

EARLY OUTCOMES OF CLIMATE FINANCE IN KENYA: CASE STUDY OF SEVEN INVESTMENTS FUNDED BY THE COUNTY CLIMATE CHANGE FUND MECHANISM

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Working paper



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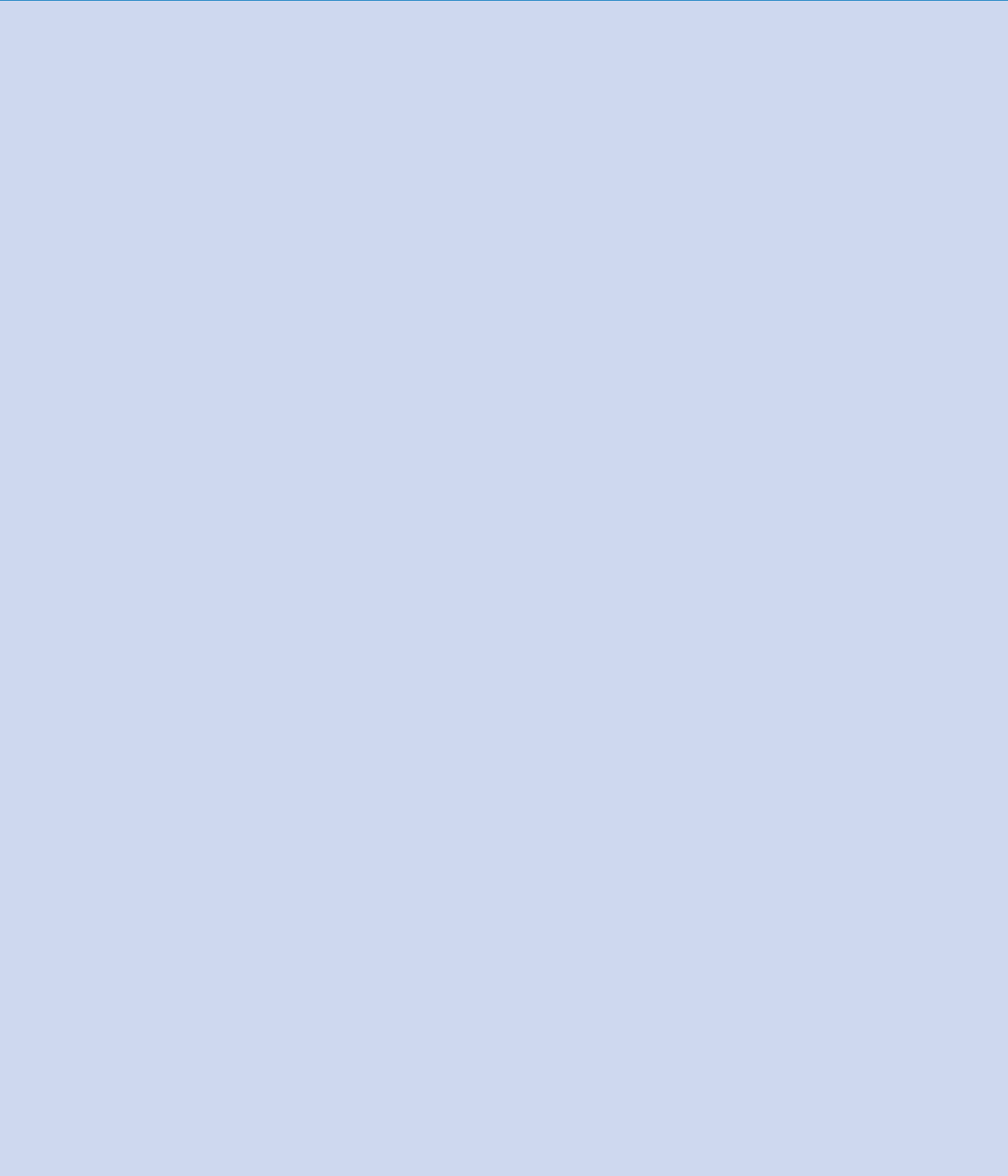
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Acronyms

Ada	Adaptation Consortium
ASAL	Arid and semi-arid land
CCCF	County Climate Change Fund
CCCPC	County climate change planning committee
CCTC	Climate change technical committee
CIDP	County Integrated Development Plan
EDE	(Common Programme Framework for) Ending Drought Emergencies
FGD	Focus group discussion
IIED	International Institute for Environment and Development
KMD	Kenya Meteorological Department
M&E	Monitoring and evaluation
MDNKOAL	Ministry of State for the Development of Northern Kenya and Other Arid Lands
MPND	Ministry of Planning and National Development
NDC	Nationally determined contribution
NCCAP	National Climate Change Action Plan
PVCA	Participatory Vulnerability and Capacity Assessment
RAP	Resource Advocacy Programme
StARCK+	Strengthening Adaptation and Resilience to Climate Change in Kenya
SDG	Sustainable Development Goal
VfM	Value for money
WCCPC	Ward climate change planning committee



Executive summary

Climate change poses significant challenges to the social and economic development of Kenya and its arid and semi-arid lands (ASALs). Getting climate funds to the local level is critical to support climate-resilient development more broadly and the resilience of households and communities more specifically. The County Climate Change Fund (CCCF) mechanism pilot-tested in the five counties of Isiolo, Wajir, Garissa, Makueni and Kitui aims to enable counties to create, access and use climate finance to build their resilience and reduce vulnerabilities to a changing climate. The mechanism provides a way of channelling climate finance to vulnerable communities through county governments.

This report is part of a wider study, which explores whether public investments made by government-led climate funds in Ethiopia, Kenya, Mali and Senegal are building climate resilience that responds to locally determined priorities (Quevedo et al., 2019). This report focuses on Kenya and is based on a case study of seven investments (out of a total of ninety-nine) funded through the CCCF mechanism across the five pilot counties in Kenya. Fieldwork was conducted in all five counties and involved focus group discussions with the county climate change committees, ward climate change planning committees, user committees, female beneficiaries, male beneficiaries and youth beneficiaries. In addition, individual semi-structured interviews were held with a few beneficiaries and some key stakeholders at ward or county level. The fieldwork focused on investigating the early outcomes from the investments on household and community resilience by using a value-for-money framework and focusing on the four components of economy, efficiency, effectiveness and equity.

In line with the wider study, this report addresses three broad questions:

1. How is climate resilience being defined and measured at the sub-national and national levels of the country climate funds? (The wider report addressed the international level).
2. What outputs have been achieved by decentralised and centralised approaches, and what can be learned?
3. To what extent does the level of government involved in the decision-making process affect the outputs of activities that aim to strengthen climate resilience?

Definition of resilience at national and sub-national levels

At the national level, Kenya's key national climate change and development policies seem to frame resilience within a context of economic growth, environmental sustainability and sustainable livelihoods. At the county level, resilience is more grounded within the local context and the need to consider local livelihoods, and the vulnerabilities and adaptive capacities of households and communities to the impacts of climate change. The emphasis is mostly on reducing the vulnerability of local livelihoods to natural hazards through securing sustained and equitable access to productive assets and resources (e.g. livestock, natural resources, water). Yet, this perspective on resilience sits alongside the counties' economic development objectives and thus their promotion of industrialisation and economic growth. Such development is normally pursued through large-scale investments in health, education and infrastructure.

At the ward level, resilience is assessed in terms of the ability of livelihoods of defined social groups to withstand climate risk and stresses and the contribution of social networks and institutions to the sustainable utilisation of resources. Resilience is also understood in a context of communities being not only beneficiaries but also agents of their own resilience.

Early outcomes from the seven investments across the five counties

Overall, the findings suggest that the case-study investments are having positive impacts in terms of strengthening household welfare and their resilience to climate risks. Indeed, the investments focusing on improving water access and availability in Wajir, Makueni, Kitui and Garissa have led to several direct benefits: improvement in access to and availability of water for both livestock and domestic uses, with benefits also felt by women and youth; reduction in water costs; and reduction in level of waterborne diseases. In addition, these investments are showing some indirect benefits: fewer conflicts between groups; better management of natural resources and a strengthening of customary institutions for natural resource management; educational benefits for children who are able to attend school for longer and achieving improved grades; and economic benefits through the diversification of livelihoods and creation of new economic opportunities (e.g. vegetable gardens, small-scale irrigation and tree nurseries).

The CCCF investments have also had significant direct benefits for women. As a result of the water investments, women have greater access to water for domestic use and spend less time fetching water. This has freed them to focus on other domestic chores, support their children's schoolwork, diversify their livelihoods and set up small businesses.

Governance of the CCCF mechanism – benefits and challenges

A key principle of the CCCF is that it supports community-driven, bottom-up planning and it does so by giving the ward climate change planning committees (WCCPCs) the role of working with communities to develop and prioritise investments in local public goods that strengthen communities' adaptive capacities. The WCCPCs represent the central pillar of the CCCF. The CCCF challenges business-as-usual models in seeking to operationalise the principle of subsidiarity and devolving decision-making powers beyond the county level to the ward level. It is a key feature of the CCCF mechanism that decision-making is done at both the ward and county levels, and not only at the county level. The county climate change planning committees (CCCPCs) do not have the authority to reject WCCPC-prioritised proposals if they meet the strategic criteria but should provide technical support to and work with the WCCPCs to ensure that their proposals meet the technical criteria. The role of the CCCPCs ensures that the principle of subsidiarity is applied, with appropriate checks and balances.

The results from the case studies suggest that the institutional/ governance structure and decision-making processes of the CCCF are leading to some significant benefits. The CCCF's governance arrangements and key principles – which promote the principle of subsidiarity, allocate decision-making at multiple levels, and promote strong community participation – have led to a strong sense of community ownership of the investments. The beneficiaries of CCCF investments are actively involved in the development of project proposals, in the construction works and in day-to-day management of the investments through the user committees. This strong participatory approach appears to have led to the development and implementation of investments that

better reflect communities' needs and priorities and complement existing initiatives. The use of user/site committees to manage the investments also appears to be a successful feature of the structure of the CCCF mechanism.

Ensuring the long-term success and sustainability of CCCF investments nevertheless remains a challenge because of the wider policy and development context within which they occur: a context of significant development deficit, continued failure by government and development partners to ensure water security, inadequate water governance arrangements and policies that undermine the resilience of pastoral systems and communities. Some of the case-study investments, which were showing signs of over-use, are providing evidence of how this context can reduce their effectiveness. In addition, the CCCF mechanism is trying to change the relationship between state and citizen, introducing concepts and operational features to support devolution, community participation and inclusion in a context where there are discriminatory gender and generational norms and where devolution and the transfer of power from state to county level is new (since 2013). Challenging these norms and mindsets takes time.



1. INTRODUCTION

IMAGE: CLIMATE-
SMART KENYA
PICTURE TAKEN
BY: C.SCHUBERT

Climate change poses significant challenges to the social and economic development of Kenya and its arid and semi-arid lands (ASALs), which constitute over 80% of the national land area. Climate-related impacts in Kenya affected on average 3 to 4 million people annually with fiscal liability of US\$2.0–2.4 million to the GDP. Over the last 50 years, temperatures have increased, rainfall patterns have changed, with an increase in heavy rainfall events, and the magnitude and frequency of extreme events has increased (Government of Kenya, 2018). Droughts have also become longer and more intense over the last 30 years and tend to last across rainy seasons (Government of Kenya, 2018). They affect large parts of Kenya, especially the ASALs. Recurring droughts, erratic rainfall patterns and floods continue to negatively impact livelihoods and community assets. Increasing

temperatures, especially in ASALs, are likely to exacerbate the drought conditions, worsening the water shortages and general wellbeing of the people. Major impacts of flooding include destruction of infrastructure, including water and sewer lines, and croplands, as well as loss of livestock and upsurges in waterborne or sanitation-related diseases.

Getting climate funds to the local level is critical to support climate-resilient development more broadly, and the resilience of households and communities more specifically. Kenya's County Climate Change Fund (CCCCF) mechanism pilot tested in the five counties of Isiolo, Wajir, Garissa, Makueni and Kitui aims to enable counties to create, access and use climate finance to build their resilience and reduce vulnerabilities to a changing climate. The mechanism provides a way of channelling climate finance to vulnerable communities through county governments. This report is part of a wider study, which explores whether public investments made by government-led climate funds in Ethiopia, Kenya, Mali and Senegal are building climate resilience that responds to locally determined priorities (Quevedo et al., 2019).

1.1 Kenya's County Climate Change Fund mechanism

The County Climate Change Fund (CCCCF) mechanism operates within the framework of devolved governance established by the Constitution of Kenya (2010), and in accordance with related legislation such as the County Governments Act 2012 and the Public Finance Management Act 2012. The CCCC mechanism also supports implementation of the Climate Change Act (No. 11 of 2016), as a priority of the current National Climate Change Action Plan (NCCAP), and will contribute to the achievement of Kenya's nationally determined contribution (NDC).

Kenya's Climate Change Act (2016) requires counties to mainstream climate change actions into their planning and to put in place climate-related policies and legislation. The CCCF mechanism is designed to help counties carry out these responsibilities. It enables counties to create, access and use climate finance to build their resilience and reduce vulnerabilities to a changing climate in a coordinated way and aligned with national policies. The mechanism is meant to channel climate finance to vulnerable communities through county governments (Ada Consortium, 2018b). The CCCF was initially piloted in Isiolo County, Kenya in 2012/2013 under the leadership of the then Ministry of State for the Development of Northern Kenya and Other Arid Lands (MDNKOAL) with support of the Ministry of Planning and National Development (MPND), Kenya Meteorological Department (KMD), Resource Advocacy Programme (RAP) and the International Institute for Environment and Development (IIED) (Ada Consortium, 2018b). In 2013, this pilot was extended to the counties of Garissa, Kitui, Makueni and Wajir and implemented through the Adaptation Consortium (Ada), funded by UK Aid through the Strengthening Adaptation and Resilience to Climate Change in Kenya (StARCK+) Programme (Ada Consortium, 2018b).

The CCCF mechanism consists of four elements (Ada Consortium, 2018b):

1. the County Climate Change Fund (CCCF)
2. climate change planning structures at county and ward levels
3. integration of participatory planning tools, including climate information services, resilience and vulnerability assessment, and resource mapping
4. participatory monitoring and evaluation of adaptation initiatives.

The CCCF is designed to finance local adaptation and so the fund is currently divided in the following way: 70% of the CCCF is to be used to finance ward-level investments; 20% is for county-level investments (e.g. development of climate-related policies, investments in climate-information services); and 10% for running costs.

The CCCF has the following generic planning structure:

- steering committee, which provides strategic direction
- county climate change planning committee (CCCPC), which manages the fund
- a fund administrator, which acts as secretary to the CCCPC
- ward climate change planning committees (WCCPCs), which prioritise investments.

In addition, site/user committees for each investment are responsible for the day-to-day management of the investment. Counties may add extra layers, such as investment level steering committee and/or boards to provide strategic direction in the management of the fund (Ada Consortium, 2018b).

Within this structure, the WCCPCs are responsible for undertaking participatory assessments of communities' vulnerability or resilience to climate hazards and future climate change, and subsequently for the identification, development and prioritisation of climate-resilience investments that fall within the ward committee's budget envelope and meet the strategic and technical prioritisation criteria. The WCCPCs also participate in the procurement process. However, the contracts with service providers are signed by the county government in accordance with the Public Finance Management Act 2012 and Public Procurement and Asset Disposal Act 2015. The WCCPCs consist

of representatives from the different settlements and livelihood groups within the ward, and representatives of women, youth, people living with disabilities, faith-based institutions, and community-based organisations active in the area. This structure and process of decision-making is designed to enable local people, through their ward committees, to maintain control of their development and adaptation priorities (Ada Consortium, 2018b).

The role of the CCCPCs is to review the prioritised investments submitted by the WCCPCs, and to provide technical support to the WCCPCs to improve the proposals and ensure that they meet the technical and strategic criteria for investments. Crucially, the fund design does not give CCCPCs the authority to reject WCCPCs' prioritised proposals if the strategic criteria are met (Ada Consortium, 2018b). (The criteria are listed in Box 1 in Section 2.1). CCCPCs are also responsible for prioritising investments that benefit the whole county using the 20% allocation of the CCCF.

The current portfolio of CCCF investments by all five counties is provided in Annex 1.

1.2 Climate change impacts in Kenya and selection of sample investments

Climate change impacts in Kenya

Climate change poses significant challenges to Kenya's social and economic development, due to the economy's dependence on natural resources, and represents a threat to the realisation of Kenya's Vision 2030 goals. With climate change, average annual temperatures are projected to increase by 0.8–1.5°C by the 2030s, by 1.6–2.7°C by the 2060s and by up to 3°C by 2100 (Government

of Kenya, 2016). The projections for rainfall are less certain than for temperature. The IPCC Fifth Assessment Report predicts that, by the end of the century, the region of East Africa will have a wetter climate with more intense wet seasons and less severe droughts (Niang et al., 2014). Global models also suggest that the proportion of rainfall that occurs in heavy events will increase (Government of Kenya, 2018). Regional climate model studies also suggest drying over most parts of Kenya in August and September by the end of the 21st century (Government of Kenya, 2018).

Kenya's arid and semi-arid lands (ASALs) are particularly vulnerable to the impacts of climate change, as their economy is highly dependent on natural resources and climate-sensitive activities. In addition, these areas experience high rates of poverty, rising populations and competition for resources; they also suffer from limited access to infrastructure, markets and services.

Methodology and selection of sample investments

Since COP23, there has been an increasing focus within the international community on the need to support climate-resilient action at the local level. This is evident in some of the initiatives launched in the last couple of years, such as the Global Commission on Adaptation's 'empowering locally led action' track. In parallel, there are growing calls for the need to increase the amount of climate funds reaching the local level and those who need it most. This, therefore, makes critical the understanding of what climate actions and investments work at the local level.

As mentioned above, this report is part of a wider study, covering the countries of Ethiopia, Kenya, Mali and Senegal (Quevedo et al., 2019). The same overarching analytical framework was applied

across the four countries, focusing on the actors involved in the delivery of an investment and categorising them according to the following four types: decision-maker, implementing entity, executing entity and direct beneficiaries (Quevedo et al., 2019). The Value for Money (VfM) evaluation tool was then used to investigate the early outcomes of the investments, with a specific emphasis on the indicators of effectiveness and equity.

This report focuses on Kenya and, in line with the wider study, addresses three broad questions:

1. How is climate resilience being defined and measured at the sub-national and national levels of the country climate funds? (The wider report includes the international level).
2. What outputs have been achieved by decentralised and centralised approaches, and what can be learned?
3. To what extent does the level of government involved in the decision-making process affect the outputs of activities that aim to strengthen climate resilience?

The report takes a case-study approach to investigating some of the early outcomes of investments delivered under the CCCF mechanism to build the climate resilience of households and communities. This study focuses on the five ASAL counties in Kenya where the CCCF has been piloted since 2013: Isiolo, Wajir, Garissa, Makueni and Kitui. Fieldwork was carried out in the five counties, with a focus on one (in Makueni, Garissa and Kitui) or two (in Wajir and Isiolo) investments per county as case studies. In total, seven investment sites were visited, out of a total of approximately a hundred investments across the five counties.

In the four counties of Wajir, Garissa, Makueni and Kitui, all investments funded through the CCCF mechanism have focused on improving access to water for domestic and livestock uses

(e.g. through boreholes, water kiosks, earth dams, sand dams, water pans and rock catchments). In Isiolo, investments focused not only on water but also on strengthening customary natural resource management institutions, building a community radio station and rehabilitating and equipping a livestock veterinary laboratory. The case-study investments were chosen in consultation with local partners to represent the range of investments funded under the CCCF mechanism across the five counties. However, the selection also had to take into account security concerns, ease of access to the site, and availability of respondents (e.g. ward committees, user committees) during the limited amount of time available for fieldwork. A summary of the seven investments is provided in Table 1.

Table 1: Summary of selected investments in all five counties (Source: Ada Consortium)

COUNTY	INVESTMENT	JUSTIFICATION	COST (KSHs)	NUMBER OF BENEFICIARIES	EXPECTED BENEFITS
Makueni	Masue Rock Catchment	<ul style="list-style-type: none"> • Project was conceived to address the water shortage and water and soil erosion issues faced by the communities in the area. • Long distances walked to access water points, long queues at the water points. • Human and livestock diseases due to consumption of contaminated water. • Poor farm yields due to soil erosion and extreme temperatures. 	8,256,427 (over two phases of investments)	1,224 people, 3,060 cattle and 5,100 shoats	<ul style="list-style-type: none"> • Improved access to clean water • Small businesses • Micro-irrigation improving nutrition and income

COUNTY	INVESTMENT	JUSTIFICATION	COST (KSHS)	NUMBER OF BENEFICIARIES	EXPECTED BENEFITS
Kitui	Rehabilitation of Mikuyuni Dam	<ul style="list-style-type: none"> Water availability is a major challenge. Long distances walked to access water points. Ward doesn't have enough water catchment structures which can sustain irrigation during the dry season. Dam built in 1994 has been filled with silt due to poor management and can now sustain the local population for only two months. 	10,819,580	5,450 people, 1,200 cattle and 3,500 sheep and goats	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Better management of earth dam
Wajir	Jehjeh Water Pan	<ul style="list-style-type: none"> Water from boreholes in the area have been declared unfit for human and livestock consumption. Heavy reliance on rainwater and water-trucking. Jehjeh Water Pan is the only source of reliable rainwater in the area for both domestic and livestock use. During the dry season, competition for water from local people, migrant pastoralists and wildlife has been a key cause of water stress and occasional conflict. 	3,992,700	70,980 people, 24,300 cattle, 92,300 sheep and goats and 8,000 cattle	<ul style="list-style-type: none"> Increased availability and access to reliable sources of water for domestic and livestock use Improved livelihoods Improved governance of water use and access Reduction of water-related disease
	Guticha Borehole	<ul style="list-style-type: none"> Enormous pressure on natural resources during droughts. Guticha has one borehole that serves both domestic and livestock water needs for the local and in-migrating pastoralist population. During the dry season, queues are usually long and time consuming. The borehole, which runs on a diesel-run generator set, requires regular and expensive maintenance, especially during droughts when the high usage causes regular wear and tear. 	4,093,981	5,100 people, 8,500 cattle, 4,000 shoats, and 600 camels	<ul style="list-style-type: none"> Increased availability and access to reliable sources of water for domestic and livestock use Improved governance of water use and access Improved hygiene, sanitation and health

COUNTY	INVESTMENT	JUSTIFICATION	COST (KSHs)	NUMBER OF BENEFICIARIES	EXPECTED BENEFITS
Garissa	Goreale Borehole	<ul style="list-style-type: none"> • Competition for water between livestock and domestic users lead to violent conflicts. • Lack of access to domestic water. • Long distances to access water. 	3,369,011	About 3,000 households; livestock herd of 17,000	<ul style="list-style-type: none"> • Improved water availability for human and livestock use • Improved hygiene, sanitation and health
Isolo	Kinna Veterinary Laboratory	<ul style="list-style-type: none"> • Outbreaks of livestock diseases have become a frequent occurrence in Kinna. • Disease diagnosis turnaround time is two weeks. • Existing laboratory lacked the financial and human resource capacity. 	6,041,122	5,100 people, 20,000 cattle, 200,000 shoats, and 12,000 camels	<ul style="list-style-type: none"> • Proper diagnosis and treatment of wide range of diseases • Provision of affordable or subsidised drugs to users • Monitoring and surveillance of livestock diseases • Early diagnosis and regular monitoring of livestock
	Garbatulla Community Radio	<ul style="list-style-type: none"> • Access to timely weather, security and market information are some of the most prominent factors that facilitate mobility of pastoral populations and by extension their resilience to climate shocks. • Gap in timely provision and dissemination of critical information required to enable herders to better manage climatic and other hazards. 	Over 10 million	18,000 people	<ul style="list-style-type: none"> • Providing information on insecurity, drought situation • livestock market value, search of stolen or lost livestock • Dissemination of rainfall distribution, helping pastoralists migrate to areas where there is rainfall • Ease of tracking lost livestock

Fieldwork was carried out over an average of five days in each county during December 2018 and January 2019. It involved focus group discussions (FGDs) with the CCCPCs in each county, the WCCPCs for each of the wards in which the seven investments are located, user committees for the seven investments, and with female, male and youth beneficiaries at each investment site. Some of the FGDs were held with female-only or male-only beneficiaries, while others were with a mix of male and female beneficiaries. While it is acknowledged that having female-only and male-only FGDs enables a more in-depth exploration of differentiated gender needs and priorities, and provides a space for women to have more voice, time constraints meant that this was not always possible. However, to address this, individual interviews were held with female beneficiaries. In addition, individual semi-structured interviews were also held with key stakeholders at county level (including directors and chief officers of key county departments). In total, the following numbers of focus group discussions (FGDs) were held: 5 with CCCPCs, 7 with WCCPCs, 7 with user committees, 9 with beneficiary groups, and 2 with natural resource management committees (in Wajir). These FGDs lasted for between 60 and 90 minutes. In total, the following numbers of interviews were held: 23 with key county government representatives (e.g. directors of water, agriculture and environment, chief officers of water, agriculture, and finance), 12 with beneficiaries and 1 with a borehole contractor. Interviews lasted between 40 and 60 minutes. More details of the interviews and FGDs are provided in Table 2.

Table 2: Summary of interviews and focus group discussions in the five counties. (Source: Authors)

METHOD	MAKUENI	KITUI	WAJIR	GARISSA	ISIOLO
Focus group discussions (FGDs) with committees	<ul style="list-style-type: none"> • 1 FGD with CCCPC • 1 FGD with WCCPC • 1 FGD with Masue Rock catchment user committee 	<ul style="list-style-type: none"> • 1 FGD with CCCPC • 1 FGD with WCCPC • 1 FGD with Mikuyuni Dam user committee 	<ul style="list-style-type: none"> • 1 FGD with CCCPC • 1 FGD with Khorof-Harar WCCPC (Jehjeh Water Pan) • 1 FGD with Jehjeh Water Pan user committee • 1 FGD with NRM committee in Khorof-Harar ward • 1 FGD with Adamasajida WCCPC (Guticha Borehole) • 1 FGD with Guticha Borehole user committee • 1 FGD with NRM committee in Adamasajida ward 	<ul style="list-style-type: none"> • 1 FGD with CCCSC • 1 FGD with WPC • 1 FGD with Goreale Borehole user committee 	<ul style="list-style-type: none"> • 1 FGD with CCCPC • 1 FGD with WPC for Kinna Vet Lab • 1 FGD with Kinna Vet Lab user committee • 1 FGD with WPC for Garbatulla Radio • 1 FGD with Garbatulla Radio user committee
Focus group discussions with beneficiaries	<ul style="list-style-type: none"> • 1 FGD with female beneficiaries • 1 FGD with male beneficiaries • 1 FGD with youth beneficiaries 	<ul style="list-style-type: none"> • 1 FGD with men, women and youth beneficiaries 	<ul style="list-style-type: none"> • 1 FGD with men, youth and women beneficiaries of Jehjeh Water Pan • 1 FGD with men, youth and women beneficiaries of Guticha Borehole 	<ul style="list-style-type: none"> • 1 FGD with men, youth and women beneficiaries 	<ul style="list-style-type: none"> • 1 FGD with men and women beneficiaries of the Kinna Vet Lab • 1 FGD with youth, men and women beneficiaries of Garbatulla Radio

METHOD	MAKUENI	KITUI	WAJIR	GARISSA	ISIOLO
Interviews at county level	<ul style="list-style-type: none"> Country Director of Environment County executive committee member – minister of environment 	<ul style="list-style-type: none"> CECM and CO Director of Environment Senior County Legal Counsel Environment and Safeguard Officer of National Ministry of Agriculture NARIG Project Diocesan Secretary and member of ADS-E board Deputy Director of Budgets and Economic planning 	<ul style="list-style-type: none"> CEC Environment Chief Officer for Agriculture Chief Officer for Water Chief Officer Finance Director of Environment Director of Water 	<ul style="list-style-type: none"> MCA Balambala Ward Chief Officer for Water Chief Officer Finance Director of Water Chief Officer for Agriculture 	<ul style="list-style-type: none"> Chief Officer for Agriculture Director of Agriculture Director of Water CO Finance
Interviews with beneficiaries	<ul style="list-style-type: none"> 2 female beneficiaries 		<ul style="list-style-type: none"> 2 female beneficiaries (Jehjeh water pan) 1 female beneficiary and 1 male beneficiary (Guticha Borehole) 	<ul style="list-style-type: none"> 1 male beneficiary and 1 female beneficiary 	<ul style="list-style-type: none"> 2 male beneficiaries (Kinna Vet Lab) 1 female beneficiary and 1 male beneficiary (Garbatulla Radio)

1.3 Limitations of the study

This country case study of the CCCF mechanism faced five main limitations.

First, as noted above, this study is based on only seven investments out of a total of approximately a hundred. The small number of investments and the qualitative nature of the fieldwork limits the potential to generalise the findings to all CCCF investments. Nevertheless, in-depth qualitative case studies can provide useful contributions to theory and generate transferable lessons (Tsang, 2014). The study findings are best viewed as being illustrative of the early implementation of CCCF investments in those sites visited.

Second, the scope of the study was limited by the short amount of time available to the consultants to carry out the fieldwork, which restricted them to a maximum of two investments per county. The consultants spent about three days engaging with stakeholders from the county, the ward committees, the user committees and the beneficiaries for each investment. In this time, the consultants were able to carry out focus group discussions with the key committees (CCCPCs, WCCPCs and user committees) and beneficiary groups (with separate focus groups for women, men and youth). However, they were limited in the number of interviews they could do with individual beneficiaries to further triangulate the findings from the focus group discussions. In addition, they were not able to have a more extensive engagement at county level to better understand the broader impacts of the CCCF mechanism beyond the investments themselves (e.g. the impact that the CCCF mechanism has had on county development plans).

Third, the practice of devolved planning, and the CCCF mechanism itself, is relatively new – the governance structures and institutional processes that have been put in place are at an early stage. This study, therefore, comes at quite an early stage to assess the overall effectiveness of the governance and institutional structures established by the CCCF mechanism and the more specific impact it may be having on households' and communities' resilience to climate change. The CCCF mechanism introduced a number of innovative features to implement the provisions within the Constitution and the County Government Act for public participation and citizen engagement with county governments. Full integration and operationalisation of these features, especially when moving from a project approach to one integrated within government and community processes and structures, takes time to establish as it requires a significant shift in mindset and political will. Enhancing participation of all citizens in decision-making is also a complex and slow process, especially among communities with entrenched discriminatory gender and generational norms, and government staff who have applied more centrally driven top-down approaches to planning before the introduction of devolved county government.

Fourth, the Value for Money (VfM) framework and its set of specific questions appear more suited to quantitative methodological approaches, where the same questions can be repeated for each investment, rather than qualitative ones, where questions will differ depending on context, the people interviewed, and the way in which discussions take place. To effectively address the questions in the VfM framework also requires access to all relevant project documents and assumes that proposal documents are of sufficient quality. Unfortunately, access to project documents for the investments was impeded by the fact that there is not one central location in each of the

counties where data and reports can be found. For example, the office of the Fund Administrator has been established in the Regulations but is not yet instituted in a physical location within the counties. In addition, project proposal documents developed by WCCPCs were not always comprehensive.

Finally, a fifth limitation is linked to the difficulty of applying the framework around the four actors (decision-maker, implementing entity, executing entity and beneficiary) to the CCCF mechanism. This framework appears better suited to more top-down governance models, where the actor issuing the money makes the decision on how the money is spent, and less well suited to appropriately capture models of governance which adopt the principle of subsidiarity and have decision-making responsibilities allocated at multiple levels, including at the level of communities. Indeed, beneficiaries under the CCCF mechanism are not passive recipients of investments but active participants in the decision-making process for the design and prioritisation of investments.

2. DEFINITION OF CLIMATE RESILIENCE: LOCAL TO NATIONAL

IMAGE:
FROM HERDING
TO FARMING;
ISIOLO, KENYA
PICTURE TAKEN
BY: ECHO/MARTIN
KARIMI

2.1 Three stages of defining climate resilience

Overarching definition of climate resilience

At the national level, Kenya's key development policies for the country, as well as for its ASALs, seem to frame resilience within a context of economic growth, environmental sustainability and sustainable livelihoods. Indeed, Kenya's key overarching development policy 'Vision 2030', which sets out the framework for Kenya's development until 2030, focuses strongly on economic growth while recognising that climate change represents a key challenge to the country and to the achievement of the vision (Government of Kenya, 2007). Kenya's policies

for its ASALs, such as its recent flagship policy 'Vision 2030 Development Strategy for Northern Kenya and other Arid Lands' and the Common Programme Framework for Ending Drought Emergencies (EDE) also frame resilience within a context of poverty reduction, economic growth, improved natural resource management and enhanced livelihood opportunities. They focus on solutions and measures to reduce poverty and enhance growth in ASALs, such as creating an enabling environment for private sector development and accelerated investments.

The EDE recognises that key elements for achieving poverty reduction goals include reducing insecurity, climate-proofing infrastructure and enhancing human capital. In addition, these elements are central to effective risk management, reducing vulnerability and building more sustainable and climate-resilient livelihoods. In ASALs, the impacts of climate change translate mainly as an increase in the frequency of drought events, and therefore the EDE repeatedly links drought resilience with climate resilience and bundles together responses to both. An interesting aspect of the Development Strategy for Northern Kenya is its recognition of herd mobility as an important and necessary characteristic of mobile pastoralism and a strategy adapted to the ASALs' variability in resource availability and productivity. Such strategies, which until recently were considered undesirable by the national government, are increasingly being recognised as particularly important to improve the resilience of livestock systems in ASALs (Government of Kenya, 2013).

Kenya's climate change policies also frame resilience around economic growth, as they link with Vision 2030. Indeed, Kenya's National Adaptation Plan 2015–2030 develops a vision of enhanced climate resilience to achieve Kenya's Vision 2030 and defines enhanced climate resilience as including strong economic growth, resilient ecosystems, and sustainable livelihoods for

Kenyans (Government of Kenya, 2016). It is also expected to result in reduced loss and damage from climate risks and improved knowledge and learning for adaptation.

At the county level, national development and climate policies are critical in framing and guiding county governments in delivering on local development and climate priorities. Indeed, County Integrated Development Plans (CIDPs), which provide the overall framework for county-level development for a period of five years, are aligned with Kenya's Vision 2030 and other key national and international policies and initiatives, such as the Sustainable Development Goals (SDGs). In the CIDPs, climate resilience appears strongly associated with context-specific adaptation actions as embodied in the national development framework and policies, although no definition of resilience is provided.

At the county level, resilience seems more grounded within the local context and the need to consider local livelihoods, and the vulnerabilities and adaptive capacities of households and communities to the impacts of climate change. The emphasis is mostly on reducing the vulnerability of local livelihoods to natural hazards through securing sustained and equitable access to productive assets and resources (e.g. livestock, natural resources, water). To achieve resilient livelihoods, county governments envisage sustained provision of basic services, such as health, water, education and livestock extension services, maximisation of production using appropriate technology and sustainable exploitation of resources that addresses the needs

of the communities.¹ Thus, counties recognise the multifaceted nature of resilience and that a variety of factors will contribute to building resilience, including improved knowledge, diversified livelihoods, changes in mindsets, new technologies/innovations, improved farming practices and water storage solutions, improved infrastructure and supportive governance and institutional structures. Both 'hard' and 'soft' strategies/projects are needed and at a variety of scales (local, ward and county levels).

"In Makueni County we have established that water stress exposes our populations to vulnerability the most and yet we lose a lot of water by not harnessing and harvesting when it rains. We are therefore focusing on seven areas: a) household-level rainwater harvesting (20,000 litres per household), b) construction of farm ponds, c) roads for water – harvesting all the water from drainages on access roads, d) institutional roof-water harvesting – on every shop, school, hospital, church, government office, e) sand/earth dams – higher-level investment in 6 mega, and 30 medium sand/earth dams at county level, f) tree planting under the slogan: 'One for each per year for every child', g) sand conservation sealed with a ban on harvesting in 2014." (CCCFPC member, Makueni)

"The technologies are there; the laws are now in place; the need is for a mind-shift among communities and government workers. Everyone needs to appreciate that there has been a shift and our actions cannot continue in the 'business-as-

1 A specific definition of community is not provided in the CIDP. However, from the investment plans which include budgets up to the ward level, communities seem to be conceptualised at the administrative geographical level of wards. This is also the lowest level at which 'public participation' is carried out.

usual' mode. This is what will make the current and future investments deliver the climate resilience that we need at household, community, county and national level. Investments must therefore go beyond the hardware to the more subtle software issues of mind change." (CCTC member, Kitui County)

"With all the current investment in legislation, awareness creation and physical investments in water facilities, we believe the community will be moving from Resilience score of 3 to 5 in the next five years and 8 in ten years." (CCCFPC member, Makueni)

Yet, this perspective on resilience sits alongside the counties' economic development objectives and thus their promotion of industrialisation and economic growth. Such development is normally pursued through large-scale investments in health, education and infrastructure. There appears to be an assumption within the county integrated development plans (CIDPs) that these investments are mutually reinforcing. Yet, these investments are often undertaken without proper community consultation and thus can result in unintended consequences for local community livelihoods (Browne, 2018; Letai and Tiampati, 2015). In addition, these investments are often developed without taking climate change into consideration and may therefore have negative impacts on the resilience and adaptive capacity of households and communities to climate change.

At the ward level, local resilience assessments and subsequent proposals for investments developed by the ward committees reflect the 'three pillars' framework of pastoral livelihoods – the herd, natural resources (e.g. pasture for livestock, water for people and livestock, natural salt pans, and crop residue) and customary institutions (informal institutions that facilitate the sustainable management of resources over time). As a result, interventions for improving community resilience often focus

not only on supporting adaptation strategies to climate risks but also on capacity-building of local customary institutions with the expectation that their enhanced capacity provides the stewardship for ecological and livelihood resilience. For example, various Isiolo county WCCPC proposals aim to strengthen the capacity of the traditional dedha councils to achieve sustainable dry-season water and pasture reserves that are essential for building the resilience of pastoralist communities to drought. Resilience is thus understood in terms of multiple outcomes (benefits) that social groups (ward-based) seek to achieve through livelihood assets as well as through social and institutional networks.

At the beneficiary/household level, we see very similar definitions of resilience. Beneficiaries interviewed also mentioned that multiple factors are needed to build resilience – diversified income sources, improved knowledge of weather and climate, new farming practices, water storage solutions, and supportive legislation and institutional structures. For instance, in Makueni, both male and female beneficiaries defined a climate-resilient household as one that has alternative means of income, is informed about changes in weather patterns due to climate change and has invested in new ways of farming and storing water. In Kitui, youth beneficiaries cited the importance of investments in knowledge dissemination, infrastructure development and legal structures in improving their resilience in the future.

“On the resilience scale of 1–10, we were at 3 five years ago; we are currently at 4 but we see a definite jump to 7 in the next five years given the investments in knowledge dissemination, infrastructure development and legal structures in the last five years.” (Youth beneficiaries, Mikuyuni, Kitui County)

Defining the eligibility criteria for investment selection

The prioritisation of investments under the CCCF is expected to follow a set process as established in the original design of the CCCF. First, the ward climate change planning committees are given a known budget for projects, against which they can prioritise the different proposals. Second, they are then expected to conduct participatory assessments of communities' vulnerability or resilience. These assessments are used through a community consultation process to prioritise investments in public goods whose costs remain within the ward's budget envelope and meet the funding criteria for the promotion of climate-resilient growth and adaptive livelihoods (Ada Consortium, 2018b). The list of set criteria is provided in Box 1.

Box 1: Prioritisation criteria at ward and county level for proposal selection

Two sets of criteria are used to prioritise CCCF investments at ward and county levels.

1. Strategic criteria that refer to those conditions essential to building resilience, including:
 - focuses on public goods with a large number of beneficiaries, including women and young people
 - supports the economy, livelihoods or important services on which many people depend
 - enhances resilience to climate change (adaptation) and, where possible, proposes mitigation measures; a resilience investment menu is used to guide the nature of eligible investments
 - encourages harmony and builds social relations between people to foster peace
 - must not have a negative impact on the environment
 - must meet county development priorities that integrate climate change.
2. Technical criteria that refer to those conditions central to ensuring the successful implementation of the investment, including:
 - a realistic and achievable work plan including the type of technical support required for implementation where appropriate
 - evidence of stakeholder consultation including cross-boundary consultation where appropriate
 - value for money and modalities for the sustainability of the achievements
 - a theory of change and M&E plan to track beneficiaries and achievement of objectives and benefits
 - evidence that the project is not duplicating other investments planned by county/national government or other actors.

Source: Ada Consortium, 2018b.

Defining the success criteria for investment implementation

Investment proposals are expected to include a theory of change for resilience as well as a monitoring and evaluation plan to track beneficiaries and the achievement of the investment's objectives and benefits. The theory of change outlines all the different steps of how an investment is expected to lead to increased community resilience to climate change (Annex 2).

Each investment proposal should also contain a set of indicators against which the investment's success will be assessed. These indicators reflect the different steps towards resilience within the theory of change. For example, for the Goreale Borehole in Garissa, the following set of indicators was developed in the proposal: number of water kiosks established, number of households accessing water on a daily basis, frequency of fetching patterns for households, evidence of reduced number of livestock/human congestion resource-based conflicts, and reduced number of livestock deaths.

In Makueni, according to the theory of change for the Masue Rock Catchment, securing the water source through the construction of two masonry storage tanks and piping the water from the storage tanks to the kiosks and livestock watering troughs, and providing the pit latrine in the area will result in clean water for livestock and humans, and reduced contamination of water through open defecation. This will eventually lead to reduction in waterborne diseases, increased meat and milk production, and improved hygiene, which in turn are expected to lead to increased income, improved standards of living and, ultimately, increased resilience to climate change.

2.2 CCCF decision-making process for the selection of investments

The CCCF mechanism was designed to ensure strong community participation in the process of developing and prioritising investments. The prioritisation of investments under the CCCF is expected to follow a nine-step process (Ada Consortium, 2018b), established in the original design of the CCCF mechanism. First, WCCPCs are informed of their budget for projects against which they can prioritise proposals. This is a key feature of the CCCF as it enables communities to work from a known budget, which gives them greater ownership and encourages their active involvement in prioritisation of the investments (Ada Consortium, 2018b). Second, they are then expected to conduct participatory assessments of communities' vulnerability or resilience through participatory planning tools, such as resilience assessments and resource mapping (in Wajir, Garissa and Isiolo) or participatory vulnerability and capacity assessments (in Makueni and Kitui). These tools enable the communities (differentiated by age, gender, wealth and livelihood activity) to explain their livelihood systems and the factors required to enhance their resilience to current climate risks and future climate change.

For example, for the Masue Rock Catchment investment in Makueni, key considerations were the long distances people had to walk to access water, soil erosion, poor farm yields, and the high occurrence of human and livestock diseases due to the consumption of contaminated water (see Table 2 above for considerations taken into account in each of the seven investments). These assessments are then used through a community consultation process to prioritise investments in public goods, whose costs remain within the ward's budget envelope and meet the funding criteria for the promotion of climate-resilient growth and adaptive livelihoods (Ada

Consortium, 2018b). The list of funding criteria (shown in Box 1) reflect the broad framing of climate resilience in terms of economic growth, environmental sustainability and social welfare. The prioritised investments are then submitted to the county climate change planning committee (names differ slightly depending on the counties).

The county committee is expected to provide technical support to the ward committees and help strengthen its proposal but does not have the authority to reject the prioritised proposals if the strategic criteria are met. This provision within the CCCF mechanism is to promote the principle of subsidiarity, ensuring decisions on funding are made at the appropriate level. Once the investments are approved, the county government is responsible for the procurement of service providers to implement the investments on the ground. Ward committee members participate in the key steps of this process, such as witnessing the opening of bids and choice of service provider.



3. CASE-STUDY INVESTMENTS: OUTPUTS ACHIEVED

IMAGE:
SHALLOW
GROUND
WATER, KENYA.
PICTURE TAKEN
BY: EU/ECHO/
MARTIN KARIMI

In this section, we focus on examining early evidence of the impacts of the case-study investments in the five counties on the resilience of the households and communities (direct beneficiaries) by using the Value for Money (VfM) framework and its four components of economy, efficiency, effectiveness and equity.

3.1 Wajir County – Jehjeh Water Pan (Khorof-Harar Ward) and Guticha Borehole (Adamasajida Ward) investments

Brief background to county and investments

Wajir County is one of the poorest and most vulnerable counties to climate change in Kenya. Poverty levels in Wajir County are high, with over 84% of the population living below the poverty line (KNBS and SID, 2013). The county experiences acute water scarcity, with 60% of its population experiencing limited access to clean and safe water and relying on water-trucking. As a result, a large section of the Wajir County population must walk long distances in search of water for both domestic use and livestock watering.² The dominant livelihood activity in Wajir is pastoralism but the increase in the frequency of droughts and related water scarcities, combined with inappropriate policies that have undermined traditional institutions and strategies, are impacting local livelihoods and leading to high livestock mortality, increased resource conflicts and human-wildlife conflicts. All actors interviewed see investment in water infrastructure as critical to increasing availability of and access to clean water and ensuring its reliability for longer periods. This is also seen as critical to building greater resilience to drought. In Wajir there have been two phases of investments: the Jehjeh Water Pan investment in the first phase (2016), and the Guticha Borehole investment in the second phase (2018). The second phase is part-financed from the 2% county government

² County Government of Wajir. 2016

contribution (45% DCF and 55% county government).³

Jehjeh Water Pan is in the Wajir Bor Division of Khorof-Harar Ward in Wajir East Subcounty. Wajir Bor Division covers an area of 2,043km² and has a population of about 17,000. Wajir Bor is endowed with vast grassland and plains making it a suitable dry-season grazing destination for local and neighbouring pastoralists. However, the area has highly saline underground water; water from boreholes in the area has been declared unfit for human and livestock consumption by the Department of Public Health after several mass livestock deaths in the area.⁴ The lack of suitable groundwater has resulted in heavy reliance on rainwater and water-trucking. Jehjeh Water Pan is the only source of reliable rainwater in the area for both domestic and livestock use. As a result, during the dry season, competition for water from local people, migrant pastoralists and wildlife has been a key cause of water stress and occasional conflict.

Guticha Borehole is located in Guticha in Adamasajida Ward in Wajir West Subcounty. Guticha is a relatively new settlement, established in 2012 in Laghborr Division. Guticha has a population of about 10,000 people who are predominantly pastoralists.

- 3 The controller of budget initially vetoed the release of the funds because the Wajir County Climate Change Fund Act was not fully compliant with the Public Finance Management (PFM) regulations. To comply with PFM regulations, the office of the controller of budget suggested revision of two clauses in the Act: 1) that the administrative budget of the Fund be capped at 3%; and, 2) that the Act requires that the existence of the Fund will not depend entirely on the County exchequer and that additional funds will be available from other sources. These revisions have now been made and the Wajir CCCF Act is now fully compliant with the PFM Regulations.
- 4 There are also concerns among the residents of Wajir Bor that the high number of cancer cases in the area is attributable to the underground water. However, there are no publicly available documents to support these claims.

Guticha is a pastureland where pastoralists from the larger Wajir county and beyond converge during the dry season and as a result enormous pressure on natural resources occur during droughts. Guticha has one borehole that serves both domestic and livestock water needs for the local and in-migrating pastoralist population. During the dry season, the queues are usually long and time-consuming. The borehole, powered by a diesel-run generator set, requires regular and expensive maintenance, especially during droughts when the high usage causes regular wear and tear. The borehole was identified as a priority investment in the community consultation process undertaken by the WCCPC. Local communities identified drought as the most severe hazard in the area, with significant impacts on their pastoralist livelihood.

The main aim of both the Jehjeh Water Pan and Guticha Borehole investments was to build resilience of pastoral livelihoods to drought risks by increasing availability of and access to reliable sources of water for domestic and livestock use, and improving the governance of water use and access.

What outputs have been achieved by the two investments in Wajir and how well were they delivered (economy, effectiveness and efficiency)?

For the Jehjeh Water Pan, KShs 4 million were invested in 2016 to construct a perimeter fence made of chain link and concrete posts, provide a diesel-powered generator set that pumps water outside the fence into the 10,000m³ elevated plastic tank (also purchased), and to provide a water kiosk and livestock watering troughs (Table 3). In addition, a separate trough has been provided to enable wildlife access to water away from the pan. It is estimated that the water pan provides reliable clean water for the entire population of Wajir Bor Division – around

17,000 people – and a dry-season water source for the entire Khorof Harar Ward of around 70,000 people. The pan also serves an estimated livestock population of more than 127,000 from the entire Wajir County and neighbouring counties, including migrating pastoralists from Somalia.

Table 3: Summary of economy aspects of VfM framework for Jehjeh Water Pan and Guticha Borehole

	JEHJEH WATER PAN	GUTICHA BOREHOLE
Size of project (funds)	KShs 3,992,700	KShs 4,093,981
Project goal – beyond climate resilience	<ul style="list-style-type: none"> Increasing availability and access to reliable sources of water for domestic and livestock use. Improving governance of water use and access. 	<ul style="list-style-type: none"> Increasing availability and access to reliable sources of water for domestic and livestock use. Improving governance of water use and access.
What are the project deliverables?	<ul style="list-style-type: none"> A perimeter fence made of chain link and concrete posts. A diesel-powered generator set to pump water. A 10,000m³ elevated plastic tank. A water kiosk. Livestock watering troughs. Additional trough for wildlife to access water away from the pan. 	<ul style="list-style-type: none"> A perimeter fence around the borehole. An elevated 24,000m³ steel tank. A water kiosk. Livestock watering troughs. Solar panels and pump.
Justification for project intervention	<ul style="list-style-type: none"> Water from boreholes in the area has been declared unfit for human and livestock consumption. Heavy reliance on rainwater and water-trucking. Jehjeh Water Pan is the only source of reliable rainwater in the area for both domestic and livestock use. During the dry season, competition for water from locals, migrant pastoralists and wildlife has been a key cause of water stress and occasional conflicts. 	<ul style="list-style-type: none"> Enormous pressure on natural resources occur during droughts. Guticha has one borehole that serves both domestic and livestock water needs for the local and in-migrating pastoralist population. During dry season, queues are usually long and time consuming. The borehole, powered by a diesel-run generator set, requires regular and expensive maintenance, especially during droughts when the high usage causes regular wear and tear.
Start date and current status	2016 – project in good condition	2018

The project proposal provides the following indicators to measure project achievement: number of animals accessing water at the water pan (including animals from other areas); improved relations, harmony and understanding (number of water-related conflicts reported; number of immigrants' livestock using the water facility); increased access to safe drinking water for domestic use (number of hours women take to fetch water; number of waterborne cases reported in health facilities); and increased access to pasture (vegetation cover in wet grazing areas). Although we do not have numbers for these (except those given above), according to the WCCPC and the communities/direct beneficiaries, the investment in the Jehjeh Water Pan has reduced water contamination by direct livestock watering and access by wild animals, and enabled availability of water for longer periods after the rains. Indeed, the WCCPC user committee and beneficiaries mentioned that the water in the pan can now last for up to eight months instead of only four months as was the case previously (Table 4).

These successes have been achieved through the investments in fencing and separate water-drawing points for domestic users (water kiosk), livestock (livestock watering trough) and wild animals (watering trough outside the pan), as well as through stricter enforcement of user rules. Indeed, water access is formally managed by the pan user committee, which enforces user rules, prepares schedules of water use (including setting priority rules) and maintains order during use. The user committee also collects water charges and keeps records of income finances. Current rates are KShs 5 for a 20L container and KShs 50 for a donkey cart. Further, the user committee highlighted improved relations with migrating pastoralists because a representative of the migrating pastoral groups is a member of the pan committee for the duration of their stay and use of the pan. The decision to incorporating a representative

of migrating groups was taken by the resource management committee from the area responsible for guiding natural resource management activities.

For the Guticha Borehole, KShs 4 million were invested in 2018 to build a perimeter fence around the borehole, and to purchase an elevated 24,000m³ steel tank, a water kiosk and livestock watering troughs. However, the investment was also supposed to include the installation of solar panels and a solar pump to reduce dependence on the diesel generator and lower the costs of operation. The funding for the solar panels was due to come from the county government but this had not yet been released because of the veto initially imposed by the controller of budget. Despite this, procurement for the solar panels went ahead and they were bulk-procured. However, the service provider turned down the offer, citing under-quoting by the staff member who prepared the quote.⁵ The combination of funds not being released and an under-priced quote has meant that the solar panels have not yet been provided.

Guticha Borehole currently serves about 5,000 households and over 14,000 livestock from Guticha and surrounding areas. As a result of the investment, water is now available for both domestic and livestock use – a clear departure from the situation before the investment where congestion, contamination and competition for scarce water resources led to scarcity, conflicts and waterborne diseases. Mirroring the situation in the Jehjeh Water Pan, the management committee for the Guticha Borehole sets water-use and access rules, prepares household schedules for livestock access to water and collects and keeps records of water charges. Water charges at the borehole are: KShs 15 per camel, KShs 5

⁵ The county partner believes this was a deliberate act by a staff member who was leaving the company.

per cow and KShs 2 per goat/sheep. Herds of over 100 animals are charged for the first 100 animals only. The management committee operates a bank account in which all proceeds after running expenses are saved. For instance, the Guticha Borehole Management Committee collected KShs 200,000 from water use for the period ending December 2018. For the first two weeks of January 2019 about KShs 29,000 were collected, acquiring a total savings of KShs 229,000 by February 2019.

"After paying for the daily fuel cost and paying the four committee members that operate the borehole daily, each earning KShs 400, we have current savings amounting to KShs 229,000. KShs 200,000 has already been deposited into the management committee banks account." (Chairman, Guticha Borehole Management Committee, February 2019)

At both investment sites, the hardware planned for delivery to the sites was delivered in a timely manner, installed and is currently operational. For instance, at Jehjeh Water Pan, the completion of the fence means that there are no incidences of direct livestock watering. Instead, the diesel-run generator pumps water into the 10,000L plastic water tank, from which water is dispensed to the water kiosks for domestic users, and to watering troughs for livestock and wildlife. At Guticha, the borehole pumps water into the elevated 24,000m³ steel tank that provides water to the water kiosk and livestock watering troughs. The timely delivery of inputs for the two investments involving procurement processes, payment of service providers and planned implementation has ensured that the investments were completed in time for the rainy season and surge in dry-season demand for water in Jehjeh and Guticha, respectively. In addition, for both investments, local women and youth were employed during construction to provide water and sand.

What has been the change since the investment and how is it contributing to building resilience (effectiveness and equity)?

SITUATION BEFORE THE INVESTMENTS

Wajir Bor has historically provided an important resource for dry-season pasture for local pastoralists and in-migrating pastoralists from neighbouring wards and beyond. Within Wajir Bor, the Jehjeh Water Pan was the only source of reliable rainwater for both domestic and livestock use. As a result, during the dry season, competition for water from local people, migrant pastoralists and wildlife has been a key cause of water stress and occasional conflicts. However, the community consultation process identified that the key problem with Jehjeh was the unmanaged utilisation of the pan, which resulted in contamination after a short duration, and therefore the key priority for the investment was to ensure controlled access to the water pan. Previous attempts at fencing the pan with cut trees failed to keep migrating pastoralists and wildlife from directly accessing the pan water.

Guticha is a pastureland where pastoralists from the larger Wajir County and beyond converge during the dry season. As a result, there is enormous pressure on natural resources during droughts. In Guticha, the borehole served both domestic and livestock water needs for the local and in-migrating pastoralist population. A key problem with the borehole was the long and time-consuming queues to access water during the dry season. The borehole, powered by a diesel-run generator set, requires regular and expensive maintenance, especially during droughts when the high usage causes regular wear and tear.

SITUATION SINCE THE INVESTMENTS WERE MADE

As highlighted above, the investments have been successful to date in improving access to clean water for domestic and livestock use. In Guticha, water is now available for both domestic and livestock use, which represents a clear departure from the situation before the investments when congestion, contamination and competition for scarce water resources led to scarcity, conflicts and waterborne diseases. In Wajir Bor, all actors interviewed felt that the fencing and improved governance of the water resource has resulted in reducing water contamination and access by wild animals, and increased the availability of water for longer periods after the rains. Households in the two locations reported that they now spent less than an hour fetching water for domestic use (Table 4). These benefits are captured in the investments' theories of change as key elements towards putting households and communities on a pathway to increased resilience to climate change.

In addition, the investments seem to have led to additional benefits not captured within the theory of change and yet still critical to increasing community resilience to droughts and climate change. For instance, the Jehjeh Water Pan investment seems to have led to improved resource management with elders and chiefs involved in this process. At the Jehjeh Water Pan now, no migrant pastoralists are allowed around the pan during the rainy season, to ensure that this pasture remains available for grazing in the dry season. Further, customary institutions appear to have been strengthened by these investments. New governance structures based on cooperation between customary and formal institutions have been established. For example, the WCCPC incorporates local elder institutions within its membership. Customary institutions still govern many aspects of pastoral life, such as managing pasture or overseeing the rules

that govern access to water; hence, their incorporation into the WCCPC and by extension user management committees that manage their access to resources, contributes immensely to the effectiveness of the investments in building resilience to climate change. The user/management committee has also developed strong conflict-resolution mechanisms. Users of the resource who fail to pay receive up to three warnings and on the fourth warning they are called into an elders' meeting.

"The institution of elders of this community has held us together for centuries. They make important decisions on many aspects of our lives including water and pasture management. By the mere fact of involving elders, disputes are resolved peacefully, agreements are made easily, and resources are managed effectively. Having elders in WCCPC and management committees has contributed to this pan being a reliable water source." (WCCPC chairman, Jehjeh Water Pan)

Table 4: Examples of changes since investments were made

INVESTMENT	CHANGES OBSERVED	QUOTES	ACTOR
Jehjeh Water Pan	<ul style="list-style-type: none"> Increased water availability throughout the year 	Wajir Bor has plenty of pasture even in bad droughts. Water scarcity has been a key cause of drought mortality for us and most of our neighbours. The pan has saved us from losses as a result of water scarcity because water now lasts longer than even pasture.	WCCPC member Khorof Harar Ward (Implementing entity & executing entity)
		Water has been our greatest concern in Wajir Bor. The pan did not last more than four months and so we were back to hiring a water bowser as soon as the rains stop. That has all changed since the rehabilitation of the pan. We are still using rainwater from 10 months ago. Now, other locations send their water bowsers to Jehjeh Pan.	WCCPC member Khorof Harar Ward (Implementing entity & executing entity)
		We are still using the April/May 2018 rainwater thanks to the fence and the other investment on the Jehjeh Pan. Previously, the pan could not last more than four months.	WCCPC member Khorof Harar Ward (Implementing entity & executing entity)

INVESTMENT	CHANGES OBSERVED	QUOTES	ACTOR
Jehjeh Water Pan (cont'd)	<ul style="list-style-type: none"> Increased usage of water pan from neighbouring locations Reduced livestock deaths 	<p>The pan did not last more than four months and so we were back to hiring a water bowser as soon as the rains stop. That has all changed since the rehabilitation of the pan. We are still using rainwater from 10 months ago. Now, other locations send their water bowsers to Jehjeh pan.</p> <p>Wajir Bor has plenty of pasture even in bad droughts. Water scarcity has been a key cause of drought mortality for us and most of our neighbours. The pan has saved us from losses as a result of water scarcity because water now lasts longer than even pasture.</p>	<p>WCCPC member Khorof Harar Ward (Implementing entity & executing entity)</p> <p>WCCPC member Khorof Harar Ward (Implementing entity & executing entity)</p>
	<ul style="list-style-type: none"> Improved management of water resource Reduced competition for water between domestic usage and livestock Clean water for domestic use 	<p>We pump water to the storage tanks at night or late evening when all livestock have left. This means that the following day watering livestock can start as early as 5.30am. By noon all the livestock have been watered. In the past we have livestock on the pan site even at night.</p> <p>Before the water kiosk, we competed with livestock from the same source. The water we used was full of livestock fur, mucus and animal droppings. With water kiosk, we draw clean water.</p>	<p>Management committee member (Executing entity & direct beneficiary)</p> <p>Female beneficiary (direct beneficiary)</p>
	<ul style="list-style-type: none"> Change in mindset – greater sense of control over water access and availability Recognition of the importance of good water governance Revaluing of water resources 	<p>We always believed water scarcity was as result of drought. We did not see the link between how we use rainwater and droughts. But now we realise that, with proper management, rainwater can last many seasons.</p>	<p>Male herder (direct beneficiary)</p>
Guticha Borehole	<ul style="list-style-type: none"> Reduced 'forced' migration due to water scarcity Improved wellbeing Improved livestock health 	<p>Migrating away from home exposed us to more losses due to diseases, conflict over water and pasture and stress from being away from home. Now we only migrate away from here in severe droughts when all the pasture is depleted.</p>	<p>Herder (direct beneficiary)</p>

KEY CHALLENGES

While the investments are considered successful by all actors, challenges remain to ensure their long-term sustainability, especially as there is evidence of a high rate of failure of water investments in ASALs more generally. This is because of the lack of consideration of the dynamics of pastoral production in the placement of waterpoints, lack of effective management and long repair times (Bedelian, 2019a; 2019b; Cullis et al., 2019; Mtisi and Nicol, 2013; USAID, 2014).

Although the CCCF investments are community-driven and integrated into the county planning systems, which addresses some of the reasons for failure of water investments, they remain within a context of significant 'development deficit' and of inappropriate water governance. Indeed, in Wajir, investments in water development suffer from: lack of coordination between the different institutions involved in water governance, an emphasis on water infrastructure over building the capacities of local people to manage water facilities, and a lack of consideration of sustainable rangeland management practices (Bedelian, 2019a, 2019b,). One challenge comes from the success of the Jehjeh Water Pan, which has attracted many users (including water bowzers from urban centres) to the area.

The increase in the number of users, combined with the fact that the pan is rainfed, has created two main issues: i) rapid depletion of the pasture around Wajir Bor during years of low rainfall; and ii) depletion of the water from the pan before the next rainy season, which leaves the residents of Wajir Bor without reliable clean water for domestic use. This challenge is also a function of provisions within water policies that do not empower water-user committees to regulate access according to pasture availability, especially in the dry season.

Some issues remain concerning access by wildlife, as monkeys and other small animals such as hyenas still manage to overcome the fence. However, contamination from larger animals, such as giraffes, has been completely resolved. The lack of public toilets (and the practice of open defecation) at the pan also means that, during the rainy season, a lot of this waste washes into the pan, affecting the quality of the water for domestic and livestock use. The pan is also 3km from the village, which results in a 6km return trip for women to access water for domestic use. Individuals who are unable to fetch their own water are also at a disadvantage as the water sold from water vendors is significantly more expensive than when bought at the pan (KShs 30 for a 20L jerry can compared to KShs 5 when bought at the pan).

Equity considerations

In Wajir, discriminatory social norms within formal and traditional institutions have limited women's opportunities to participate in decision-making. While these issues remain, and came out during the interviews, the inclusive participatory process adopted by the CCCF has enabled women to become engaged in decision-making for the investments. Women are now members of the WCCPC and user committees. For the two investments visited, at the user committee level, there are two women among six members for the Jehjeh Water Pan and one woman among five members for the Guticha Borehole. For the Guticha Borehole, the woman was elected as the treasurer and manager of the water kiosk. For the Jehjeh Water Pan, the location of the pan makes it difficult for women to be present at the site, as explained by a committee member:

"The pan is 3km from the village. The committee is supposed to be present at the pan all the time (in shifts). It's very difficult for women to serve on the committee because of their

domestic duties and the risk of wildlife. Sometimes herders become violent.” (member, Jehjeh management committee)

At the ward level, the representation of women in the WCCPCs is rather low, as only one among eight members is a woman in the WCCPCs for both Khorof Harar and Ademasajida Wards.⁶ However, this does comply with the Wajir Climate Change Fund Act, which stipulates there needs to be a minimum of one representative per gender among community representatives on the committee.

Nevertheless, interviews and focus group discussions for the two investments also suggest that the women who serve in these committees often play a peripheral role regarding investment decisions. The lack of strong participation by women in the decision-making process is reflected in the theories of change for the investments, which have a stronger focus on livestock and do not fully consider how women’s resilience to climate risks could be increased. There were mixed views among interviewees regarding the implications of the often-peripheral role played by women in decision-making. For example, members of the Guticha Borehole user committee did not feel that this resulted in women’s interests not being considered:

“Exclusion of women in decision-making does not at all lead to their exclusion in water use. Our culture and religion demand that domestic and livestock water interest are to be taken by men. Household interest includes interest of all members of the household – including women.” (member, Guticha management committee)

⁶ Some of the other ward and user committees in Wajir have a higher representation of women. Overall, in Wajir there are 12 WCCPCs with a total of 74 men and 22 women members and 24 user committees with a total of 115 men and 47 women members.

Female beneficiaries interviewed at the Jehjeh Water Pan felt that how the investment was run favoured livestock water use over domestic water use. For example, they suggested that, if they had extra money to improve the investment, they would pipe the water into the village and would then manage the water kiosk in the village. In addition, they felt that domestic water use should be prioritised over livestock water use.

"We depend 100% on this pan. Livestock have the option to migrate; we don't. We must find a way to prioritise water for domestic use. We must learn to say no to migrating livestock when the water at the pan reaches a certain level. But for now, we don't have such an option." (Female beneficiary, Wajir Bor)

3.2 Makueni County – Masue Rock Catchment investment

Brief background to county and investments

Makueni County is located in the eastern part of Kenya. It covers approximately 8,034km², most of which is arid and semi-arid. The county is characterised by low-lying terrain, except for three hilly areas (Kilungu Hills, Mbooni Hills and Chyulu Hills). Agriculture is the main income-earning activity. The sector employs about 78% of the population and contributes a comparable percentage to household income (Government of Makueni, 2013). Agricultural activities practised in the county include crop-farming (cash crops and food crops), livestock-keeping (mainly dairy and beef cattle, goats and poultry), bee-keeping, and fish-farming. Makueni County has one of the highest poverty levels in the country (64%), compared to the national absolute poverty level of 47%, and suffers from low agricultural productivity, poor access to basic social services (e.g. the average distances to a source of water and health facility are about 8km and 6km, respectively)

and high unemployment rates (Government of Makueni, 2013).

Mbitini Ward has a total population of 39,678. The major livelihood activity agro-pastoralism. The ward is prone to water and pasture shortages, with consequent impacts on the livelihood of communities dependent on these resources. The ward also suffers from deforestation and severe erosion, leading to deep gullies and floods. The Masue Rock Catchment investment, located in Mbitini Ward, was part of the first phase of investment undertaken in 2016. The project is expected to increase community access to clean water, reduce the number of waterborne diseases, reduce the distance and time to access water sources, and enhance afforestation. The project proposal does not appear to identify the number of intended beneficiaries, stating only that the water source is proposed to serve 5,152 community members in 2040. In 2018, a proposal for additional work was put forward for the Masue Rock Catchment, suggesting that it would benefit 2,400 people, 8,000 goats and 5,000 cows, as well as indirectly benefiting 1,500 people from the neighbouring wards in the county and from the adjacent Kajiado County (Mbitini Ward CCCP, 2017).

What outputs have been achieved by the investment in Makueni and how well were they delivered (economy, effectiveness and efficiency)?

For the Masue Rock Catchment, just under KShs 5.5 million were invested in the first phase to provide: concrete gutters for water collection; two storage tanks with a capacity of 150m³ each; two distribution lines and pipeline accessories (which included air valves and valve chambers); three water kiosks, with the water distributed by gravitation (not pumped) since the collection tankers are higher, thus facilitating use of gravity; and connections to two schools. It is estimated that 1,224 people,

3,060 cattle and 5,100 goats and sheep now have access to clean drinking water.⁷ In the second phase, an additional KShs 2.8 million were invested. A summary of the economy aspects of the VfM framework is provided in Table 5.

The first project proposal provides the following indicators to measure project achievement: numbers of rock catchments constructed, number of operational piped water systems in the ward, number of households and livestock accessing water, number of households practising irrigation agriculture, number of cases of deaths from waterborne diseases recorded for the ward, number of human births recorded in the ward, and number of pupils enrolled in schools. In the additional proposal from 2018, additional indicators are provided: number of cattle troughs and tree nurseries established; number of institutions benefiting; and improved livestock production, hygiene, standard of living and boarding facilities in schools. Although we don't have numbers to put against these indicators (except those provided above), all actors interviewed agree that the investment has so far been successful in delivering on its original goals of increasing access to clean water, reducing the distance and time to access water sources. The cost of water also declined, as a 20L jerrycan of clean water now costs KShs 3 instead of KShs 20. In addition, beneficiaries have mentioned that hygiene levels in schools have improved and that boarding-school children now have access to clean water. It is, however, too early to assess whether some of the longer-term outcomes, such as increased household income, improved living standards and increased vegetation cover, have been achieved.

⁷ These numbers come from the published inventory of investments and differ slightly from those in the additional project proposal from 2018.

Table 5: Summary of economy aspects of VfM framework for Masue Rock Catchment investment (over the two phases of investment)

Size of project (funds) – source and co-finance breakdown	Actual costs: KShs 5,429,287 (DFID) + KShs 2,827,140 (SIDA) = KShs 8,256,427 (two phases of investment)
Project goal – beyond climate resilience	Increased food security, water sufficiency and a good environment
What are the project deliverables?	<ul style="list-style-type: none"> • Construction of masonry gutters round the outcrop • Construction of one 200m³ and two 150m³ storage tanks (clear water tanks) <ul style="list-style-type: none"> • Installation of valves and construction of valve chambers <ul style="list-style-type: none"> • Construction of three water kiosks • Trenching, pipe laying and backfilling of the two main distribution lines <ul style="list-style-type: none"> • Construction of three VIP latrines <p>All of these deliverables were delivered.</p>
Justification for project intervention	The project was conceived to address the water shortage and water and soil erosion issues faced by communities in the area.
Start date and current status	<p>First phase: Start: September 2016. End: March 2017.</p> <p>Second phase: completed. The project is operational but still under supervision of the implementing partner. The project will be handed over after operations and maintenance training scheduled for this financial year.</p>
Information on actual costs of inputs incurred – were they higher/lower than budgeted?	The costs of inputs incurred were equal to those budgeted. The community contribution of semi-skilled labour and supervision is estimated at 10% of the total cost.
Did this impact quality of inputs acquired for the project?	Since the costs incurred were almost equal or slightly lower, the quality of inputs was maintained as dictated by the design and budgets.

The hardware planned in the proposal was installed and is operational (Table 5), and additional funding for a third storage tank was sought and secured from another donor. This was due to concerns raised by beneficiaries and the ward and site committees regarding the inadequacy of storage capacity of the initial two tanks, the amount of water harvested from the rocks and demand for more by the communities. This led the implementing partner to seek additional funds from the Swedish International Development Agency (SIDA) to install the third storage tank. The installation of this tank was completed in October 2018. This investment has also benefited the schools, with children now having access to clean water and hygiene levels improving. Local construction jobs were also created during the construction phase of the project. During the construction local community members, especially the young people in the area, were hired and paid by the project to provide labour.

What has been the change since the investment and how is it contributing to building resilience (effectiveness and equity)?

SITUATION BEFORE THE INVESTMENTS

Before the investment was made, the rock runoff was causing significant soil erosion, leading to deep gullies and impacting farm yields. In addition, there was inadequate access to water for human and livestock use, as community members were spending more than four hours for a return trip to the Muoni River to fetch water. This had impacts on human and livestock health, with high rates of waterborne diseases. There were also conflicts at the watering points.

SITUATION SINCE THE INVESTMENTS WERE MADE

Since the investments were made, all actors have reported significant benefits to the community. For example, community

members (direct beneficiaries) mentioned that water is now available in the community, so they no longer need to walk long distances to access water. The quality of water has improved, and its cost has reduced significantly (one member mentioning that the price had dropped by three times). The user committee and WCCPC were also positive about the investment and also highlighted that access to water for domestic use had improved, which had reduced the distance and time needed to fetch water. They also suggested that human and livestock health were improving and that there was greater availability of water for irrigation. Beneficiaries interviewed also mentioned that the investment is having positive impacts on children, who are spending more time in school because they no longer need to carry water; their grades are improving, and the levels of hygiene in schools are improving as children are learning to wash their hands.

Overall, all actors interviewed were positive about the investment. There is evidence that some of the early steps on the theory of change developed for this investment are being achieved – including increased access to water, reduced distances and time to fetch water and improved human and livestock health. In addition, some beneficiaries have mentioned that the increased free time they now have, because they no longer need to walk long distances to fetch water, is being used to develop various income-generating or income-saving activities (Table 6), such as starting tree nurseries and kitchen gardens. Although these are positive signs which suggest that the investment is also leading to increased incomes and improved living standards (steps further along the theory of change), it is still too early to assess whether this impact will be sustained and lead to significant changes.

"I used to take at least one hour to reach the water source, an hour to wait and another hour to get back with one jerry can of water that had cost me 10 shillings. I have now connected the water to my storage tank at home and can get three jerry cans for just 10 shillings. The time is now available to me and I use it to do my kitchen gardens that save me money that I would spend on buying vegetables. I have also started a tree nursery as a new source of income, now that I have enough water and the seedlings do not dry up. I plant and water them in the dry season and I sell them when the rainy season comes for the rest of the community to buy and plant." (Female beneficiary)

In addition, community members also reported an improvement in the community's self-esteem and image, which has led to the community changing its name from Kwangiti (meaning 'place of many dogs') to Masue, which is the name of the rock from which the water is now tapped. There is also some anecdotal evidence that this project is inspiring community members to set up their own projects. For example, the bishop of the local Anglican Church diocese was inspired by this project to begin a tree-planting initiative of his own to improve the vegetation cover around the village – a tree is planted for every child he confirms into membership of the Church. At the time of the interview, the county government minister had offered to make him the goodwill ambassador for environment to market the same idea to the rest of the denominations in the county.

"We have a rallying call: 'Kutuiikania Kiwu' through the well-known culture of merry-go-round dubbed 'Nzangule ya Matangi'. The government plans for each of 233,000 households to have two 10,000L water storage tanks by 2022. The household will buy one tank and the government, with support of donors and county budgets, will give each household with one tank, a second tank. This will guarantee

4.66 million litres of clean potable water just at household level for domestic use. Our math shows that such a quantity of water will tide any household through seven months of no rain." (Member, County Climate Change Steering Committee (DM))

Table 6: Perspectives of beneficiaries and executing entities on benefits from Masue Rock Catchment investment

CHANGES OBSERVED	QUOTES	ACTOR
Improved access to water/reduced time fetching water	We are starting to achieve increased access to water for domestic use, reduced distance to fetch water and reduced time needed to fetch water for domestic use.	WCCPC
	When the storage tanks were finally installed and filled up with water from the rock catchment, I went ahead and bought my own 10,000L storage tank at my house. I have saved on time, the water is fresh and clean for my household consumption and my children do not need to spend hours looking for water after school anymore.	Female beneficiary
	I used to take at least one hour to reach the water source, an hour to wait and another hour to get back with one jerry can of water that had cost me 10 shillings. I have now connected the water to my storage tank at home and can get three jerry cans for just 10 shillings. The time is now available to me.	Female beneficiary
Reduced water costs	The cost of water has dropped by three times and quality of water improved considerably, in effect improving our living conditions.	Beneficiary
	I am most grateful for this project, I used to buy a 20L jerry can of water from vendors at 10 shillings and I needed at least five of these on any given day to meet my household needs. That meant that every day I spent at least 50 shillings on water alone. Given the fact that the vendors just came I was not even sure of the quality of the water. Through this project now, I can get three 20L jerry cans for 10 shillings which means for 20 shillings I have more than my daily requirement of water met. The water is clean and I am sure of its quality.	Female beneficiary
	I used to take at least one hour to reach the water source, an hour to wait and another hour to get back with one jerry can of water that had cost me 10 shillings. I have now connected the water to my storage tank at home and can get three jerry cans for just 10 shillings.	Female beneficiary
Livelihood diversification/increase in economic activity	We have a lot more time for various economic activities since we don't have to trek to water points and wait for long hours.	Beneficiary
	I have started to grow and sell tree seedlings now that I have water and this has boosted my income.	Youth beneficiary

CHANGES OBSERVED	QUOTES	ACTOR
Livelihood diversification/ increase in economic activity (cont'd)	I have a kitchen garden where I employ one person to produce vegetables for me and for sale in the local market.	Female beneficiary
	I used to take at least one hour to reach the water source, an hour to wait and another hour to get back with one jerry can of water that had cost me 10 shillings. I have now connected the water to my storage tank at home and can get three jerry cans for just 10 shillings. The time is now available to me and I use it to do my kitchen gardens that save me money that I would spend on buying vegetables. I have also started a tree nursery as a new source of income now that I have enough water and the seedlings do not dry up. I plant and water them in the dry season and I sell them when the rainy season comes for the rest of the community to buy and plant.	Female beneficiary
	When the project came I saved up some money from my salary and bought a 10,000L storage tank and requested to connect to the project's line. I now have enough water not just for my domestic use but also to water my vegetable garden which saves me money as I do not have to buy vegetables from the market. In a few months I will be selling vegetables from my kitchen garden.	Female beneficiary
<ul style="list-style-type: none"> Educational benefits Improved hygiene in schools 	Children in the schools do not have to carry water and they are learning to clean their hands which will improve hygiene. They are spending more time in school which should improve their grades.	Beneficiary
	There is improved hygiene at the local primary school where we connected water, as children now wash hands.	Female beneficiary
	At school we would plant tree seedlings which would promptly dry up when drought came as the water brought by the children was not enough for hand washing, cooking and to water the trees. The project has connected a pipeline to the school which now has storage tanks to store enough water for more than a week. The children have learned to clean their hands, they no longer have to carry water to school in the morning, the latrines are cleaned every day and we have recently started a boarding section for the upper primary pupils to spend more time studying.	Female beneficiary/ school teacher
	I am familiar with the impacts of climate change in our community. With depressed rains we would be forced to leave school at 1pm to go in search of water from the rivers that was over an hour away, that meant two hours of useful class time would be spent looking for water rather than studying. When we came back we were too tired to continue reading and just waited to go home. At home you would be forced to go to the river again to get water for the family before settling to have dinner and do homework.	Female youth beneficiary
	But that has changed since the project. The school connected to the project water and the need to go for river water was completely eliminated. We have been able to spend more time studying and in fact our mean grade for the school went up considerably in the 2018 exams compared to the earlier years. I would attribute this to availability of clean water within the schools that ensured we do not have to spend study time trekking to collect water for home and school. The school looks cleaner, we water the trees which we plant and very soon we shall have a forest at school.	

KEY CHALLENGES

The ward committee, user committee and beneficiaries were all positive about the impact of the investment. Yet, some challenges remain. Indeed, the ward and user committees are concerned that there is excess runoff from the rock and that this is causing new gullies to form, which could lead to soil erosion and flooding. They suggest that they need an additional two or three storage tanks to capture all the excess water. This challenge highlights the need for and importance of regular sustained flow of climate finance to the ward level. In addition, the committees are concerned about sustaining the public goods from the investment and ensuring that as many people as possible benefit. The community members also felt that the benefits were not as widespread as they could be, as the section of the community upstream from the storage tanks is unable to receive water from the tanks, leading to fears that they could vandalise the assets.

"We feel that the part of the community over the hill and below the tank base near the rock catchment should be provided with water even if it means installing a small solar pump to direct part of the water up to a storage tank." (Direct beneficiary)

The site committee also mentioned they are planning to charge a small water fee to raise funds for maintenance, but also to support committee members who might have no stable financial incomes to enable them to attend meetings and fulfil their (non-statutory) duties.

Equity considerations

Overall, the ward committee, user committee and beneficiaries interviewed felt that this investment is gender-sensitive. It has addressed the strategic gender needs of time and labour, especially for women and children who bear the greatest responsibility for providing water for the households in this community. This has allowed women to diversify their livelihoods by developing additional income-generating activities and has enabled girls to spend more time in school, as well as to play and rest.

Gender representation in the WCCPC (two women, nine men) is in line with the CCCF Regulations which require a minimum representation of two women in the WCCPCs. In addition, in Makueni County, there are reports of inclusion extending to include people living with disabilities. The Mbitini WCCPC has a committee member representative of people living with disabilities. He advocated to distribute water harvested from the rock catchment downstream to provide easy access to people with disabilities. He is also now a village administrator. In the user committee (where the Regulations do not stipulate gender requirements), women's representation was a lot higher at almost 50% (four women, five men). Overall, the Regulations are very clear on the requirements for equity and gender representation; the challenge remains the implementation and reinforcement of these requirements. This is of course a much broader societal issue, which the CCCF mechanism is challenging through its focus on participation and inclusion. Achieving greater and sustained inclusion of women and youth in decision-making will take time, especially in a largely patriarchal society which has resisted ceding leadership spaces to women.

There are further equity issues with this investment in terms of ensuring that all members of the community benefit. At present this is not the case, as the people living upstream from the water storage tanks are not provided with water. To address this issue, the user committee is investigating the possibility of using a water point (tap) on the reservoir tanks to supply water to those living upstream.

3.3 Kitui County – Mikuyuni Earth Dam Rehabilitation investment

Brief background to county and investment

Kitui County is located in the former Eastern Province of Kenya, about 160km east of Nairobi. It covers an area of 30,496km². Agriculture is the backbone of the economy in Kitui. In the highlands, farmers grow mainly cotton, tobacco, sisal, mangoes, maize, beans, cassava, sorghum, millet and pigeon peas. In the lowlands, farmers keep livestock – mainly cattle, sheep, bees, goats and chicken – to supplement crop farming as their source of income.

The Mikuyuni Earth Dam Rehabilitation investment is situated in Kauwi Ward in Kitui West Subcounty. Drought is identified by the communities as one of the major threats to their livelihoods. Water access and availability is a major challenge and people walk long distances in search of water for both domestic and livestock uses. During severe droughts, Kauwi residents are forced to draw water from the main reservoir tank in Katheka, which is up to 20km away for some residents. The Mikuyuni Earth Dam was built in 1994 but did not include the component of catchment protection and draw-off system due to lack of funds. The dam has filled with silt due to poor management

and can now sustain the local population for only two months. The rehabilitation of the dam, carried out in 2016, aimed to address these issues and serve over 2,000 households with a population of more than 12,000 plus about 10,000 cattle (Kauwi Ward Adaptation and Planning Committee, 2015). In addition, a tree nursery was to be established at the dam to support the afforestation programme throughout Kauwi Ward.

What outputs have been achieved by the investment in Kitui and how well were they delivered (economy, effectiveness and efficiency)?

For the Mikuyuni Earth Dam Rehabilitation investment, a total of a little over KShs 11 million were spent on constructing the dam, building the 1.5km perimeter fence and a cattle trough, and installing domestic water points (Table 7). Households with farmland around the dam can now also use this water for irrigation. The planned outputs were delivered, although the delivery was delayed because of delay in the enactment of the regulations to secure the Fund. The fencing work (to protect the earth dam from pollution by livestock) was done in a second phase, as additional funds needed to be mobilised for this. These funds were provided by the implementing partner.

The proposal provides a long list of indicators to measure project achievement, although many of them relate to other investments in the ward (the proposal covers several investments in addition to the Mikuyuni Earth Dam Rehabilitation). Therefore, only a sample of indicators are highlighted here: number of people and livestock accessing clean water, number of households with tap water, number of houses practising micro-irrigation, number of births in livestock, number of human births, number of livestock per household, reduced conflicts in the community. Although we don't have numbers to put against these indicators (except those

provided above), all actors interviewed agree that the investment has so far been successful in delivering on its original goals. The quantity and quality of the water at the dam has improved, and it is available for both household and domestic use. The benefits are shared among three villages (Kyenge, Katutu and Mutanda) in the ward and one (Mithikwani) outside the ward.

During the construction works to rehabilitate the dam, young people from the village were hired and paid by the service provider to provide labour.

Table 7: Summary of economy aspects of VfM framework for Mikuyuni Earth Dam Rehabilitation investment

Size of project (funds) – source and co-finance breakdown	KShs 7.5 million – UK Aid KShs 3.3 million – Christian Aid
Project goal – beyond climate resilience	To address water, health and sanitation, and micro-irrigation
What are the project deliverables?	<ul style="list-style-type: none"> • Earth dam • Sanitation facilities • Communal water point • Cattle trough • Fencing
Justification for project intervention	<ul style="list-style-type: none"> • The earth dam serves two sub-locations • Enhancing water access for domestic and livestock use
Start date, end date and current status	Start: September 2016. End: March 2017 Current status: The project is currently under the project management committee, awaiting official handover this financial year 2018/19.
Information on actual costs of inputs incurred – were they higher/lower than budgeted?	The actual costs were higher because the volume of the dam to be de-silted had been underestimated. In addition, further funds were then required to fence the area around the dam to keep livestock from contaminating the water.
Did this impact quality of inputs acquired for the project?	The quality of inputs was as per the bill of quantity and was not affected by the change in costs.

What has been the change since the investment and how is it contributing to building resilience (effectiveness and equity)?

SITUATION BEFORE THE INVESTMENTS

Before the dam was rehabilitated, it would dry up during the dry season (two months after cessation) and community members, especially women and children, had to travel two hours to access water points. In addition, the water was frequently contaminated by livestock, as the dam was not fenced, leading to households being exposed to waterborne diseases. Households in the community also felt that they lacked water to irrigate their farms and gardens.

SITUATION SINCE THE INVESTMENTS WERE MADE

Both the WCCPC and beneficiaries have reported significant benefits to households in the community (Table 8). The direct beneficiaries interviewed estimate that over 2,000 families from a radius of 10km have access to water from the dam. Before the investment, they sometimes had to walk 20km one way, travelling from as early as 3am. Water is now available all year within the community so women and youth no longer need to spend a long time to fetch water, which frees up their time to develop additional income-generating activities. Families that farm around the dam use the water for irrigation, allowing them to farm during the dry season. They are able to grow and harvest fruit and vegetables, which they can then sell. This not only provides these families with additional income, but also provides fresh and affordable food for the community. Some households have also set up tree nurseries and will be able to sell the seedlings at a high price in the market. In addition, youth from the community are producing seedlings for sale instead of cutting down trees for charcoal.

The investment is already delivering on some of the early steps of the theory of change: increased access to water for domestic use, livestock use and farming. In time, if the success of the investment is maintained, this should lead to achieving some of the steps further down the theory of change, including improved forest cover, improved animal and human productivity and increased household income. The youth have noted how their resilience levels were very low five years ago and are now slowly improving, although there is still a long way to go until they achieve high resilience levels. The youth feel their resilience has improved because they:

“now have knowledge, and are adapting to the new ways of life, planting drought resistant crops, installing water storage tanks, etc.” (Youth beneficiary, Mikuyuni, Kitui County)

“On the resilience scale of 1–10, we were at 3 five years ago; we are currently at 4 but we see a definite jump to 7 in the next five years given the investments in knowledge dissemination, infrastructure development and legal structures in the last five years.” (Youth beneficiary, Mikuyuni, Kitui County)

However, the WCCPC is also aware that this one investment cannot address all the water needs of the community and is already looking at additional ways to expand water supply. In addition, the WCCPC highlighted the need to ensure that nearby farmers terrace their farms to reduce siltation of the dam. This has been supported by links with the County Ministry of Environment, Kenya Forest Services and Kenya Forest Research Institute, who have supplied neighbouring farms with over 2,000 seedlings to plant on their farms.

Table 8: Perspectives of beneficiaries and executing entities on benefits from Mikuyuni Earth Dam Rehabilitation investment

CHANGES OBSERVED	QUOTES	ACTOR
<ul style="list-style-type: none"> Increased water availability and access Freeing of time for other activities (e.g. education, farming, tree-planting) 	<p>With the dam, we now have water round the year connecting the two wet seasons, in effect completely eliminating the long hours spent in search of water. The beneficiaries, especially women and children, can now use the time freed up to engage in other economic activities such as tree planting, school work and small-scale irrigation around the dam.</p>	User committee
	<p>On the resilience scale of 1–10, we were at 3 five years ago; we are currently at 4 but we see a definite jump to 7 in the next five years given the investments in knowledge dissemination, infrastructure development and legal structures in the last five years.</p>	Youth beneficiary
Increased resilience	<p>We believe that we are progressing steadily along the resilience line towards the achievement of resilient communities in the years ahead. Between 2013 and 2018, movement was slow due to the myriad changes in governance and lack of legal framework to address climate change specifically. However, now with the Regulations passed, it will be easy to harness all the efforts and resources into one direction of ensuring water security and livelihoods diversification.</p>	County Climate Change Technical Committee

KEY CHALLENGES

Managing the expectations of the communities around the benefits of investments remains a key challenge. In addition, the county climate change committees have to manage local and national politics and conflicting interests.

“Managing the expectation of the citizens under our 14 devolved and 35 national functions is proving to be a challenge due to the level of need. We are also acutely aware that there will always be conflicting interests that might

take a political turn so we lobby at the political level and negotiate where necessary, fully aware that development is a political process. Further, the arms of County Government (Assembly and Executive) are constantly engaged in negotiation and sometimes this political jockeying can mean that processes take longer than initially intended." (Kitui County Government official)

Further, siltation remains a real and present threat to the sustainability of the dam. Fencing of the dam area undertaken in the second phase of the project has helped but the surrounding farms upstream will need to be sensitised and trained on soil conservation measures, including terracing of their farms and planting cover crops, to ensure near-zero soil washes into the waterways. Further, the user committee has recommended construction of check dams and sand dams in the waterways into the dam.

Equity considerations

This investment has benefited all households within the community, including women, elders, children and people with disabilities, as they can all easily access the dam at any time of day. The beneficiaries reported that the dam has increased access to clean water by reducing the distance to water points and time spent trekking to fetch water. This has met several strategic gender needs, especially for the women and youth who can invest the extra time in other economic activities. The youth are now engaged in more environmentally friendly activities, such as establishment of tree nurseries, instead of destructive practices such as charcoal-burning and sand-harvesting, which had led to drying river-beds.

Gender representation within the WCCPC meets the legal requirements set out in the Kitui CCCF Regulations, which stipulate that there should be at least one representative of women and one youth representative from each gender (Table 9). One of the wards, Yatta Kwa Vonza, has even achieved a greater representation of women than men, with women accounting for 55% of committee members.

Table 9: Gender representation in all the ward climate change planning committees in Kitui

WARD	MALE	FEMALE	TOTAL	FEMALE REPRESENTATION (%)
Kiomo/Kyethani	8	3	11	27
Yatta/Kwa Vonza	5	6	11	55
Mutito/Kaliku	8	3	11	27
Voo /Kyamatu	7	4	11	36
Ikutha	8	3	11	27
Mutha	7	4	11	36
Tharaka	8	3	11	27
Ngomeni	8	3	11	27
Migwani	9	2	11	18
Kauwi	7	4	11	36
Total	75	35	110	32

3.4 Garissa County – Goreale Borehole investment

Brief background to county and investment

Garissa County is one of three counties constituting Northeastern Kenya. It is a semi-arid area characterised by high temperatures throughout the year, with the average daily temperature of 36°C and average rainfall of 275mm per year. Garissa County's economy is highly dependent on the natural resource base, and thus is highly vulnerable to climate variability and change. The main income-generating activities in the county include nomadic pastoralism and small-scale, irrigated crop-farming.

Goreale Ward is one of the administrative areas of the expansive Lagdera Subcounty of Garissa County. The main livelihood activity in Goreale Ward is pastoralism. The main source of water for livestock and human consumption for Goreale and surrounding areas is groundwater from shallow wells. The key issue around water in the area is competition between livestock and domestic users, especially given heightened livestock numbers during droughts. The investment in Goreale responds to these water challenges by providing segregated water-provision points for domestic and livestock users through the construction of water kiosks and livestock watering troughs. This investment is also expected to alleviate the pressure on the existing borehole and reduce the breakdown of water pumps due to over-use. The investment was expected to benefit 3,000 people and a livestock herd of 17,000 (including cattle, goats, sheep, camels and donkeys). In addition, it was also expected to indirectly benefit 2,000 pastoralists and their livestock transiting to Garissa market.

3.4.2 What outputs have been achieved by the investment in Garissa and how well were they delivered (economy, effectiveness and efficiency)?

A total of just under KShs 3.4 million were spent for the Goreale Borehole investment which delivered three water kiosks in three different village clusters in the Goreale settlement and three water troughs for livestock (Table 10). The Goreale water works were completed in 2017. The supervision of investment inputs was provided by the local user committee with remote oversight by the ward planning committee, which reduced the costs of implementation. Supervision costs are key drivers of costs for investments in remote areas like Goreale.

"In addition to the cost of procurement, project supervision and monitoring is a key driver of costs for county government investments. In this case, the local committee carry out that role with oversight from WCCPC. This greatly reduces the cost of the projects." (County procurement official, Garissa county)

A total of 260 local youth were employed during the construction works for the investment, as stipulated in the investment proposal.

Table 10: Summary of economy aspects of VfM framework for Goreale Borehole investment

Size of project (funds)	Total cost: KShs 3,369,011
Project goal – beyond climate resilience	Improving water access for households and livestock through the provision of segregated water points for domestic and livestock users; reduced conflicts.
What are the project deliverables?	<ul style="list-style-type: none"> • Purchase of pipes and fittings, and digging piping trenches • Construction of three water kiosks in the three village clusters • Three water troughs for livestock
Justification for project intervention	Lack of access to domestic water, long distances to access water, and competition for water between domestic and livestock use, leading to violent conflicts.
Start date and current status	2017
Information on actual costs of inputs incurred – were they higher/lower than budgeted?	Costs were as expected.
Did this impact quality of inputs acquired for the project?	No

3.4.3 What has been the change since the investment and how is it contributing to building resilience (effectiveness and equity)?

SITUATION BEFORE THE INVESTMENTS

Before the investment, women and children had to walk long distances to fetch water from the Shanta-Abaq Borehole, which was used for both domestic and livestock purposes. Water provision was insufficient for both households and livestock, which led to high water costs as well as conflicts between

communities. In addition, the water pumps at the borehole often broke down due to over-use (the borehole was at times in constant operation, day and night). There are also limited sanitation facilities around the water kiosks.

SITUATION SINCE THE INVESTMENTS WERE MADE

The Goreale water works have improved access to reliable and clean water for human consumption to the local population in Goreale as well as to the surrounding satellite areas of Barsaben, Ahmed Tukale and Akhalar. The estimated beneficiary population is 3,000 households (21,000 people⁸) and 17,000 heads of livestock.

The proposal suggests that the following indicators will need to be measured to assess project success: number of water kiosks established, number of households accessing water on a daily basis, frequency of fetching patterns for households, evidence of reduced number of livestock/human congestion resource-based conflicts, and reduced number of livestock deaths. We do not have numbers for these indicators, but all actors were positive about the success of the investment (Table 11). The number of people drawing water from the borehole from neighbouring locations, wards and counties has increased since the reliability of the borehole has improved due to the water works carried out. Key household-level benefits reported by the households (direct beneficiaries) include reduction in the distance and time for drawing water and increased access to clean water which is leading to improved human health.

“This borehole now serves the entire Goreale, livestock from three other wards in Garissa and livestock from as far as Wajir and Isiolo counties who migrate because of drought

⁸ The average household size in the area is seven individuals

and water stress. In the past, this was not possible." (WCCPC member, Goreale Ward)

Sustained water availability in the area has also benefited the youth as it has enabled increased participation in the '4K' clubs⁹ in the local primary school. At Goreale primary school, children who are members of the 4K club gain knowledge and skills on sustainable agriculture through hands-on activities in the schools' demonstration gardens.

Finally, it appears that the creation of a user committee, appointed through community consultation, to oversee the investment is leading to more efficient use of the water, and also to the community re-valuing its water resources, something previously taken for granted.

Table 11: Perspectives of beneficiaries and executing entities on benefits from Goreale Borehole investment

CHANGES OBSERVED	QUOTES	ACTOR
Reliable water source for local population and livestock, as well as livestock from neighbouring counties	This borehole now serves the entire Goreale, livestock from three other wards in Garissa and livestock from as far as Wajir and Isiolo counties who migrate because of drought and water stress. In the past, this was not possible.	WCPC member, Goreale Ward
Increased safety for women	In the past women were forced to draw water at night which exposed them to dangers of attack by wild animals. The water kiosks have not only reduced the distance where clean water is available but also reduced the need to draw water at night.	Female beneficiary, Goreale location
Benefits extending to population beyond the local area	Beyond Goreale, this borehole serves people from four settlements, and livestock from two wards and two counties.	Goreale Borehole Management Committee

⁹ The 4K stands for 'Kuungana, Kufanya, Kusaidia Kenya', Swahili for 'Coming together, to act, in order to help Kenya'.

KEY CHALLENGES

Despite the benefits mentioned above, there are some critical challenges that remain to ensure the long-term sustainability of the benefits to the local population. In particular, the increase in the population drawing water from the borehole since the investment was made has led to increased pressure and therefore wear and tear on the water pump and a deterioration of the borehole yield. This in turn has forced the user committee to enforce strict planning for water use and to prioritise pumping water for specific use at designated times. Because of the reduction in water yield, the school and dispensary were required to make their own connection from the water kiosk instead of fetching from the kiosk directly, thus rationing their usage.

Water for domestic use is now pumped at night to enable uninterrupted water pumping for livestock use during the day. Within the pastoral system, livestock need to be watered during the day when conditions are more favourable for managing herd dynamics around water points and to ensure a quick turn-around to enable maximum grazing of pastures by animals until night. This strategy is important for herd productivity and therefore their resilience to climatic risks. The increase in people using the borehole has also led to migration of livestock herds away from the ward,¹⁰ which is having a negative impact on nutrition and food security in general. However, many of these challenges must be framed within the wider context of 'development deficit' and inappropriate water governance, including a lack of differentiation of the water needs for domestic versus livestock use and a lack of provision within water policies to enable

¹⁰ Migration of livestock herds away from the ward is happening because the increase in people using the borehole has led to water scarcity (low yields, high population of livestock and domestic users) and over-use of pasture around the borehole.

water user committees to regulate access according to pasture availability.

"Before [the increase in population drawing from the borehole], the borehole yield was not a problem. With the yields down, we no longer have our livestock around during drought to give us milk." (Female beneficiary, Goreale Ward)

"We've been forced to pump water for domestic use at night to avoid competition for water during the day with livestock users. As a result, domestic users sometimes run out of water as we cater for livestock during the day." (Chairman, user committee)

Equity considerations

The Goreale water investment has been particularly beneficial for women. It has increased their safety as they no longer need to fetch water from the borehole at night, when there were risks of attacks by wild animals. Instead, women access water from the water kiosks in the villages, although this continues to be done at night because of the prioritisation of water use for livestock during the day (see below). In addition, the separation of water points for human and livestock use through water kiosks and livestock watering troughs respectively, has enabled women to become active participants and decision-makers in water resource management. The water kiosks are now managed by the local women's group under the supervision of the borehole user committee. The women's group collects water charges at the water kiosks and oversees the day-to-day running of the water kiosks.

3.5 Isiolo County – Kinna Veterinary Laboratory and Garbatulla Community Radio investments

Brief background to county and investments

Isiolo County, at the lower eastern region of Kenya, is part of Kenya's ASALs and has a hot and dry climate with an average annual rainfall of about 580mm, which is often unpredictable and unevenly distributed (Isiolo County Government, 2013). The county food poverty levels are extremely high – estimated to be 77% – making a large part of the population dependent on food aid (MoALF, n.d.). Pastoralism represents the main livelihood activity and the mainstay of the county's economy, supporting over 80% of the county's population. Agro-pastoralism is also practised by about a third of the Isiolo population, in areas where rainfall and water availability support crop farming, and is predominantly common among female-headed households (Government of Kenya, n.d.).

KINNA VETERINARY LABORATORY

Kinna is part of the larger Garbatulla Subcounty within Isiolo County, about 60km east of Isiolo town. Kinna has a population of 14,618 people who practise agro-pastoralism. Kinna has relatively humid pastureland and therefore experiences high rates of in-migration from neighbouring locations during droughts, which puts enormous pressure on the natural resources. Over the past decades, livestock diseases have increased significantly in Isiolo, with high susceptibility to East Coast fever (ECF), trypanosomiasis and foot and mouth disease (FMD) (Government of Kenya, 2004). Outbreaks of these highly transmittable livestock diseases have now become a frequent occurrence in Kinna catchment. The renovation and equipping of Kinna

Livestock Disease Laboratory was undertaken as a key priority in the ward. The overall goal of the Kinna Veterinary Laboratory is to protect pastoral livelihoods in the area through proper diagnosis of livestock diseases, provision of subsidised drugs to the residents, and monitoring and surveillance of livestock diseases in the area. The laboratory was also expected to have positive impacts on veterinary extension services by reducing disease diagnosis turnaround time from over two weeks to two days. The laboratory was expected to serve the Kinna location, with a population of over 14,000 plus migrating pastoralists from surrounding areas.

GARBATULLA COMMUNITY RADIO

Access to timely weather, security and market information are some of the most prominent factors that facilitate mobility of pastoral populations and by extension their resilience to climate shocks. The overall goal of the Garbatulla Community Radio is to assist with short-term planning by communities, and to raise public awareness on general development and governance issues (such as security and disease outbreaks), which are critical for building resilience of local communities (Isiolo County Government, 2017).

What outputs have been achieved by the two investments in Isiolo and how well were they delivered (economy, effectiveness and efficiency)?

KINNA VETERINARY LABORATORY

In October 2013, the WCCPC commissioned the renovation and equipping of the Kinna Livestock Disease Laboratory at the cost of KShs 6,041,122, with a commitment by the County Department for Veterinary Services to provide staff for the laboratory. The investment led to the renovation of the laboratory building, the installation of equipment including a microscope, centrifuges,

diagnostic kits, a fridge and laboratory consumables, as well as the provision of a variety of livestock drugs and vaccines (Table 12). Additionally, a laboratory technician was posted to the facility by the national government on temporary basis with expectations that the county government of Isiolo would recruit a veterinary technician for the facility.¹¹ While there is no data on comparable costs on renovation and equipping of the laboratory, the use of the county government procurement procedures ensured that the work was given to the lowest bidder.

Table 12: Summary of economy aspects of VfM framework for Kinna Veterinary Laboratory investment

Size of project (funds)	KShs 6,041,122
Project goal – beyond climate resilience	Protect pastoral livelihoods in the area through proper diagnosis of livestock diseases, provision of subsidised drugs to the residents and monitoring and surveillance of livestock diseases in the area
What are the project deliverables?	<ul style="list-style-type: none"> • Earth dam • Sanitation facilities • Communal water point • Cattle trough • Fencing
Justification for project intervention	Outbreaks of livestock diseases have become a frequent occurrence in Kinna, and the existing laboratory lacked financial and human resource capacity
Start date and current status	2013. Current status: the laboratory is not functional as it does not have a technician based at the facility
Information on actual costs of inputs incurred – were they higher/lower than budgeted?	Costs incurred were the same, but the cost of funding the laboratory technician was not factored into the investment
Did this impact quality of inputs acquired for the project?	No

¹¹ The technician was however withdrawn after only six months due to funding constraints. However, in February 2019, a new veterinary technician was recruited.

GARBATULLA COMMUNITY RADIO

The construction and equipping of the Garbatulla Community Radio Station was undertaken in partnership with Kenya Meteorological Department (KMD) to disseminate critical weather and climate information to aid migration of pastoralists and provide other useful information, including on security and markets, as well as to help track lost or stolen livestock. The WCCPC investment of over KShs 10 million in the Garbatulla Community Radio included the cost of the building, construction of sanitation facilities on the station premises and installation of the solar-powered back-up system for uninterrupted broadcast of weather and development information (Table 13).

The radio frequency covers a radius of 29km and currently runs a daily 12-hour broadcast schedule with 60-minute interactive programmes on news and current affairs, health, natural resource management, education and civic education, among other topics. The broadcasts are made in the local Boran, Samburu and Turkana languages. The radio station is run by KMS which also employs the staff. The radio is managed by a station manager and currently has six employees and a security guard.

What has been the change since the investment and how is it contributing to building resilience (effectiveness and equity)?**SITUATION BEFORE THE INVESTMENTS****KINNA VETERINARY LABORATORY**

Outbreaks of highly transmittable livestock diseases had become a frequent occurrence in Kinna catchment. Following the funding withdrawal and eventual collapse of the Embu Meru Isiolo Livestock Development Programme (EMI-LDP) laboratory in 1992/93, Kinna's existing veterinary infrastructure lacked financial and human resource capacity (Isiolo County Government, 2017). Despite the existence of private veterinary services in the

Table 13: Summary of economy aspects of VfM framework for Garbatulla Community Radio investment

Size of project (funds)	Over KShs 10 million
Project goal – beyond climate resilience	<ul style="list-style-type: none"> • Disseminate critical weather and climate information • Assist with short term planning by communities • Raise public awareness on general development and governance issues
What are the project deliverables?	<ul style="list-style-type: none"> • Construction of sanitation facilities on the station premises • Installation of solar-powered back-up system for uninterrupted broadcast of weather and development information
Justification for project intervention	Access to timely weather, security and market information are some of the most prominent factors that facilitate mobility of pastoral populations and by extension their resilience to climate shocks.
Start date and current status	Project initiated in 2013. Current status: functioning.
Information on actual costs of inputs incurred – were they higher/lower than budgeted?	No cost variation for the project.
Did this impact quality of inputs acquired for the project?	No impact on quality recorded or mentioned.

area, residents were incurring huge livestock losses as a result of disease mis-diagnosis and drug resistance in livestock.

GARBATULLA COMMUNITY RADIO

Traditionally, pastoralists relied on indigenous knowledge and customary institutions to adapt to climatic variability and related shocks. However, customary institutions have been eroded by a combination of factors including sedentarisation, government institutions and Western education. Government institutions have little capacity in most pastoralist areas, leaving a gap in timely provision and dissemination of critical information required to enable herders to better manage climatic and other hazards.

SITUATION SINCE THE INVESTMENTS WERE MADE**KINNA VETERINARY LABORATORY**

All interviewees strongly stated that, while in operation, sustained availability of timely livestock disease diagnosis and prescription services from the lab was on track to meet or exceed ambitious targets to control and prevent livestock diseases in Kinna and surrounding pastoral areas. Firstly, in terms of the speed of veterinary services, the lab was providing livestock disease diagnosis in two days instead of the two weeks herders had to wait before the lab project. Secondly, the lab project was on track to considerably improve livestock health in Kinna location. At the household level, beneficiaries reported improvement in livestock health and survival rates. The availability of drugs and vaccines at the laboratory reduced the cost of expenditure on livestock health, with reported estimated savings of about KShs 500 per livestock head.

“Before this lab became functional again, households used trial and error with drugs when livestock became sick. The first-choice drug is alamycin and if that doesn't work, they will try other drugs. This entailed an expenditure of about KShs 1,000–1,500 per livestock head. When the lab became functional again, with correct diagnosis in Kinna and accurate prescription, the cost per head was KShs 250–500.” (Member, user committee, Kinna Vet

At the community level, the presence of a veterinary technician also ensured that community members obtaining their supplies from the facility were provided with demonstrations and technical advice on livestock health and administration of drugs. As a result, the community members acquired new knowledge and skills on livestock treatment and disease control.

GARBATULLA COMMUNITY RADIO

All actors interviewed agree that the investment in Garbatulla Community Radio has resulted in progress towards the provision and dissemination of weather and development information which should help community members better manage the impact of droughts and other hazards. There is unfortunately as yet no evidence of behaviour change attributable to the information received from the radio. The radio has resulted in the availability of high-quality and up-to-date drought and rainfall information required by local pastoralists for decision-making in relation to planning production, market participation, security, migration, resource governance and drought mitigation strategies such as de-stocking. Interviewees also suggested that communities in Garbatulla are increasingly listening to the radio for climate, market and general information.

The provision of drought early-warning information systems through the community radio has also reaffirmed the importance of this radio station within the Garbatulla community, and strengthened ongoing and planned radio programmes. By hosting shows that feature local dedha leaders, and political and county officials, the community radio communicates much more assertively on issues such as climate change, natural resource governance, devolution and inter-communal relations. As a result, the Garbatulla community can better understand and address the impacts of climate change and current and future livelihood risks. In terms of content, the radio programmes reflect the interest expressed by local communities in addressing not only livelihoods-related information, but also critical emerging issues related to devolution, health, education, trade and national political debates, among others. This means that programme content and discussions are focused on more than information provision and dissemination, covering larger issues relevant for national development and affecting local

communities. Nevertheless, the core elements of programming are climate information and livestock diseases, including reported outbreaks and quarantine information. This is a valuable part of resilience-building, allowing herders to plan migration and disease control.

KEY CHALLENGES

KINNA VETERINARY LABORATORY

The long-term success of this CCCF investment was seriously undermined when laboratory services were abruptly terminated after six months, on the departure of the laboratory technician posted to the facility. This stopped the laboratory providing sustained disease diagnosis and prescription services. In addition, a large consignment of drugs and vaccines expired, forcing the county veterinary department to dispose of them. The local community raised questions about unmet expectations of the lab project.

“We prioritised this project because livestock health is critical to our resilience to other shocks. We haven't had any diagnostic services since the technician was withdrawn. A lorry-full of drugs was destroyed because they expired in our laboratory. Without a technician this project is useless.” (Kinna resident)

Almost all respondents blamed the collapse of the laboratory on the national and county governments' failure to recruit and deploy staff. This is also reflective of the broader context of an under-funded livestock sector. In Isiolo, the livestock department has a much smaller budget than the agriculture department, despite the predominantly pastoral local economy. However, a laboratory technician has now been appointed by the county government and the lab is once again functional.

GARBATULLA COMMUNITY RADIO

A critical limitation of the radio station is that it covers a radius of only 29km within Garbatulla location, limiting the involvement and benefit to communities beyond this range. In particular, this limited geographical coverage of the radio means that it cannot be used by herders who travel beyond this distance. This limited coverage is due to resource limitations and highlights the need for regular and sustained flow of finance to the local level. In addition, high staff turnover, regular non-payment of utility bills by KMD in the early stages¹² and ageing machinery reduced the ability of the station to effectively fulfil its role in information provision and dissemination. Since its inception, the station as not had any equipment upgrades, including the provision of a synoptic weather station (instruments used to collect meteorological information at the radio location), and installation of an aircraft lamp, as required by law.

Equity considerations

The focus on inclusion in the CCCF mechanism is enabling women in Isiolo to take a greater part in decision-making than they have traditionally done. They are now involved in the climate change planning committees at ward and county levels. In some WCCPCs, women have been elected to executive positions, such as treasurer. In others, they are leading community consultations alongside men to prioritise CCCF investments. Some of the women WCCPC members have also taken up leadership roles within their communities, including ward administrator, assistant chief and teacher. This helps capture women's voices in pastoralist communities, where women have

¹² The radio station was closed for 10 months in 2017 (January–October) due to power disconnection by the Kenya Power and Lighting Company for non-payment of power bills.

traditionally not spoken alongside men in public events (Bonaya and Rugano, 2018). Yet, enhancing women's voice and role in decision-making in pastoral communities remains a complex process (Bonaya, 2018). In pastoral communities, unwritten, informal rules and gender norms are deeply entrenched in the culture and traditions. For example, in Isiolo's Borana pastoral communities, women and youth are excluded from the *dedha*, a customary natural resource management institution that regulates access to water and pasture resources. And, while women have gained in inclusion, they still face barriers to full involvement. Despite being members of the WCCPCs, women often remain less involved in decision-making roles. Women in Isiolo now have a representative within *dedhas*, yet their engagement in decisions in these institutions remains minimal. This illustrates the complexities of inclusion among communities with entrenched discriminatory gender and generational norms but shows the potential of challenging such norms (Bonaya and Rugano, 2018).

Balancing the priorities of all sections of the community when prioritising investments is a challenging task. For example, women interviewed regarding the Kinna Veterinary Laboratory investment explained that livestock-keeping represented the main livelihood option and the driving force of herder priorities. Therefore, the prioritisation of investments for resilience-building mirrors this bias and does not always fully integrate their needs.

"Water and firewood are key concerns for us women. During dry season, we spend up to six hours looking for water and firewood. But we also depend on our livestock herds for food, and without them we have nothing. So, we agree with the implementation of the Lab project. It's easier to walk with a thorn in one foot than in both feet – it eases some of our problems." (Female beneficiary, Kinna location)



4. LEVEL OF GOVERNMENT INVOLVEMENT IN INVESTMENT

IMAGE:
BOUNTIFUL
MANGO HARVESTS
AND FRUIT
PROCESSING
OPPORTUNITY IN
KITUI COUNTY.
PICTURE TAKEN
BY: USAID KENYA
AND EAST AFRICA

4.1 Governance and institutional structure of the CCCF mechanism in the five counties

The structure of the CCCF is provided in Figure 1. The structure is the same across all counties, as the role and responsibilities of the different county and ward committees are defined in the same way by the different Acts and Regulations.¹³

¹³ This has been confirmed by a recent legal review of the CCCF, which examined the three Acts and two Regulations developed by the five counties.

The role of decision-maker is carried out by both the ward and county climate change committees. A key principle of the CCCF is that it supports community-driven, bottom-up planning and it does so by giving the WCCPCs the role of working with communities to develop and prioritise investments in local public goods that strengthen communities' adaptive capacities. The WCCPCs represent the central pillar of the CCCF. The CCCF challenges business-as-usual models in seeking to operationalise the principle of subsidiarity and devolving decision-making powers beyond the county level to the ward level. It is a key feature of the CCCF mechanism that decision-making is done at both the ward and county levels, and not simply at the county level. The CCCPCs do not have the authority to reject WCCPC-prioritised proposals if they meet the strategic criteria but should provide technical support to and work with the WCCPCs to ensure that their proposals meet the technical criteria. The role of the CCCPCs ensures that the principle of subsidiarity is applied with appropriate checks and balances in place. CCCPC rejections of WCCPC-prioritised proposals are very rare. For example, CCCPCs in Isiolo and Wajir rejected only one proposal each on technical grounds out of 43 and 36 proposed investments, respectively.¹⁴

¹⁴ In Isiolo, the CCCPC rejected a proposal to construct a cattle dip along the Ewaso Nyiro river as not technically viable because the soil around the river is too loose to support this type of infrastructure and chemicals from the cattle dip were likely to drain back into the Ewaso River, leading to water pollution. In Wajir, the WCCPC had proposed to rehabilitate a water pan, but the CCCPC rejected the proposal as that water pan had only held water for two seasons in the six years since it had been built. The WCCPC was given a chance to present another priority of their choice.

The role of implementing entity is also carried out by both the WCCPCs and CCCPCs, as they both have sets of responsibilities in identifying, preparing, and appraising investment proposals, and then in supervising and evaluating the investments.

The role of executing entity is undertaken by the user committees and service providers. User committees are responsible for the day-to-day management of the investments once in place and the service providers carry out the work required for the investment and are accountable to the implementing entities for the use of funds.

Finally, households are the key beneficiaries of the investments.

Although we have managed to apply the four-actors framework to the CCCF in Figure 1, this categorisation of actors does not fit well with the CCCF. Such a structure is better suited to a more top-down model of governance and less suited to a more bottom-up and fluid model, which promotes the principle of subsidiarity and where decision-making lies at multiple levels. In addition, it is also not well suited to models in which committees can play multiple roles along that spectrum of four actors. For example, CCCPCs and WCCPCs are both decision-makers and implementing entities. In addition, WCCPCs could also be seen as beneficiaries as their members receive training, which provide benefits beyond their participation in the committees.

4.2 Wajir County investments

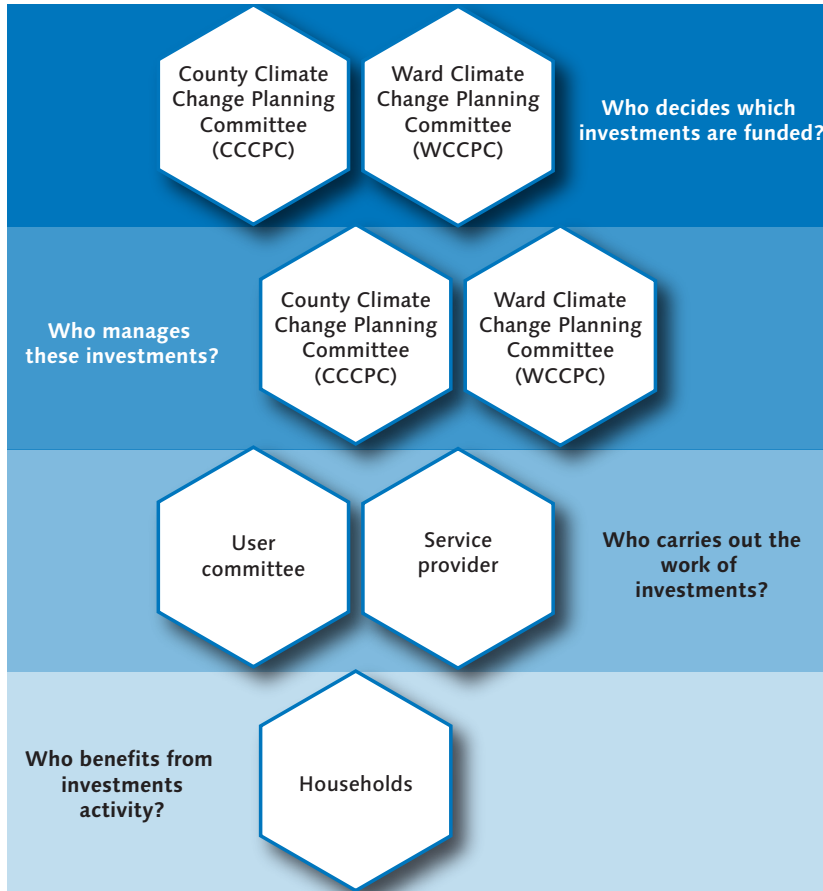
The Wajir fund has been fully operational since April 2016 and has funded 24 investments in various wards. Initial funding was provided by donors. However, from financial year 2017/18, the Wajir County Climate Change Fund Act has made provisions for at least 2% of the county development budget to be made

available for the climate change fund. To date, the total allocation stands at KShs 155 million (KShs 80 million in FY 2017/18 and KShs 75 million in FY 2018/19). In January 2019, the county government of Wajir appointed a fund administrator pursuant to the Act who will provide secretarial and administrative duties to the CCCPC.

Process of investment selection

The investment selection process in Wajir County involves several interrelated processes that help determine whether the selected investments meet CCCF project selection criteria (see Section 2.1). At the county level, the CCCPC decides how many projects will be financed, and distribute these across the wards. The ward planning committee is informed by the CCCPC of the total amount of funding allocated to their ward. The WCCPC then goes to the community, carries out community consultation meetings and uses climate resilience assessment and resource maps to develop a list of priorities. The WCCPC then looks at all priorities and decides which are the key priorities for the ward. Once the WCCPC has prioritised the projects, the members go back to the communities to present and gain community feedback on the priority projects. The WCCPCs then develop the project proposals and submit those to the CCCPC. The CCCPC then decides whether to go ahead with the project based on eligibility criteria pre-developed by the CCCPC, which includes ensuring 'equal' project distribution across the county. The CCCPC tries to ensure that all areas of the county are covered by and benefiting from the various projects being proposed.

Figure 1: CCCF structure applicable to all five counties. Source Quevedo et al. 2019 and Authors



Impact of governance and institutional structure of CCCF on investments

Past experiences of local communities with governance institutions at the county and national levels have not always been positive and have undermined the success of projects. Interviews with community members revealed that they felt that county institutions tended to be weak, fragmented and unaccountable to the communities and that investments had a tendency to be hijacked by commercial interests and hence often failed to reflect community priorities, as illustrated by the quote below.

"One day an excavator shows up in this village. The digging of the pan started at night. In the morning, I asked the person in charge what they were doing. He threatened to run over me with the excavator. That pan never filled with water. If only they involved us, we could have suggested the best place to put the pan. We don't care about the money or who is given the contract (for the pan). All we need is water." (Wajir Bor Resident)

By contrast, for the investments under the CCCF, the communities have felt that they have a voice and an influence on how the projects meet their community needs and resilience objectives. It appears that working in partnership with communities has greatly strengthened the legitimacy of investments and buy-in from communities.

"The project made us (the community) the centre of decision-making. It was about us and our needs. It's the first time this has happened here. We are used to waking up and finding their (county government) people and machines all over the place constructing things." (WAPC. Khorof-Harar Ward)

"We knew every aspect of this project. We knew how much was allocated. We knew what the contractor was expected to deliver. For the things we didn't know, we knew where to get the information." (Guticha representative, WAPC)

In addition, the WCCPC incorporates local elders in its membership, which has helped to strengthen cooperation in resource planning and sharing during droughts. Customary institutions still govern many aspects of pastoral life, for example managing pasture or overseeing the rules that govern access to water, and hence their incorporation into the WCCPC, as well as the user committee, has contributed to the success and effective daily management of the investments.

"The institution of elders of this community have held us together for centuries. They make important decisions on many aspects of our lives including water and pasture management. By the mere fact of involving elders, disputes are resolved peacefully, agreements are made easily, and resources are managed effectively. Having elders in WCCPC and management committees has contributed to this pan being a reliable water source." (WCCPC, Khorof Harar Ward)

Governance challenges

However, the implementation of the Wajir climate change fund has faced some challenges. A key challenge has been the fact that the CCCPC leadership has changed three times since the inception of the fund in 2016, due to government reshuffles prior to and following the 2017 general elections. In addition, two provisions within the Wajir County Climate Change Fund Act that came into force in 2016 were challenged because they did not initially seem to conform with the national Public Finance Management Act. The Controller of Budget – an independent

office that oversees implementation of national and county budgets and authorises withdrawal of public funds¹⁵ – raised two critical issues that needed revision within the Act before the county government contribution to the fund could be accessed. First, the administrative costs of the fund would have to be capped at 3% in compliance with PFM Act regulations, down from the proposed allocation of 10%.¹⁶ Second, the County Executive Member responsible for Environment Energy and Natural Resource, under whose department the fund is anchored, was required to confirm in writing that the fund's existence will not depend entirely on the county government exchequer contribution. These issues have now been resolved.

4.3 Makueni County investments

In Makueni, the 2015 County Climate Change Fund (CCCF) Regulations formulated under the national Public Finance Management Act of 2012 provide structures and mechanisms for vulnerable communities to access and use climate finance to build climate resilience. The county committees hope that this legal framework will attract more resources from both the government and development partners in the future to further enhance opportunities to build climate resilience of communities. The county has committed to give a minimum of 1% of the county budget to climate change activities.

¹⁵ <https://cob.go.ke/>

¹⁶ Part of the problem here were different interpretations of the costs included under administrative costs. Part of the 10% administrative costs for the CCCF are in fact project implementation costs, whereas the Controller of Budget has a very specific definition of what constitutes administrative costs.

Since 2016, 15 CCCF projects have been funded (nine in the first phase of funding and six in the second phase). Implementation of the fund was held up from late 2017 to early 2018 because of political transitions associated with the national general election. However, by mid-2018, Makueni had allocated KShs 8million to the CCCF for a second round of investments.

Process of investment selection

The investments were selected based on a process with the following steps:

1. Awareness creation by the Development Partner (ADS-E).
2. The communities elected representatives to the WCCPC.
3. The WCCPC was then guided by ADS-E in electing its executive.
4. The WCCPC was trained by ADS-E on climate change, group leadership, proposal writing, mobilisation, financial management and record keeping.
5. The WCCPC then convened local leaders from all locations of the ward to undertake the Participatory Vulnerability and Capacity Assessment (PVCA).
6. From the PVCA report, the WCCPC developed 15 projects (nine in the first phase and six in the second phase) to address the needs identified, and the Masue Rock Catchment investment was judged second. However, the project that came out on top was found to have a low impact and therefore the Masue investment was promoted to first place.
7. The WCCPC presented and defended the proposals at the County Climate Change Planning Committee, among others from the other wards.

Impact of governance and institutional structure of CCCF on investments

The CCCF mechanism, through its emphasis on community participation and the use of a user committee to manage the investments, ensures that the beneficiaries are actively involved in the development of project proposals, in the construction works and in the day-to-day management of the investments. During the construction works for the investment, the site committee helped to mobilise and manage local labour and local materials. Members of the committees also formed a good link to the service providers, the county staff and community to ensure information flow and enhance ownership.

The governance framework of the CCCF also results in reporting flows going from the beneficiaries right up to the county level. The user/site committee develops performance reports for each investment and submits these to the WCCPC. The WCCPC then prepares and submits monthly reports to the fund administrator, who then prepares and submits quarterly reports to the CCCF management board for approval and onward submission to the county treasury and CCCF steering committee. The county treasuries are then subject to various audit and accounting bodies that include County Assembly, the Controller of Budgets, the National Auditor General and the Senate and National Assembly Public Accounts Committee. Such a structure helps to improve coordination between levels.

The investments appear to have impacts beyond resilience to climate change. Indeed, the Masue Rock Catchment investment is playing a role in strengthening community leadership: one of the WCCPC members has been appointed Village Administrator under the county government, while another member of the community who was involved in the PVCA and is a board member of ADSE used his position as parish priest and then

bishop to encourage tree-planting on church compounds. This has resulted in all 70 Anglican Church-sponsored schools having a forest and a tree nursery from which they sell tree seedlings to community members.

Governance challenges

A challenge for the CCCF identified by the WCCPC is the lack of clarity in the reporting processes between contractors and the ward committees. As contracts are signed with the county government, the contractors report to the county, rather than the ward committees, leaving the latter ill-informed of progress. The WCCPC suggested that the reporting lines should be clarified to the contractors so they report to the WCCPC. A second challenge is the long-term financial viability of the user committees, as these non-statutory committees require funding for meetings and transport. For the Masue Rock Catchment investment, the project NGO partner (ADS-E) covered these costs. However, it is unclear how these costs will be met in the future, jeopardising the committee's ability to operate and manage the investment.

4.4 Kitui County investment

In Kitui, the 2018 Kitui County Climate Change Fund (CCCF) Regulations, formulated under the national Public Finance Management Act of 2012, provide structures and mechanisms for vulnerable communities to access and use climate finance to build climate resilience. The county has committed to give a minimum of 1% of the county budget to climate change activities. A total of 12 investments have been funded in Kitui, resulting in slightly over KShs 50 million being invested, mostly from donors. This has resulted in the provision of clean potable and safe water for 33,793 people and their livestock numbering 32,000.

Process of investment selection

The work of selecting the investments started in November 2013 when ADS-E engaged with the executive arm of the county government at the highest level – governor and deputy governor's offices. At that time, the Regulation was not yet in place and the county governments had just been established, and the priorities were not yet well aligned. However, with ADS-E's help, the county selected 10 wards for the investments, ensuring regional balance and considering level of vulnerability. All the selected wards then elected WCCPCs. The WCCPC members were sensitised and trained in concepts on climate change, resilience and adaptation.

- The WCCPCs developed proposals in consultation with the communities. The WCCPCs were each given an allocation of KShs 5 million.
- The County Technical Committee provided advice to the WCCPCs based on their ranked priorities and budget estimates.
- A total of 12 proposals were submitted to the CCCPC and all were funded.
- Members of the technical team then did the designs and passed the details to the county procurement team, who then prepared tenders and advertised in the media for bidders.

Impact of governance and institutional structure of CCCF on investment

The strong emphasis on community participation within the CCCF mechanism has resulted in strong buy-in and ownership of the investments by the communities, which has not been the case with other projects in the past. The site or user committees have

also undertaken advocacy and sensitisation among communities, providing education on the impacts of climate change – in effect, enhancing ownership of the investments.

The county committees believe that the CCCF will help build the resilience of the communities, especially now that the Regulations have been passed.

“We believe that we are progressing steadily along the resilience line towards the achievement of resilient communities in the years ahead. Between 2013 and 2018 movement was slow due to the myriad changes in governance and lack of legal framework to address climate change specifically. However now with the Regulations passed, it will be easy to harness all the efforts and resources into one direction of ensuring water security and livelihoods diversification” (County committee)

Beyond the impacts already mentioned in Section 3, the WCCPC also revealed that its capacity was being built, as some members went on exposure visits, received training in proposal writing and connected with other county departments, such as agriculture, health and IT.

The governance framework of the CCCF also results in the user committee developing performance reports on each investment and submits those to the WCCPC. The WCCPC then compiles reports of all investments, presents them to the CCCPC and submits them to the fund administrator, who prepares and submits quarterly reports to the CCCF steering committee for approval and onward submission to the County Executive Committee Member for Treasury. This structure helps to improve coordination between levels.

4.5 Garissa County investment

The Garissa County Climate Change Fund was established through the Garissa County Climate Change Fund Act, 2018. As a result, the county will commit 2% of its development budget to funding adaptation actions prioritised by communities. Since its inception, the Garissa County Climate Change Fund has resulted in a total of five investments across three wards.

Process of investment selection

The process of investment selection and prioritisation follows three steps. First, the WCCPCs are required to convene community consultation forums in the first quarter of the county government financial year, in which they provide information related to climate change awareness and the eligibility criteria for climate finance projects, as well as recording projects identified and prioritised by the community (Garissa County Government, 2018). Second, following community consultation and project prioritisation, the secretary to the WCCPC is required by the Act to prepare a report on the community consultation forums and submit it to the steering committee for onward submission to the County Climate Change Fund board. Third, the WCCPC is required to develop project proposals from the project priorities identified in the community consultation forums and include any necessary technical details, including the procurement plan for each project before submitting the list of project proposals to the steering committee for review. The County Climate Change Fund Steering Committee (CCCFSC), upon receiving the proposals, will review all submitted project proposals. The prioritised projects are approved by the CCCFSC and communicated to the board. The Act also specifies that the steering committee shall issue guidelines for the procurement procedures to adhere to the Public Procurement and Asset Disposal Act 2015.

Impact of governance and institutional structure of CCCF on investment

The governance and institutional structure of the CCCF appear to have had positive impacts, especially at the ward and local levels. The county committees have helped to build the capacity of the WCCPC over a range of issues and thus enabled the WCCPC members to more effectively undertake the range of tasks they are responsible for. For example, the provision of technical skills by the county department of water enhanced the quality of the procurement of inputs and implementation processes, reducing the overall cost of the project. In addition, the WCCPC members received training to enhance their negotiation skills, especially for negotiating competing community priorities. WCCPC membership draws from a wide variety of community groups, including customary institutions, which has enabled the committee to support a range of adaptation actions with strong buy-in from a cross-section of community members. This strong link between community and WCCPC has also meant that the WCCPC members are strongly aware of their role with regard to the investments, and also accountable to the community, which in turn helps to improve the success of the investment.

The strong community participation focus of the CCCF has also led to increased community ownership and buy-in of the investments. Funding adaptation actions prioritised by communities has led to the development of projects that incentivise and complement existing community, county government and national government efforts/projects and therefore helps to further increase the efficiency of investments in building resilience of communities to the effects of climate change.

Governance challenges

A challenge with the CCCF has been the under-budgeting of monitoring and evaluation components, especially to cover county-wide monitoring. This challenge is not specific to Garissa County, but it is particularly relevant for large counties, where distances between investments can be significant. This inevitably leads to challenges in reporting. Another challenge is ensuring that women actively participate in decision-making processes within the committees of which they are members. However, this is a society-wide challenge and not specific to the fund. Conversely, the CCCF mechanism has been enhancing the inclusion of women and youth in decision-making processes.

4.6 Isiolo County investment

The Isiolo County Climate Change Fund was established through the Isiolo County Climate Change Fund Act, 2018. As a result, the county will commit 2% of its development budget to funding adaptation actions prioritised by communities. Since 2011, when the CCCF was first piloted in Isiolo County and known as the County Adaptation Fund (CAF), a total of 44 investments have been funded.

Process of investment selection

The process of selecting investments for implementation in Isiolo is as follows:

- The WCCPCs convene community consultation forums in at least three different locations in the ward before the start of the county government's financial year.

- The community consultation process is also an information-provision session, is meant to serve three goals: provide information on climate change awareness in the county; provide information on the nature of projects eligible for climate finance through the fund; and identify priority projects from the community members.
- The WCCPC secretary is then required to prepare a report on the community consultation forums and submit it to the CCCPC.
- Following community consultation in their respective wards, WCCPCs then develop project proposals from the project priorities identified through the consultative forums, with details of any necessary technical details, including the procurement plan for each project.
- The WCCPC submits the list of project proposals to the CCCPC, indicating the priority ranking for approval.
- The CCCPCs accept the proposals if they fit the funding criteria, or ask the WCCPCs to make the required amendments to the proposals.
- The CCCPC then releases the approved projects to the fund administrator who will publish a list of approved and ranked climate change projects, including proposed procurement plans for each project.
- The fund administrator will then release funds for the approved projects upon receiving the procurement plans together with cashflow projections from the WCCPCs.

Impact of governance and institutional structure of CCCF on investment

The CCCF experience in Isiolo County appears to be improving decision-making at all levels – from community to county – in relation to building climate resilience. For example, the CCCPC has supported the WCCPC through capacity-building initiatives, especially to build the WCCPC's negotiating skills and improve its capacity to negotiate competing community priorities. The WCCPC itself is seen as a critical component of the effectiveness of the investments. Indeed, the CCCPC members suggest in the interviews that the WCCPC's strong and continuous engagement with communities is critical to building climate resilience at the local level:

“Working strategically with local-level committees who are part and parcel of communities makes it easier for the WAPC to make critical resilience-building investments at the local level. The Isiolo CCCF structure saves us time and saves communities from the effects of climate hazards.” (CCCPC Isiolo County)

In addition, emphasis was placed on learning to improve effectiveness. For instance, exchange visits were organised between various WCCPCs to share examples of good practice and lessons learnt from the various investments.

The CCCF's emphasis on community participation and bottom-up decision-making ensured strong ownership and buy-in from the communities, and that the objectives of the investments were relevant for building resilience of households and communities. This approach was also seen as a considerable departure from previous government and development-partner approaches.

The Garbatulla Community Radio investment has helped to strengthen customary institutions and traditional knowledge of

natural resource management. Through the radio programmes, customary institutions work with formal institutions for improved planning and management of resources, reducing waste and conflict over resources.

“By working with dedha, we make traditional knowledge of NRM available to the new generations. And these radio recordings can be disseminated through other media such as social media.” (Member, Garbatulla Community Radio management committee).

Governance challenges

One challenge, revealed in discussions with the CCCPC, is the lack of funds for long-term monitoring and evaluation (M&E) at both the county and investment levels. M&E components of investments are often under-budgeted and therefore insufficient to cover county-wide monitoring. At the county level, according to the CCCPC chair, the committee has not had any M&E budget for over three years and has struggled to keep in touch with the WCCPCs. The discussions also revealed a lack of current engagement by the CCCPC with the investments. However, the chair of the CCCPC has considerable capacity and is committed to and knowledgeable about the investments. In addition, the change in the Isiolo government after the 2017 elections meant that most county executives have little knowledge and engagement with the investments in the county, although this is not unique to Isiolo.



5. CONCLUSIONS

IMAGE:
WATER TOWERS
PROJECT IN
MAU FOREST.
PICTURE TAKEN
BY: PATRICK
SHEPHERD/CIFOR

Climate change poses significant challenges to the social and economic development of Kenya and its ASALs. Getting climate funds to the local level to support climate-resilient development more broadly, and the resilience of households and communities more specifically, is critical. The CCCF mechanism pilot-tested in the five counties of Isiolo, Wajir, Garissa, Makueni and Kitui aims to enable counties to create, access and use climate finance to build their resilience and reduce vulnerabilities to a changing climate. The mechanism provides a way of channelling climate finance to vulnerable communities through county governments.

This report is part of a wider study, which explores whether public investments made by government-led climate funds in Ethiopia, Kenya, Mali and Senegal are building climate resilience

that responds to locally determined priorities (Quevedo et al., 2019). This report focuses on Kenya and has taken a case-study approach focusing on seven investments (of a total of ninety-nine) across five pilot counties in Kenya to examine their impact on household and community climate resilience. It has describes the governance and institutional arrangements of the CCCF mechanism. Overall, the findings suggest that these investments are having positive impacts in terms of strengthening household welfare and resilience to climate risks.

The investments focusing on improving water access and availability in Wajir, Makueni, Kitui and Garissa have led to several direct benefits: improvement in access to and availability of water for both livestock and domestic uses (with benefits felt by women and youth), lower water costs, and a reduction in waterborne diseases. In addition, these investments are showing some indirect benefits, with fewer conflicts between groups, better management of natural resources and a strengthening of customary institutions for natural resource management. There have also been some educational benefits for children, who are able to attend school for longer, and economic benefits through the diversification of livelihoods and creation of new economic opportunities. In some instances, these investments also appear to be leading to improvements in community self-esteem and image (e.g. in the Masue Rock Catchment investment in Makueni).

The Kinna Veterinary Laboratory and Garbatulla Community Radio in Isiolo also resulted in significant benefits to households. The laboratory is providing enhanced livestock-disease diagnosis, resulting in improved livestock health and survival rates. It also provides community members with new knowledge and skills on livestock treatment and disease control. The community radio has improved the provision and dissemination of weather and

development information. The dissemination of this information by radio also helped to reinforce the importance of the radio station within the community and to strengthen its programmes.

The CCCF investments have had significant direct benefits for women. As a result of the water investments, women have greater access to water for domestic use and spend less time fetching water. This has freed them to focus on other domestic chores, support their children's schoolwork, diversify their livelihoods and set up small businesses. This strong benefit of water investments for women is also found beyond these case studies and extends to the other CCCF investments (Ada Consortium, 2018a). The CCCF mechanism's focus on inclusion and participation has helped to enhance women's participation in committees and in decision-making processes. Yet, enhancing women's inclusion in decision-making is a complex process. While women have gained in inclusion, they still face many barriers to full involvement. Also, more could be done to ensure that the investments fully integrate gender and youth considerations, and the differentiated vulnerability of men, women and youth to climate risks.

The CCCF's governance arrangements and key principles, which promote subsidiarity, allocate decision-making at multiple levels, and encourage strong community participation, have led to a strong sense of community ownership of the investments. The beneficiaries of CCCF investments are actively involved in the development of project proposals, construction works and day-to-day management of the investments through the user committees. This sense of ownership was mentioned by beneficiaries across all the investments. The beneficiaries also all noticed the difference in how projects were developed through this mechanism compared with how development projects have been traditionally implemented in their communities.

This strong participatory approach appears to have led to the development and implementation of investments that better reflect communities' needs and priorities and complement existing initiatives. The use of user/site committees to manage the investments also appears to be a successful (although non-statutory) feature of the structure of the CCCF mechanism.

Ensuring the long-term success and sustainability of CCCF investments nevertheless remains a challenge because of the wider policy and development context within which they occur. This context features: significant development deficit, continued failure by government and development partners to ensure water security, and inadequate water governance arrangements and policies that undermine the resilience of pastoral systems and communities. Some of the case-study investments, which were showing signs of over-use, provide evidence of how this context can reduce their effectiveness. The investments highlight the importance of clearly allocating responsibility for covering operational and maintenance costs to ensure there are no gaps in service provision, as illustrated by some of the issues faced by the Garbatulla Community Radio and the Kinna Veterinary Laboratory. In addition, the CCCF mechanism aims to change the relationship between state and citizen, introducing concepts and operational features to support devolution, community participation and inclusion in a context of discriminatory gender and generational norms and where devolution and the transfer of power from state to county level is new (since 2013). Challenging these norms and mindsets takes time.

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Annex 1. Climate resilience investment portfolio in the five counties

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
MAKUENI (1st round of investments)	Kaseve – Mangetheni – Kwa Elijah Water Distribution Pipeline, storage tank, water kiosks and sanitation facilities (bathroom & toilet)	2,485,617	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease
	Construction of Kwa Atumia Earth Dam, cattle watering trough, sanitation facilities and drawing taps	2,990,860	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Protected source
	Kwa Lai Sand Dam: construction of a weir across the river that traps both sand and water and retains it for later use	2,151,526	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	Kya Aka Sand Dam: construction of sand wall/weir to retain water and sand	1,058,580	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	Ngutioni Sand Dam	934,032	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	Masue Rock Catchment, water tanks, water kiosks, distribution pipeline	8,256,427.50	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	Ngai Ndethya Mega Sand Dam (sand wall, sanitation block)	4,104,334	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	Kwa Mutuku Earth Dam	2,515,018	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Protected source
	Kwa Kiili Sand Dam (sand wall)	4,423,900	<ul style="list-style-type: none"> Improved access to clean water Small businesses Micro-irrigation improving nutrition and income
	TOTAL		28,920,294.5

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
KITUI	Mikuyuni Earth Dam Rehabilitation	10,819,580	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Better management of earth dam
	Kamuyuni Rock Catchment	3,616,607	<ul style="list-style-type: none"> Improved access to potable clean water Reduced cases of waterborne disease
	Iiani kwa Ndungu Pipeline	14,891,241	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease
	Mutethya Nzaini Earth Dam	4,035,060	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease
	Makithuri Earth Dam	4,035,060	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease
	Kaayo Earth Dam	4,937,049	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Livelihood diversification - small businesses
	Kaumbu Sand Dam	3,702,168	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Livelihood diversification through small businesses
	Kyandevu Sand Dam	450,996	<ul style="list-style-type: none"> Improved access to water Water for irrigation
	Kalikuvi Earth Dam	3,639,415	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease
	Itukisya Earth Dam	3,742,173	<ul style="list-style-type: none"> Improved access to water Water for irrigation Reduced cases of waterborne disease
	Ngomano Sand Dam	858,083	<ul style="list-style-type: none"> Improved access to water Water for irrigation
Kwa Mboo Earth Dam	4,490,346	<ul style="list-style-type: none"> Improved access to clean water Reduced cases of waterborne disease Livelihood diversification - businesses Water for irrigation 	
TOTAL		59,217,778	Per capita: 1,752 shillings per person

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
* ISIOLO	Kobe Dadach Guracha Borehole	7,839,760	<ul style="list-style-type: none"> • Open expansive but underutilised pasture land for grazing • Access to drought reserves
	Rehabilitataion of Halango, Duma, Yamicha, & Urura Boreholes	5,019,000	<ul style="list-style-type: none"> • Reduced cases of water contamination • Improved sanitation thus reduction in watershed infections
	Yamicha Water Pan	830,100	<ul style="list-style-type: none"> • Actualization of seasonal grazing plan whereby sealing of this water pan will leave designated boreholes as only water source in the dry season grazing reserve.
	Urura Water Pan	1,056,506	<ul style="list-style-type: none"> • Actualization of seasonal grazing plan whereby sealing of this water pan will leave designated boreholes as only water source in the dry season grazing reserve.
	Harbuyo Water Pan	1,800,000	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use. • Actualization/enforcement of seasonal grazing plan
	Garbatulla community radio station	About 10 million	<ul style="list-style-type: none"> • Providing information on insecurity, drought situation, livestock market value, search of stolen or lost livestock • Dissemination of information on rainfall distribution, helping pastoralists migrate to areas where there is rainfall • Ease of tracking of lost livestock
	Belgesh water pan	2,136,000	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use. • Actualisation/enforcement of seasonal grazing plan
	Belgesh ii water pan	2,459,719	<ul style="list-style-type: none"> • Improved access to water for human use
	Kinna veterinary laboratory	6,041,122	<ul style="list-style-type: none"> • Proper diagnosis and treatment of wide range of diseases • Provision of affordable or subsidised drugs to users • Monitoring and surveillance of livestock diseases • Early diagnosis and regular monitoring of livestock

* There are a total of 44 investments in Isiolo. This list is presented in same way as it is in the Isiolo CCCF inventory where some investments are grouped together, hence why the total number appears to be below 44.

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
ISIOLO (cont'd)	Bibi water pan	3,119,012	<ul style="list-style-type: none"> Improved access to water for both livestock and human use Actualisation/enforcement of seasonal grazing pattern
	Livestock safe handling facility in kula mawe, yaqbarsadhi barambate and boji	4,039,055	<ul style="list-style-type: none"> Standard animal holding facility minimised injury to handlers Reduction in handling hours, thus animals having ample time for grazing Control of livestock diseases, thus improving health
	Lengiteng sand dam	900,000	<ul style="list-style-type: none"> Improved access to water for both domestic and livestock use Reduction in walking distance and time wastage in fetching water
	Ntumodet sand dam	1,000,000	<ul style="list-style-type: none"> Improved access to water for both domestic and livestock use Reduction in walking distance and time wastage in fetching water
	Nantudu water pan	1,400,000	<ul style="list-style-type: none"> Improvement in water quality Reduction in water pan siltation levels
	Siangawun rock catchment	1,560,000	<ul style="list-style-type: none"> Reduction in walking distance (from 5km to less than 1km) and time wastage in fetching water Improved supply from less than 5l/p/day to 20 litres per capita
	Nempejeto rock catchment	1,600,000	<ul style="list-style-type: none"> Reduction in walking distance (from 5Km to less than a kilometre) and time wastage in fetching water Improved supply from less than 5L/person/day to 20L/person/day
	Sand dams in existing sites in lagaaman, nooloroi, lbaaibor, rumate, noontomia, and mlima-chui	1,685,568	<ul style="list-style-type: none"> Improvement in sand-dam water-holding capacity by about 45% on completion Improved supply from less than 5L/person/day to 20L/person/day Reduction of water-related diseases including water-washed infections Available water for livestock

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
ISIOLO (cont'd)	Lemeshemi lagga, raap seasonal river, looseketef and el-baatorok sand dams	2,796,050	<ul style="list-style-type: none"> • Improvement in sand-dam water-holding capacity by about 45% • Improved supply from less than 5L/person/day to 20L/person/day • Reduction of water-related diseases including water-washed infections
	Mokori rock catchment	1,894,072	<ul style="list-style-type: none"> • Reduction in walking distance (from 5km to less than 1km) and time wastage in fetching water • Improved supply from less than 4L/person/day to 20L/person/day • Reduction of water-related diseases
	Bambot borehole	5,657,000	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Strengthened/enforced seasonal grazing plans/pattern • Decrease in livestock mortality during drought
	Fororsa water pan	2,452,250	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Actualisation/enforcement of seasonal grazing plan
	Manyangab water pan	1,418,690	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Actualisation/enforcement of seasonal grazing plan
	Komor bulla water pan	2,589,156	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Strengthened/enforced seasonal grazing plans/pattern • Reduced cases of waterborne diseases
	Hawaye one and two shallow wells	2,302,950	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Strengthened/enforced seasonal grazing plans/pattern • Reduced cases of waterborne diseases
	Qote kora water pan	2,302,950	<ul style="list-style-type: none"> • Improved access to water for both livestock and human use • Actualisation/enforcement of seasonal grazing plan

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
ISIOLO (cont'd)	Capacity building to strengthen management of natural resources in 5 wards	8,469,600	<ul style="list-style-type: none"> Community-identified distinct grazing areas (wet, dry and drought-reserved) Water points managed under customary rules and regulations Conflicts managed by Dedha elders
	Capacity building to strengthen management of water resources	1,625,200	<ul style="list-style-type: none"> Improved understanding of basic construction features, operation and maintenance of water project Improved understanding of water policy changes in water sector within both central and county government. Equipping the community with basic leadership skills required to run the water project smoothly Sensitisation of local people on good hygiene practices when handling water and water pollution Equipping community with conflict management skills
TOTAL		76,113,760	Per capita: KShs 718 per person
WAJIR	Ademasajida borehole	3,884,650	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Adan awale water pan	3,984,020	<ul style="list-style-type: none"> Improved availability of clean water Builds harmony and understanding among the population
	Elben water pan	3,934,025	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Dadhantalai water pan	3,983,440	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Bamba water pan	3,990,864	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Lehjih water pan	3,992,700	<ul style="list-style-type: none"> Improved livelihoods in Wajir Bor Ward through access to water Improved availability and accessibility to increased quantity of water Reduction of water-related disease

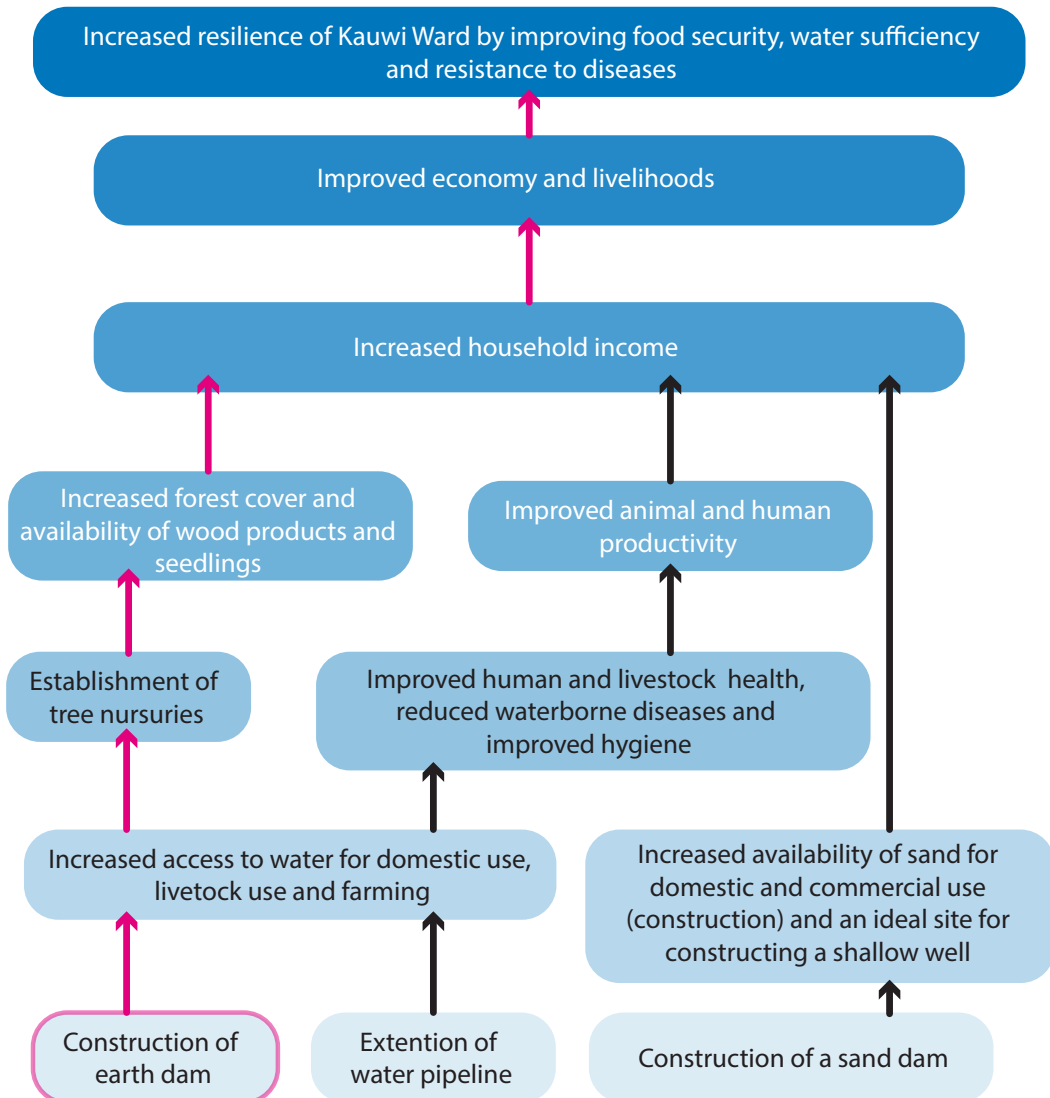
COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
WAJIR (cont'd)	Vatta borehole	4,319,150	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Lagboghoh water pan	3,996,780	<ul style="list-style-type: none"> Improved availability and accessibility to increased quantity of water Reduction of water-related disease
	Lakole water pan	3,992,024	<ul style="list-style-type: none"> To improve organised water access at Lakole Pan through fencing, and provision of water-collection point with shed and livestock watering troughs Improved safety of pan water through better management
	Basanicha water pan	3,984,600	<ul style="list-style-type: none"> Improved water availability for longer periods Reduced environmental degradation Reduced conflicts among users of the pan
	Wargudud water pan	3,998,984	<ul style="list-style-type: none"> Reduced environmental degradation Eliminated the contamination of water in the pan
	Buruka water pan	3,783,920	<ul style="list-style-type: none"> Reduced conflicts among users Increased water capacity and controlled access leading to prolonged storage time Regulated access, leading to improved sanitation and water quality which reduces waterborne diseases
	Guticha Borehole	4,093,981	<ul style="list-style-type: none"> Improved availability and accessibility to increased quality water Improved hygiene, sanitation and health
	Lanqood borehole	4,143,071	<ul style="list-style-type: none"> Improved availability and accessibility to increased quality water Improved hygiene, sanitation and health
	Kulmis borehole	4, 144,073	<ul style="list-style-type: none"> Eliminated the livestock contamination of water Reduced conflicts among users as result of congestion Improved availability and accessibility to increased quality water

COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
WAJIR COUNTY (cont'd)	Abdiganey borehole	3,999,888	<ul style="list-style-type: none"> • Reduction in water stress • Reduced conflicts among users • Increased availability of water
	Kilkiley water works	3,998,579	<ul style="list-style-type: none"> • Improved livelihoods through access to water. • Increased availability to safe drinking water
	Garakilo water pan	3,999,884	<ul style="list-style-type: none"> • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Konton borehole	4,236,329	<ul style="list-style-type: none"> • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Harade dam	3,999,884	<ul style="list-style-type: none"> • Improved livelihoods • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Machesa borehole	4,098,130	<ul style="list-style-type: none"> • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Basir borehole	4,096,059	<ul style="list-style-type: none"> • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Danbas borehole	3,997,032	<ul style="list-style-type: none"> • Improved availability and accessibility to increased quality water • Improved hygiene, sanitation and health
	Kutulo borehole	3,993,938	<ul style="list-style-type: none"> • Reduced congestion within the borehole area • Eliminated the contamination of water for domestic use • Reduced conflicts among users
	TOTALS		92,702,364
GARISSA	Abaqdera borehole	1,600,000	<ul style="list-style-type: none"> • Improved water availability for human and livestock use • Improved hygiene, sanitation and health
	Nanighi piping and water kiosks	1,700,000	<ul style="list-style-type: none"> • Improved water availability for human and livestock use • Improved hygiene, sanitation and health

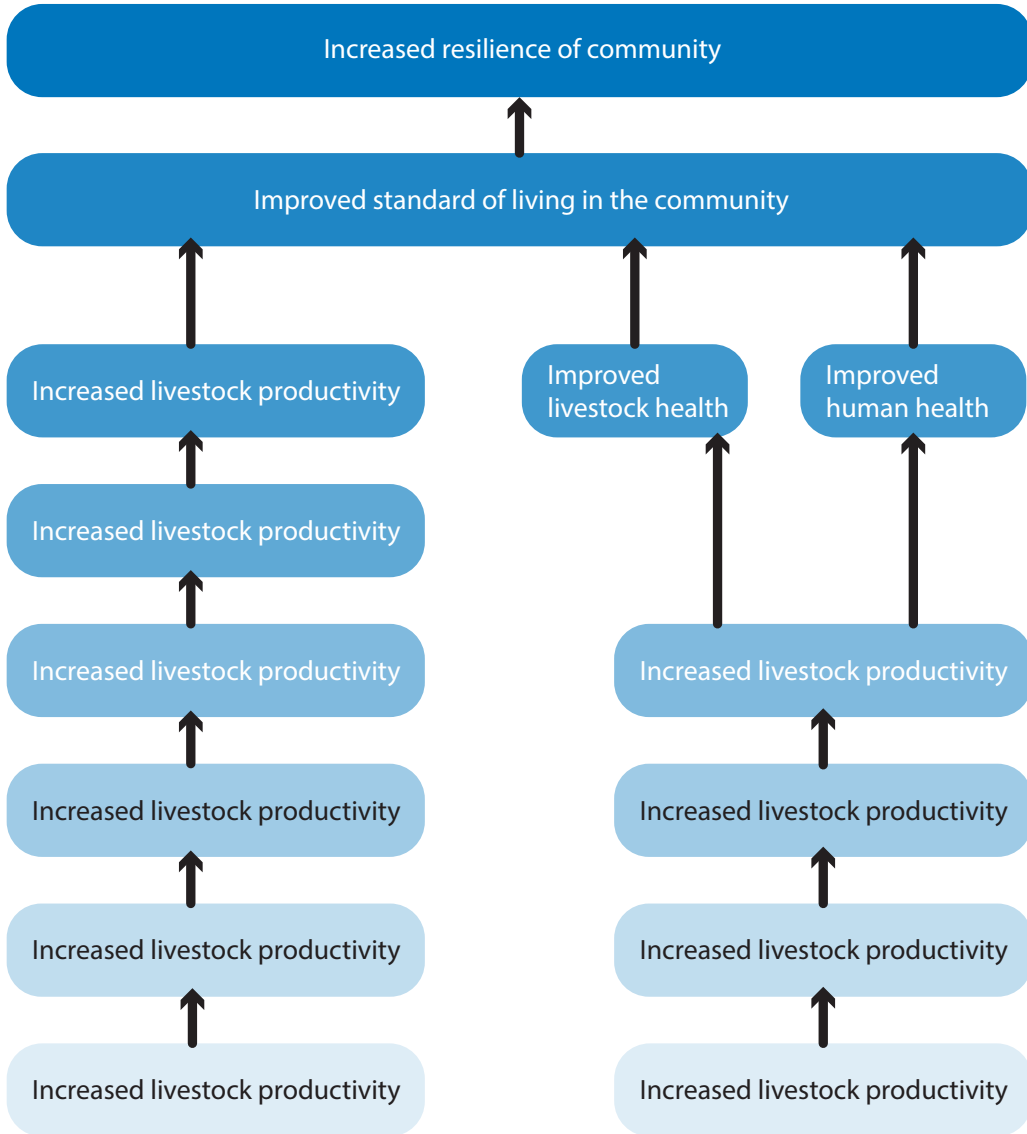
COUNTY	INVESTMENT	COST (KSHs)	EXPECTED BENEFITS
GARISSA (cont'd)	Goreale borehole	3,369,011	<ul style="list-style-type: none"> Improved water availability for human and livestock use Improved hygiene, sanitation and health
	Shimbirey borehole	1,700,000	<ul style="list-style-type: none"> Improved water availability for human and livestock use Improved hygiene, sanitation and health
	Nunow borehole	1,600,000	<ul style="list-style-type: none"> Improved water availability for human and livestock use Improved hygiene, sanitation and health
	TOTAL	9,969,011	Per capita: KShs 119 per person

Annex 2. Theories of change for the investments

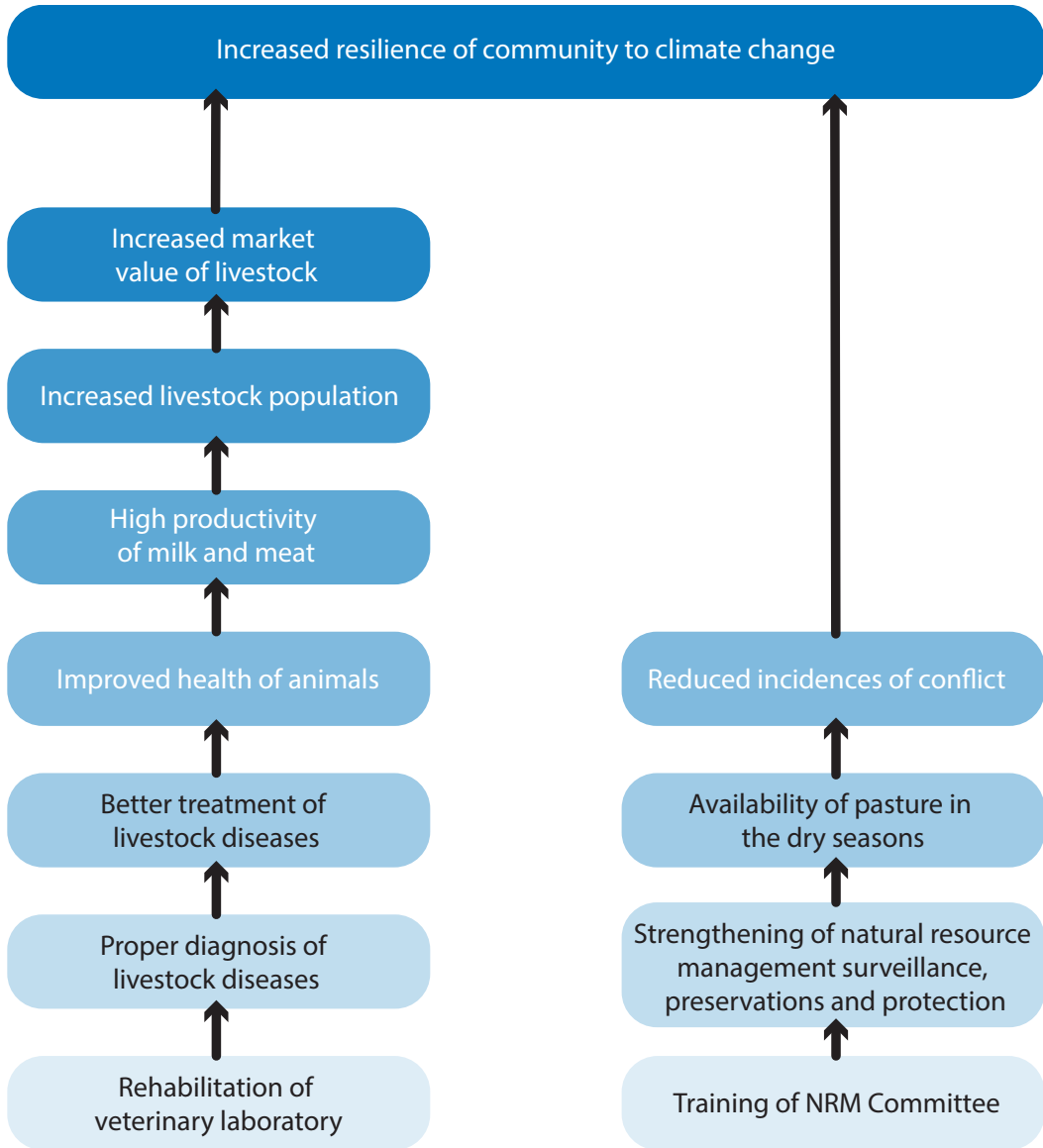
Mikuyuni Earth Dam (Kitui County)



Garbatulla Community Radio (Isiolo County)

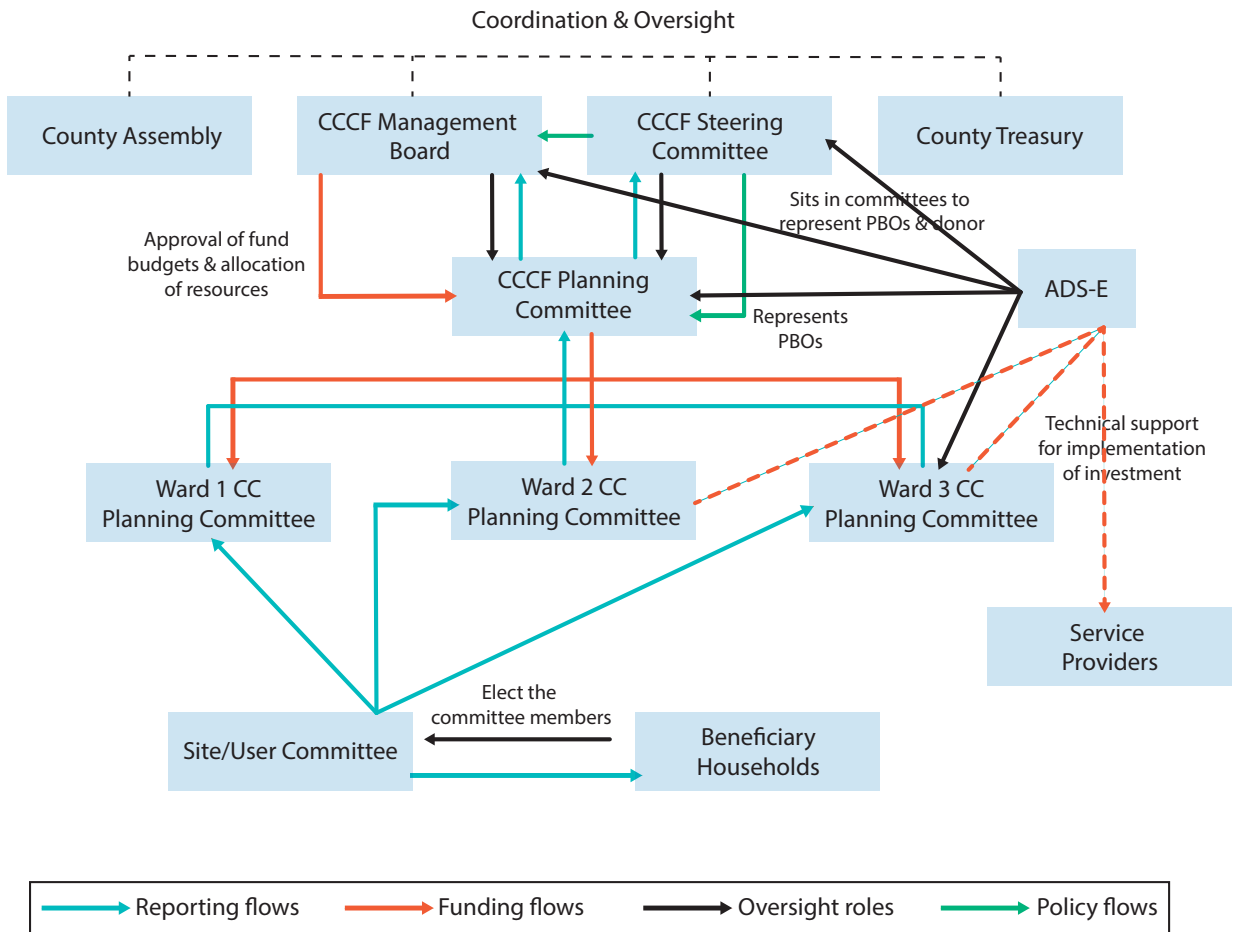


Kinna Veterinary Laboratory (Isiolo County)

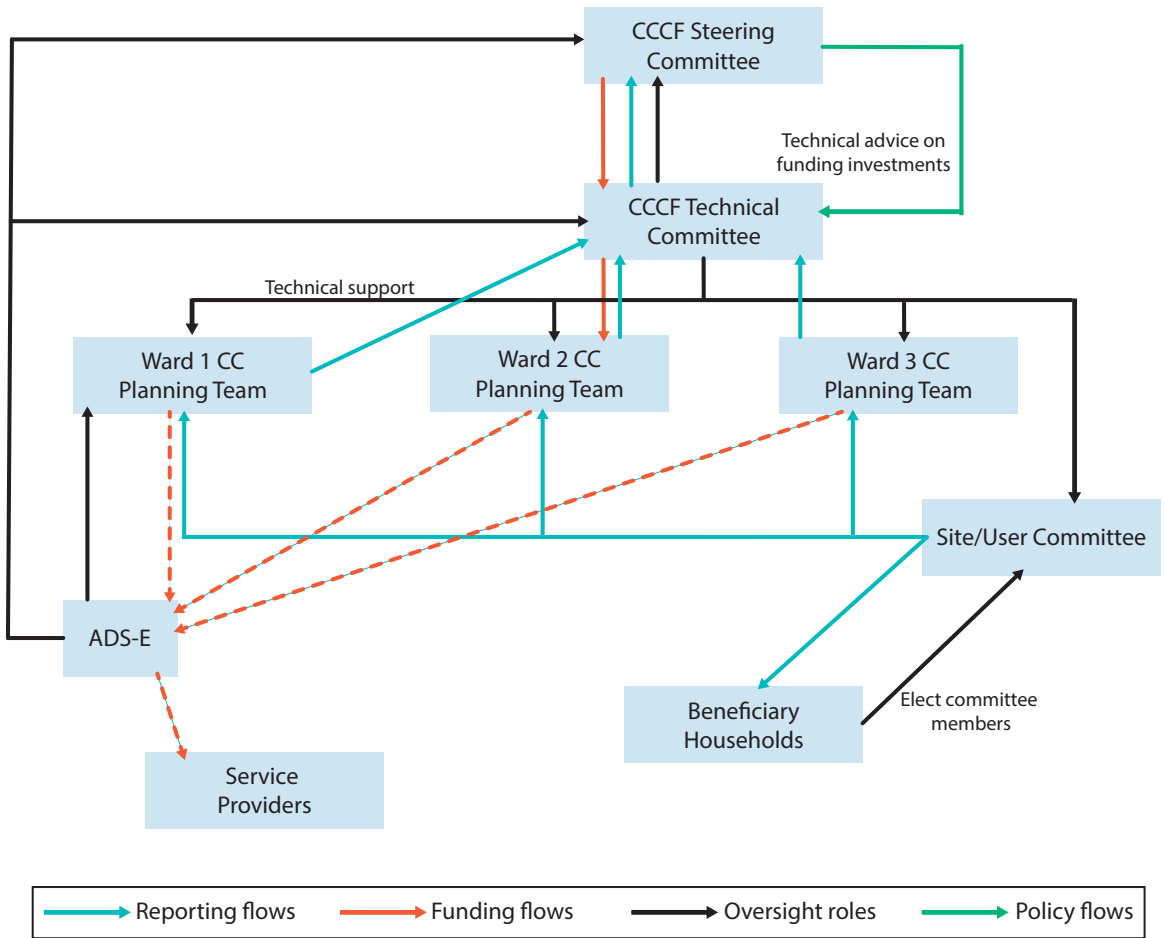


Annex 3. CCCF structure in each of the counties

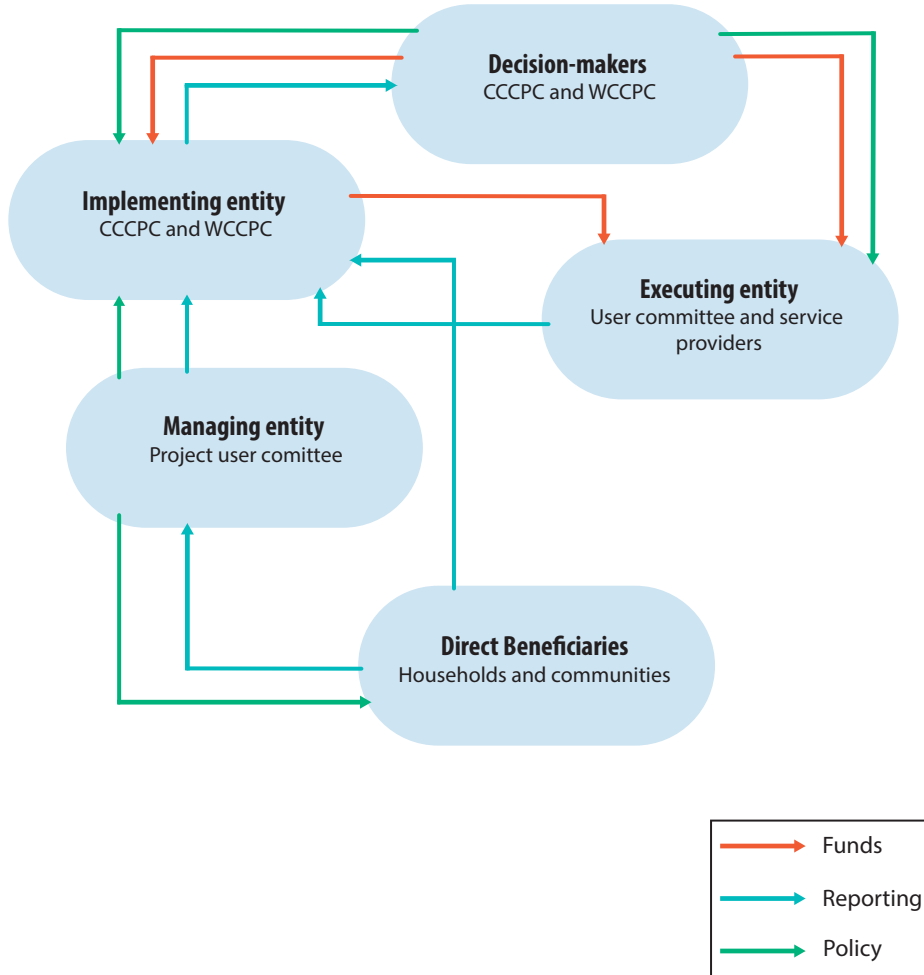
Makueni CCCF governance framework



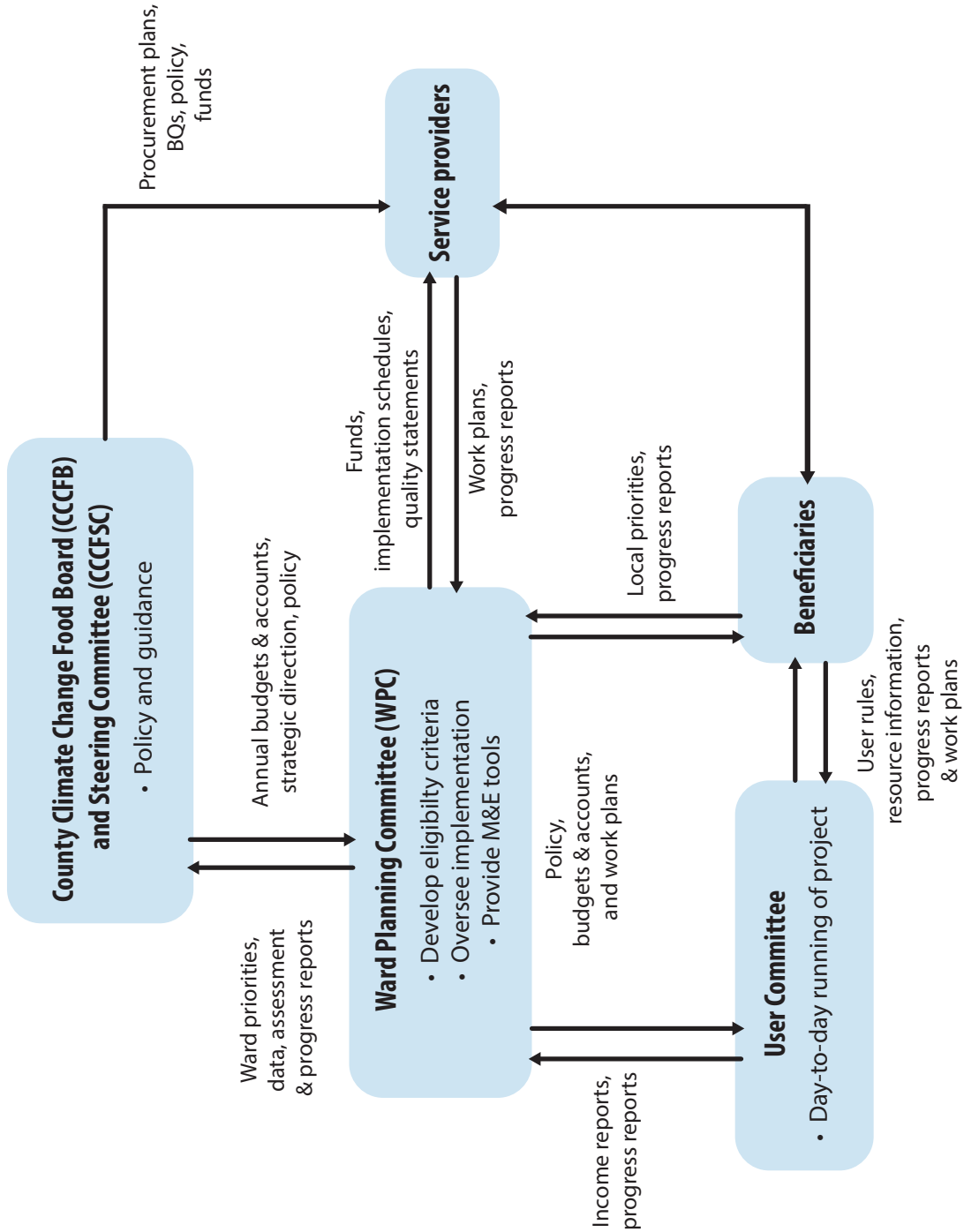
Kitui CCCF governance framework



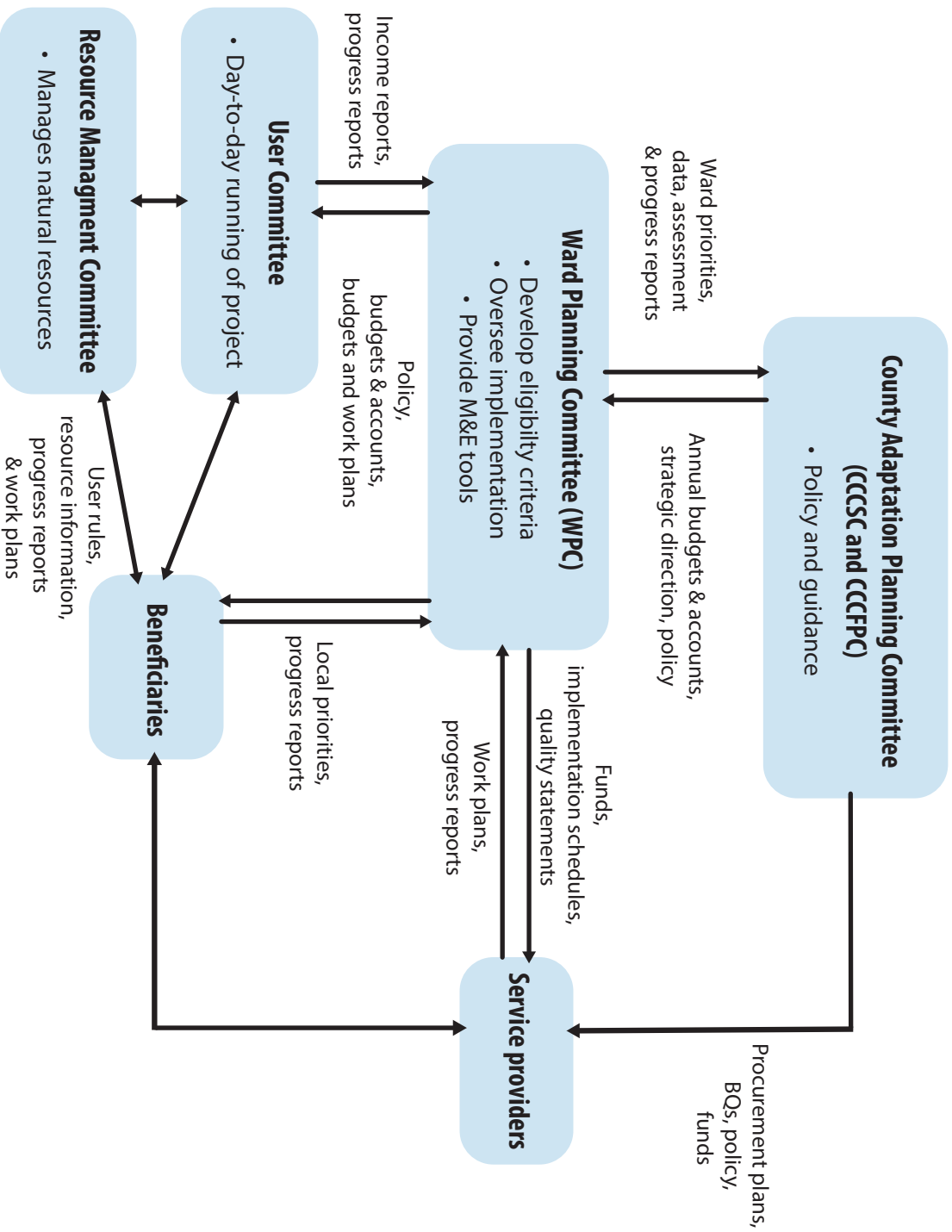
Isiolo CCCF governance arrangements



Garissa CCCF governance framework



Wajir CCCF governance framework



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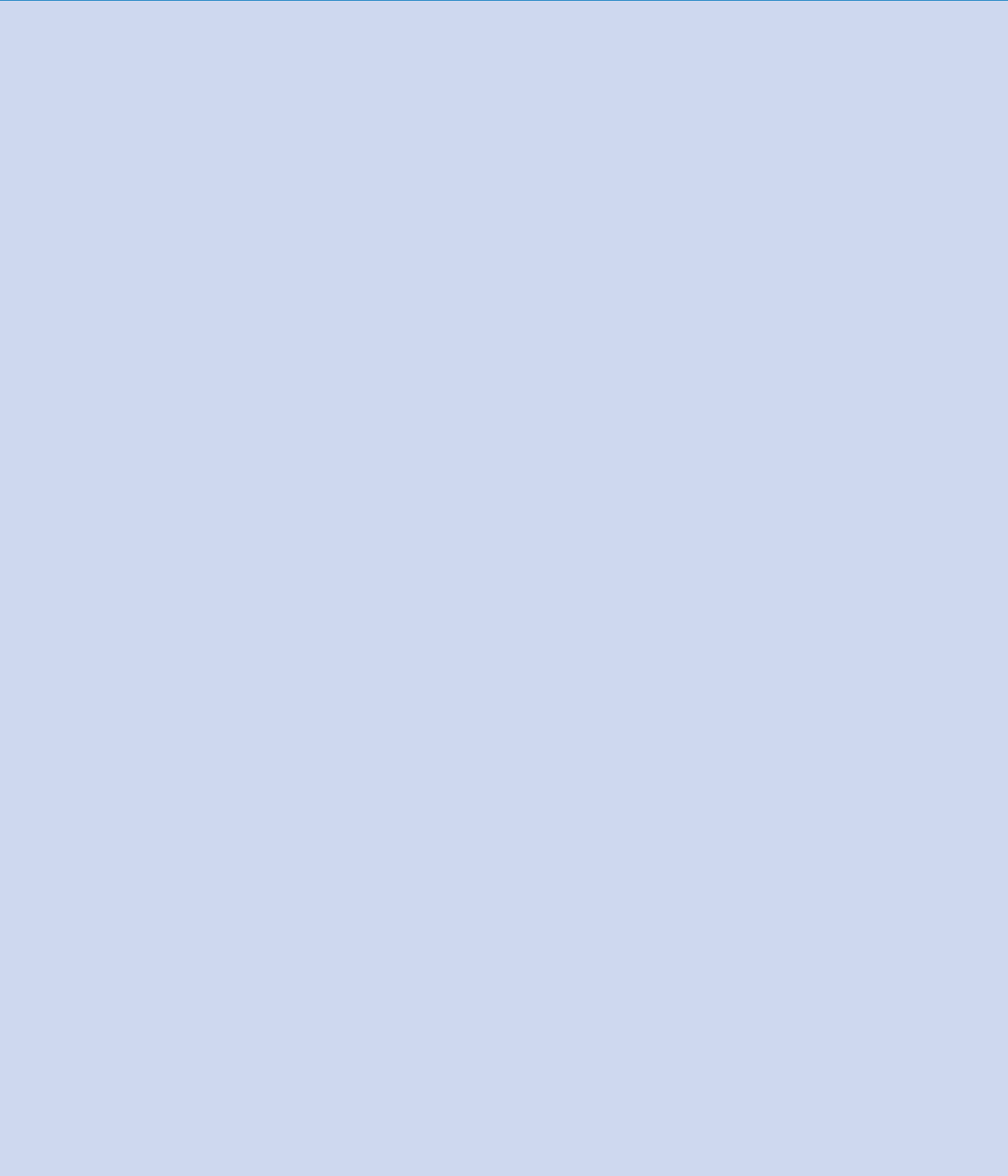
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Cover image: Turkana cattle herders watch over their cattle at the Nalapatui pan in Kakuma district. ©Crispin Hughes
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