secured.

1.3 Measures to Improve Climate Risk Management

The Government reports (2012) that the negative effects of recent climate trends include reduced agricultural production, reduced food security, increased incidences of flooding and droughts, widespread disease epidemics, and an increased risk of conflict over scarce land and water resources. Kenya's vulnerability is aggravated by the interaction of multiple stresses occurring at various levels, which, coupled with the country's low adaptive capacity, impact the prospects for long-term economic growth and sustainability. The adverse impact of climate change is compounded by local environmental degradation caused by illegal encroachment, deforestation and livestock grazing. Extreme climate events have led to displacement of communities to safer grounds and migration into or out of the country. These have led to conflict with local communities, and have at times been blamed for increased insecurity due to the smuggling of small arms.

Other climate change impacts are sea-level rise, depletion of mountain glaciers, lowering river, lake and groundwater levels, and the disappearance of some seasonal rivers. These are expected to have

[7] See : http://www.kccap.info/index.php?option=com_phocadownload&view=category&id=40

adverse impacts on hydro-energy generation, agriculture and food security, forestry, wildlife and tourism, among other climate-sensitive sectors (Mutai *et al*. 2011).

The Government has been aware of the impacts of adverse climatic events for many years. However, the risk that climate change could make them much more severe did not affect strategic planning. For example, the Ministry of Energy's Strategic Plan, 2008-12, plans for the expansion in both number and size of hydropower installations, but does not mention climate change. The plan assumes that today's climate reflects that of the future. In the Agriculture Development Strategy, 2010-20, reference is made to the National Climate Change Response Strategy, but it does not explain what actions the sector will implement to achieve the Response Strategy's objectives. In general, it appears that the Climate Change Response Strategy itself did not galvanise the sectors that will be most affected by climate change to take action to address climate risk. In fact, there were some doubts that the adaptation measures proposed in the strategy should form the basis for a plan of action.

Within Government, there is evidence of work across some sectors to carry out projects that reduce climate related risk, particularly with regard to water and agriculture (where dealing with climate is part of normal sector operations). However, more coordinated attempts to grapple with climate risk management did not really begin until the KCCAP process commenced in 2012. The process included a climate change risk assessment exercise, an identification of priority adaptation actions for each sector, a monitoring and evaluation system for measurement of progress on adaptation (and mitigation), a knowledge management system, and new institutional arrangements for delivery. Therefore, the building blocks for improvement in climate risk management are now in place. However, the measures proposed in the KCCAP are wide ranging and costly, and there are still major hurdles to clear before real progress can be made.

1.4 Large-Scale Interventions on Climate Adaptation

Planned climate change response activities described in the National Climate Change Response Strategy (GoK 2007) include the following:

- **Agriculture, horticulture and food security:** Support for community-based adaptation e.g. provision of climate information to farmers, enhanced financial and technical support, promotion of irrigated and conservation agriculture, value addition to products, and development of weather-indexed crop insurance schemes.
- **Livestock and pastoralism:** Breeding climate-adapted livestock, weather-indexed livestock insurance, establishment of fodder banks, documenting indigenous knowledge, provision of water for livestock and humans, drought early warning systems, and vaccination campaigns.
- **Water resources:** Enforcement and/or enactment of laws for efficient water resource management, increasing capture and retention of rainwater, water quality monitoring, de-silting rivers and dams, protecting and conserving water catchment areas, investing in decentralised municipal water recycling facilities, monitoring river flows and flood warning.
- **Forestry:** Intensified afforestation, promoting agroforestry-based alternative livelihood systems, promoting alternative energy sources, community forest management, reduced mono-species plantation stands by forest conservation measures, maintaining lower tree densities and collection of dry biomass.

- **Energy:** Controlling river water abstraction to enable hydro generation, promoting the use of alternative renewable energy and the promotion of improved cooking stoves.

Since its publication, some of the NCCRS objectives have been translated into strategic planning objectives by the different ministries, which makes actual progress on these activities very difficult to assess without detailed investigation of the work of relevant ministries. There have been no reports on progress towards the objectives of the NCCRS.

NCCRS interventions not yet implemented include larger-scale actions such as constructing inter-basin and intra-basin water transfers, investing in decentralised municipal water recycling facilities, increasing fire control services, improving timber yields by planting mixtures of species, and artificially recharging groundwater for threatened aquifers. Other work still pending includes the implementation of financial mechanisms such as subsidies to promote water efficient technologies, a strategic fund for chemicals to disinfect water sources during droughts and floods, and zero-rating of taxes on renewable energy technologies.

In 2012, the consultants responsible for the adaptation sub-component of the KCCAP undertook a review of interventions on climate change adaptation / resilience in Kenya. These interventions are stored in a database held by the Climate Change Secretariat in the Ministry of Environment and Mineral Resources (MEMR)[8]. The database currently has over 200 main adaptation programmes / projects recorded and over 500 sub-records. Any action that sought to build adaptive capacity, enhance resilience or reduce vulnerability was recorded as an adaptation action, and therefore the database reflects a broad definition of adaptation that encompasses developmental improvements.

[8] Note: The Climate Change Secretariat is now under the Ministry for Environment, Water and Mineral Resources.

2. National M&E Systems for Development in the Economic and Social Sectors

2.1 The Government Institutions Involved in Generating Data

The **National Integrated Monitoring and Evaluation System** (NIMES) was established in 2004 to track the implementation of policies, programmes and projects. To strengthen the M&E system, the Government established the **Monitoring and Evaluation Directorate** (MED) within the **Ministry of State for Planning, National Development and Vision 2030**[9] (MPND). The Monitoring and Evaluation Directorate coordinates M&E within the government, oversees NIMES, and provides policy direction in matters relating to M&E. It develops frameworks and indicators (wherever possible these are gender disaggregated) in consultation with ministries, and reports at the national level. At the moment, it has limited powers to demand information.

NIMES has a National Steering Committee, for policy direction and fund raising. The Technical Oversight Committee provides technical direction on M&E. In addition there are 5 technical and advisory groups, responsible for:

- Data collection and archiving, indicators, qualitative and quantitative data,
- Research and results analysis, and producing annual progress reports,
- Dissemination,
- Projects related to M&E issues,
- Capacity development and policy coordination.

Government ministries have Central Planning and Projects Monitoring Units or CPPMUs (also referred to as Central Planning Units or CPUs, or sometimes M&E Units) that gather data on their programmes and projects. The Monitoring and Evaluation Directorate assists the ministries by seconding staff to CPPMUs to ensure that ministry data is properly captured and reported.

The focus of the seconded staff is on gathering financial data.

An M&E policy has recently been produced by the Government to guide the implementation of NIMES (MPND 2012). The key elements of the policy are summarised in Box 1. The M&E Policy sets out the basic requirements for the development of indicators relating to climate change adaptation, and expectations for their use. It is possible that this policy, and the emphasis placed on M&E in the new KCCAP will lead to an improvement in the application of M&E systems.

Box 1: Kenya's National Monitoring and Evaluation Policy

The Policy emphasises results-based management, transparency, accountability and efficiency as fundamental principles for managing public programmes and projects in Kenya. It aims to facilitate reporting and feedback on implementation of development programmes and projects at the sub-county, county and national levels.

Effective M&E is based on a clear, logical pathway of results. Results flow from one level to the next level, leading to the achievement of the overall goal. If there are gaps in the logic, the pathway will not flow towards the required results. The major levels that the policy will focus on are: inputs; outputs,

[9] Now the Ministry of Planning and Devolution.

including processes; outcomes; and impacts.

Monitoring at the county and national levels will focus on assessment of progress made towards achieving the sectoral development outcomes. Evaluation will be undertaken to answer specific questions regarding performance of development interventions. The evaluations will mainly focus on why results are being achieved or not. The Policy requires that external evaluations will be conducted by an accredited and registered independent body and/or stakeholder in a participatory process; whereas internal evaluations will be conducted by the implementing agency using rapid appraisal methods.

There are a number of other institutions that have an important role to play in the national M&E system. Note that some of these institutions have only recently been created and their roles are still evolving.

Ministerial Monitoring and Evaluation Committees guide the overall M&E reporting for the ministries. They have recently been strengthened, although it is not clear what changes have been made in practice. Ministries, departments and agencies are expected to prepare Ministerial Annual Monitoring and Evaluation Reports for submission to the MPND. A "Handbook of National Reporting Indicators" and a reporting format have been produced to assist with this process.

District Monitoring and Evaluation Committees have also been revived and strengthened. Again it is not clear what changes have been made in practice. District Development Plans are tracked through NIMES mechanisms. However, these arrangements will be superseded next year by new county arrangements, which will include similar architecture for the development, implementation and monitoring of the County Development Plan.

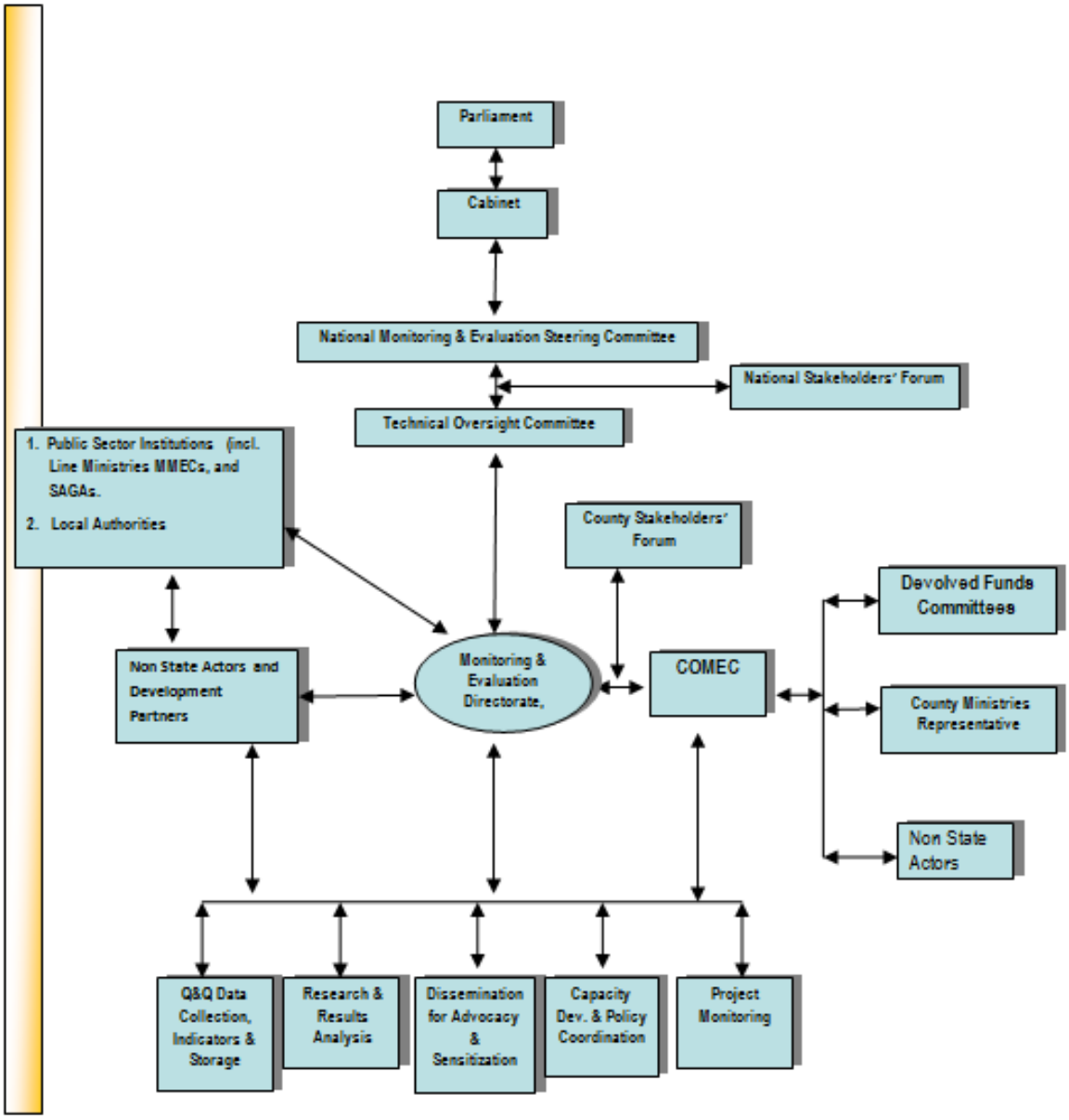
County Monitoring and Evaluation Committees will be the MED's representatives at the devolved level, replacing the District Committees described above. The MED will post a County Director of Monitoring and Evaluation to assist each County Committee in the report preparation. The Committees will coordinate M&E activities within the county, and prepare and submit quarterly and annual reports to MED.

National Stakeholders' Forum will be a multi-sectoral group convened by MED on ad-hoc basis to review M&E reports before final printing and dissemination. The forum will comprise representatives of public sector institutions, NGOs, private sector, development partners / donors and other civil society organisations.

County Stakeholders' Forum will have no permanent members but will be convened by the *County* Governor's office on ad-hoc basis to review M&E reports before final publication. It will consist of representatives of county leadership, county technical departments, line ministries, NGOs, development partners and the private sector. It will give feedback on County M&E reports, particularly the County Annual Monitoring and Evaluation Report.

The relationship between the Monitoring and Evaluation Directorate within the MPND and other institutions in the framework is shown in Figure 1. Assuming this framework is established, the public sector institutions and County Committees will play an active role in the implementation of M&E relating to adaptation. The Stakeholder's Forums could play an important independent monitoring role, ensuring that adaptation measures deployed at a national level are indeed having an effect at county level.

Figure 1: NIMES institutional arrangement for coordination, implementation and reporting (MPND 2012)



2.2 The M&E of Major Government Interventions

The section is based on the SC6[10] experience of developing the Capacity Development Plan (2012c). The SC6 team held in-depth interviews with a range of government representatives. The interviews attempted to assess the human skills, knowledge, critical infrastructure, technologies, policies and legal instruments that are required to successfully make an M&E system operational. They also attempted to identify gaps and challenges to successful implementation of a more comprehensive M&E system for climate change (the MRV+ system). Three case studies are described below:

Case study 1: Monitoring and Evaluation Directorate (MED)

[10] SC6 2012c. Capacity Development Plan. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

The MED facilitates the NIMES Secretariat comprising Monitoring and Evaluation Committees embedded across ministries. The CPUs provide annual feedback to NIMES for inclusion in the annual report. District M&E committees also contribute to these reports. Analysis is mainly done in ministry CPUs and in some cases also in project monitoring units within ministries. MED conducts Quality Assurance (QA) and validation meetings and produces Annual Progress Reports on the Medium Term Plan. NIMES is currently a manual system. Plans are underway at MED to establish an electronic, internet based system (e-ProMIS) linking all the departments to on-line reporting platforms (see also Section 4.1). The electronic system will allow for data capture and real time reporting on all capital Government projects across the country.

The Human Resource capacity findings at MED resonate with other line ministries surveyed:

- Of the 56 staff planned in the department, 40 are seconded to various ministry CPUs. Therefore MED staff capacity is considerably reduced as a result (by 71%).
- An indicator of reduced human resource capacities is the relatively small number of projects whose data captured is in the electronic e-ProMIS system so far (1,500 out of 200,000 potential). It is debatable whether this system has the financial and management support it needs to become a valuable tool.

Case study 2: Ministry of Environment and Mineral Resources (MEMR)

Key points are as follows:

- A complement of 26 persons was planned for the CPU. However, currently only 6 staff are present. The unit is operating at 77% under-capacity.
- The newly required level of education is a qualification in Statistics, Mathematics or Economics. However most staff members of the CPU do not currently possess this.
- The CPU is responsible for conducting M&E reporting activities.
- Data supply and collection is from secondary sources; mainly field level staff.
- Training is available for the staff, but on an ad hoc basis and not through an established program. It is also driven by the staff's own initiative.
- The CPU has high work demands and expectations which are coupled with under-capacity that affects staff retention and contributes to high staff turnover.
- A key challenge is that the MEMR-CPU lacks mandate to compel relevant officers to supply data. As a result the Unit reports mainly on flagship programmes of Vision 2030.

Case study 3: Ministry of Fisheries Development (MoFish)

The main issues are similar to MEMR with slight differences:

- Staff in the CPU are working at 57% under-capacity.
- CPU staff are responsible for reporting; however they rely on secondary data sources, mainly from District Fisheries Officers.
- There are doubts on the reliability of data used, since most comes from secondary sources and District Fisheries Officers may not have specialised training in M&E necessary for interpretation. Most consider this an added burden, which affects timely field data submissions.
- Some members of staff have attended M&E training at the Kenya Institute of Management through their own initiative.

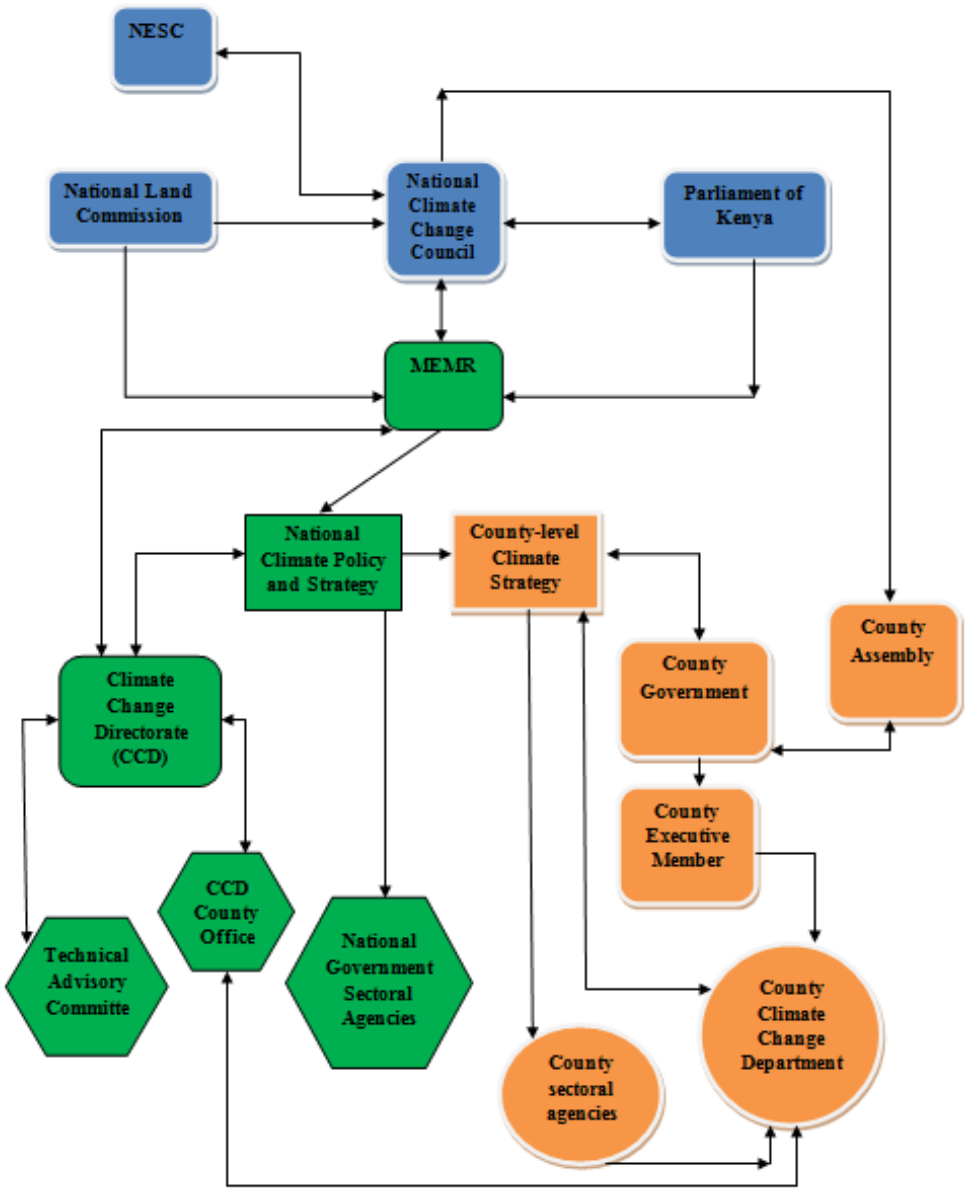
Consultations with others, such as Ministry of Livestock, Meteorological Department, and Ministry of Energy produced similar findings, on the human resource capacity and development situation. Comments from government stakeholders from other ministries during the many workshops that were held during the KCCAP process indicate that the situation described above is not atypical of other Kenyan ministries.

3. M&E of Climate Change Adaptation Interventions

3.1 Relevant Institutions, Frameworks and Practices within the Government

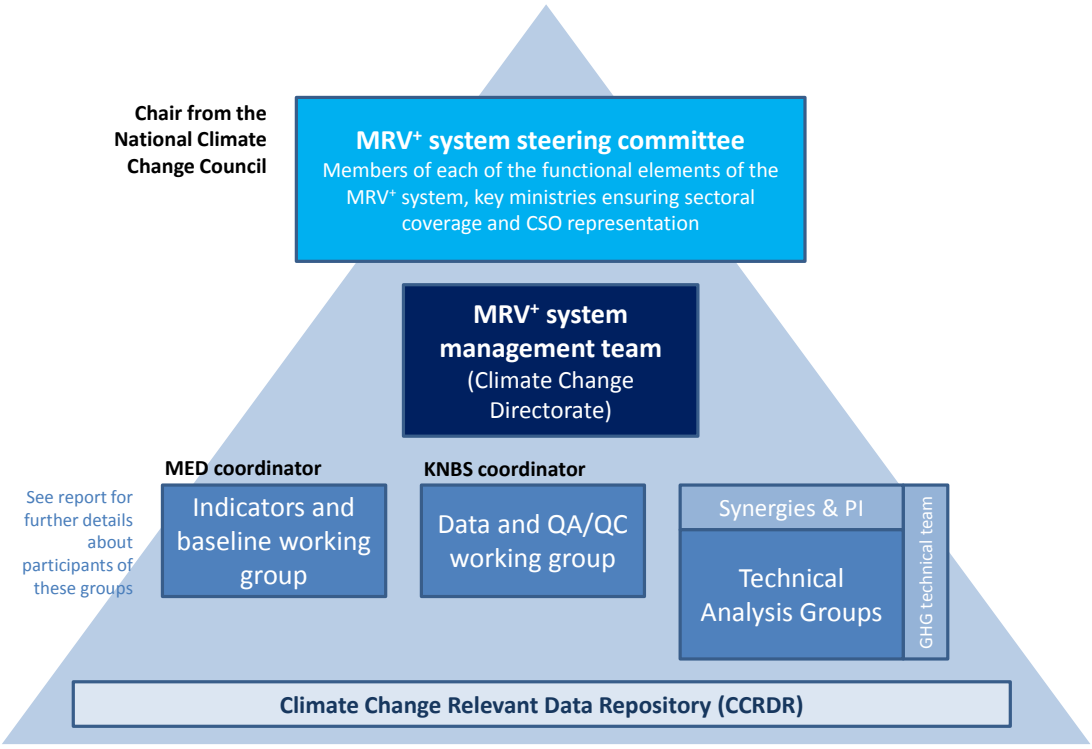
Until the establishment of a Climate Change Secretariat in 2012 to assist with the KCCAP process, the Government lacked a coordinating body to oversee cross-sectoral implementation of adaptation initiatives. The proposed relationships between the Secretariat and other central and county government structures are shown in Figure 2.The institutional arrangement has been agreed with the Permanent Secretary of the MEMR and appears to be a likely outcome of the KCCAP process, although work is still in progress.

Figure 2: Institutional arrangements for delivery of the KCCAP
(Note: the Climate Change Directorate and the Climate Change Secretariat are synonymous)



In the KCCAP, SC6 (2012b)[11] recommends that the Climate Change Secretariat become closely involved in new institutional arrangements relating to M&E functions (see Figure 3). The arrangement covers both adaptation M&E and mitigation MRV (hence "MRV+") and is designed to ensure that high quality information is fed upwards to the National Climate Change Council and from there to the highest levels of Government. This structure has not yet been formally accepted by Government.

Figure 3: Proposed organisational structure for the new MRV+ system
(note: the Climate Change Directorate and the Climate Change Secretariat are synonymous)



SC6 (2012b) also recommends that future climate change M&E activities build on existing institutional structures (described in Section 2.1) as much as possible, so that climate change adaptation can be mainstreamed effectively. This means that the coordinating role of the MED in the MPND and the CPPMUs within the ministries will become more critical.

3.2 Current Institutional Arrangements for Measuring Progress Against Adaptation Indicators

This section presents the institutional arrangements for data processing that are proposed in the KCCAP for the measurement of adaptation indicators. Note that whilst these arrangements have been agreed in principle, they have not yet been formally approved.

The roles of institutions involved in adaptation M&E are discussed with reference to the adaptation M&E "information chain". Institutions at the "top" of the chain are responsible for reporting the results of adaptation M&E. Institutions at the "bottom" of the chain are responsible for generating the data required for the M&E framework to work.

[11] SC6 2012b. NPBMF and MRV+ System Design, Roadmap and Guidance Report. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012

The various roles for existing institutions are broadly consistent with the existing or proposed activities. Therefore, implementation of adaptation M&E actions should not require any significant deviation from existing institutional remits. Furthermore, once M&E systems are working effectively, the additional demands of measuring the extra adaptation indicators should be minimal.

The proposed arrangement of working groups at the top of the information chain is shown in Figure 3. The institutions themselves are entirely new, but in most cases their members can be drawn from existing institutions. These new institutions are responsible for delivery of the outputs of adaptation M&E and mitigation MRV. They are designed to ensure that high quality information is fed upwards to the National Climate Change Council and from there to the highest levels of Government.

Within the adaptation M&E framework, the MRV+ System Steering Committee will develop the adaptation M&E framework and associated policy, and evaluate performance against targets for outcome-based national adaptation indicators. The MRV+ Systems management team will define the adaptation indicators, provided technical support for measuring complex or cross-sectoral indicators, and guide the ministries, departments and agencies and CPPMUs on indicator design, baseline setting and evaluation processes. Within the adaptation M&E framework, the Indicators and Baseline Working Group will calculate national and county level outcome-based indicators (including baselines) using data provided to the Data and QA/ QC Working Group. The Data and QA/ QC Working Group will collate and process data required for the measurement of adaptation indicators, advise the Indicators and Baseline Working Group, and review and provide feedback on data quality.

In many respects, the institutional building blocks at the bottom of the information chain are already in place. The ministries, departments and agencies operating at district level are the sources of the data. Each will implement KCCAP activities according to its annual performance contracts, work plans and budgets. Consequently, monitoring will be fully integrated into their established M&E systems.

Within the adaptation M&E framework, the ministries, departments and agencies will have ownership of relevant process-based national adaptation indicators. They will collect the data required to measure the process-based and outcome-based adaptation indicators, and submit it to the Data and QA/ QC working group. Most of these tasks should be carried out anyway for new projects and programmes. The collection of data for outcome-based indicators represents some additional workload. Staff may require some additional training to understand the issues and data sets required for effective M&E.

There is less clarity over the institutions responsible for managing the flow between the bottom and the top of the information chain. If adaptation is to be mainstreamed effectively, the institutions identified in section 2.1 should also have a role in the adaptation information chain (see table 3).

Table 3: Potential future institutional roles for the M&E of national adaptation indicators

Institution / Body	Future role in adaptation M&E
Monitoring and Evaluation Directorate (MED) in the Ministry of Planning and National Development (MPND)	Ensuring coordination of adaptation M&E with other routine M&E processes; Ownership of outcome-based national adaptation indicators that are Vision 2030 indicators; and Involvement in the Indicators and Baseline Working Group.

National Stakeholders' Forum	Independent oversight of implementation of the national adaptation M&E process; and Independent evaluation of the outcomes based on evidence provided.
Ministerial Monitoring and Evaluation Committees (MMECs) [one per ministry]	Coordination, preparation and submission of M&E reports containing all new process-based adaptation indicators owned by the ministry.
Central Planning and Projects Monitoring Units (CPPMUs)	Collection of data required from the ministry and measurement of outcome-based / national adaptation indicators; Target setting for the MDAs and evaluation of performance against targets for process-based national adaptation indicators

There is uncertainty as to how the adaptation M&E framework will incorporate county level data since county government structures do not yet exist. Roles for existing institutions and institutions that are expected to be constituted are summarised in Table 4.

Table 4: Institutions for measurement of county indicators

Institution / Body	**Role in adaptation M&E**
County Government	Coordination of county level adaptation M&E activities; Target setting and evaluation of performance against targets for outcome-based county adaptation indicators.
County Stakeholders' Forum	Independent oversight of implementation of the national adaptation M&E process Independent evaluation of the outcomes based on evidence provided Raising awareness on critical vulnerabilities and locally relevant adaptation solutions at county government level
County Monitoring and Evaluation Committees (COMECs) [one per county]	Ownership of relevant outcome-based county adaptation indicators; and Coordination, preparation and submission of M&E reports containing all new adaptation indicators across the county-level ministries.
County Climate Change Department	Selection of outcome-based county adaptation indicators in consultation with the County Government; and Technical support to the CDOs.
Ministries, Departments and Agencies (MDAs) [operating at the county level] represented by MDA technical officers	Ownership of relevant process-based county adaptation indicators (linked to National Adaptation Plan inspired projects and programmes); and Target setting and evaluation of performance against targets for process-based county adaptation indicators; Collection of sector data required for measurement of outcome-based county adaptation indicators; and Liaison with CDOs.
County Development Officers (CDOs)	Collection of data required across the county and measurement of outcome-based county adaptation indicators; and Submission of data to the Data and QA / QC working group.

3.3 Capacity for Climate Change M&E Across Government

As part of the KCCAP process, institutional capacity was reviewed in detail (SC6 2012c). Key findings are listed below:

- Capacity for climate change MRV and M&E exists, but is mainly located within non-state institutions that make up over 70% of climate change actors in Kenya and who have more experience with assessment and reporting on climate change outcomes for their projects.
- The field of MRV and M&E of climate change projects is rather new and therefore this capacity has not yet evolved in Government to the required levels.
- There is a need for deliberate, pre-planned and budgeted capacity building and training for Government officials, especially those in the CPPMUs responsible for ensuring information transmission on progress and outcomes of development projects through the existing electronic M&E and financial systems of government.
- The new MRV+ structure proposes that several staff from key ministries, departments and agencies and non-state actors be engaged and work together within an all-encompassing governance structure. However, case study findings indicate that these ministries, departments and agencies are already operating far below required capacity both in terms of human resource numbers and also in terms of awareness and knowledge of climate change measures and reporting requirements and frameworks. Thus, the proposed arrangements could put an even greater burden on already stretched staff.
- The myriad of electronic reporting systems already in existence within government presents a challenge for reporting on climate change outcomes in terms of accuracy and timeliness. The sense of ownership for these electronic systems is low, mainly because capacity building efforts on the use of these systems are concentrated in Nairobi.
- Duplication of efforts and funding avenues for development projects by state and NSAs poses a special challenge to accurate and honest feedback on climate change impacts, and on measuring contributions and attributing outcomes to specific interventions by specific institutions or groups.
- Similarly the lack of formal M&E arrangements amongst key institutions such as MEMR, and MED, as well as NSAs, poses potential risks for non-compliance on climate change data sharing and reporting. Loopholes in existing policies, including the M&E policy and the draft Climate Change Policy, need to be addressed in order to ensure compliance.
- Awareness of the use of climate change indicators and reporting requirements is very low amongst both state and non-state actors.

Thus building capacity is critical to the development of an adaptation M&E system. Focal areas noted in the review (SC6 2012a) are included here. Capacity building of CPPMUs is an essential part of further development of a national MRV+ system, since these units provide the interface between M&E activities and technical staff with sectoral expertise. Climate change expertise should, in theory, be provided by Climate Change Units in each ministry. In practice, the staff need capacity building in expertise to cover M&E requirements and several of the Units are yet to be established. SC8 (2012) points out that: “there has been relatively little attention given to climate change issues when formulating government strategies, nor efforts to monitor success. … The monitoring of activity and financing levels on mitigation and adaptation is hampered by the lack of a specific climate change code or other reporting framework within the national accounts.” There needs to be an incentive within the ministries that will see the inclusion of adaptation output and outcome indicators in

performance contracts, for example, if the NPBF is to work. The implementation of the design described in the MRV+ system (SC6 2012b) will, however, address many of these issues.

3.4 Development Partner M&E Adaptation Frameworks

Many development partners finance climate change projects in Kenya. In this section, the M&E activities of three partners with a high profile role in climate change are considered.

The UK's Department for International Development (DFID)

DFID is a core partner in the Kenya Joint Assistance Strategy (2007-2012), which brings together 13 bilateral and four multilateral partners with an increasingly effective division of labour and a framework for mutual accountability with government. The strategy is aligned behind Kenya's development priorities set out in Vision 2030. Climate change is one of DFID's eight strategic priorities in Kenya, in the form of building resilience and supporting low carbon growth to reduce losses from extreme climate events by 0.5% of Gross Domestic Product.

The programme for each strategic priority is underpinned by a monitoring framework that provides the data to track progress against programme targets and monitor the Operational Plan and associated Results Frameworks at regular intervals (DFID 2012). The data comes from a variety of sources, including routine information management systems in health and education, specialised surveys such as the Kenya Integrated Household Budget Survey, the Demographic Health Survey and specific project-level information management systems.

The main responsibility for collecting data and monitoring project-level outputs and outcomes falls to implementing partners, who are typically government institutions and international consultants. Additionally, nationally representative government surveys and systems provide outcome and impact level data. Lead advisers and programme teams are responsible for the results monitoring of all programmes on a regular basis and for updating the results framework. DFID sets out M&E framework requirements, which comprise quarterly reporting and 6-monthly results reviews. However, DFID does not itself take direct responsibility for M&E activities; programme teams integrate programme level M&E frameworks with government institutions. The monitoring is used to assess portfolio performance, value for money and to inform future programming decisions.

Only a third of DFID's portfolio by value has an evaluation component (primarily Social Protection, but also a Financial Sector Deepening programme). The aim is to carry out more evaluation to assess the impact of innovative programmes (for example cash transfers to increase school enrolment, retention and learning outcomes), and less evaluation of methods known to work.

The Danish Development Cooperation (Danida)

Danida's programme in Kenya focusses on the private sector and community based organizations. The programme (2011) has the following climate change components:

- Support to innovation and market development in the Renewable Energy and Adaptation Climate Technologies (REACT) Programme,

- Support to the AECF fund for implementation of the REACT programme, which addresses climate change adaptation, renewable energy and financial services,
- Support to the Centre for Energy Efficiency and Conservation within the Kenya Association of Manufacturers to scale-up its provision of comprehensive energy audits,
- Trust fund for community driven projects addressing priority needs within environmentally important ecosystems with Community Environmental Facility / Community Development Trust Fund,
- An additional grant to the Community Environmental Facility / Community Development Trust Fund component in the NRM programme, which targets community-based development projects addressing climate change risks (adaptation) and renewable energy (mitigation).

The internal M&E activities of Danida are not publicly available, but it is known that responsibility for M&E is passed to recipients of the climate change funds. Therefore, much will depend on the M&E frameworks that these organisations adopt and how much Danida imposes its own requirements on them. Danida maintains its interest in M&E in Kenya through its representative in MEMR and is likely to be a key partner in further development of the KCCAP's MRV+ system, as proposed by SC6.

The German Gesellschaft für Internationale Zusammenarbeit (GIZ)

GIZ targets its climate change finance through a project entitled "Adapting to climate change by adopting risk management strategies" which supports small farms, processing enterprises and marketing companies in selected value chains. It is executed through the Kenyan Ministry of Agriculture and partners include agricultural service providers, insurance companies and those responsible for climate issues in the Ministry of Agriculture and the Ministry of Environment and Mineral Resources. The project offers participants support in assessing climate risks and selecting feasible adaptation strategies. The partners at the national level benefit from the practical experience gathered by the project, which helps shape the political framework.

One element of the project involves working with insurance companies to assess the risks for the most important crops and the market opportunities for insurance products. The project aims to encourage the development of this market by explaining the costs and benefits of weather insurance to farmers. If business potential is created as a result, the private sector is expected to develop this market independently. This experience will in turn be used by those giving advice on how to develop a political framework for agricultural insurance in Kenya.

The project depends to a large extent on a bottom-up flow of information, by which success can be measured. An innovative method is being developed to record and evaluate the effects on the farmers' ability to adapt. An important part of the project is building the capacity of the Ministry of Agriculture to identify and monitor these new indicators of progress towards adaptation. The experience gained from the project has been incorporated in the M&E component of the KCCAP.

3.5 The Alignment of Development Partner Frameworks and National Approaches

Of the donors described above, only DFID has made sufficient information available to permit an analysis of the alignment of its M&E framework to national approaches. The focus of this section is on the indicators in DFID's Strengthening Adaptation and Resilience to Climate Change in Kenya (StARCK) programme. The logical framework reviewed here was developed in July 2011; there have been some changes since, but these should not affect the following analysis.

Alignment between donor and national frameworks should be demonstrable through the similarities in indicators, targets and sources of data. The indicators, baselines and data sources for the StARCK programme are set out in Table 5. These indicators relate to programme impacts and programme outcomes. Indicators relating to programme outputs have not been included, because they relate to more specific programme activities that are less likely to be replicated.

Table 5. Indicators from the StARCK logical framework.

Indicator	Type	Baseline and target	Data source
Reduction in share of GDP lost to CC	Impact	From 2% in 2010 to 1.5% in 2015	SEI study and follow-up
Value of Government and donor funding commitments through national CC financing mechanism	Outcome	From £0 in 2010 to over £15m in 2013	Government annual budget
Significant private sector investment in climate change adaptation (REACT and CIC) leveraged through private sector action piloted in StARCK	Outcome	From £0 in 2010 to over £10m private sector investment in 2013	CIC and AECF/REACT reporting
The number of poor people better able to cope with the effects of climate change (climate resilience)	Outcome	From 0 in 2010 to 147,244 in 2015, 50% of whom are female	Independent project review (2012), REACT and CIC beneficiary surveys and HSNP data (2015)
The number of poor people receiving access to modern low carbon energy services	Outcome	From 0 in 2010 to 340,300 in 2015, 50% of whom are female	Independent project review (2012), REACT and CIC beneficiary surveys

At the time of development of the StARK logical framework, there had been little progress by the Government of Kenya on the identification of climate change indicators. However, a high profile set of development indicators had been produced as part of the Government's Vision 2030 process. Whilst the Vision 2030 indicators do not address climate change adaptation specifically, they do cover very relevant social, environmental and development issues.

It is interesting to note that the Vision 2030 indicators are not included or referenced in DFID's logical framework. Furthermore, the data by which indicators will be measured are mostly based on data sources not currently collated by the Government, but relate to donor driven activities. There appears to be alignment in spirit (DFID's aims are consistent with those set out in Vision 2030), but not in practice. The information in Table 5 does not demonstrate evidence of alignment between DFID's and the Government's M&E frameworks.

4. Components of a National Evaluative Framework for Climate Adaptation

4.1 Availability and Quality of Data on Socio-Economic Performance

One of the biggest challenges for effective adaptation M&E is the collection of the required data. However, many of the indicators require data that can already be provided by the departments and agencies responsible for measurement. Many of these will be able to assist with the measurement of the more complex indicators described in Section 4.2 that require multiple sources of data for measurement (see table 6).

Table 6: Important data sources for adaptation monitoring

Data source	Relevant sub-sector	Description of data
Kenyan National Bureau of Statistics (KNBS)	All	KNBS is the principal government agency that collects, analyses and disseminates statistical data in Kenya. It holds socio-economic data from the Population and Housing Census and associated surveys, for example the Welfare Monitoring Survey. These data cover gender, poverty, living conditions, occupation and other data that are relevant to the measurement of indicators across all sectors.
Kenya Meteorological Department (KMD)	All	KMD generates information from 36 synoptic stations, 3 upper air stations, over 3,000 volunteer rainfall stations, 4 marine tidal gauges, 24 automatic weather stations, 3 airport weather observing systems, 17 hydro-meteorological automatic weather stations (in water catchments), 4 lightning and thunderstorm detection systems and 3 satellite receiving stations. These data streams are relevant to all sectors where identification of climate-driven events is required.
KMD	Agriculture	KMD operates 14 KARI agro-meteorological stations. In addition to climate data, these stations record data from the surrounding farms (based on observations and interviews) that includes variety of crops, stage of development, crop performance, damage by pests, disease and adverse weather, state of weeding, plant density and expected yield. The information is published every ten days in Agro-meteorological Bulletins. KMD also receives satellite derived Normalised Vegetation Index data, which can be used to assess crop performance and provide early warning of crop failures.
Ministry of State for Planning, National Development	All sub-sectors	The Medium-Term Plan reports are rich in information that has relevance to all sub-sectors.
Kenya Agricultural Research Institute (KARI)	Agriculture Livestock	KARI holds a wealth of data on food crops, horticultural and industrial crops, animal production, animal health, soil fertility, vegetation, agroforestry, irrigation and socio-economics of farming communities. It is in the process of conducting projects funded by IDRC and Rockefeller Foundation which will eventually provide data on: risks related to climatic changes in some arid and semi-arid districts; household vulnerability to climatic changes in specific regions / production systems; performance of various crop varieties under different climatic conditions. Some of these data are fed through the Agricultural Sector Coordination Unit, which provides input to NIMES.

Ministry of Agriculture (MoA)	Agriculture Livestock	Assisted by GIZ, the MoA has been particularly active in the development of indicators and identification of information sources that enable progress on both adaptation outputs and outcomes to be monitored.
Department of Resource Surveys and Remote Sensing (DRSRS)	Forestry Wildlife Agriculture Livestock	DRSRS collects data on the numbers and distributions of livestock / wildlife; produces maps to monitor the vegetation and habitats of livestock / wildlife, vegetation cover, forests, species composition, biofuel, biomass, crops, land degradation, urbanisation and human settlements. It is also involved in the development of early warning systems for crop forecasting and vegetation biomass monitoring, and the generation of Land Information Management Systems from geospatial databases.
Water Resources Management Authority (WRMA)	Water	WRMA monitors flow volumes at 455 river gauging stations in the five major drainage basins in the country. It has recently installed 17 hydro-meteorological automatic weather stations in the major water catchments for measuring surface discharge, which is used by the Kenya Energy Generating Company for monitoring hydro-power generation under changing rainfall conditions.
Kenya Forest Service (KFS)	Forestry	KFS operates through 9 conservancies throughout the country, which represent alignment to an ecosystems approach, and replaced the former Forestry Department in 2007. KFS provides national statistics on forestry in general, forest cover and land use change within gazetted and non-gazetted forested areas, timber and fuelwood consumption patterns.
National Environment Management Authority (NEMA)	Water	The NEMA Geographic Information System (GIS) laboratory, which has been in existence for about 3 years, focuses on water quality monitoring (biological composition), which can be used as an indicator of climate change.
Monitoring and Evaluation Directorate (MED)	All	The MED publishes Public Expenditure Reviews prepared annually for NIMES with relevant process-based indicators that measure expenditure on adaptation and related activities. The reviews provide information on how public funds are being used and their impact.
International institutions	Agriculture Forestry Wildlife Water	The following are just examples of international bodies that provide free data relevant to adaptation monitoring Kenya: • FAO, Africover Multipurpose Land Cover Databases for Kenya. Rome. • IUCN and UNEP / WCMC, World Database on Protected Areas, UK. • Dartmouth Flood Observatory, Global Active Archive of Large Flood Events. Hanover, USA.

One of the big limitations of many of Kenya's adaptation-relevant data sets is that they do not provide continuous coverage. For example, data provision that requires technology or staff with advanced technical training often takes place through a donor-funded project, which ends when the project ends.

Another very significant challenge is the storage of the data relevant to, and required for, indicator measurement. Currently the following systems of data storage exist:

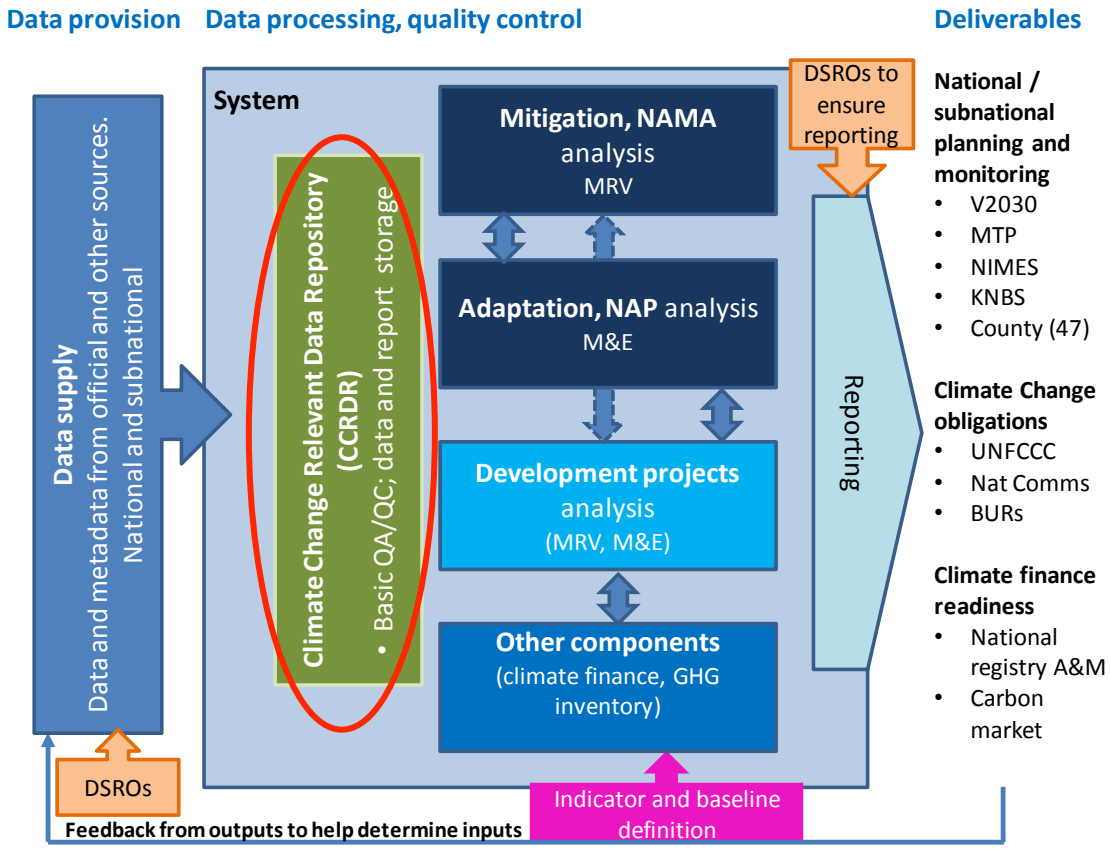
- The Electronic Projects Monitoring System (E-ProMIS) is an online system managed by the Ministry of Finance. It aims to simplify the monitoring process, though is not currently widely used. The system could potentially be extended to capture progress on adaptation actions;

however, it is not designed for storage of the large quantities of data required to measure the indicators, and its role would be limited to reporting.

- The Kenya Environmental Information Network (KEIN) is an information portal, hosted by NEMA, that provides environmental data to the public. With an environmental focus, it may not be so relevant for capturing the data required for indicator measurement across non-environmental sectors. The portal currently lacks funds for development.
- The Integrated Financial Management Information System (IFMIS) is used by the Ministry of Finance for recording financial information across all government agencies.

A new **Climate Change Relevant Data Repository** has been proposed in the light of the SC6 (2012a and 2012b) conclusion that the above systems were not sufficient to handle information for measuring climate change indicators. The repository will securely store and archive all the data and information that is needed for the MRV+ system (see Figure 4). It is intended that it will hold a wide range of adaptation and mitigation information, including both the quality controlled sets of detailed activity data and the reports and other outputs that make use of this data, providing a "one stop shop" for all Kenya's climate relevant data.

Figure 4: The role of the Climate Change Relevant Data Repository in the MRV+ system



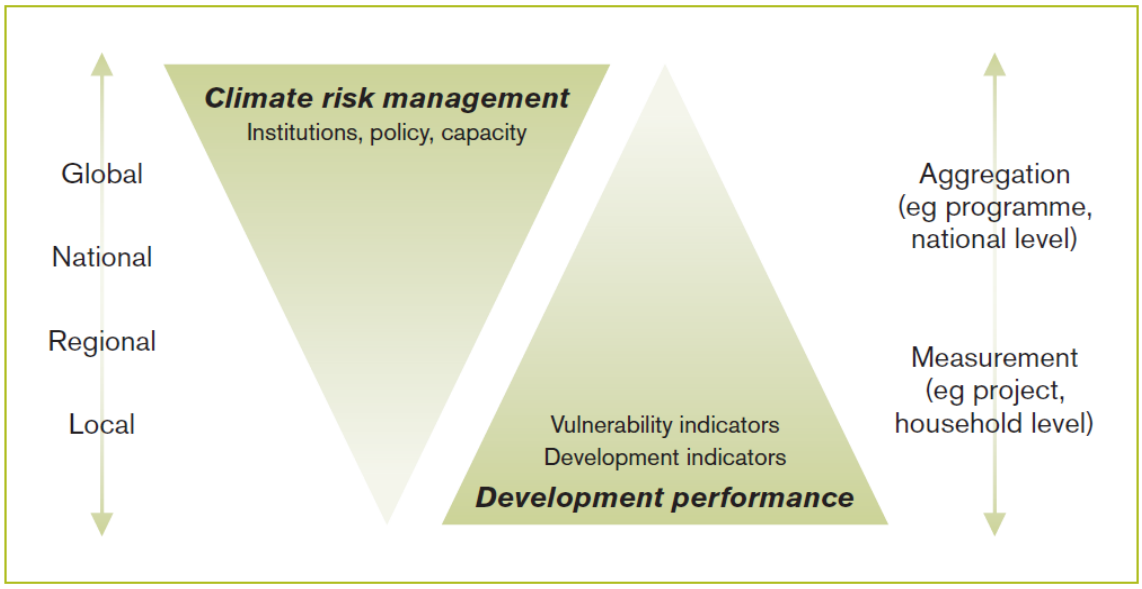
4.2 Appropriate M&E Methodologies

The methodology developed by IIED (Brooks *et al*. 2011), Tracking Adaptation and Measuring Development (TAMD), was applied in the KCCAP process to develop adaptation indicators for national and county level reporting. The TAMD methodology describes the development of indicators that reflect vulnerability and institutional (adaptive) capacity, rather than climate impacts

or risk (see Figure 5). By doing this, actions that focus on the development end of the adaptation continuum are measured, rather than costly technological fixes that may have limited developmental benefits.

In the sections below, the institutional adaptive capacity (climate risk management) indicators are referred to as "top-down indicators" and the vulnerability indicators as "bottom-up indicators". The information described in subsequent sections is based on information provided by SC6 (2012a).

Figure 5: TAMD Methodology used for identifying indicators (based on *Brooks et al.* 2011)



4.2.1 Top-down Institutional Capacity Indicators

With over 300 adaptation actions proposed in the KCCAP, a large number of indicators are required. In total, 62 national level, process-based indicators were identified, although the number required could be much less with the production of the National Action Plan. From the national process-based indicators, a total of 28 county level, outcome-based indicators were identified. Through stakeholder consultation a shortlist of 10 county level indicators has been produced (Table 7).

Table 7: Selected county level institutional adaptive capacity (top-down) indicators

Ref. no.	Proposed county level indicator
T.2	% of county roads that have been made "climate resilient" or that are not considered to be vulnerable [2,3,4,5,6]
T.3	% of new hydroelectric projects in the county that have been designed to cope with climate change risk [7,8,9,10,11]
T.5	% of population by gender in areas subject to flooding and/or drought in the county who have access to KMD information on rainfall forecasts [12,13,14,15,16,20]
T.8	% of people by gender in the county permanently displaced from their homes as a result of flood, drought or sea-level rise [21,22,23]
T.12	% of poor farmers and fishermen in the county with access to credit facilities or grants [31]
T.13	% of total livestock numbers killed by drought in the county [32,33,41]
T.16	% of area of natural terrestrial ecosystems in the county that have been disturbed or

	damaged [43,44,46]
T.19	% of water demand that is supplied in the county [23,44,48,56]
T.21	% of poor people by gender in drought prone areas in the county with access to reliable and safe water supplies [23,44,50,56]
T.28	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 62,63]

The prefix "T" stands for "top-down". The following number is a reference number. The numbers in [square brackets] are the reference numbers for national level indicators to which these county level indicators relate.

4.2.2 Bottom-up Vulnerability Indicators

In total, 62 county level indicators were identified. The aim was to reflect the outcome of local level actions within the county, through outcome-based indicators, and to measure progress on county level initiatives through process-based indicators. A list of 28 national level, outcome based indicators, which are based on the county level indicators, has been produced. Note that a large proportion of these indicators is taken from the list of Vision 2030 indicators as there was a high correlation between the two lists. By using existing indicators, the additional M&E workload could be significantly reduced (assuming existing indicators are already measured). Again, through stakeholders' consultation, a more manageable shortlist of 10 national level indicators has been produced (Table 8).

Table 8: Selected county level vulnerability (bottom-up) indicators

Ref. no.	Proposed national level indicators	RVD	HRF	SLR	HF
B.1	Number of people by gender permanently displaced from their homes due to drought, flood or sea level rise [1,4,10,13,14,18,45,46,47]	Y	Y	Y	
B.4	Number of ha. of productive land lost to soil erosion [4,6,7,12,17]		Y		
B.7*	% rural households with access to water from a protected source [19,20,22]	Y			
B.8*	% urban households with access to piped water [19,20,22]	Y			
B.9*	Cubic meters per capita of water storage [18,19,20,22]	Y			
B.11*	% of land area covered by forest [18,19,20,23,24,25]	Y	Y		
B.17*	% of classified roads maintained and rehabilitated [33,34,35]		Y		
B.18*	Number of urban slums with physical and social infrastructure installed annually [21,30,36,37]	Y	Y		
B.25*	Number households in need of food aid [1,4,10,13,14,18,45,46,47,54,55]	Y	Y	Y	
B.27	Number of County Stakeholder Forums held on climate change [58,59,60,61,62]	Y	Y	Y	Y

The prefix "B" stands for "bottom-up". The following number is a reference number. The numbers in [square brackets] are the reference numbers for county level indicators to which these national level indicators relate.

Key: RVD - Increase in rainfall variability and drought; HRF - Increase in heavy rainfall and floods;
SLR - Sea level rise; HF- Increase in occurrence of abnormally large hailstones / frost in montane areas

Kenya is in the unique position of having a set of national adaptation indicators that have been derived through the application of TAMD. The challenge now is to ensure that the indicators are measured and used in a national adaptation M&E system.

5. Good Practice and Challenges

5.1 M&E Good Practice

There are a number of examples of good practice:

- A range of existing and new structures are in place under the National Climate Change Response Strategy and Kenya Climate Change Action Plan for the effective monitoring and evaluation of adaptation interventions.
- Kenya is endowed with a large number of data sets that are of considerable value to adaptation M&E.
- The approach used in the KCCAP has been to work within current and proposed institutional frameworks so that adaptation M&E is mainstreamed within normal M&E activities across government.
- A comprehensive and thoughtful set of indicators have been developed for assessing performance against Vision 2030 goals as set out in the National Reporting Framework of Indicators. The outcome indicators are clearly defined and measurable (indeed baseline values have been calculated for 46 out of 48 indicators). Many of them are very relevant to adaptation and a number of them have been integrated within the adaptation indicator sets proposed in the KCCAP.
- A review SC6 (2012d)[12] of sector strategies, strategic plans, sector budget papers and performance contracts yielded over 6,000 different indicators across all sectors that are either used or have been proposed. Ministries have capacity to report on inputs and, to some extent, outputs for budgeting and planning purposes.
- Examples of good practice in adaptation M&E come from non-state actors, including donor-funded projects, where project staff are required to monitor and evaluate the performance of their projects and have sufficient training to do so.

5.2 M&E Challenges

There is a range of challenges to be addressed:

- Until many of the new institutional arrangements envisaged for the MRV+ system in the KCCAP are up and running, it is difficult to envisage how adaptation M&E will be delivered in practice.
- The M&E processes in the ministries appear not to be generating the data required for measurement of the Vision 2030 indicators: no further measurements of these have been made since 2008, despite a commitment to annual monitoring (GoK 2007).
- In a review SC6 (2012d) of 6,000 indicators across all sectors, the majority were simple input, activity and output indicators. Only 14% were outcome indicators. Fewer than 10% of all indicators provided a baseline value, and evidence of repeat measurements was very rarely found. Ministries seem to use indicators for simply measuring progress on programmes and projects in terms of money spent.
- Target-setting efforts also appear to relate to budget spent, rather than outcomes. No evidence of evaluation by Government of outcome indicators against targets was found during the KCCAP

[12] SC6 2012d. National Performance and Benefits Measurement Framework Systems Review Report: output for project stage 1. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

M&E review process. This suggests that existing M&E systems are not yet appropriate for measuring progress on development or adaptation.

- The capacity to report on outcomes is weak and currently challenged by several factors, in particular the lack of clear mandates to hold ministries to account for delivery of their commitments, and the lack of data supply agreements between state and non-state actors.
- With the exception of data that has been processed by the Kenyan National Bureau of Statistics, which employs rigorous quality control processes, the quality of most data sets is unknown. Data collection processes developed for the measurement of adaptation indicators need to be accompanied by quality control processes prior to their use in an adaptation M&E system.
- There is currently little coordination of data supply, management and infrastructure within and between central government agencies, local government agencies and non-state actors. Despite the number of projects managed by government, CPUs are not able to compel reporting of results by state and non-state actors. This is due in part to the structural arrangement where CPUs sit beside project teams rather than above them as part of management with more authority.
- Staff training in M&E has not been institutionalised, and financial resources for training activities are limited. The public financial management system has weak links between the national policy agenda and budgets that, according to the Public Expenditure Review report for 2010, are largely put together on the basis of line item budgeting (inputs) rather than programme based budgeting or results-based budgeting (outcomes). Due to understaffing and excessive demands on their time, few staff have the opportunity to pursue training and capacity building outside of their offices. Training on the job is reportedly inadequate.
- The PMEs and Climate Change Unit officers have one of three main qualifications -economics, statistics and/or finance. These subjects limit their ability to develop, assess and report on development and climate change outcomes, which requires sectoral expertise.
- Climate change mitigation and adaptation actions have been implemented, but documentation on M&E is weak and inconsistent. Disaster management outcomes tend to dominate reporting in this area.
- The culture of M&E is not yet ingrained in the public and private arena in Kenya. As a representative from the Ministry of Energy commented: 'Monitoring is not big in Kenya ... the main concern was on producing enough energy'. However, the respondent further explained that 'now that we [Kenya] have more energy, the interest in monitoring GHG emissions has grown sharply'. In other words, M&E is not seen as part of the solution to development problems, but as an add-on once progress has been made.
- Parallel reporting in ministries, departments and agencies and local government contributes to inefficiencies and delays. Data reporting routes are sometimes duplicated. For instance the same data reported by District Development Officers (DDOs) via ministerial PME and CPUs to MED at the MPND is also submitted directly to MPND. The Public Expenditure Review Report 2010 reported duplication of Community Development Funding at county level on the same initiatives by various state and non-state actors. The situation is further challenged by weak capacities of District Project Committees mandated with reviewing and monitoring activities within districts to ensure non-duplication of efforts in financing of constituency projects.
- Effective implementation and utilisation of existing electronic systems is hampered by the low level of capacity outside Nairobi to utilise them; most trained staff are Nairobi-based. This has impacted negatively on the frequency and quality of reporting project outputs and outcomes by data suppliers in the field. The Public Expenditure Review found that in districts where most

data collection activities take place, manual systems continue to be used. Application of manual systems at district level and electronic systems at ministry levels impacts negatively on the accuracy and harmonization of public expenditure reports. This situation is further challenged by the lack of ownership of electronic systems at line ministry level, and the existence of parallel electronic data capture systems.

- Currently, the coordination of development and adaptation activities by civil society organisations and government ministries is quite limited and there is often no joined-up thinking and little mutual support or learning.
- M&E is viewed across many ministries as an optional activity and is widely neglected in strategies and action plans. There is little recognition of the value of the internal feedback generated by M&E in improving programme and project performance. Nor is there recognition that, in the current global economic climate, further donor support may be contingent on the establishment of an effective national M&E framework.
- There has been very little progress by ministries in the proper evaluation of targets for any non-financial indicators. This issue cannot be addressed now, but should be as soon as the National Action Plan has been produced and adaptation actions have "owners". Evaluation of performance against these targets will be a key part of the implementation of the KCCAP. Currently, the institutional M&E frameworks that have been proposed for Kenya have potential for serving an evaluation function, but the institutional roles defined thus far focus much more on monitoring than evaluation. A culture of critical evaluation within the ministries will need to be nurtured if M&E systems are to have the effect of enhancing performance.

Development of an effective adaptation M&E system will require some transformative changes within the Government. The following actions would address some of the key obstacles to progress:

- Awareness-raising across Government. Senior managers across the ministries need to understand the link between finance and performance, and the role of M&E in providing evidence of better performance.
- More exacting donor / development bank finance requirements. Donors need to make explicit the link between finance and improved performance and be prepared to halt finance if improvement cannot be demonstrated.
- Leadership from the top. The low priority given to the adoption and use of M&E systems by government staff will not change without the leadership of ministers and high-ranking government officials.

6. Conclusions with respect to TAMD Development

6.1 Climate Adaptation Interventions for Testing the TAMD Approach

In Kenya, TAMD has already been used for the development of national and county level adaptation indicators. As a direct result, five interventions relating to the further development of the adaptation M&E system are proposed in the KCCAP (GoK 2012). All of these interventions will provide key components of M&E infrastructure for adaptation, based on the TAMD indicators that have already been developed. The interventions are:

1. **M&E of Institutional Adaptive Capacity Indicators**. To demonstrate the effective application of adaptation M&E within the selected ministries, departments and agencies, in order to facilitate roll-out across all relevant ministries, departments and agencies.
2. **M&E of Vulnerability Indicators***.* To demonstrate the effective application of adaptation M&E within the county, in order to facilitate roll-out across all counties.
3. **M&E Adaptation Data Tracking and Mapping.** To map data flows required for reporting outcome-based indicators for national level reporting.
4. **Design of a Climate Change Relevant Data Repository**. To set up a geo-spatial data sharing system between ministries, NGOs, donors and the research community to allow currently fragmented and siloed data sets to be readily accessed, viewed and queried.
5. **Effectiveness assessment of adaptation at County level.** To show how adaptation M&E can be used to guide collective action for local climate adaptation, and to assess how well collective action on climate adaptation benefits the climate vulnerable poor.

None of these interventions can be implemented without a) the identification of additional sources of funding and b) the active support of the institutions involved. Interventions 2 and 3 are particularly wide ranging, requiring the collaboration of many institutions at both national and county levels in the process of gathering, analysing, collating and storing data relevant to measurement of adaptation indicators. The other interventions require a smaller number of stakeholders, but their impact at a national level depends on identification of a successful model that is then replicated across other government agencies or counties.

6.2 Key Elements in Improvements to Climate Risk Management by Government

WRI (2009) developed a methodology, known as the national adaptive capacity (NAC) framework, to assess how well functions required to manage climate risk effectively are being performed. A framework has been completed for Kenya, to help identify opportunities and priorities for building adaptive capacity and implementing key actions (see Table 9).

Table 9: National Adaptive Capacity (NAC) framework for Kenya

Function	Adaptation functions summary
Assessment	Until the KCCAP, no national vulnerability assessments had been conducted in Kenya. During the KCCAP process a high level climate risk assessment was performed. The exercise underscored the need for further vulnerability assessments across the priority sectors (water, agriculture, tourism, transport and wildlife) (see SC3 2012).

Function	Adaptation functions summary
	A systematic inventory of adaptation activities also took place under the KCCAP process and a database has been created. However, the database entries are based on published material, with a focus on academic studies, rather than a survey of actual community-based and Government projects. Climate risks have been assessed in the KCCAP and NCCRS, and are widely reported. However, the risks and the means to address them do not, in general, feature in sector plans and strategies. No system has yet been established for carrying out further vulnerability assessments, though this could be an outcome of the KCCAP and (later on) the National Action Plan.
Prioritisation	The KCCAP now outlines broad national priorities for adaptation, based on a combination of expert views, Nairobi-based cross-sectoral workshops, and a series of stakeholder consultations on climate change impacts in the regions. However, further prioritisation of effort within and between sectors is required in order to target resources effectively. Much more effort to understand and address the vulnerabilities of hard-hit communities is required, based on surveys of communities themselves and evidence from the civil society organisations working with them. This work should form a key part of the development of the National Adaptation Plan. To date, no process for a periodic review of priorities or repetition of the prioritisation process has been established.
Coordination	Until the formation of the Climate Change Secretariat in 2012, coordination of climate change adaptation activities has been absent. However, with the situation should now improve. The mandate of the Secretariat is still evolving. The KCCAP sets out the *modus operandi* for an adaptation (and mitigation) M&E system that draws data from multiple sectors. There is much work to do before the system can become operational. The evolution of the M&E system will affect the Secretariat directly. Although the Secretariat has been established, finance for the implementation of the KCCAP (including the M&E system) is not yet in place. Recognition of the value of the work of the Secretariat (which sits in MEMR) by other ministries is essential if its coordinating role is to be effective. It is not yet clear if it will receive this support in future.
Information management	Kenya ministries have systems in place for gathering data relevant to adaptation. Many are resource constrained and some are or have been dependent on (unsustainable) donor funding. The Kenyan National Bureau of Statistics has sufficient budget to carry out the national census and produce a reliable analysis. Other ministries are not able to repeat data collection exercises as often as they would like. M&E teams in the ministries are under-resourced. As yet, there is no national platform for data sharing on adaptation, although this is an issue that has been considered during the KCCAP process. Nevertheless, information is being shared. For example, weather data is being disseminated nationally by the Kenyan Meteorological Department to help people cope with floods and drought. A climate change data repository has been proposed by the KCCAP, along with institutional arrangements to facilitate data sharing, capture, quality control, storage and analysis for reporting.
Climate risk reduction	Whilst examples of risk reduction can be found throughout Kenya, there is currently no systematic process of assessment, prioritisation or implementation. Delivery of the actions set out in the KCCAP is an essential prerequisite to effective climate risk reduction by Government. The scope of the KCCAP is still being considered by the Government and not all proposed actions may be implemented.

Table 9 highlights the importance of the implementation of the KCCAP, which has the potential to address many of the weaknesses in the management of climate risk in Kenya. A key part of this is the generation, through M&E, of information for adaptation decision-making. Without a means of monitoring and evaluating progress, it is impossible to assess changes to vulnerability or the effectiveness of investment in adaptation that is supposed to reduce it. It is also impossible to determine whether the assumed priorities are right.

6.3 Socio-Economic Data for Assessing How Climate Adaptation Contributes to Development

There are a number of institutions in Kenya that will be important in providing data for a socio-economic database. Of the long-list in Section 4.1, the following institutions stand out: Kenyan National Bureau of Statistics, Kenya Agricultural Research Institute, Ministry of Agriculture, Department of Resource Surveys and Remote Sensing, Kenya Forest Service, and the Water Resources Management Authority.

These institutions gather and collate information across the whole country and between them cover some of the sectors (water resources, agriculture and forestry) most at risk from climate change. Other sectors at risk (including coastal zones) are not so well covered and additional work may be required to create systems for data collection.

Vulnerability tends to have a high degree of spatial variability, with vulnerable groups or assets located very close to groups or assets with highly resilient characteristics. Therefore, useful adaptation indicators need to be able to focus on a particular issue or target group, which means that they have multiple data requirements. For example, one of the proposed indicators in the KCCAP is: *Percentage of poor people by gender in drought prone areas in the county with access to reliable and safe water supplies.* This indicator needs the following data for its measurement: Population, wealth and gender data for the county, with breakdowns by district, geospatial data for areas susceptible to drought, and geospatial data for areas covered by different types of water supply.

The quantification of these indicators can be complex and will often require data from many sources, some of which will be mainstream and recorded annually, and some of which may be derived on an occasional basis and will be hard to locate. However, all sources are equally important for the quantification of the indicator. The implication of this is that relying on particular institutions or surveys that are rich in data may not necessarily produce the information required for useful adaptation indicators.

6.4 The Way Forward: A Draft TAMD Prototype

Kenya is in the unique position of having a set of national adaptation indicators that have been derived through the application of TAMD. However, there is still a significant gap between the current situation and a working adaptation M&E framework.

Section 6.1 set out a number of interventions that could help bridge the gap. These are listed in the KCCAP and recognised and supported by the Government. An initial costing carried out by the SC6

team indicates that interventions 1, 2 or 5 could be pursued within the current resource envelope for TAMD as a starting point.

Intervention 5 (effectiveness assessment of adaptation at county level) is recommended for TAMD funding. This intervention tackles the challenging issue of monitoring progress on adaptation within a new county government structure by incorporating mechanisms for information exchange with the most vulnerable communities. It relates closely to a priority of the emerging National Adaptation Plan for Kenya – that of developing adaptation plans at a county level based upon local development needs and climate vulnerabilities. The Ministry of Development for Northern Kenya and Other Arid Lands, in conjunction with the Kenya Metrological Department and the Ministry for Planning, has initiated support of local climate adaptation across the current districts of Isiolo, Garba Tula and Merti (which will constitute the new County of Isiolo). The process of assessing development needs and climate vulnerabilities is well advanced, mechanisms for identifying adaptation priorities at Ward level have been established and a county level committee has been to established to administer a county level fund for supporting the implementation of Ward level adaptation plans. This initiative is considered a pilot for other arid and semi-arid counties. It presents an opportunity to test the feasibility of using the TAMD framework to assess the effectiveness of adaptation at County level. A summary of intervention 5 is set out in the Table 10 below.

Table 10: Intervention 5 (effectiveness assessment of adaptation at county level)

Project name:	Effectiveness assessment of adaptation at county level in [County]
Target institution:	An arid and semi-arid County where local adaptation is being supported by funding, social mobilisation and technical inputs e.g. Isiolo, Garissa
Project aim:	To show how adaptation M&E can be used to guide collective action for local climate adaptation, and to assess how well collective action on climate adaptation benefits the climate vulnerable poor.
Necessary pre-conditions:	Agreement with County authorities and local groups that climate adaptation initiatives can be assessed.
Key project activities:	• Identify suitable county cases • Assess climate risk management by local authorities and customary groups through planning and other activities • Negotiate how M&E system design, baselines setting and other interventions can be achieved with local stakeholders • Survey available data on vulnerability, climate observations, local organisation for collective action, map formal and informal planning processes etc • Set baselines • Design M&E system with local actors • Implement M&E system • Assess changes in climate risk management • Assess how well collective action for climate adaptation benefits the climate vulnerable poor • Derive lessons for County level support of climate adaptation by local groups
Outputs:	Annual reports on climate adaptation actions and results
Benefits:	• Information for County governments to help improve climate adaptation planning and implementation • Improvements in climate risk management of County authorities

References

Brooks, N., Anderson, S., Ayers, J., Burton, I. and Tellam, I. 2011 Tracking adaptation and measuring development. IIED Climate Change Working Paper No. 1, November 2011.

DFID 2012. Operational Plan 2011-2015. DFID Kenya, updated June 2012. Department for International Development, UK.

GoK 2007. Kenya Vision 2030. Government of Kenya/ Ministry of Planning and National Development, Nairobi.

GoK 2010. National Climate Change Response Strategy. Government of Kenya/ Ministry of Environment and Mineral Resources, Nairobi.

GoK 2012 Kenyan Climate Change Action Plan. Government of Kenya/ Ministry Environment and Mineral Resources, Nairobi.

MPND 2012. National Monitoring and Evaluation Policy. Ministry of State for Planning, National Development and Vision 2030, March 2012.

Mutai, C. C., S. O. Ochola, H. K. Mukiira, L. N. Gachimbi, M. Otiono, S. M. King'uyu, and S. N. Marigi 2011. State of the Environment – Chapter 3: Climate change and variability. NEMA, Nairobi.

SC2 2012. Enabling Legislative and Institutional Framework for Climate Change Response in Kenya (Draft). Report by sub-component 2 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. June 2012.

SC3 2012. Government of Kenya National Action Plan (Draft). Report by sub-component 3 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. June 2012.

SC6 2012a. Selecting and Monitoring Adaptation Indicators. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

SC6 2012b. NPBMF and MRV+ System Design, Roadmap and Guidance Report. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

SC6 2012c. Capacity Development Plan. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

SC6 2012d. National Performance and Benefits Measurement Framework Systems Review Report: output for project stage 1. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. September 2012.

SC8 2012, Finance: Introduction to Climate Finance. Report by sub-component 6 of the Kenyan Climate Change Action Plan to the Ministry of Environment and Mineral Resources, Government of Kenya. June 2012.

SEI 2009. The Economics of Climate Change: Kenya. Stockholm Environment Institute.

WRI 2007. Nature's Benefits in Kenya: an atlas of ecosystems and human well-being. World Resources Institute and Government of Kenya (DRSRS, MEMR, CBS, MPND, ILRI).

WRI 2009. The National Adaptive Capacity Framework: Key Institutional Functions for a Changing Climate. Pilot draft. World Resources Institute, November 2009.

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