



Makueni County Climate Change Fund Inventory Adaptation Investments 2013-2017





**Makueni County Climate Change Fund
Inventory of Adaptation Investments
2013-2017**

Acknowledgment

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We also thank the Ward Climate Change Planning Committees, the Makueni Climate Change Steering Committee, County Climate Change Planning Committee, and the Makueni Climate Change Fund Board, who managed the successful implementation of the investments.

Our sincere appreciation goes to the Makueni County Assembly who passed and enacted the climate change regulation in September 2015, making Makueni the first county to have a County Climate Change Fund (CCCF) legislation in Africa. Makueni County Government also co- funded Mtito a ndei (Ngai ndethya mega Sand dam) enabling the community realize their dream of having clean and easily accessible water.

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County Headquarters Building

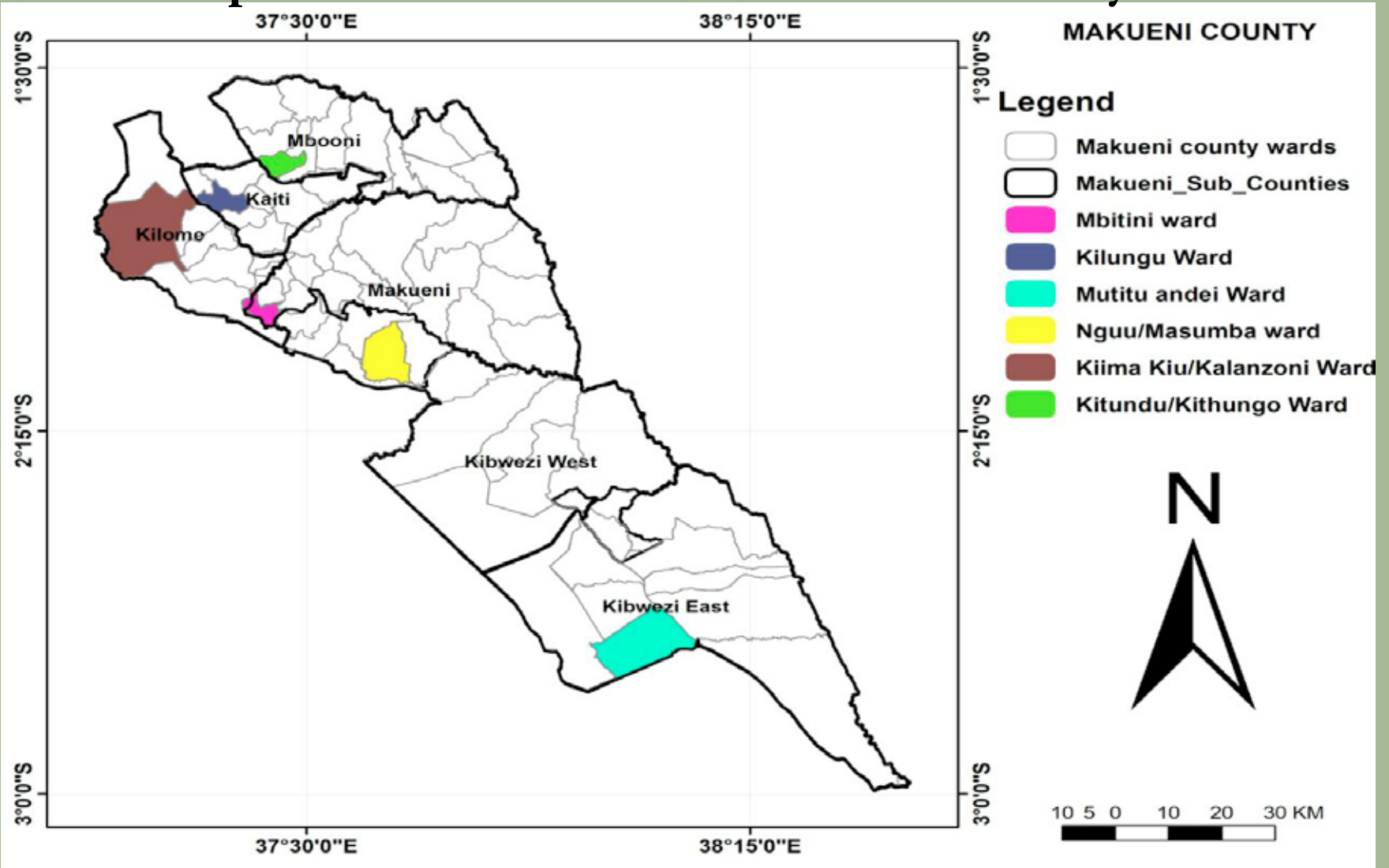
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Map of CCCF Investments in Makueni County



Summary

Climate change has adversely impacted on the communities and economies of the people of Makueni County. This is an inventory of adaptation and resilience projects supported by ADA Consortium under devolved climate finance mechanism. In September 2015, the Makueni County Government enacted the Makueni County Climate Change Fund (CCCCF) Regulations, committing 1% of its annual development budget to climate change. This was a result of support received from the Adaptation Consortium project for policy legislation to establish devolved climate finance mechanism. The Makueni County Climate Change Regulation, 2015 was formulated under the Public Finance Management Act of 2012, and climate change legislations to provide a mechanism that enables vulnerable communities through their Climate Change structures, access and use climate finance to build their resilience to the changing climate in a more coordinated way. Through the regulations, the Makueni County government has established climate change structures (CCCCF Steering Committee, the CCCC Board, the CCCC Planning Committee and Ward Climate Change Planning Committees) to oversee the coordination of devolved climate finance.

In 2016, Kshs. 42,280,830 (28,280,830M contracts' payment, 4M operations and 10M co-funding by county government) was used in implementation of the prioritized public good investment as prioritized by communities and are currently benefitting 35,925 people. The investments range from the rehabilitation and construction of five sand dams, two earth dams, a water pipeline distribution and a rock catchment structure. The investments have contributed to increased water security and enhancing community resilience to climate change and have brought water closer to communities as they are able to collect and store rainy season run-off water which is made available for longer during the dry season. Communities also reported that the investments have reduced the distances that communities walk in search of water and enhanced food security as more arable land is used for micro irrigation.

Further through ADA project support interventions, 861 Climate Information Intermediaries (CIS) were trained to receive, interpret and disseminate climate information across the county for timely decision making through the support of Kenya Meteorological Department. This has led to reduced agricultural losses and informed decision making. About, 425,830 people have since received climate information.



Quote from Mueni Mwikali

“The CCCF mechanism has helped us cope with the changing climate through provision of climate information and investments that are chosen by communities. The seasonal forecast that we receive has also been useful. We receive the information and share widely. There is a group of women who followed the advisory and planted green grams, they harvested in plenty”

Introduction

Makueni is a semi-arid county characterized by high rainfall variability and prolonged droughts. The county is water scarce with only 36% of the population having access to improved sources of water. The average distance to the nearest water point is estimated at 8kilometres. This is partly attributed to recurrent droughts caused by climate change, shrinking water sources as a result of encroachment on water sheds, degradation of water catchment and uncontrolled sand harvesting. The 2009 national census, put the population of Makueni at 884,527 people with an annual national population growth rate estimated at over 2% putting more pressure on the available resources.

The establishment of county governments was to help in devolving development, resources and decision making to the local level. The County Climate Change Fund (CCCF) mechanism piloted by the Adaptation Consortium is anchored on this principle. Through the CCCF mechanisms, communities were actively involved in the selection of investments that build their resilience to climate change, designing of investments with the help of technical officers from county government, implementing and monitoring to ensure that the investments are of high quality.

Communities were also trained on Climate Information Services which informed the viability of the CCCF investments as most of them are centered on water provision. Climate information also informed agro-investments, helping communities save on losses resulting from rain failures as it adequately informed their agricultural decision thus enhancing food security.

The CCCF mechanism consists of four interrelated components namely: Establishing a county level climate change fund, putting in place climate change planning committees at ward and county levels, integrating climate information into planning and implementation and monitoring and evaluation of progress with resilience building at both community and institution levels as a result of the adaptation investments made. The approach enables implementation of public good investments that address communities' priorities while supporting the county government deliver their mandate in realizing sustainable development in the face of climate change.

The Makueni County government also enacted the County Climate Change Fund regulations, strengthening the climate change committees as they are recognized by the County government to spearhead the climate change agenda in the county.

The investments identified and implemented through the county climate change fund should meet the following criteria: -

1. Must benefit many people.
2. Must support the economy, livelihoods or important services on which many people depend.
3. Must be relevant to building resilience to climate change.
4. Must encourage harmony; build relations, understanding and trust.
5. Must have been developed after consultation with all potential stakeholders.
6. Must be viable, achievable and sustainable.
7. Must be cost effective and give value for money

This inventory takes stock of all projects implemented up to April 2017 for a total budget of KShs. 42,280,830 Million. The projects were implemented in six pilot wards to enhance adaptive capacity of the of the communities. The inventory provides a brief description of the situation, benefits of each investment, location as well as other critical information.

MCCCF PUBLIC GOOD INVESTMENTS IN KIIMA KIU/KALANZONI WARD



Construction of two pipeline distribution lines - Kaseve to Mangetheni and from Kaseve to Kwa Elijah



number of beneficiaries: **2448 people**

2040 Cattle; 6120 Shoats



Kaseve water distribution (above) before and (below) after

Location

GPS coordinates: Lon: 01 54 38.2 --- Lat: 037 12 58.9

Date of Implementation

December 2016

Investment cost

Kshs. 2,485,617.56

Description of the situation before intervention

- The community relied on small streams which dried up a few weeks after the rains were over
- This led to communities walking up to for 4kms on average in search of water.

Description of the situation after the intervention

- Construction of a piping system, storage tank, and water kiosk bringing water close to community.
- Construction of sanitation facilities (bathroom and toilet) at one distribution line i.e Mangetheni.

Benefits to Local Community

- Improved access to water for both livestock and humans.
- Reduced cases of water borne diseases - community getting tapped water improving sanitation.

Pipeline distribution lines - Kaseve to Mangetheni and from Kaseve to Kwa Elijah



Kaseve water distribution kiosks

Construction of kwa Atumia Earth



number of beneficiaries: **1,422**

Livestock : **2,370** cattle; **9,480** shoat



kwa Atumia (above) before and (below) after

Location

GPS coordinates: Lon: 1.677806 --- Lat: 37.241778

Date of Implementation

January 2017

Investment cost

Kshs. 2,990,860.00

Description of the situation before intervention

- The community relied on small streams which dried up a few weeks after the rains were over
- Farmers would walk up to 4kms in search of water which was never enough.

Description of the situation after the intervention

- Construction of cattle troughs, fencing of the earth dam reducing direct access to the water pan.
- Construction of sanitation facilities (toilet) has reduced prevalence to water borne diseases.
- Community gets water through a draw off system, gravitated pipe from a low point of the dam to a water point outside the dam hence safe from contamination.

Benefits to Local Community

- Improved access to water for livestock, domestic use and for small scale irrigation leading to food security.
- Reduce cases of water borne diseases due to improved sanitation.
- Secure water source protected from contamination.

MCCCF PUBLIC GOOD INVESTMENT IN KILUNGU WARD



Construction of a Kwa Lai Sand Dam



number of beneficiaries: **2076 people**

1038 cattle; shoats 5190



Kwa Lai Sand dam before (above) and after (below)

Location

GPS coordinates: Lon: 01 45 49.3 --- Lat: 037 22 09.5

Date of Implementation

December 2016

Investment cost

Kshs. 2,151,526.00

Description of the situation before intervention

- The community relied on a single water spring where they queued for a whole day to fetch water.
- Few practiced micro irrigation due to inadequate water.

Description of the situation after the intervention

- Construction of a sand wall to capture water and retain sand upstream serving as a water reservoir.
- Emergence of micro irrigation and kitchen garden farming.
- Community gets water through a draw off system i.e a gravitated water pipe from a lower part of the sand dam to a lowest side making it safe from contamination.

Benefits to Local Community

- Improved access to water for livestock and domestic use.
- Accessible water supporting small scale irrigation boosting food and nutrition security
- Emergence of small scale businesses (water vending and selling of vegetables) which is a source of income for households/women
- Improved nutrition as kitchen gardens provide nutritious vegetables which had dwindled.

Kwa Lai Sand Dam



Women fetching water at Kwa Lai Sand dam

MCCCF PUBLIC GOOD INVESTMENTS IN KITHUNGO/KITUNDU WARD



Construction of a Kya aka sand dam



number of beneficiaries: **2076 people**

1038 cattle; shoats 5190



Kya aka Sand dam before (above) and after (below)

Location

GPS coordinates: Lon: 1.681944 --- Lat: 37.457056

Date of Implementation

December 2016

Investment cost

Kshs. 1,058,580.00

Description of the situation before intervention

The community relied on small streams for irrigation and domestic use.

Description of the situation after the intervention

- Construction of sand wall to capture water and retain sand upstream serving as a water reservoir.
- Ability of the community to practice micro irrigation with the increased water availability

Benefits to Local Community

- Improved access to water for both humans and livestock.
- Enhanced food security as more arable land is under micro irrigation.

Kya aka sand dam



Utangwa coffee factory that uses water from Kya aka sand dam to grind its coffee

Construction of Ngutioni sand dam



number of beneficiaries: **930 people**

500 cattle



Ngutioni Sand dam before (above) and after (below)

Location

GPS coordinates: Lon: 01 41 47.2 --- Lat: 037 29 37.5

Date of Implementation

December 2016

Investment cost

Kshs. 934,032.00

Description of the situation before intervention

The community relied on small streams for irrigation and domestic use.

Description of the situation after the intervention

- Construction of a sand wall to capture water and retain sand upstream serving as a water reservoir.
- Community gets water through draw off system i.e. a gravitated water pipe from the lower part of the sand dam to the lowest side, hence is safe from contamination.

Benefits to Local Community

- Improved access to water for both livestock and human.
- Increased irrigated fields due water availability.
- Enhanced food security as more arable land is used for micro irrigation.

Ngutioni sand dam



Ngutioni sand dam and irrigated farm with water from the sand dam

MCCCF PUBLIC GOOD INVESTMENT IN MBITINI WARD



Construction of Masue Rock Catchment



number of beneficiaries: **1224 people**

3060 cattle; shoats **5100**



Masue Rock Catchment before (above) and after (below)

Location

GPS coordinates: Lon: 2.010000° --- Lat: 37.448433

Date of Implementation

April 2017

Investment cost

Kshs. 5,429,287.50

Description of the situation before intervention

- The community relied on river Muoni which dried up a few weeks after the rains were over.
- The rocks accelerated run offs that resulted to rampant soil erosion hence formation of big gullies and also washing away of fertile agricultural land.

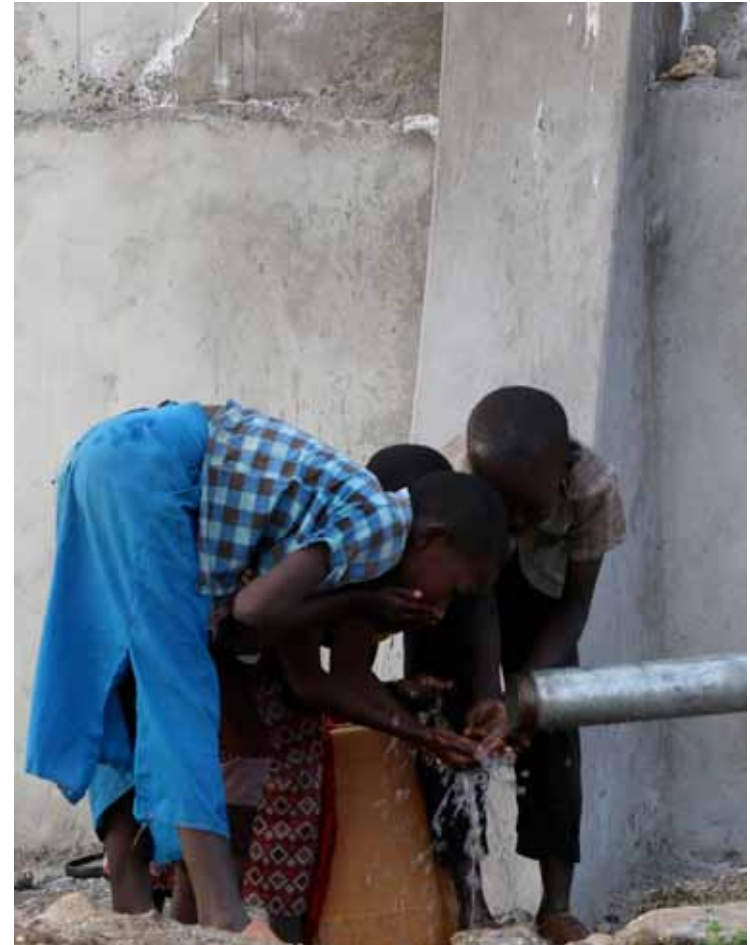
Description of the situation after the intervention

- Construction of infrastructure such as water reservoirs (tanks, water kiosks, pipeline).
- Emergence of micro irrigation and kitchen garden farming.
- Community gets water through a draw off system i.e. a gravitated water pipe from the lower part of the sand dam to the lowest side, hence is safe from contamination.

Benefits to Local Community

- Improved access to water for both livestock and domestic use.
- Community practicing micro irrigation due to water availability.
- Improved nutrition as kitchen gardens provide nutritious vegetables which were rare to get before.

Masue Rock Catchment



Community members fetching water from Masue Rock Catchment

MCCCF PUBLIC GOOD INVESTMENT IN MTITO ANDEI WARD



Construction of Ngai Ndethya Mega Sand Dam



number of beneficiaries: **2592 people**

2160 cattle; shoats **8640**



Ngai Ndethya Mega Sand dam before (above) and after (below)

Location

GPS coordinates: Lon: 2.685661 --- Lat: 38.159199

Date of Implementation

December 2016

Investment cost

Kshs. 4,104,334.75

Description of the situation before intervention

- The community relied on shallow wells along the rivers which were salty and dried up after the rains were over.
- Conflicts over water was rampant as dry period lasted longer.
- Food shortage as crops were rain fed; no excess water for micro irrigation.

Description of the situation after the intervention

- Construction of a sand wall to capture water and retain sand upstream serving as a water reservoir.
- Improved sanitation as the community fetch water from a water kiosk.
- Emergence of small scale businesses (water vending/vegetables).

Benefits to Local Community

- Improved access to water for both livestock and humans.
- Community practicing micro irrigation with the increased water availability
- Improved nutrition as kitchen gardens provide nutritious vegetables which had dwindled due to lack of water.

Ngai Ndethya Mega Sand Dam and Water Kiosk



Ngai Ndethya Mega Sand dam and commuinity fetching water from Ngai Ndethya water kiosk

MCCCCF PUBLIC GOOD INVESTMENTS IN NGUU /MASUMBA WARD



Construction of Kwa Mutuku Earth dam



number of beneficiaries: **2676 people**

4460 cattle; shoats **8920**



Kwa Mutuku Earth dam before (above) and after (below)

Location

GPS coordinates: Lon:2.050000--- Lat: 37.60825

Date of Implementation

December 2016

Investment cost

Kshs. 2,515,018.00

Description of the situation before intervention

The community relied on shallow wells which dried up a few weeks after the rains were over. Community members had to walk for over 4 kms in search of water

Description of the situation after the intervention

- Construction of cattle troughs, excavation and fencing of the earth dam to increase its capacity
- Construction of sanitation facilities to minimize water borne infections
- Community gets water through a draw off system i.e. a gravitated water pipe from lower part of the sand dam to lowest part hence safe from contamination.

Benefits to Local Community

- Improved access to water for both livestock and domestic use.
- Reduce cases of water borne infections due to improved sanitation.
- Water trough minimized direct entry into the earth dam thus clean water for consumption

Kwa Mutuku Earth dam



Community members fetching water from kwa Mutuku Earth dam

Construction of kwa Kiili sand dam



number of beneficiaries: **2028 people**

1690 cattle; shoats **5070**



Kwa Kiili Sand dam before (above) and after (below)

Location

GPS coordinates: Lon: 2.00057 --- Lat: 37.63667

Date of Implementation

December 2016

Investment cost

Kshs. 4,423,900.50

Description of the situation before intervention

- The community relied on shallow wells which dried up a few weeks after the rains were over. This led to food shortage as crops were rain fed; no excess water for micro irrigation

Description of the situation after the intervention

- Construction of a sand wall to capture water and retain sand upstream serving as a water reservoir.
- Emergence of micro irrigation and kitchen garden farming improving nutrition

Benefits to Local Community

- Improved access to water for both livestock and humans.
- Community practicing micro irrigation due to increased water availability.
- Improved nutrition as kitchen gardens provide nutritious vegetables which had dwindled.
- Emergence of small scale businesses (water vending and selling of vegetables).

Kwa Kiili sand dam



Kwa Kiili sand dam

Conclusion

Makueni is emerging as a county to emulate on issues of mainstreaming climate change into planning. The community members are also effectively participating in the prioritization of investments that build their resilience to climate change. The passing of the County Climate Change Fund (CCCCF) regulations has enabled Makueni County government to fast track on its financial commitment to the CCCCf kitty of contributing 1% of her development budget to the kitty. The legislation also ensures proper coordination of activities among different stakeholders, improves local participation and enhance accountability in the usage of fund as communities know upfront the amount of money available for the investments.

This inventory will help Makueni County to track the cost and benefits of the different investments and will be crucial in planning for other investments within the county as it will reduce the cases of redundancy, and ensure that county resources are used efficiently. Through the CCCCf mechanism, communities' capacity to develop proposals and advocate for investments that are in line with their needs has been enriched. Their capacity to work with the county government has also been strengthened. The process demonstrates that devolution is working and that communities have the capacity to determine what builds or deter them from adapting to the changing climate.

The achievements in Makueni county have been made possible through the collaboration between technical people at the county level, community members and partners at the local, national and international level.

The County Climate Change Fund mechanism implemented by the Adaptation (ADA) Consortium is a core component of the National Drought Management Authority (NDMA) five year strategic plan (2018-2022) and is funded by DfID within the Strengthening Resilience and Adaptation to Climate Change in Kenya plus (STARCK+) programme. The aim of Ada is to pilot climate change adaptation planning approaches and to enhance climate resilience through provision of climate information services in the five Arid and Semi-Arid Lands (ASALs) counties (Garissa, Isiolo, Kitui, Makueni and Wajir) that, if successful, will be replicated in other ASAL counties and beyond. The consortium consist of Christian Aid working with ADS- Eastern in Kitui and Makueni, International Institute for Environment and Development (IIED) working with Merti Integrated Development - Programme (MID-P) in Isiolo, WomanKind Kenya in Garissa, and Arid Lands Development Focus (ALDEF) in Wajir, Met Office (UK) and the Kenya Meteorological Department (KMD).



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