

Tracking Adaptation and Measuring Development in Kenya

Irene Karani, Nyachomba Kariuki, Fatima Osman



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The work of the Climate Change Group focuses on achieving the following objectives:

- Supporting public planning processes in delivering climate resilient development outcomes for the poorest.
- Supporting climate change negotiators from poor and vulnerable countries for equitable, balanced and multilateral solutions to climate change.
- Building capacity to act on the implications of changing ecology and economics for equitable and climate resilient development in the drylands.

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Front cover photo: Goat milking is traditionally done by boys in the Borana culture.

Credit: Peter Cacah



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Acronyms

ASAL	Arid and Semi-arid Lands
CAF	County Adaptation Fund
CAPC	County Adaptation Planning Committee
CCA	Climate Change Adaptation
CIDP	County Integrated Development Plan
CIS	climate information services
CRM	climate risk management
CSG	County Steering Group
DFID	Department for International Development
DRR	disaster risk reduction
EWS	early warning system
IIED	International Institute for Environment and Development
KMS	Kenya Meteorological Service
M&E	monitoring and evaluation
MRV	measuring, reporting and verification
NCCAP	National Climate Change Action Plan
NDMA	National Drought Management Authority
TAMD	Tracking Adaptation and Measuring Development
WAPC	Ward Adaptation Planning Committee

Executive summary

Tracking Adaptation and Measuring Development (TAMD) is a twin-track framework that evaluates adaptation success as a combination of how widely and how well countries or institutions manage climate risks (Track 1) and how successful adaptation interventions are in reducing climate vulnerability and in keeping development on course (Track 2). With this twin-track approach, TAMD can be used to assess whether climate change adaptation leads to effective development, and also how development interventions can boost communities' capacity to adapt to climate change. Importantly, TAMD offers a flexible framework that can be used to generate bespoke frameworks for individual countries that can be tailored to specific contexts and used at different scales. This report compiles the results of TAMD feasibility testing phase in Kenya.

The application of TAMD in Kenya has focused on developing an ex-ante planning system for local adaptation in Isiolo County, in support of Kenya's National Climate Change Action Plan (NCCAP). Prior to the launch of the TAMD feasibility study, Isiolo County launched new planning structures to help mainstream adaptation into county and local planning systems. These included a County Adaptation Planning Committee (CAPC) and five Ward Adaptation Planning Committees (WAPCs), as well as a County Adaptation Fund (CAF), which would finance adaptation interventions at the local level. The establishment of the CAF in Isiolo provided a strong entry point to pilot TAMD.

The TAMD feasibility study was conducted from April 2013 to March 2014 in Isiolo County, and was led by a research team from LTS International. The study was designed to test whether the TAMD framework could be used for measuring benefits of adaptation actions that had been designed under the CAF. Using the twin-track framework, TAMD evaluation approaches were piloted to track climate risk management (CRM) interventions at the county level (Track 1) and adaptation interventions at ward level (Track 2).

At the time of writing, both CRM and adaptation interventions in Isiolo are still being implemented, which meant that ex-post evaluations using TAMD have not yet been conducted. Rather, the emphasis of the feasibility study has been to create an ex-ante monitoring and evaluation (M&E) system at the county and ward levels in Isiolo. The main activities that have been undertaken during the TAMD feasibility study thus focused on collecting baseline data from which to measure the effectiveness of interventions in the future; mainstreaming the TAMD approach within new ward and district-level planning structures; and training staff to complete the latter stages of the TAMD evaluation process when the interventions are complete.

During the TAMD feasibility study, the research team encountered several challenges. These included:

- **Counterfactuals:** The main challenge experienced was the identification of a relevant counterfactual data source in Isiolo. Due to a lack of a location to use as a counterfactual data source, the research team decided to adopt a baseline and ex-post evaluation approach that will use theories of change to measure contribution/ attribution to resilience.
- **Collection of empirical data:** The collection of baseline and monitoring data provided numerous challenges both for the research team and the ward committees. For example:
 - Government officers were reluctant to provide information.
 - The logistics of collecting information from remote areas of the ward proved to be difficult.
 - The research team faced difficulties in following up on data collection because the ward committees failed to adhere to deadlines and kept postponing subsequent deadlines.
- **Developing adaptation indicators:** The process of developing adaptation indicators to adequately measure resilience in the longer term was a challenge. Most stakeholders were used to developing output indicators as opposed to outcome indicators in development projects. However with continuous explanation and guidance they managed to develop them.
- **Use of climate variability information in the development and adjustment of adaptation actions:** An adaptation M&E framework assumes that the design of adaptation actions has incorporated climate risk information. It also assumes that climate trends will be continuously monitored throughout project implementation in order to attribute any outcomes to enhanced adaptive capacity as a result of the interventions. At the time of writing, this work had not yet begun in Isiolo – meaning that challenges in dealing with issues such as shifting baselines, attribution, and contextualisation/normalisation (see Chapter 2) will likely emerge in future TAMD evaluations.
- **Use of scorecards:** The use of institutional scorecards was challenging, as stakeholders initially struggled to understand the difference between indicators for CRM baselines and for CRM interventions, which TAMD will monitor in the future. A closer look at the scorecard '*indicators*' showed that they were tailor made to measure baseline CRM capacity within institutions, as opposed to measuring specific CRM actions that were explicit in the Track 1 theory of change.

Although there were some initial challenges, the TAMD concept came to be understood by stakeholders and has been greatly appreciated by all. Throughout this process, a number of lessons were learned by the project team and stakeholders involved in the feasibility testing study:

- When an adaptation M&E framework is being established it is important to have all stakeholders on board as everybody has a role to play in designing adaptation actions, collecting and analysing monitoring data, reporting and other related activities. In Isiolo, there is now a strong team of ward and county representatives who can collect adaptation information.
- It is easier to disseminate an adaptation M&E approach such as TAMD to stakeholders who are already sensitised to climate change issues. Thus working with communities whose livelihoods have been continuously adapting to climate hazards is easier when describing the CRM (Track 1) and development performance (Track 2) evaluation context.
- Baseline and empirical data collection can be challenging and requires time, goodwill and commitment from the implementing institutions.
- Gaining access to the political arms of government at any level is not an easy task especially when the government is newly formed and their priorities are different. The experience from the TAMD feasibility study highlights the importance of establishing strong government structures at the sub-national level, and the importance of stable institutions to attract financing from the national government.
- Creating linkages between climate risk management at the national, county and ward level is very important – especially if they are related to disaster risk reduction (DRR) interventions in an arid and semi-arid context.

The feasibility testing in Kenya has proven that the TAMD framework can work at sub-national and community levels. One of the most encouraging developments of the feasibility study has been the interest from other county governments to learn from TAMD and replicate the methodology in their own counties. So far, four counties – Wajir, Garissa, Kitui and Makueni – have expressed interest in implementing TAMD. In March 2014, the TAMD research team held a workshop with representatives from these four counties, where a plan was developed for mainstreaming climate change adaptation responses into their respective county planning structures. Overall, the workshop was useful since it provided an opportunity for the counties to generate a joined-up roadmap that would enable them to establish their own County Adaptation Funds and TAMD structures. The partner teams are now closely monitoring the mainstreaming of adaptation planning into the County Integrated Development Plans (CIDPs) in these four new counties.

As TAMD starts to take root in Isiolo and begins to be launched in other counties in Kenya, the research team proposes that:

- A second phase of TAMD should be funded for Isiolo so that the adaptation M&E system is fully operationalised, including the collection of data on outcomes and climate trends to normalise indicators and prove attribution.
- The second TAMD phase should include the development of a portfolio of case studies that can be used to improve the implementation of TAMD in Kenya and assessments on implementation costs.
- IIED should revisit the TAMD operational framework and updates it with new thinking and findings from the feasibility studies implemented globally. This should include the debate on establishing counterfactuals, how to make the understanding of CRM easier, collecting data for use in a before and after analysis, tools on how to normalise indicators with the use of climate, loss and damage data and evaluation tools for implementing partners.

1

Testing the feasibility of TAMD in Kenya

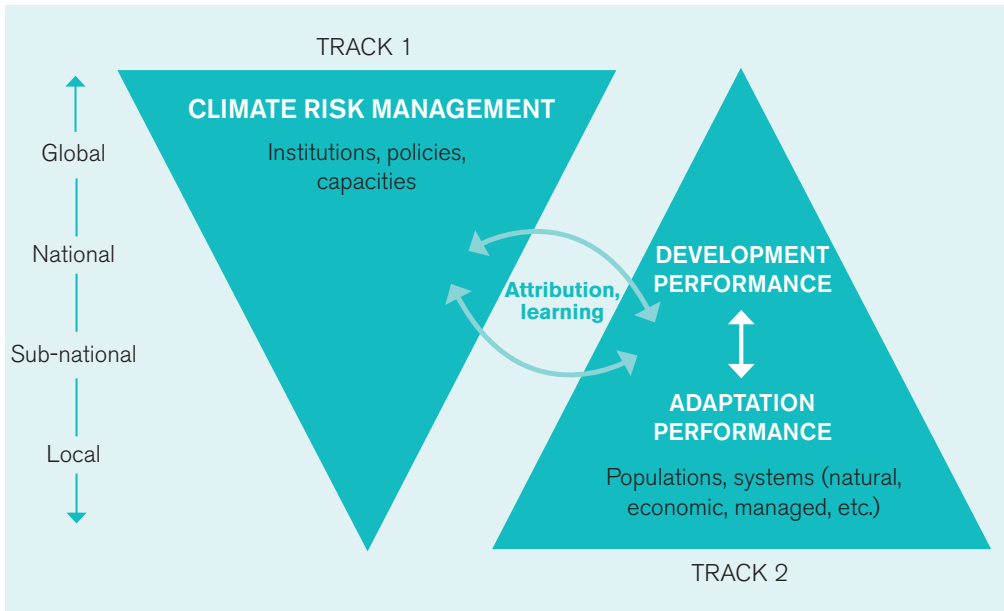
Introduction

As climate effects increasingly challenge development progress, governments and development partners have been investing in climate change adaptation. Efforts to scale-up adaptation responses have been implemented in a number of countries, across a variety of scales – including national climate change policies and plans, sectoral strategies, sub-national planning systems, and at the local level through both institutional mainstreaming and programme/project-based interventions.

As investment in adaptation has increased, so has the need for evaluation frameworks that can determine whether adaptation interventions have been effective. Between 2012 and 2014 the International Institute for Environment and Development has worked with research partners and government agencies in several countries across Asia and Africa to pilot a new approach to evaluating the effectiveness of adaptation interventions, entitled Tracking Adaptation and Measuring Development.

TAMD is a twin-track framework that evaluates adaptation success as a combination of how widely and how well countries or institutions manage climate risks (Track 1) and how successful adaptation interventions are in reducing climate vulnerability and in keeping development on course (Track 2) (see Figure 1). With this twin-track approach, TAMD can be used to assess whether climate change adaptation leads to effective development, and also how development interventions can boost communities' capacity to adapt to climate change. Importantly, TAMD offers a flexible framework that can be used to generate bespoke frameworks for individual countries that can be tailored to specific contexts and used at different scales. For more information on the TAMD framework please refer to earlier publications by IIED.

Figure 1: Overview of the TAMD Framework



Evaluation context

In 2013 Kenya launched its National Climate Change Action Plan. The NCCAP is designed around climate change adaptation and mitigation interventions, which are supported by climate finance, an enabling regulatory and policy framework, technology, a monitoring reporting and verification plus system (MRV+), and a knowledge and capacity building strategy. The NCCAP recommends several actions for implementation, which will lead to a low-carbon, climate-resilient green economy.

Kenya's MRV+ system for the NCCAP is one of the most ambitious climate change M&E systems in the developing world. Under the MRV+ system, there are nine proposed actions:

1. Establish MRV+ system governance structures.
2. Establish climate change relevant data tracking and mapping.
3. Define mitigation and adaptation indicators and create baselines.
4. Encourage institutional capacity strengthening and staff capacity building.
5. Update the greenhouse gas inventory, write the first Biennial Update Reports and write the next series of National Communications.

6. Pilot M&E of institutional adaptive capacity indicators in a key ministry.
7. Pilot M&E of vulnerability indicators in a suitable county.
8. Pilot effective assessment of adaptation at county level.
9. Establish a climate change relevant data repository.

To assist Kenya in implementing the NCCAP, a project was developed between IIED and a research team in Kenya led by LTS International and supported by the Arid and Semi-Arid Lands (ASAL) secretariat under the National Drought Management Authority (NDMA), to pilot TAMD as part of the MRV+ system. The purpose of the TAMD pilot was to establish an M&E framework, which could evaluate the success of climate change adaptation interventions at county and ward levels. At the time of writing, the TAMD study has piloted M&E of vulnerability indicators at the county-level in Kenya (point 7 on the list above), and has developed a system that will enable the assessment of county-level adaptation in the future (point 8 above).

Background on mainstreaming disaster risk reduction and adaptation into the government planning process

Both the Kenyan economy and population have been classified as being highly vulnerable to climate-related risks. Achievement of the country's development goals has been considerably disrupted due to climate change. Alarming, the number of people affected by natural disasters in Kenya has steadily increased over the last decade from a reported 1.5 million to 4.5 million annually (Draft National Policy for Disaster Management in Kenya, 2009). It is only as recently as 2009 that a national policy to manage natural disasters was drafted. While the Government of Kenya recognises that a concerted approach to DRR will enhance development, it is only in the last few years that it has begun to address bigger issues of communities' vulnerability and exposure to recurring shocks. Efforts to ensure that DRR and climate change adaptation are integrated into risk management strategies at both national and local levels are therefore still in the very early stages.

In 2010 Kenya enacted a new constitution, which proposed the devolution of power to 47 counties. As part of devolving planning and handing over power to county governments, development partners were sought to pilot the mainstreaming of climate change adaptation and DRR into county-level development planning and delivery. During this time, IIED worked with Isiolo County in upper eastern Kenya on climate change mainstreaming – which resulted in the establishment of the Isiolo County Adaptation Fund, whose objective is to finance public good investments for improved resilience to climate change.

The establishment of the CAF in Isiolo County provided a strong entry point to pilot TAMD at the county level. Alongside the establishment of the CAF, new adaptation planning structures were established in Isiolo to help mainstream adaptation into county-level planning. These included a County Adaptation Planning Committee and five Ward Adaptation Planning Committees to coordinate and implement adaptation actions that would be financed by the CAF. The newly established planning committees and funding structures were optimal for piloting TAMD, as evaluations under TAMD could help strengthen both local adaptation processes and a key component of the Kenyan government's MRV+ strategy. Isiolo was also a strong candidate for TAMD piloting because steps towards climate change sensitisation with communities and county officials had already been undertaken, ensuring that there would be strong buy-in from local stakeholders.

Background on Isiolo County

Isiolo County is located in upper eastern Kenya covering an area of 25,336.1 square kilometres. The county has two constituencies, Isiolo North and Isiolo South, which have ten wards between them with a total population of 143,295 people. The main ethnic groups found in the county are Borana, Turkana, Samburu, Somali and Meru. The main economic activities practiced in the county include pastoralism, subsistence agriculture, small-scale trade, and limited harvesting of Gum Arabica resin.¹

Isiolo is an arid county, and is hot and dry for most of the year with two rainy seasons – short rains (October and November) and long rains (March – May). Average annual rainfall in Isiolo is 580mm. Over the past two decades, the most common environmental threats in Isiolo have been poor rainfall, prolonged dry seasons, and more commonly occurring droughts. These threats, which have been exacerbated by the effects of climate change, have contributed to a significant loss of water and pasture in Isiolo.

¹ District Vision and Strategy: 2005-2015, Isiolo County Fact Sheets: Commission for Revenue Allocation.

Approach to piloting TAMD in Isiolo County

In Isiolo, TAMD has been piloted at two different levels, following the twin-track approach of the TAMD framework.

At the county level, the TAMD feasibility study focused on using TAMD to assess climate risk management (Track 1) within Isiolo's planning structures. This involved collecting baseline data through a scorecard evaluation with county stakeholders, in order to understand the extent to which adaptation has been mainstreamed into county-level planning. Meanwhile, a number of interventions, which aim to improve climate risk management, have begun to be implemented at the county level. These interventions will be monitored over time against the baseline collected during the feasibility study, to determine if CRM is improving in Isiolo.² Institutional scorecards could be used in these future assessments in order to align the results with the baseline data.

At the ward level, TAMD has been integrated into local adaptation projects in order to measure development progress over time (Track 2). Isiolo's CAF has provided financing for 20 climate change adaptation projects in 6 different wards (outlined in Table 1 below). Alongside the implementation of these projects, TAMD was established as the M&E tool that would measure the effectiveness of the projects in helping people adapt to climate change. The methodological approach during the feasibility testing involved establishing an M&E framework that could be used to collect and analyse adaptation benefits data before and after completion of adaptation interventions funded by the CAF.

² Currently these interventions have only been monitored at the output level. These early results are presented in Chapter 4

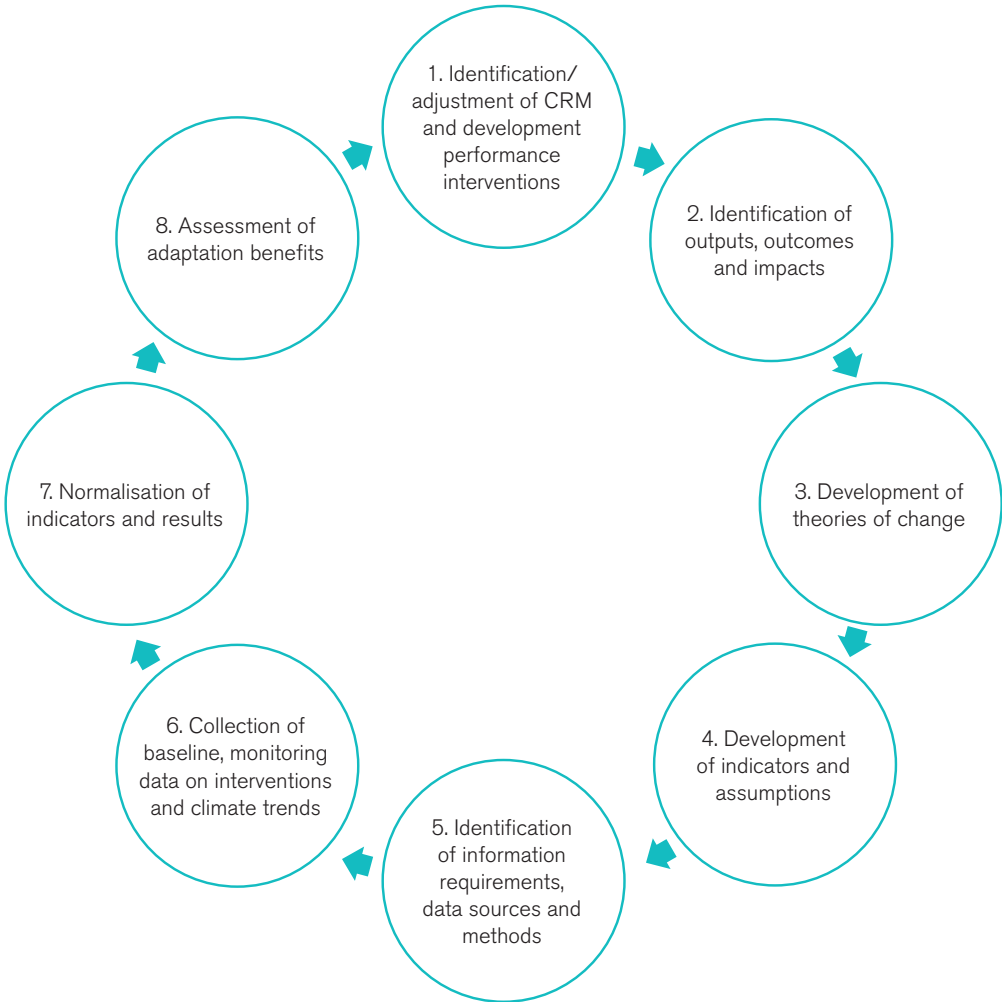
Table 1. Planned adaptation interventions in six wards in Isiolo County

Ward	Planned adaptation interventions
Kinna	<p>Natural resource management</p> <ul style="list-style-type: none"> ● Survey and management of pasture land using mobile phones and motorbikes for efficient pasture management ● Strengthening of natural resource management <p>Rehabilitation of livestock veterinary laboratory</p> <ul style="list-style-type: none"> ● Stocking of laboratory with livestock medicine and vaccines ● Offering veterinary services ● Construction of livestock holding yards
Oldonyiro	<p>Water</p> <ul style="list-style-type: none"> ● Construction of sand dams ● Rehabilitation of dilapidated sand dams ● Construction of rock catchments and water tanks ● Training of water management committees
Sericho	<p>Natural resource management</p> <ul style="list-style-type: none"> ● Strengthening of traditional natural resource management <p>Water</p> <ul style="list-style-type: none"> ● Support fencing and de-silting of three water pans ● Building of shallow wells
Merti	<p>Natural resource management</p> <ul style="list-style-type: none"> ● Strengthening of Rangeland Users Association (RUA) through elections and training for better natural resource management <p>Water</p> <ul style="list-style-type: none"> ● Drilling of boreholes ● Blocking of Yamicha water pan
Garbatulla	<p>Natural resource management</p> <ul style="list-style-type: none"> ● Strengthening traditional '<i>dedha</i>'³ council to implement proper natural resource management <p>Water</p> <ul style="list-style-type: none"> ● Fencing of Belgesh and Harr Buyo water pans, building of water troughs for livestock use and water points for domestic use.
Chari	<p>Water</p> <ul style="list-style-type: none"> ● Drilling of Kobe Dadacha Guracha borehole ● Rehabilitation and fencing of the Damballa Dirr pan ● Construction of Mado Guyo Wama sand dam

3 Borana traditional institution for natural resource management

The piloting of TAMD alongside adaptation interventions at the ward level in Isiolo involved an eight-step process, which is outlined in Figure 3 below.

Figure 3: Evaluation framework for piloting Track 2 of TAMD in Isiolo⁴



The implementation of TAMD at the county level in Kenya was led by a research team from LTS International. Using TAMD’s twin-track framework, interventions were identified at both the county (CRM) and ward (development progress) levels. At the county level, climate risk management interventions were identified and developed with the National

4 It should be noted that due to the short nature of the study, it was not possible to implement steps 7 and 8 of the TAMD methodology. In addition, step 6 was only partially implemented in Isiolo. An explanation of the challenges that were encountered in collecting baseline data and information on climate trends is outlined at the end of Chapter 1.

Drought Management Authority.⁵ At the local level, development performance outputs, outcomes, indicators and assumptions were developed together with the ward adaptation planning committees. The methodology that was used by researchers emphasised the use of participatory approaches to collect data, develop theories of change, and establish baselines that can be used to inform future evaluations of adaptation planning and development progress. Data collection tools used to collect baseline CRM and development performance information included:

- Focus group discussions with six WAPCs
- Household surveys conducted by WAPC members
- Key informant interviews with government officials at county and ward levels
- Data gathered from grey literature such as the ward proposals and other government documents such as the Isiolo County Development Profile (2013).

Stakeholder engagement

The feasibility testing involved engaging various stakeholders at different stages. During the initial scoping mission all stakeholders working on climate change adaptation issues in Isiolo were engaged in various meetings. These included government institutions, non-governmental organisations (NGOs) and the WAPCs. The aim of engaging these stakeholders was to identify climate change adaptation activities taking place in Isiolo as well as the monitoring and evaluation (M&E) systems and indicators that were being used by each stakeholder. In addition, the aim of the mission was to strategise on how an adaptation M&E framework could be institutionalised both at county and ward levels. The government stakeholders that were consulted in the scoping mission are listed in Table 2, while their roles in the TAMD feasibility study are outlined in greater detail in Annex I. A list of NGOs that are currently conducting climate-related work in Isiolo County can be found in Annex II

The County Planning Unit and NDMA were involved in collecting baseline Track 1 information to assess the degree to which climate risk management had been integrated into county-level planning in Isiolo. To gain an understanding of how Isiolo County manages climate risks, a scorecard was used to set a baseline for climate risk management in the county (see the section on scorecards below). Where possible, this was supplemented by secondary data that already existed at the county level. Engaging with the Isiolo County government officials proved difficult because the county government had just been established as part of the new devolution structures. However, through the County Planning Unit, adaptation actions, which are using the TAMD

⁵ NDMA is mandated to coordinate climate change adaptation at national and sub-national levels.

framework, have been integrated into the Isiolo County Integrated Development Plan, which will be implemented from 2014–2017.

Table 2: Track 1 stakeholders

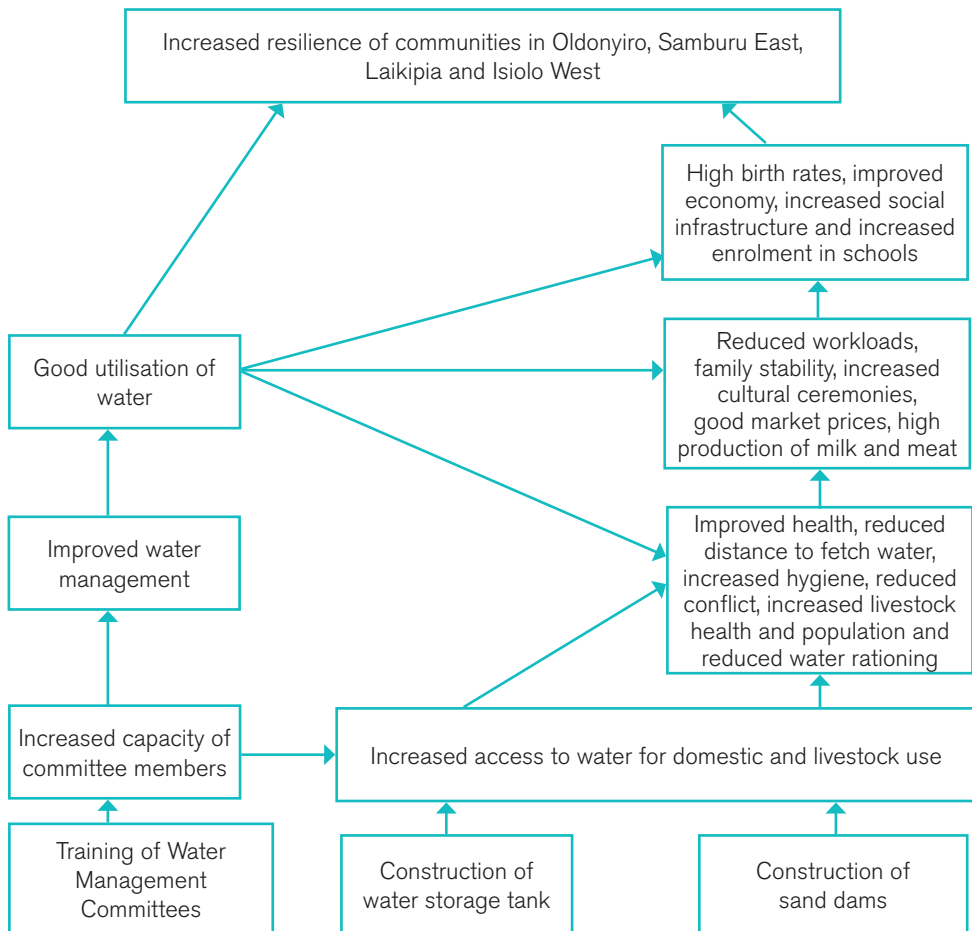
Institution	Climate change adaptation-related activities
NDMA (Ministry of Devolution and Planning) – national and county levels	Planning and coordinating adaptation and DRR, dissemination of early warning information
County Planning Unit	Mainstreaming adaptation in the County Integrated Development Plan
Department of Water (Ministry of Environment, Water and Natural Resources)	Technical support to water adaptation actions
Department of Livestock (Ministry of Agriculture)	Technical support to livestock adaptation actions
Department of Crop Production (Ministry of Agriculture)	Technical support to crop adaptation actions
Department of Meteorology	Dissemination of climate information to stakeholders
County Government (Assembly and Executive)	Policy support to adaptation and natural resource governance

At the ward level, it was agreed that the three main sectors targeted by the CAF for adaptation interventions would be the water, livestock and agriculture sectors, as these sectors are the most vulnerable to climate variability. Stakeholders from these sectors, as well as from the meteorology department, county planning unit and NDMA have been involved in prioritising adaptation actions in Isiolo. These same stakeholders were consulted during the TAMD feasibility study to develop a theory of change for increased resilience in Isiolo (with assumptions and indicators), which could be used to track development progress (Track 2) against the proposed CAF adaptation actions.

Theory of change

A theory of change is both a process and a product (Vogel 2012). At its simplest, a theory of change is a dialogue-based process intended to generate a 'description of a sequence of events that is expected to lead to a particular desired outcome.' As part of the piloting of Track 2 of TAMD, six wards in Isiolo (through the WAPCs) developed theories of change to assist in monitoring the changes in adaptive capacity that are expected to occur as a result of implementing CAF adaptation interventions. An example of a theory of change that was developed during the TAMD study in Oldonyiro Ward is shown in Figure 4.

Figure 4: Oldonyiro Ward theory of change



Isiolo County then developed a general county-level theory of change that showed how the CRM activities prioritised by the county will contribute to enhancing resilience and/or development performance. This county-level theory of change was then integrated alongside a composite of the six ward-level theories of change (see Figure 5 for a rough outline of the integration process) to generate an overall theory of change for adaptation in Isiolo at both county and ward levels. Isiolo's overall theory of change outlines the CRM interventions at the county level and the adaptation interventions at ward level – listing the outputs, outcomes, impacts and assumptions that will lead to improved resilience in Isiolo (see Figure 6 below). The overall theory of change was agreed upon by both county and ward stakeholders during a meeting facilitated by the research team in March 2014.

At the time of writing, the theory of change has only been used as a planning tool. Since the adaptation interventions funded by the CAF are still being implemented, there have been no evaluations to determine whether the interventions have delivered the results predicted in the theories of change. As soon as data can be collected, the validation of the theory of change (particularly with respect to attribution) will be much clearer. It is expected that the County Adaptation Planning Committees will test the overall theory of change as part of an evaluation of the institutionalisation of TAMD at the county-level.

Indicator development

Following the selection of the adaptation intervention and the development of the theory of change, indicators were selected from which to measure the success of adaptation interventions in Isiolo. Indicators were selected for both Track 1 and Track 2. The process of developing indicators involved input from national, county and ward level stakeholders. CRM (Track 1) indicators were developed with the NDMA and the departments of planning, water, livestock and agriculture at the county level during a workshop held in the second quarter. Development performance (Track 2) indicators were developed with five WAPCs in the first quarter and with the sixth WAPC (Chari) in the fourth quarter. Table 3 below shows the indicators and assumptions developed for Track 1.

Figure 5: Isiolo Track 1 and Track 2 interventions

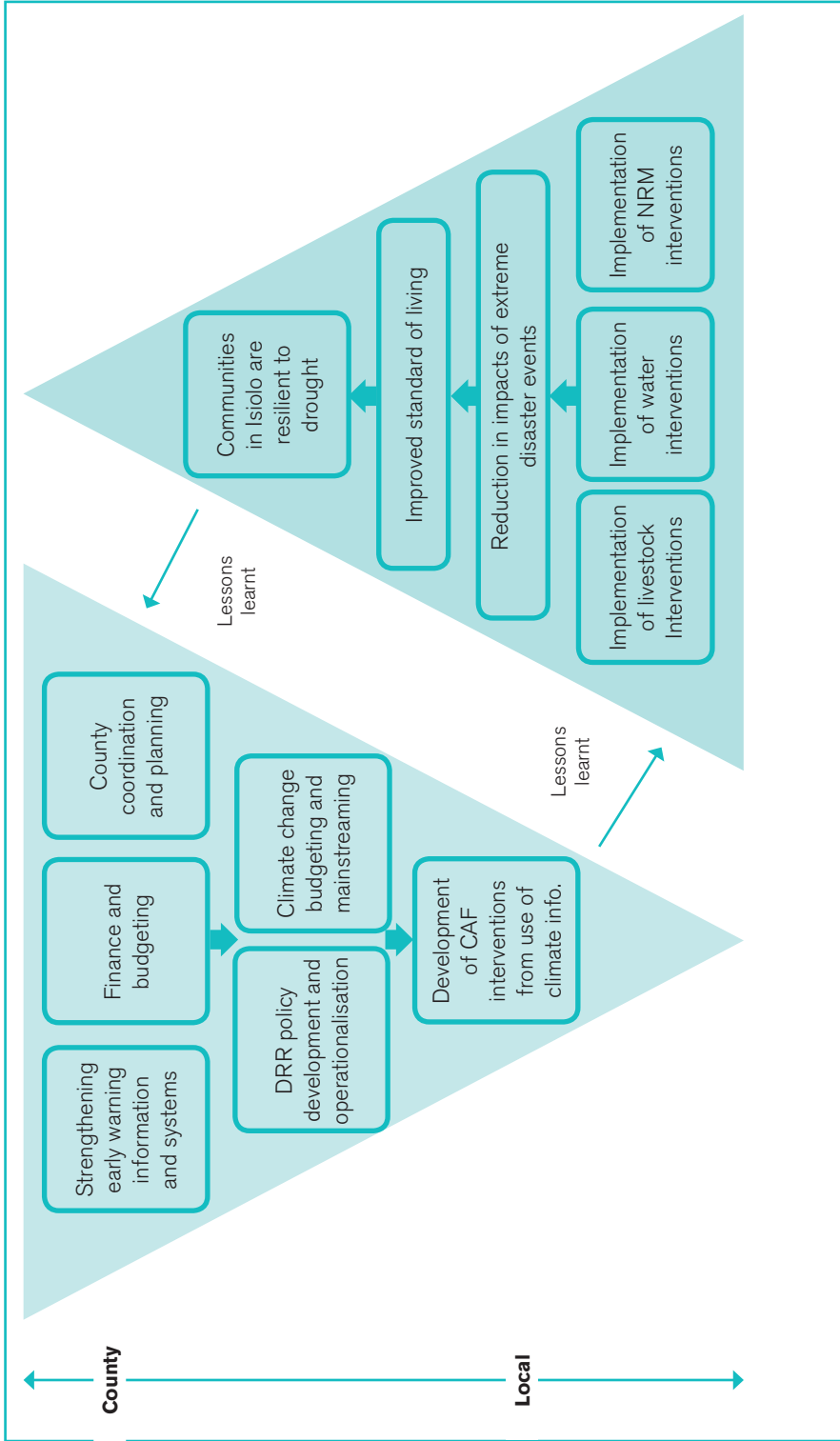


Table 3: Track 1 indicators and assumptions

Results	Indicators	Assumptions
County level outputs	<ul style="list-style-type: none"> ● Types and number of information and communication products ● Percentage of population reached ● DRR department established and operationalised ● Policy document produced ● Number of duplicated activities ● Number of development agencies undertaking the same activities ● Number of community project proposals developed and budgets justified ● Number of <i>dedhas</i> established ● Number of NRM meetings held 	
Local/Ward level outcomes	<ul style="list-style-type: none"> ● Types, numbers and frequency of adjustments to climate change adaptation activities ● Operational county contingency and DRR fund ● Number of projects targeting infrastructure and services on transport, health, water and sanitation, security, education, food security and income generation ● Number of climate change projects financed through budget allocation ● Number of livestock with access to water and pasture during dry season ● Number of households with access to water during dry season 	<ul style="list-style-type: none"> ● There will be uptake of information at community level ● DRR policy will be relevant and affect community needs ● There will be community involvement in county coordination and planning ● There will be indiscriminate, fair, equitable and appropriate spread of development projects / activities across the county
Community and county level medium and long-term impacts	Long-term Track 1 impacts can be measured through changes in resilience that are measured at the ward level. This data can be captured through aggregated data from adaptation interventions, measured through development performance indicators captured by Track 2 of TAMD	<ul style="list-style-type: none"> ● There will be political buy in from the county government ● There will be community buy in ● The financial plans of adaptation activities will be strictly followed/ implemented

During the indicator development process, groups were asked to develop indicators that were specific to and related to the outputs, outcomes and impacts they had identified in the theory of change to show causal linkages. As such the final indicators are both quantitative and qualitative and the main criterion used for identification of the indicators was whether primary, secondary, or proxy data could be collected easily by the WAPCs.

An analysis of the Track 1 indicators shows that proposed CRM actions from the national and county government are meant to lead to development action/adaptation action at the community level where the vulnerabilities to climate change are being felt the most.

Similar indicators to measure Track 2 interventions at the ward level are shown in Table 4 below. The adaptation actions are similar to development actions with the only difference being that they were formulated with the use of climate risk information and resilience assessments conducted before the TAMD feasibility study began. These actions will be measured using socio-economic indicators to determine how adaptation interventions led to improved development performance at the ward level.

Challenges

The research team encountered several challenges during the implementation of the TAMD pilot. These challenges are taken up below:

- **Counterfactuals:** The main challenge experienced was the identification of a relevant counterfactual data source in Isiolo. In Isiolo's case the research team had to find a community in Isiolo where climate change adaptation (CCA) interventions were not being undertaken to serve as a benchmark from which to measure progress. This proved to be difficult as there are many civil society actors undertaking CCA activities similar to the CAF in other parts of Isiolo. In addition the CAF interventions were public investment goods that were meant to benefit over 70 per cent of Isiolo's population: the remaining population comprises the urban population whose livelihoods are different from the targeted communities, which meant that they did not qualify as good counterfactuals. As such the research team decided not to use a counterfactual approach, favouring a baseline and ex-post evaluation approach that will use theories of change to measure contribution/attribution to resilience.

Table 4: Selected Track 2 indicators taken from ward-level adaptation interventions

Results	Indicators	Assumptions
Output level	<ul style="list-style-type: none"> ● Number of constructed/rehabilitated water sources for livestock and humans ● Number of trainings held for natural resource management committees (<i>dedhas</i>) ● Number of veterinary laboratories rehabilitated 	
Outcome level	<ul style="list-style-type: none"> ● Number of livestock and households with access to water during dry season ● Number of months that water is available in the constructed/rehabilitated water points ● Time spent fetching water for domestic use ● Time spent trekking livestock to water points ● Prevalence of livestock and human disease outbreaks per year ● Number of hours spent fetching water from water point(s) for domestic use ● Number of hours spent fetching water from water point(s) for livestock use ● Quantities of milk and meat produced per household per year 	<ul style="list-style-type: none"> ● NRM committee members are able to enforce by-laws in water and pasture management ● Community members have the financial capacity to pay for water levies to sustain the water resource infrastructure ● The county government will second well trained laboratory staff who are fully qualified to diagnose and treat livestock diseases to the rehabilitated laboratories
Impacts	<ul style="list-style-type: none"> ● Household expenditure patterns ● Quantities of food surplus sold at the markets ● Frequency of marriage and other cultural ceremonies held per year ● Number of conflict incidences ● Number of families migrating due to climate hazards ● Number of children born ● Number of schools, dispensaries, mosques, permanent settlements constructed ● Number of children enrolled and retained in schools ● Presence of cheese (traditional Borona cheese, known as <i>ititu</i>) ● Number of families on food relief ● Numbers of livestock ● Number of new businesses or small scale traders in the market 	<ul style="list-style-type: none"> ● Proper and appropriate disease surveillance equipment is purchased and committee members have the ability to use the equipment ● Community members from within the county and neighbouring counties are receptive to and cooperate with the NRM by-laws, rules and regulations

- **Collection of empirical data:** The collection of baseline and monitoring data provided numerous challenges both for the research team and the ward committees. For example:
 - The ward committees were regarded with suspicion when they asked certain questions to households during the surveys.
 - Government officers were reluctant to provide information.
 - The logistics of collecting information from remote areas of the ward proved to be difficult.
 - The research team faced difficulties in following up on data collection because the ward committees failed to adhere to deadlines and kept postponing subsequent deadlines.
 - Despite the establishment of indicators and baselines at the ward level, no systematic monitoring data was collected for the CAF interventions by NDMA. In addition, when the output data was finally collected, it had not been verified.
- **Access to the political arm of Isiolo County Government:** In order to institutionalise the framework into county planning, it was essential to engage the county government. But gaining access to the political arm of the Isiolo County government for buy-in was a major challenge. However the County Planning Unit were keen to be involved and in the third quarter the research team managed to meet with the County Governor who pledged his support for the CAF and TAMD efforts.
- **Developing adaptation indicators:** The process of developing adaptation indicators to adequately measure resilience in the longer term was a challenge. Most stakeholders were used to developing output indicators as opposed to outcome indicators in development projects. However with continuous explanation and guidance they managed to develop them.
- **Use of climate variability information in the development and adjustment of adaptation actions:** An adaptation M&E framework assumes that the design of adaptation actions has incorporated climate risk information. It also assumes that climate trends will be continuously monitored throughout project implementation in order to attribute any outcomes to enhanced adaptive capacity as a result of the interventions. At the time of writing, this work had not yet begun in Isiolo – meaning that challenges in dealing with issues such as shifting baselines, attribution, and contextualisation/normalisation will likely emerge in future TAMD evaluations (see Chapter 2).

- **Use of scorecards:** The use of institutional scorecards was challenging, as stakeholders initially struggled to understand the difference between indicators for CRM baselines and for CRM interventions, which TAMD will monitor in the future. A closer look at the scorecard 'indicators' showed that they were tailor made to measure baseline CRM capacity within institutions, as opposed to measuring specific CRM actions that were explicit in the Track 1 theory of change.

Lessons

Although there were some initial challenges, the TAMD concept came to be understood by stakeholders and has been greatly appreciated by all. Throughout this process, a number of lessons were learned by the project team and stakeholders involved in the feasibility testing study:

- The theory of change was a new concept for all stakeholders but it was also easy to understand and is now championed by various organisations in Isiolo, including the County Planner who has assisted the research team in guiding other counties in the development of their own theories of change (see Chapter 3). The WAPCs were able to develop the theory of change in less than half a day because they were conversant with concepts such as resilience/adaptive capacity after having participated in prior resilience assessments. The WAPCs have even started to incorporate terms such as 'top-down and bottom-up indicators and activities' in different forums.
- When an adaptation M&E framework is being established it is important to have all stakeholders on board as everybody has a role to play in designing adaptation actions, collecting and analysing monitoring data, reporting and other related activities. In Isiolo, there is now a strong team of ward and county representatives who can collect adaptation information.
- Developing outputs, outcomes and impacts and their indicators can be challenging especially when engaging with people who do not have experience in M&E. One solution was to use simple language when introducing new ideas. Using phrases, such as 'signs of progress of change' for indicators made the concept more accessible to community members. Using terms such as 'immediate changes', 'medium term changes' and 'long term changes' when defining outputs, outcomes and impacts seemed to work in Kiswahili and Borana. However the advantage of working with the Isiolo communities was that they had undergone sensitisation and capacity building on climate change issues for more than a year before the TAMD approach was introduced.

- A comprehensive M&E system that is designed to collect adaptation outcomes and climate trend information is crucial if enhanced resilience is to be proved through an evaluation process. This system needs to be adequately equipped with human and financial resources if it is to work – which has yet to be achieved in Isiolo.
- Baseline and empirical data collection can be challenging and requires time, goodwill and commitment from the implementing institutions.
- Gaining access to the political arms of government at any level is not an easy task especially when the government is newly formed and their priorities are different. The experience from the TAMD feasibility study highlights the importance of establishing strong government structures at the sub-national level, and the importance of stable institutions to attract financing from the national government.
- Creating linkages between climate risk management at the national, county and ward level is very important – especially if they are related to DRR interventions in an arid and semi-arid context. The NDMA, whose mandate is ensuring that climate risks are minimised, has a devolved structure at county level that is tasked with implementing climate risk management and adaptation actions in ASAL areas. This devolved arrangement helped improve the delivery of climate adaptation interventions in Isiolo.

2

Addressing the challenges of adaptation M&E

Climate change adaptation poses challenges of unprecedented scale and scope, which cut across normal programming sectors, levels of intervention, and timeframes (Bours et al. 2013). The fact that adaptation interventions are conducted across sectors, scales, and long timeframes means that evaluating adaptation is an equally challenging process.

TAMD's Working Paper No. 1 (Brooks et al. 2011) identifies four common challenges in conducting M&E of adaptation, which need to be understood and incorporated into evaluation frameworks in order to ensure that evaluations of adaptation are robust. These four challenges are – the long timescales associated with climate change and adaptation; attributing the outcomes of adaptation to specific actions, interventions, or policies; the shifting baseline conditions of climate change over time which can make it difficult to interpret adaptation results; and the contextualisation of adaptation outcomes within wider environmental changes, which may impact adaptation interventions and thereby alter the results.

In Chapter 2, each of the four challenges of evaluating adaptation are outlined in greater detail – followed by an explanation of how these challenges are addressed within the Kenyan context under the TAMD project. It is important to note that the piloting of TAMD in Kenya has been undertaken alongside the launch of the County Adaptation Fund in Isiolo, which will incorporate TAMD to monitor future adaptation interventions at the ward level. As such, efforts to address the four challenges of evaluating adaptation are being planned into the CAF's future project evaluations, and will therefore not yield concrete lessons until these evaluations are complete

Long-time scales

The first core challenge in the evaluation of adaptation is the long timescales associated with climate change and adaptation. In brief, measuring the success of adaptation is difficult because the pathway to resilience may take many years before an individual, household, community, business, etc. can be considered to be 'resilient'. This is particularly true of adaptation initiatives intended to address longer-term changes in climate that will take many years or decades to unfold. The long timescales required to measure resilience are complicated by the shorter timescales imposed by the cyclical nature of project and programmatic funding (usually between 1 – 5 years). These initiatives – whether they are funded through the national planning process or by external donors – often require measurable results over short timescales that do not complement the incremental nature of building adaptation in the longer-term.

In Kenya, TAMD's ex-ante inclusion into county and ward level adaptation planning is expected to create a regular process of evaluation that will be able to assess the long-term effectiveness of adaptation interventions.

During the feasibility study, baseline Track 2 indicators were established from which progress in wellbeing objectives such as poverty reduction and increased incomes can be measured in the future. As adaptation actions and county-level climate risk management processes are implemented over time, evaluations will be able to collect data that measures the effectiveness of these interventions, while factoring in the impacts of climatic shocks and climate variability that have occurred during the timescale of the intervention (see shifting baselines, normalisation, and contextualisation below). At the ward level, monitoring and aggregating data will generate outcome-level data that can show whether adaptation interventions have benefited local people (e.g. number of people with access to clean water). At the county level (through the Isiolo County adaptation M&E framework), output and outcome indicators will be aggregated at the impact level, to show whether adaptation interventions have reduced poverty and led to fewer households requiring humanitarian assistance.⁶ The Isiolo Country Planning Unit is expected to finalise their M&E framework before the end of the 2014/15 financial year.

⁶ Indicators that can measure changes in adaptive capacity must be grounded in the context, scale, sector, and nature of adaptation interventions, all of which may vary within Isiolo. It may therefore be difficult to aggregate community-level programme indicators at larger scales or, conversely, for national- or international-level ones to capture the effectiveness of interventions at the individual or household level. Looking forward, the full implementation of TAMD will need to link the short-term resilience indicators with longer-term wellbeing indicators that can be aggregated and used within national systems.

Attribution

The second challenge in conducting M&E of adaptation is the issue of attribution. Adaptation policies, programmes and projects do not occur in a vacuum. Rather, they occur within a broader context of socio-economic, political, and environmental change that can influence development and adaptation outcomes. As such, it can be difficult to attribute the impacts and outcomes of a given adaptation intervention. This is an important challenge for evaluations because a strong understanding of attribution is needed by policymakers to judge the effectiveness of their intervention, and learn lessons on how to improve those interventions in the future.

According to Brook et al (2013), attribution is comprised of three different elements:

- Evidence derived from empirical studies of vulnerability, adaptation, development impacts and pathways. These studies might already have been carried out, or they might be commissioned as part of a campaign to gather baseline information or to establish indicators.
- Theories of change, which highlight a pathway to resilience under climate change adaptation interventions. Theories of change are informed by baseline empirical evidence, and should be incorporated into the design.
- The evaluation process itself (e.g. within TAMD), which tests the theory of change's robustness and generates lessons to improve it. Evaluation will use indicators, but it should also gather qualitative narrative information to establish the nature of the links between outputs, outcomes and impacts.

Based on this guidance, the TAMD Kenya research team helped develop an adaptation M&E system at the county-level in Isiolo that incorporates evidence, theories of change and evaluations to measure attribution for Ward-level adaptation interventions. Under this M&E system, attribution of adaptation/resilience at the outcome level will be measured by collecting evidence from those receiving CAF support against baselines that were established in the feasibility phase. The changes that the interventions expect to have are clearly outlined in the ward theories of change.

Collection of climate and outcome evidence to measure adaptive capacity is a long-term endeavour. As highlighted above, projects under the CAF in Isiolo have only recently begun to be implemented. Moreover, communities are yet to experience any climate-related shocks from which the project team could assess their resilience and adaptive capacity. It is therefore too early to evaluate the effectiveness of adaptation interventions at the county and ward levels in Kenya. On the other hand, the TAMD feasibility testing has helped establish a county-level M&E system based on the collection of climate data, vulnerability, and the development of theories of change. Under this project,

stakeholders have been trained on how to collect evidence of adaptation in the long-term, which will ultimately be useful in measuring attribution once repeated evaluations have been undertaken.

It may also be possible to make quasi-experimental comparisons between communities that benefited from CAF adaptation interventions, and those that did not. This type of approach was not investigated during the feasibility-testing phase, but is something that could be developed in a follow-on phase of TAMD work in Kenya.

Shifting baselines

Shifting baselines present the third challenge for evaluating adaptation interventions. With climate change already impacting people's lives in Kenya, adaptation will take place within a shifting climatic and environmental context that will expose vulnerable communities to greater climate-related hazards and risks. This shifting poses a challenge for evaluation as it has the potential to act as a confounding factor in the assessment of development and adaptation interventions. For instance, an adaptation intervention aiming to improve the productivity of smallholder farmers (thereby improving their asset base and contributing to resilience) may yield no overall increases in crop yields, which would appear to show that adaptation efforts are not succeeding. However, if the project were implemented during a period that coincided with an increase in intensity of droughts, then the fact that productivity has not declined would actually indicate success in building resilient food systems. This example shows that if the adaptation intervention is not contextualised within changes in baseline environmental conditions and events, M&E assessments could misinterpret the effectiveness of these interventions. Shifting baselines therefore need to be incorporated into evaluations in both the design of evaluative tools (forward-looking, or ex-ante) and the analysis of data from specific interventions (ex-post).

Close monitoring of climate conditions and adaptation interventions is necessary over the long term in order to address the issue of shifting baselines. At present, establishing baseline climate scenarios in Isiolo is not possible, due to limited human, financial and technical resources⁷. However with the generation of climate information through the climate information service (CIS) component of the Adaptation Consortium it should become possible to map climate trends alongside the adaptation interventions under the CAF activities, and to adjust the baselines and the effectiveness of the interventions

⁷ The collection of climate trend data did not take place during the feasibility study because the CIS interventions had not yet taken effect. They began after the completion of the TAMD study, and it is hoped that the information generated from this project will complement the monitoring information on intervention outcomes and impacts in the long term.

accordingly. In order to address shifting baselines, capacity building of local planners will likely be required.⁸

Normalisation and contextualisation

Normalisation and contextualisation is the fourth main challenge for evaluating climate change adaptation interventions. Brooks et al. (2013) state that, when undertaking adaptation evaluations, 'indicators need to be normalised to account for changes and variations in the frequency and severity of extremes, particularly where these extremes are becoming more or less prevalent, and where the extremes in question are infrequent.'

Due to the fact that adaptation interventions are in their early stages in Isiolo, it has not yet been possible to test any normalisation and contextualisation methods. In order for normalisation to be tested, another resilience assessment will need to be conducted in the same households that participated in the original resilience assessments prior to the establishment of CAF interventions (in other words, an ex-post evaluation following the end of the CAF project cycle).

In the view of the TAMD Kenya research team, for normalisation and contextualisation to take place, a comprehensive adaptation M&E system needs to be properly designed, resourced and implemented over a time frame not less than five years. In Isiolo, some elements of this system are already in place such as the climate risk management data (Track 1) and development performance (Track 2) theories of change. However the full system of data collection, verification, storage and analysis is not in place, as this requires a dedicated M&E unit in place at the county level. This unit should be able to collect, analyse and evaluate climate data and adaptation benefit data, normalise indicators and advice the county planners and decision makers accordingly. The unit needs at a minimum, a meteorological officer and an M&E officer for this. It is imperative that this system is put in place if evidence on how to account for shifting baselines is to be tested and normalisation and contextualisation methods are to be used.

⁸ During the TAMD feasibility study, the concept of shifting baselines in measuring increased resilience posed challenges for stakeholders at the county level who are used to working within a simple baseline and ex-post evaluation model. The challenge in using climate trend data was highlighted in the scorecard exercise – showing that stakeholders will need further training on how to use climate data when the Adaptation Consortium has implemented their CIS project. This will help evaluators and planners to normalise/contextualise the results of their evaluations in the light of shifting baselines.

3

Assessing the potential to scale-up TAMMD

The purpose of piloting the TAMMD framework in Kenya was to determine whether TAMMD could be adapted to local circumstances in a way that supports long-term adaptation planning in the devolved governance structure at the county level. Given that climate change impacts are projected to increase in the years ahead, and that developing adaptive capacity is a long-term process, it is essential that TAMMD is mainstreamed and embedded in local adaptation planning beyond the short-term timescale of the TAMMD Kenya project. Chapter 3 focuses on five critical success factors – effectiveness of the TAMMD framework for the Kenyan context, sustainability, stakeholder acceptance, cost-effectiveness, and replicability – to determine the extent to which TAMMD has been institutionalised in Kenya at the sub-national level.

Effectiveness

Assessing the effectiveness of TAMMD as an evaluative framework hinges on how well data is collected and used to examine progress; assumptions; appropriateness of indicators; and how CRM and adaptation interventions are complementing and reinforcing each other towards achieving objectives.

Under the TAMMD feasibility study, baseline data for Track 1 has been collected through the use of institutional scorecards at the county level, and baseline development indicators for Track 2 adaptation interventions has been collected in five wards in Isiolo.

Although the adaptation interventions are still in the early stage of implementation, it has also been possible to collect some preliminary output data on the progress of CAF adaptation interventions at the local level. All of this data is presented in Chapter 4.

Given that adaptation interventions are ongoing, it is not yet possible to assess the effectiveness of the TAMD in Isiolo. Ultimately, the effectiveness of the TAMD framework for Isiolo County will be determined by how successful the TAMD feasibility project has been in establishing the processes needed to monitor adaptation interventions over time (for both Track 1 and Track 2), and whether these repeated evaluations generate accurate data on changes in adaptive capacity in Isiolo.

Sustainability

At the county level in Isiolo, the TAMD framework is critical in measuring both the progress of efforts to mainstream climate change adaptation into the planning process (Track 1) and the performance of development interventions in increasing adaptive capacity amongst vulnerable communities (Track 2). However the TAMD framework is still in the early stage of being mainstreamed into local planning. In order for the momentum behind TAMD to be sustained, a number of potential challenges will need to be overcome in the future. The sustainability of TAMD will depend on:

- **The devolution process.** Strengthening climate change ownership still has a long way to go in Kenya, especially with the challenges of transitioning to a devolved system of governance. Climate change will no doubt have an impact on the sectors, departments and functions that have been devolved to the county government and tackling it will entail a lot of support, guidance and engagement from the national government.
- **The success in mainstreaming adaptation into County Integrated Development Plans.** Along with the devolution of political authority to the sub-national level, the responsibility for planning adaptation interventions now lies with county governments. A sustained commitment to adaptation mainstreaming by local level planners will help secure TAMD's role as an M&E tool at the county level.
- **The success in creating linkages between TAMD and the existing county-level M&E system that measures development progress.** This is closely linked to how well the county government will be able to coordinate climate change adaptation activities of the various actors and ensure that they are in line with the CIDP adaptation priorities, while at the same time closely monitoring and evaluating changes over time and in line with the county M&E system.

- **The success in creating linkages between the CIDP and Ward Adaptation Planning Committees.** TAMD activities will need to be linked between various levels of governments so that Ward Development Committees, which are responsible for planning, budgeting and M&E of projects at the ward level, can link data collected under TAMD to the CIDP indicators at the county level.
- **Ownership of the TAMD framework by actors who have begun working on TAMD in Isiolo.** For the sustainability of the TAMD framework, it will be important that TAMD will be taken up by the actors who have been implementing climate change activities in the region, and will continue to do so as part of their long-term strategies. The onus will fall particularly on stakeholders working on the CAF and in the NDMA at the county level, to continue championing the framework and using it in their work outside the current funding.
- **The ability of county governments to manage cyclical changes.** This will be particularly challenging in light of the inevitable change of county governments and the resulting staff turnover. The chance that skills and knowledge relating to TAMD will be eroded through staff turnover is high – and this will need to be mitigated by building operational capacity and training programmes for new staff.
- **The role of donor funding in adaptation interventions.** Development partners have played a critical role in financing adaptation in Kenya; many, if not most, of the climate change funds accessed by the government are from development partners. The long-term sustainability of these funding streams will be necessary if M&E systems (such as TAMD) are to be strengthened over time.

Stakeholder acceptance

The implementation of an effective M&E system requires acceptability and commitment by all stakeholders, as well as adequate resource allocation and coordination. If this is not in place, the system will not function optimally.

Stakeholders in Isiolo were highly accepting of the TAMD framework. In particular, they felt that it was easy to understand how CRM interventions in Track 1 are linked to development performance. However stakeholders also perceived some challenges in implementing TAMD. For Track 2, it proved difficult for some stakeholders to understand the concept of assessing attribution by monitoring climate trends and adjusting indicators. Thus more awareness on the use of climate information in planning and development indicator adjustment is still required. In addition to this challenge, it was also observed by stakeholders that the collection of regular monitoring data would be difficult, as it would require additional work, time and mobilisation of both human and financial resources.

Cost effectiveness

IIED has commissioned an independent study into the cost effectiveness of implementing the TAMD framework in Isiolo. The results of the study highlight that TAMD will bring significant returns on the original investment of implementing TAMD, largely due to the high costs associated with climate losses and the potential of forward-looking climate resilient planning to overcome some of these potential shocks (Barrett 2014). In addition to the potential for TAMD to deliver long-term changes in Isiolo, an assessment by the TAMD project team highlighted that the project was able to deliver its results in a timely manner, and within budget – demonstrating that the project was good value for money to the UK’s Department for International Development (DFID), who generously supported TAMD. More data on the individual activities undertaken during the project can be found in Annex III.

Replicability

The purpose of the Kenya TAMD feasibility study was to see whether an adaptation M&E framework could be mainstreamed into ex-ante county- and ward-level planning. One of the most encouraging signs of the success of the feasibility study has been the interest from other county governments to learn from TAMD and replicate the methodology in their own counties. So far, four counties (Wajir, Garissa, Kitui and Makueni) have expressed interest in implementing TAMD. In March 2014, the TAMD research team held a workshop with officials from the four counties who wish to scale-up TAMD. During the workshop, county representatives came up with plans for mainstreaming climate change adaptation responses into their respective county planning structures. Overall, the workshop was useful since it provided an opportunity for the counties to generate a joined-up roadmap that would enable them to establish their own County Adaptation Funds and TAMD structures. The partner teams are now closely monitoring the mainstreaming of adaptation planning into the CIDPs in these four new counties.

In addition to replicating TAMD across these four new counties, the opportunity for wider replication in Kenya also exists. However, this will be influenced by the extent to which TAMD evaluations of CAF projects (once they are completed) can demonstrate that the interventions led to improved resilience in Isiolo.

4

Results from the TAMMD feasibility study

Baseline data collection

Following the selection of indicators with stakeholders in Isiolo, baseline data was collected to provide a benchmark from which to base future evaluations of adaptation performance. Baseline data was collected for both Track 1 and Track 2 indicators. CRM (Track 1) baseline data collection was facilitated by the County Planning Department and NDMA, while development performance baseline data collection was facilitated by the WAPCs. A short overview of the baseline data is given below for each of the Track 1 and Track 2 indicators.

Baseline data for Track 1 of TAMMD was collected in two main ways during the feasibility study. First, the project team worked at the county level to collect data on CRM performance through institutional scorecards. The objective of scorecards is to establish the capacity of planning institutions in Isiolo to manage climate risks. The research team developed a Track 1 institutional scorecard, which they sent to the County Drought Coordinator and County Planner to fill in. Table 5 below summarises the scores against the criteria used to measure the county's capacity for climate risk management.

Table 5: Scorecard Track 1 results

CRM criteria	Summary of scores and explanation
Climate Change mainstreaming/ Integration into county planning	<p>20%</p> <p>Isiolo county does not have a climate change plan or strategy and is working to integrate climate change into the county integrated development plan. It also has no formal/legal requirement to mainstream adaptation/mitigation into development planning. However, project implementation is guided by environmental impact assessment (EIA) regulations.</p> <p>Climate change adaptation projects have been funded through the County Adaptation Funds.</p> <p>There is a lack of expertise in Isiolo to screen interventions for climate risk and climate safeguard systems are not in place.</p>
Institutional Coordination	<p>85%</p> <p>In Isiolo county, NDMA is tasked with coordinating climate change planning and actions and a County Steering Group has convening authority.</p> <p>NDMA convenes the County Steering group, which coordinates all development activities in the county.</p> <p>There is no dedicated funding for sustaining the institutional coordination.</p> <p>The County Steering Group (CSG) is made up of major county heads of department ensuring regular contact between departments.</p>
Budgeting and Finance	<p>55%</p> <p>The CAF is funding pilot measures that address climate change and the CAPC has funds that could be utilised to support mainstreaming of climate change.</p> <p>Currently there are no mechanisms/capacities to assess the costs associated with measures to address climate change. Funding to cover necessary climate change measures is limited and mainly available through NGOs.</p> <p>The county government has not mainstreamed climate change issues into their budgeting and planning as yet.</p>

continues

CRM criteria	Summary of scores and explanation
Institutional knowledge/capacity	<p>65%</p> <p>The County Planner and NDMA staff have received training on climate change issues.</p> <p>County Planning Secretariat has members who have academic qualifications on climate change planning and mainstreaming. NDMA and county development planning staff have been trained on mainstreaming processes.</p> <p>Only two members of staff involved in the planning process have the required training.</p>
Use of climate information	<p>55%</p> <p>Planning in the county takes into account observational data and climate projections from the county's meteorological office as well as the national meteorological offices.</p> <p>Climate information generated by foreign and international bodies is not sufficient as the main source of information is Famine Early Warning Systems Network (FEWSNET).</p> <p>Use of scientific information is complemented by locally generated indigenous information from communities in the county.</p> <p>The county has limited capacity to interpret and use climate information and it does not conduct vulnerability assessments.</p>
Planning under uncertainty	<p>40%</p> <p>Not all planning in the county takes into account climate projections, however NDMA considers climate projections when planning. Planning mainly uses various kinds of assessments such as food security assessments but does not actively use scenario planning.</p> <p>Planning in NDMA does not consider risks associated with maladaptation and the team does not have a clear understanding of maladaptation. NDMA only conducts contingency planning and budgeting to address uncertainty.</p> <p>NDMA reviews its plans every six months: in these reviews planning can be updated with new climate information.</p>
Participation	<p>90%</p> <p>The county has a planning secretariat with membership from public and non-public sectors with representatives from vulnerable groups – women, disabled people and youth, for example – as well as representatives from marginalised and vulnerable groups.</p> <p>Participants are involved at the planning stage but not at the implementation stage. They are also never involved in the monitoring and evaluation activities. Social audit has not been taken seriously at community level.</p>

continues

CRM criteria	Summary of scores and explanation
Awareness among stakeholders	<p data-bbox="383 214 433 242">65%</p> <p data-bbox="383 256 1116 316">No serious sensitisation programmes have been conducted at community levels on climate change.</p> <p data-bbox="383 331 1126 420">Very few stakeholders are aware of potential, available or on-going climate change response actions and they are limited to areas where ward climate change adaptation committees exist.</p> <p data-bbox="383 434 1135 524">NDMA circulates all relevant climate information to all stakeholders and the dissemination of relevant information is one of the core functions of the authority.</p> <p data-bbox="383 538 921 566">NDMA has very limited funding for raising awareness.</p>

In addition to the institutional scorecards that were developed to capture baseline information for CRM in Isiolo, baseline information was also captured prior to the implementation of CRM interventions at the county level. This data was collected from secondary data sources within the county department offices, as well as through interviews with key county personnel. To capture this data, a tool and reporting format were designed by the research team and sent to the County Planner for reporting. The baseline information collected is shown in Table 6 below.

Table 6: Track 1 baseline data.

Level	Indicator	Numbers at baseline (2012)
Impact ⁹	Percentage decrease in poverty levels at county and ward levels	77% of population considered poor
	Reduction in number of households requiring humanitarian assistance	47% of population require humanitarian assistance
Outcome	Types, numbers and frequency of adjustments to climate change adaptation activities	28 adjustments to climate change 4 types of adjustments i.e. livelihood, infrastructure, policy and planning, innovation adjustments
	Operational county contingency and DRR fund	One county contingency fund from NDMA
	Increased number of projects targeting infrastructure and services on transport, health, water and sanitation, security, education, food security and income generation	323 projects targeting infrastructure & services on transport, health, water and sanitation, security, education, food security and income generation
	Number of climate change projects financed through budget allocation	0
Output	Types and number of information and communication products	12 early warning bulletins and 2 food security assessment reports
	Percentage of population reached	10% of population reached
	DRR department established and operationalised	0
	DRR Policy document produced	0
	Number of duplicated activities	40% of development activities duplicated
	Number of development agencies undertaking the same activities	40% of development agencies undertaking the same activities
	Number of climate change adaptation community project proposals developed and budgets justified	19

⁹ As highlighted in Table 3 in Chapter 1, the data on impacts can be measured for aggregated ward-level development performance indicators, which will be captured by Track 2 of TAMd.

Baseline data for development performance indicators (Track 2) was collected through household surveys, interviews/meetings with local government officials in each ward, and secondary data. A data collection tool was designed for the collection of data against each Track 2 indicator per ward. A total of 90 households were interviewed by representatives from the ward committees to collect data before the CAF-funded adaptation interventions, with a minimum of 10 households per ward to be covered.

Unfortunately, there were no resources to conduct a comprehensive household baseline survey, which could have improved the statistical robustness of household data. Thus the information collected from households functioned to test the credibility of the secondary data. Appraisal of development performance data sets took place in the third quarter during a scheduled monitoring visit. The monitoring team comprised of one member from the research team, members of the CAPC and the Adaptation Consortium M&E officer in NDMA. Each of the two teams visited the five wards to verify the baseline information through interviews with ward committees and government officials. Not all the data could be verified due to time constraints. Table 7 provides the baseline information that was collected through this dual approach in Sericho Ward. Data for the four remaining wards – Merti, Kinna, Garbatulla, and Oldonyiro – can be found in Annex IV.

Progress in applying the TAMD framework in Isiolo

At the time of writing, CAF-funded adaptation interventions at the ward level are still being implemented. Given that these interventions are still in their early stages, the TAMD feasibility study was unable to collect outcome and impact data on either CRM or local adaptation interventions to assess the effectiveness of adaptation in Isiolo. Rather, the emphasis of the feasibility study has been in creating an ex-ante M&E system at the county and ward levels in Isiolo. The main activities that have been undertaken during the TAMD feasibility study therefore focused on collecting baseline data from which to measure the effectiveness of interventions in the future; mainstreaming the TAMD approach within new ward and district-level planning structures; and training staff to complete the latter stages of the TAMD evaluation process when the interventions are complete.

Despite the fact that CAF-funded interventions are on-going, the TAMD project team has been able to collect some early output data that gives a preliminary indication of the effectiveness of adaptation interventions in Isiolo. The following two sections outline these early results.

Table 7: Development performance baseline data for Sericho Ward

Indicator	Source of information	Baseline data (2013)	Data verification status
Number of livestock population	Livestock Officer	28,374 cattle 45,090 sheep 54,739 goats 6177 camel	Done
Number of livestock markets established	Livestock Officer	0	Done
Number of livestock using water pan and well	Primary data	1000 Cattle 30,000 goats 900 Camel	Done
Number of water borne disease outbreaks	Clinic, Health Officer	45 cases	Done
Volume of water available for both domestic and livestock use	Water management committee	2 million m ³ (Forosa Pan)	Not done
Number of wells rehabilitated	Water management committee/ observation	0	Done
Population of town (human)	Chief's Office	12,099	Done
Number of households with regular income	Household survey	620	Done
Number of households from neighbouring counties/wards allowed to graze in ward	Household survey	300	Done
Number of conflict incidences	Police, Council of Elders	6 incidences	Done
Number of elders/ <i>dedha</i> committee members attending NRM meetings	Observation	40	Done
Number of NRM meetings held	Observation	10	Done

Early assessment of Track 1 outputs

The overall objective of the CRM interventions at national and county level is to assist the development and implementation of adaptation actions at community level where climate change impacts are being felt the most. The logic behind this is that to reduce vulnerability at the community level there needs to be enabling CRM processes taking place at national and county levels, otherwise local level adaptation will be limited. Table 8 below provides an overview of the county level CRM (Track 1) interventions being undertaken in Isiolo, and analyses the progress in implementing these interventions against their targets.

The first CRM intervention focuses on increasing climate information for strategic short- and long-term decision making by the communities in Isiolo. The outputs for this intervention concentrated on the types and number of information communication products and the percentage of the population reached with climate information within the whole county. Against a baseline figure of 10 per cent of the population accessing climate information, it is now reported that 50 per cent of the population within Isiolo have been reached with monthly and seasonal forecasts as well as monthly early warning system (EWS) bulletins. The monthly and quarterly forecasts produced by the Kenya Meteorological Service (KMS) and EWS bulletins made by NDMA provide the communities with information on predicted weather patterns and food security. While the quarterly KMS forecasts capture predicted weather patterns countrywide, the monthly forecasts are specifically tailored to each individual county.

A multiple approach strategy has been employed for outreach and information dissemination. Firstly, various radio stations have been used to raise awareness and disseminate climate information. For example, during the World Information Day, NDMA (funded by Action Aid) ran a radio session on seasonal forecasts, drought and climate change. Secondly, community *barazas* (congregations) have been used as a forum for information dissemination. Specifically, the EWS bulletins are being shared monthly with community *barazas*. Thirdly, the county has also engaged and trained fifteen drought monitors to disseminate climate information across Isiolo. Finally, NDMA officials are actively communicating with community leaders across Isiolo via mobile phones to share relevant information.

Several challenges have been observed in improving climate information services in Isiolo. These include: poor communication networks at the county level; the lack of community radios within some of the target areas; and a lack of accessibility for the drought monitors to remote and sometimes impassable areas. To overcome these challenges the county is planning on expanding outreach using more drought monitors and providing them with bicycles to facilitate their movements.

Table 8: Progress of Track 1 interventions towards achieving output level objective

Interventions	Outputs	Indicators	Achieved to date	Variations	Explain variations
Climate Information Systems	Increase in availability and access to climate information	Types and number of information and communication products Percentage of population reached	Monthly and seasonal forecast from KMS EWS Monthly Bulletin 50%	50% of population still not reached	Most areas have poor network and no community radios
Disaster Risk Reduction (policy reform, strengthening natural resource and pasture management)	A DRR policy and department established in Isiolo County	DRR department established and operationalized Policy document produced	DRR department not established So far, DRR/CCA has been mainstreamed into the CIDP	A Technical Working Group on DRR has been established at county level DRR policy document not yet developed	This is the initial step towards establishment of a DRR department at the county level Development of the DRR policy document is pegged on the establishment of the county DRR department
County coordination and planning	Reduction in concentration of development activities in one area and duplication of activities	Number of duplicated activities Number of development agencies undertaking the same activities	No projects duplicated so far None		CAPC and CSG play a key role in project coordination, ensuring that there is no duplication and that projects are spread according to need
Finance and budgeting	Coordinated project planning and budgeting process	Number of community project proposals developed and budgets justified	43 proposals developed by community and approved WAPC and CAPC participating in the county budget forums – 2014/2015	Only CAF proposals indicated	Information on all funded community proposals currently lacking

The second CRM intervention focuses on disaster risk reduction (policy reform, strengthening natural resource and pasture management) through the establishment of a DRR policy and department within Isiolo County. As shown in Table 8 above, there has not been much progress towards this output. So far, a Technical Working Group on DRR has been established. At county level, the County Steering Group deals with issues on climate change, drought management and food security. The Technical Working Group is constituted within the Climate Steering Group to handle all issues on DRR – e.g. to formulate modalities of addressing DRR, mainstreaming, and advocating for a DRR department at county level. While the CIDP now outlines strategies for mainstreaming DRR (and CCA), development of the DRR policy can only be embarked upon once a DRR department or DRR coordination unit has been set up.

The third CRM intervention focuses on county coordination and planning with the aim of streamlining development activities and avoiding duplication of activities. Through the key coordination role played by the CAPC and CSG, they have been able to ensure that there is no duplication of projects in Isiolo, and that projects are spread across the county according to need.

The fourth CRM intervention focuses on finance and budgeting. So far 43 proposals have been developed by the community and funded through CAF. Although this output aims at capturing information on all additional proposals developed and funded since the baseline was conducted, currently information on this is not available. Tracking of financing and budgeting outputs showed that the CAPCs and WAPCs have participated, and will continue to participate in the budget forums.

Based on this output assessment, there is still a long way to go towards achieving the CRM outputs (with the exception of Output 3). In light of the move towards devolution of departments and other functions from the national to county level, such a delay in achievement of outputs is within reason. In Isiolo, the county government is still grappling with the enormity of putting functioning structures in place. As such, efforts to implement adaptation interventions and collect output and outcome level data can be expected to gradually improve over time.

Early assessment of Track 2 outputs

Adaptation actions being implemented at ward level were formulated through resilience assessments conducted before the TAMD initiative started. The ward level interventions fall into four main categories:

- Natural resource management
- Construction/ rehabilitation of water structures and water management
- Strengthening of traditional resource governance structures

- Construction of other infrastructure (veterinary lab, animal holding yards)

Out of a total of 17 interventions spread across five wards, output level achievement stands at 41 per cent achieved, 47 per cent partly achieved and 12 per cent not achieved. Table 9 outlines the adaptation interventions that were selected for Sericho Ward and funded by the CAF, highlighting the early progress made towards achieving the outlined outputs.

Table 9: Analysis of development performance outputs for Sericho Ward

Interventions	Output Indicators	Achieved to date	Variations	Notes
Fencing of two water pans	Number of water pans fenced	2		
Capacity building of the natural resource management committee (<i>dedha</i>)	Number of trainings held for the <i>dedha</i>	0		Training was still being planned
Rehabilitation of Hawaya well	Number of wells rehabilitated	1	One well was damaged by rain	
De-silting of Fororsa Pan	Number of water pans de-silted	0		Presence of water in the pan impedes de-silting

Linkages between Track 1 and Track 2

Linkages between Track 1 and Track 2 of the TAMD framework after the feasibility testing have not yet been very clear. The main challenge in linking performance under these two tracks is that adaptation interventions at the ward level (Track 2) began prior to the launch of CRM interventions. Improved CRM processes did not therefore factor into the formulation of Track 2 interventions. However it should be noted that the County Planning Unit was pro-active and included the Track 2 interventions in the new CIDP as a way of mainstreaming climate change into development. Assessing attribution will have to take place once significant progress is made in Track 1 and upon further assessment of outcomes in both tracks.

Conclusions

The TAMD feasibility study was undertaken to support the government of Kenya in implementing a key component of their National Climate Change Action Plan – piloting an adaptation M&E system at the sub-national level. At the county level, the TAMD feasibility study focused on using TAMD to assess climate risk management (Track 1) within Isiolo County's planning structures. At the ward level, TAMD was integrated into local adaptation projects in order to measure development progress over time (Track 2).

At the time of writing, both CRM and local adaptation interventions are still being implemented in Isiolo. Given that these interventions are still in their early stages, the TAMD feasibility study was unable to collect outcome and impact data on either CRM or local adaptation interventions to assess the effectiveness of adaptation in Isiolo. However, the study has been successful in creating an ex-ante M&E system that can be used by both County and Ward Adaption Planning Committees in the future. The establishment of TAMD in Isiolo during this study has also been successful in building the knowledge and capacity of stakeholders and partners at national, county and ward levels – who will continue to use TAMD to improve adaptation planning in the years ahead.

The TAMD feasibility study in Kenya managed to deliver on its objectives with many lessons learned along the way. Some of the major challenges faced by the team and lessons learned during the study include:

- The difficulty in defining counterfactuals within a project where the interventions are public investment goods and therefore benefit the whole population.
- The difficulty in assessing institutional capacity using scorecard indicators whilst trying to integrate different CRM indicators into the CRM theory of change. This difficulty was overcome by rephrasing the scorecard as a tool to measure institutional capacities on CRM processes, which could be used alongside tracking development performance indicators on specific CRM interventions.
- The importance of establishing a sound data collection, verification and analysis system so that progress on CRM and information on adaptation and development performance can inform planning and policy.
- The need to collect climate trend data alongside intervention outcome data, for normalisation of wellbeing indicators for the long term. This has yet to be undertaken in Isiolo, although there are plans for the Adaptation Consortium to address this gap.

Another significant result of the TAMD feasibility study has been the interest by other county governments to integrate TAMD within their own county planning structures.

When replicating TAMD in the other selected counties it is important to recognise two main lessons from the TAMD feasibility experience. First, there are no 'one size fits all' solutions: local communities are best placed to articulate and prioritise their needs. Second, the TAMD feasibility study has shown the need to work within existing policy frameworks. This poses significant challenges in the context of an on-going process of political devolution – where new planning structures (e.g. CIDPs) are still being articulated at the county level in Kenya. Amidst on-going devolution, current adaptation programmes are often implemented in a stand-alone manner, and do not fit within county priority sectors. For greater impact and coherence when scaling-up TAMD to new counties, it would therefore be useful if CAF strategies and interventions (and hence, the monitoring of these through TAMD) were designed to tie in with the adaptation measures outlined in CIDPs. This could go a long way to ensure coherent implementation of adaptation actions at the county level. In this way the TAMD framework will gain greater credibility as it will be contributing evidence of attribution between county led actions and development performance at the grass-root level.

In concluding this the research team proposes that:

- A second phase of TAMD should be funded for Isiolo so that the adaptation M&E system established is operationalised fully, including the collection of data on outcomes and climate trends to normalise indicators and prove attribution.
- The second TAMD phase should include the development of a portfolio of case studies that can be used to improve the implementation of TAMD in Kenya and assessments on implementation costs.
- IIED should revisit the TAMD operational framework and update it with new thinking and findings from the feasibility studies implemented globally. This should include the debate on establishing counterfactuals, how to make the understanding of CRM easier, collecting data for use in a before and after analysis, tools on how to normalise indicators with the use of climate, loss and damage data and evaluation tools for implementing partners.

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Annexes

Annex I – Stakeholder roles in the TAMD feasibility study

Stakeholder	Level	Role
NDMA Monitoring Unit	National	<p>Prioritisation of national actions in the Ending Drought Emergencies (EDE) sector plan</p> <p>Support in the development of CRM theory of change for Isiolo</p>
ASAL Secretariat	National	<p>Mobilisation of CAPC and WAPCs in Isiolo</p> <p>Organising and supporting the monitoring visits to the adaptation projects</p>
NDMA Drought Coordinator	County	<p>Prioritisation of county CRM actions</p> <p>Support in the development of CRM theory of change for Isiolo</p> <p>Participation in two monitoring visits</p> <p>Collection and verification of baselines for both CRM and development performance actions</p> <p>Facilitation of meetings with other stakeholders</p>
County Planner	County	<p>Prioritisation of county CRM actions</p> <p>Support in the development of CRM theory of change for Isiolo</p> <p>Participation in two monitoring visits</p> <p>Collection and verification of baselines for both CRM and development performance actions</p>
County Water Officer, Livestock Officer, Agriculture Officer, Meteorology Officer	County	<p>Prioritisation of county CRM actions</p> <p>Support in the development of CRM theory of change for Isiolo</p> <p>Participation in two monitoring visits</p>

continues

Stakeholder	Level	Role
Medium Term ASAL Project	County	Prioritisation of county CRM actions Support in the development of CRM theory of change for Isiolo
Ward Adaptation Planning Committees	County	Development of development performance theories of change, indicators and assumptions Collection of baseline and monitoring data Support in the development of CRM theory of change for Isiolo

Annex II – NGOs implementing climate change activities in Isiolo County

NGO	Climate change adaptation activities
FH Kenya	<ul style="list-style-type: none"> ● Livestock health ● Seed distribution and agriculture ● Fodder production ● Promotion of alternative livelihoods e.g. gum and resin production ● Disaster risk reduction
VSF Suisse	<ul style="list-style-type: none"> ● Best practice disaster risk reduction ● Restocking of households with camels and goats (drought tolerant animals)
Kenya Red Cross	<ul style="list-style-type: none"> ● Early warning systems training and implementation ● Cash transfer programmes ● Promotion of greenhouse agriculture ● Pasture management
Action Aid	<ul style="list-style-type: none"> ● Promotion of rain water harvesting ● Promotion of drought tolerant crops ● Irrigation agriculture ● Alternative livelihoods such as fish farming and dairy goats ● Infoasaid programme which communicates information on humanitarian aid activities during period of drought

Annex III – Activities undertaken during the TAMD feasibility study

Activity description	When	Planned output	Delivered outputs	Comments
Scoping mission (key interviews with county government, civil society and private sector if possible)	April 2013	Scoping mission report	The scoping mission took place in April 2013 and the report was finalised in June. The findings were incorporated into the Q1 report submitted on 15 th July 2013.	Output was timely
Tool development and data collection on situation analysis, targeting who is doing what in Isiolo county, what M&E systems/indicators are in use, how these are measured, data sources, identification of key interventions in Track 1 and Track 2, and development of a theory of change for each intervention	April–June 2013	Situation analysis report	The information on who is doing what and different types of indicators being used was collected during the scoping mission and forms part of the situation analysis report annexed to the Q1 report. Track 2 theories of change, indicators and assumptions were developed with five WAPCs. Baseline data sheets and a baseline data collection plan for each ward were also developed. The report was submitted together with the Q1 report.	Output was timely
Official launch of process with stakeholders to discuss findings of situation analysis and possible indicators, selection of interventions	June 2013	Workshop report with agreement	This activity did not take place as the county government was in the process of being formed.	External factors hindered this output
Writing first quarter report	June 2013	Q1 report	This report was submitted on 15 th July 2013.	Output was timely

continues

Activity description	When	Planned output	Delivered outputs	Comments
Indicator development and development of a theory of change for attribution between Track 1 and Track 2.	June-August 2013	Draft indicator report	Indicator development for Track 1 did not take place as the county government was still in formation.	This activity took place in September 2013
Technical working group meeting to prioritise and select indicators, data collection methodologies and data sources	August 2013	Final indicator report inclusive of datasheets	This meeting took place in September due to the unavailability of stakeholders in August. Track 1 indicators were developed and baseline data sheets were also developed.	Track 1 Indicators were reported in the Q2 report
Writing second quarter report	September 2013	Q2 report	This report was submitted on 24 th September 2013.	Output was timely
Data collection on indicators, indicator calculation	August – November 2013	Data collection report	Baseline data collection on Track 1 and Track 2 took place between July and February 2013. In October a monitoring visit was undertaken to verify Track 2 baseline data and monitor the extent to which the adaptation actions had been implemented. A template was designed to report Track 1 data. This report and that of Track 2 baseline data were both finalised in March 2014.	Baseline data collection took a long time as it was being collected by the WAPCs, the County Planner and the NDMA Drought Coordinator

continues

Activity description	When	Planned output	Delivered outputs	Comments
Data analysis	November-December 2013	Draft analysis report	A monitoring report analysing the Track 2 indicators and baseline data was finalised in December 2013.	The baseline data on Track 1 indicators had not been finalised by this time.
Validation of analysis report	Late November-early December 2013		This took place in March 2013. It was attended by the full county adaptation planning committee with representation from all county technical departments and all six WAPCs.	Most government employees are on leave in December; hence the postponement of this meeting
Writing third quarter report	December 2013	Q3 report	This was submitted on 20 th December together with the baseline analysis report.	Output was timely
Write up of final technical report	January-February 2014	Final report	The technical report submission was postponed to June 2014.	Output was timely
Writing fourth quarter report	March 2014	Q4 report	This was submitted on 12 th March 2013.	Output was timely

Annex IV – Track 2 baseline data for Merti, Kinna, Garbatulla & Oldonyiro Wards

Merti Ward

Indicator	Source of information	Baseline data (2013)	Data verification status
Number of boreholes drilled	Observation	0	Not done
Number of water pan/inlets blocked	Observation	0	Not done
Number of kilometres travelled to water point	Household survey	From Lakhole – 27/30kms From Basa – 21kms From Lafe – 40kms From Malkagala – 18kms	Not done
Amount of money from water levies collected each month	Water Management committee	Kshs 150-200,000 per month	Not done
Number of Rangeland Users Association (RUA) meetings held	Rangelands Users Association Committee	0	Not done
Number of users involved in meetings	Rangeland Users Association Committee	0	Not done
Number of attacks/incidences of conflict reported	Council of Elders/ Police	15 cases in last three months	Not done
Number of trainings held for the RUA Management Committee	Rangeland Users Association Committee	0	Not done
Number of people living/ residing in the area	Household survey/ Chief's Office	28,500 people	Not done
Number of social services (schools, clinics built)	Observation/Chief's Office	31 schools 8 clinics	Not done
Number of small scale traders in the market	Observation	500 traders	Not done

Kinna Ward

Indicator	Source of information	Baseline data (2013)	Data verification status
Number of livestock deaths (2012)	Livestock Officer	3039	Done
No. of laboratory samples	Veterinary Laboratory	0	Done
Number of livestock births (2012)	Livestock Officer	6000	Done
Number of litres of milk produced per household per day	Households	5 Litres	Done
Number of animals taken to slaughterhouse (2012)	Slaughterhouse	2000	Done
Number of livestock sold (2012)	Market	2400	Done
Number of livestock disease outbreaks reported (2012)	Livestock Officer	26	Done
Number of conflicts reports (2012)	Police post and Elders	140	Done
Number of livestock traders (6month before project)	Market	75	Done
Household expenditure on livestock drugs (2012)	Household survey samples	38400	Done
Number of pupils enrolled in schools	Education Officer/ School register	2033	Done
Number of marriages	Kadhi	76	Done
Number of children born (2012)	Health Office/Clinic	250	Done
Number of businesses started or registered (2012)	Council Office	40	Done
Number of cultural ceremonies (2012)	Council of Elders	15	Done
Number of permanent houses constructed	Survey/Observation	30	Done
Number of mosques constructed (2012)	Kadhi	2	Done

Garbatulla Ward

Indicator	Source of information	Baseline data (2013)	Data verification status
Price of milk at market	Market	Kshs 20 per litre	Done
Price of meat at market	Market	Kshs 320 per kg	Done
Price of skin at market	Market	Kshs 150 for Sheep hide Kshs 200 for Goat hide Kshs 1500 for Cow hide	Done
Number of livestock deaths	Livestock Officer	Goats – 1000 Sheep – 2500 Cow – 3000 Camel 600	Done
Number of emergency livestock off take	Livestock Officer	None during 2012.	Done
Number of animals	Livestock Officer	3,505 cattle 63,098 sheep 59,406 goats	
Number of meetings held	Dedha	6 meetings in 2012	Done
Number of conflict incidences (2012)	Police and Council of Elders	2 times in Mathohokile	Done
Number of water borne diseases (2012)	Health Officer	5 outbreaks of amoebiasis	Done
Number of <i>dedhas</i> established (2012)	Within the ward	10	Done
Number of <i>aba-eregas</i> appointed (2012)	Within the ward	None at the present	Done
Presence of cheese (<i>ititu</i>)	Observation	At present none, plenty rainy season	Done

Oldonyiro Ward

Indicator	Source of information	Baseline data (2013)	Data verification status
Number of livestock with access to water during dry season (2012)	Water point	No data	Not done
Number of livestock disease outbreaks per year (2012)	Livestock Officer	2 outbreaks	Not done
Number of litres of milk produced per households per day	Manyattas/ Households	5 litres	Not done
Number of kilos of meat produced over the year (2012)	Market/ Slaughterhouse	14,400 kgs	Not done
Number of livestock births	Livestock Officer	40% of population	Not done
Number of households with access to water during dry season (2012)	Water point	3000	Not done
Number of hours spent fetching water from water point for domestic use	Water Management Committees	13 hours	Not done
Number of hours spent fetching water from water point for livestock use	Water Management Committees	8 hours	Not done
Number of months in 2012 when water is available in the 10 sand dams	Water Management Committees	3 months	Not done
Number of hours spent walking to water point (domestic)	Water Management Committee Sample of household survey	7 hours	Not done
Number of disease outbreaks in humans (2012)	Health Officer	None	Not done
Number of ceremonies held per year (2012)	Council of Elders	3 ceremonies	Not done

Indicator	Source of information	Baseline data (2013)	Data verification status
Number of conflict incidences (2012)	Police post	0	Not done
Number of families migrating	Clan Elders	40 families	Not done
Number of children born (2012)	Health Office	24 born in a dispensary 50 home births	Not done
Number of households not dependent on relief	World Food Programme record Food Relief Committee	7000 people	Not done
Number of schools constructed (2012)	Education Officer	2 primary schools	Not done
Number of dispensaries constructed (2012)	Health Officer	2 dispensaries; Labarshereki and Tuale	Not done
Number of new permanent settlements	Count the number	18 settlements	Not done
Number of children enrolled and retained in schools (2012)	Education Officer	No data	Not done



Knowledge
Products

Research Report

December 2014

Climate change

Keywords:
monitoring and evaluation (M&E),
resilience, Kenya

The application of TAMD in Kenya has focused on strengthening local adaptation planning in Isiolo County in support of Kenya's National Climate Change Action Plan. TAMD was applied in Isiolo to develop scorecards for county and ward institutions to assess climate risk management. The TAMD methodology was also used to develop a ward-level M&E system that tracked the development outcomes of adaptation interventions funded by the Isiolo County Adaptation Fund. When testing TAMD, participatory methods were important to foster engagement with actors at sub-national and community levels. Active participation by local stakeholders generated new knowledge and learning for policymakers, and enhanced local ownership over adaptation decision-making.

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