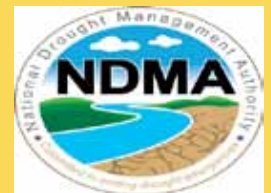
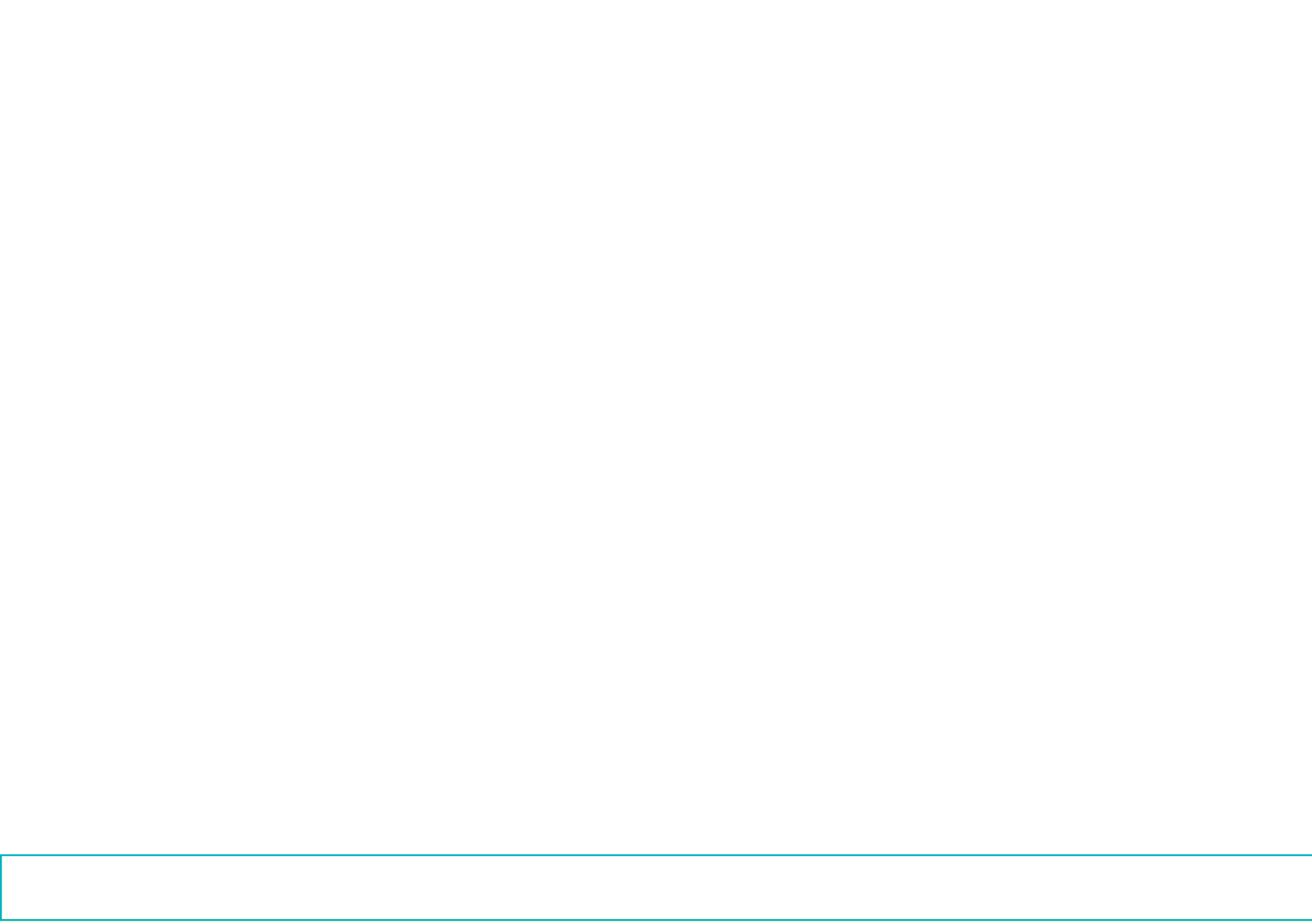




Isiolo County Climate Change Fund Inventory of Adaptation Investments 2013-2016





Isiolo County Climate Change Fund (ICCCF)

Inventory of Adaptation Investments

Acknowledgment

The Isiolo County government and the Adaptation Consortium would wish to acknowledge the support from the County Climate Change Planning Committee, Ward Climate Change Planning Committee, and the Resource Advocacy Programme in the implementation of the county prioritised investments.

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Map of Isiolo



Summary

This publication showcases Isiolo County's adaptation investments funded by the County Climate Change Fund over 2013-2016. The investments which are public good in nature were identified and prioritized by local communities through Ward Climate Change Planning Committees with support from county technical officers. The investments range from infrastructure development to institutional strengthening and development of strategies. Majority of the investments focus on strengthening the pastoral system by virtue of pastoralism being the mainstay of the county's economy.

This document provides information on the 44 community adaptation investments in terms of: name, location, date of implementation, investment cost, description of the situation before and after the intervention, nature of benefits, the number of beneficiaries and some pictorial evidence. The CCCF approach seeks to support county governments mainstream climate change into their planning, budgeting and implementation and to be climate finance ready. Building capacity of local people to effectively participate in identifying and prioritizing priority areas of interventions has resulted into more pertinent investments that are contributing to building their resilience to the changing climate.

The 44 projects which in total costed KES145 Million have together benefited 175,519 people both resident and non-resident of Isiolo. The investments include development of water infrastructure and training in water governance in support of the multiple customary resource access rules and livestock mobility; construction of a radio station to disseminate weather and development information; strengthening customary natural resource management institutions *-dedha* for improved governance of the rangelands through reviewed rules of access and control including by pastoral groups who regularly visit Isiolo County; improved disease control through the rehabilitation of a decentralized livestock laboratory for disease surveillance and county-wide vaccination programme; and the development of county livestock strategy and resource map with a strong emphasis on building community resilience to climate change.



Quote from Fatuma Mandera.

“Initially we were operating in a black out with no information on climate change. With the construction and operationalization of the radio, we now receive weather and development information. As the chief in Garbatulla, I use the radio to communicate security and development issues on a timely basis. The project has also improved women involvement in decision making on projects being implemented. Initially their contributions were minimal or none at all.”

Introduction

Climate change impacts are already being felt across a wide economic, social and environmental spectrum exacerbating existing pressure on natural resources and reinforcing factors that increase local people’s vulnerability to extreme climate related shocks. In Isiolo, where majority depend on pastoralism, these challenges must be proactively addressed to provide resilient pathways out of poverty and climate vulnerability for majority of poor and vulnerable households. This calls for building capacity of local communities and supporting county government to work together in coming up with sustainable options implemented in a coordinated manner.

It is against this background that the Adaptation Consortium under the leadership of the National Drought Management Authority (NDMA) supported the county government of Isiolo to integrate climate risk management into her planning and budgeting system through development of a county climate information services (CIS) and establishment of a County Climate Change Fund (CCCCF).

The CCCCf 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.

As a public fund under the discretionary management of the county government, the County Climate Change Fund finances public good investments prioritised by communities through representative Ward Climate Change Planning Committees (WCCPCs). Together with the communities, the WCCPCs conduct participatory ‘resilience assessments’ to establish those factors that either strengthen or weaken the local economy and livelihood systems. The resilience assessments are then used by the WCCPCs to prioritise investments to be financed by CCCF. The County Climate Change Planning Committee (CCCPC) provides technical support throughout the process. Proposed investments have to meet seven criteria that promote climate resilient growth and adaptive livelihoods. These criteria are that the investment:

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

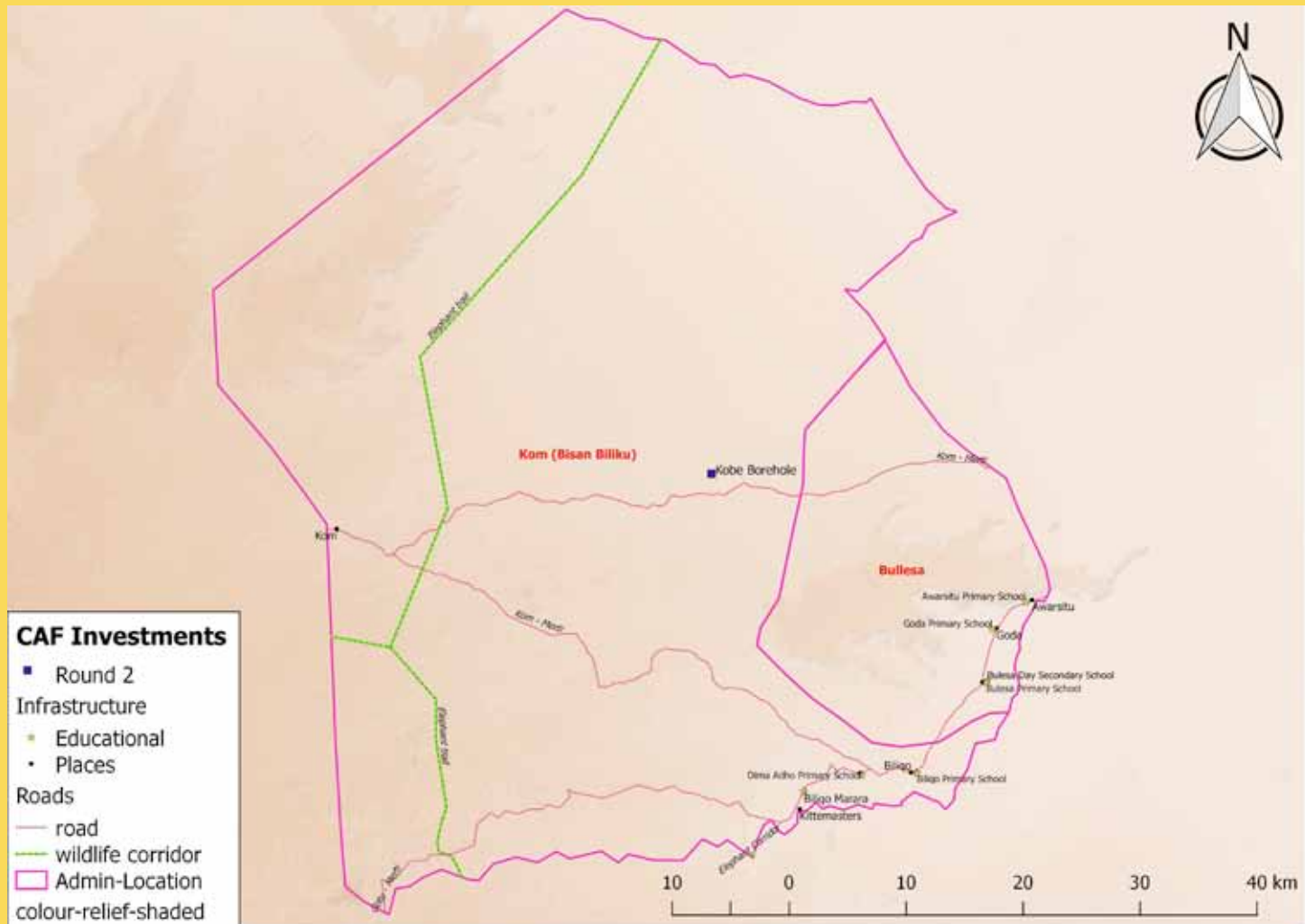
The Isiolo County Climate Change Fund (ICCCF) has completed two cycles of investment. The two rounds were implemented over four years, between 2013 and 2016. The public good investments broadly targeted the livestock sector which is the main livelihood for about 90% of the population in the county. The projects are community driven with active involvement from identification, implementation and subsequent management. The investments put in five categories below sought to address the underlying causes of vulnerability to climate change while strengthening adaptation to future extreme events:

- Mainstreaming of climate change related policy and legal framework, by investing in establishing a County Climate Change Fund Bill, Livestock Strategy, Resource Atlas, Strategic Plan for Water and Irrigation, Energy, Environment and Natural Resources, and Rangeland Management Bill.
- Improved governance of the rangelands by supporting the dedha (customary range management institutions) to review rules of access and control, particularly with respect to neighbouring pastoral groups, which are enshrined within the County Rangeland Management Bill.
- Development of ‘climate-proofed’ infrastructures and training in improved water governance in support of the customary resource access rules and livestock mobility.

- Improved diseases control through the rehabilitation of a decentralised livestock laboratory for disease surveillance and a county-wide vaccination programme.
- Improved access to climate and development information by constructing a community radio to broadcast in the whole county.

This inventory takes stock of all projects implemented up to June 2016 for a total budget of KShs 145 million. The projects are at two levels: (i) ward level projects that enhance the adaptive capacity of local people within the wards and neighbouring areas; and (ii) county level projects that provide benefits across the county. Projects have been implemented in six rural wards namely, Kinna, Garbatulla, Sericho, Chari, Cherab and Oldonyiro. The document first presents the cross county investments followed by ward specific investments. Maps showing the location of the investments, a brief description of the situation as well as the benefits of each investment are presented among other critical information.

ICCCF INVESTMENTS IN PUBLIC GOODS IN CHARI WARD



Investment: - drilling and equipping Kobe Dadach Guracha borehole



number of beneficiaries

15,000 people



Kobe Dadach (above) before and (below) after

Location

GPS mapping coordinates: Lon: 38.3317911---lat: 1.1200395

Date of Implementation

June 2014

Investment cost

Kshs. 7,839,760

Description of the situation before intervention

Virgin area to be exploited for water and pasture

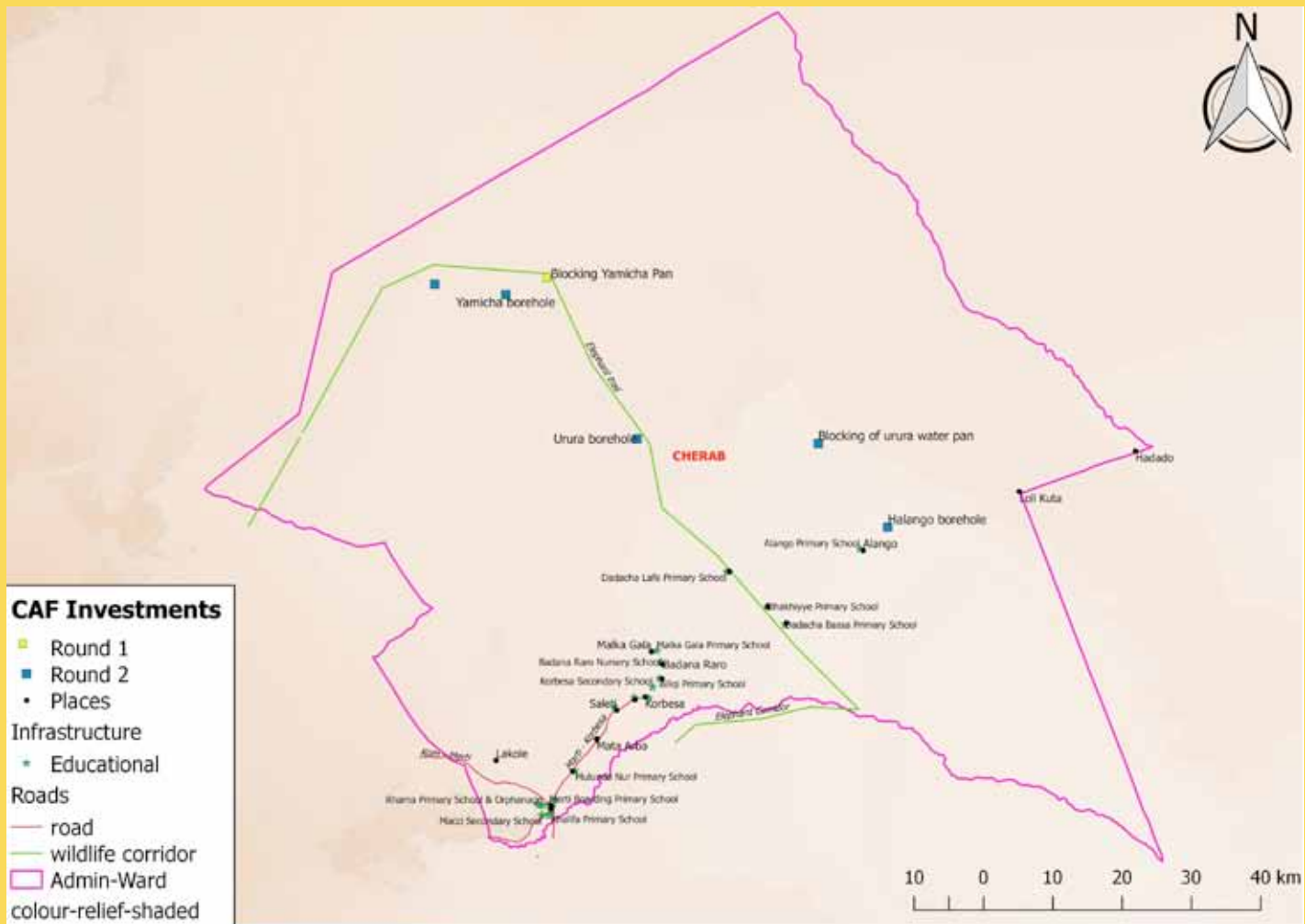
Description of the situation after the intervention

Drilling of a borehole to supply water to the community

Benefits to Local Community

- Open up expansive pasture land for grazing an area which was under utilized in the past due to lack of water
- Access to drought reserves during difficult times thereby reducing livestock mortality/ asset loss thus building community resilience to climate change.
- Improved water storage and regeneration of vegetation in the surrounding area

ICCCF INVESTMENTS IN PUBLIC GOODS - CHERAB WARD



Rehabilitation of Strategic boreholes - Halango, Duma, Yamicha, & Urura



number of beneficiaries

18,000 people (4080M and 13920F)



Halango (above) before and (below) after

Location

GPS mapping coordinates:

Halango: Lon: 39.1043498---lat: 1.4309686;

Urura: Lon:38.7790526---lat: 1.5455066;

Yamicha: Lon: 38.6089826---lat: 1.7321544;

Duma: Lon: 38.5168216---lat: 1.7459882

Date of Implementation

June 2014

Investment cost

Kshs. 5,019,000

Description of the situation before the intervention

- Open up expansive pasture land for grazing an area which was under utilized in the past due to lack of water
- Roof of storage tank at Yamicha, Urura and Duma boreholes were uncovered causing serious water contamination
- Storages tanks , pipes and troughs at the three boreholes were worn out and symptomatic to leakages
- Only 6 troughs were available at the 3 sites (Yamicha, Duma and Urura) causing congestion and time wasting during watering of livestock.
- Sanitation facilities lacking at the 3 boreholes

Rehabilitation of Strategic boreholes - Halango, Duma, Yamicha, & Urura



People from neighbouring county : **2,000**

Livestock : **15,000** cattle, **30,000** shoat and **2,000** camels



Duma (above) before and (below) after

Description of the situation after the intervention

- Covering roof of the storage tanks at 3 boreholes
- Replacing of inlet and outlet pipes
- Repair of storage tanks
- Construction of 4 additional troughs
- Construction of sanitation facilities at 3 sites
- Construction of pump house at Halango

Nature of benefits

- Rehabilitation of these strategic boreholes increases efficiency thus improving livestock access to drought reserves during time of stress thus reducing livestock mortality and asset loss
- Reduced cases of water contamination
- Watering time reduced by 4Hrs as result animals have enough time for grazing.
- Improved sanitation thus reduction in watershed infections
- Improved water storage and regeneration of vegetation in the surrounding area

CHERAB WARD



Before the rehabilitation of Yamicha Strategic Borehole



Before rehabilitation of Urura Strategic Borehole




After the rehabilitation of Yamicha Strategic Borehole



After rehabilitation of Urura Strategic Borehole

Blocking inlet of Yamicha water pan to control influx and improve management of rangeland




 number of beneficiaries
15,000 (indirectly)



Blocking of inlet - Yamicha before (above) and after (below)

Location

GPS mapping coordinates:
Lon: 39.0142131---lat: 1.5394633

Date of Implementation

October 2013

Investment cost

Kshs. 830,100

Description of the situation before intervention

- Open pan situated in dry season grazing area thus attracting influx from neighboring counties

Description of the situation after the intervention

- Inlet of the pan blocked to prevent water entering the pan.

Nature of benefits

- Availability of fodder and improved health during time of stress.
- Improved water storage and regeneration of vegetation in the surrounding area

Blocking Urura water pan inlet to control influx and improve rangeland management



number of beneficiaries

15,000 (indirectly)



Blocking of inlet - Urura waterpan

Location

GPS mapping coordinates:
Lon: 39.0142131---lat: 1.5394633

Date of Implementation

June 2014

Investment cost

Kshs. 1,056,506

Description of the situation before the intervention

Open pan situated in dry season grazing area thus attracting influx from neighbouring counties

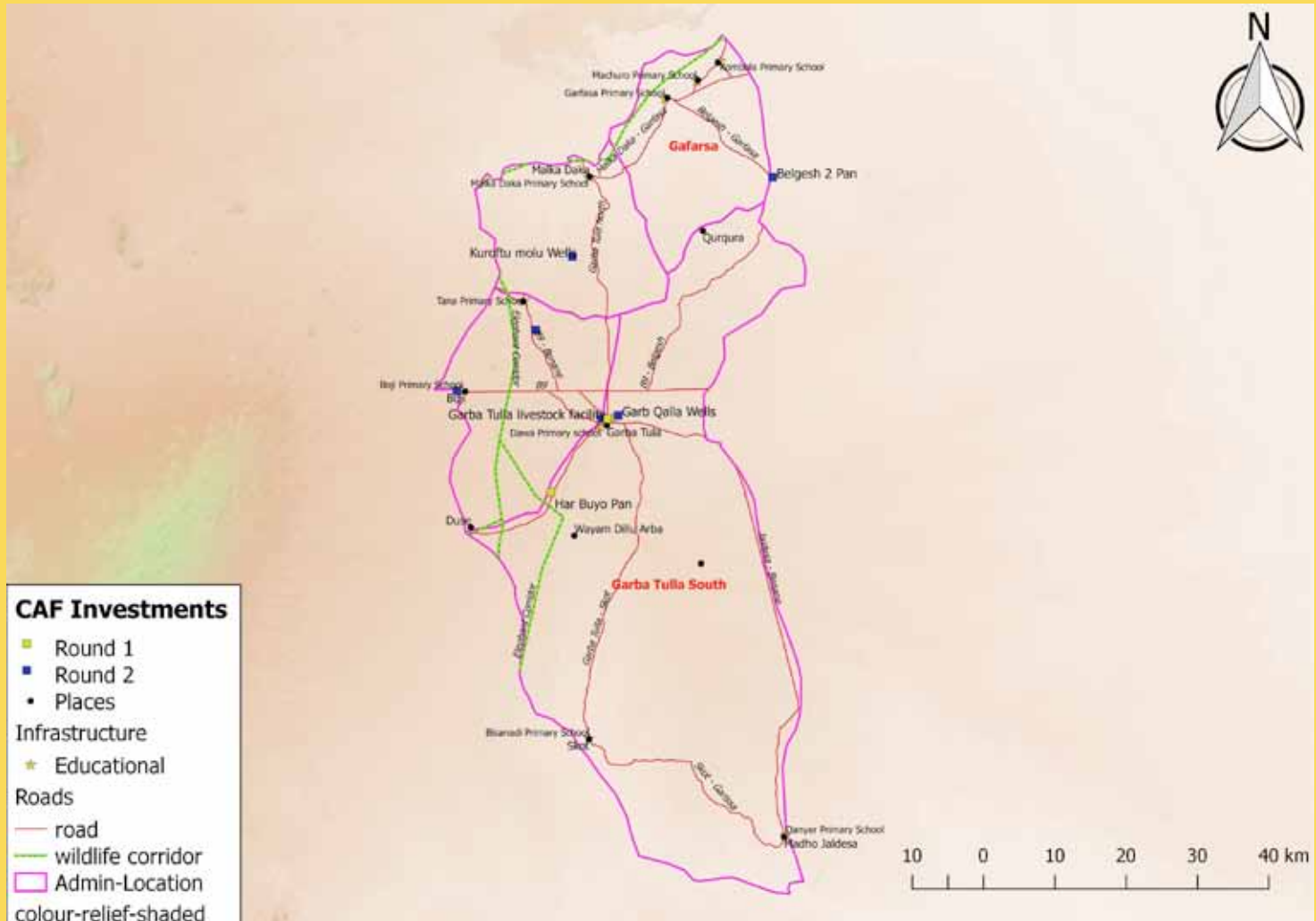
Description of the situation after the intervention

Inlet of the pan blocked to prevent water entering the pan.

Nature of benefits

Availability of fodder and improved health during time of stress.

ICCCF INVESTMENTS IN PUBLIC GOODS - GARBATULLA WARD



Rehabilitation of HarBuyo Water pan to improve management of water and pasture



number of beneficiaries

900 people (459M and 441F)



Harybuyo before photos

Location

GPS mapping coordinates:
Lon:38.45195—lat:0.437925

Date of Implementation

October 2013

Investment cost

Kshs. 1,800,000

Description of the situation before the intervention

- Open pan where there was indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain).
- Access to the pan was uncontrolled causing serious degradation of rangeland around the pan. This undermined seasonal grazing pattern thus affecting resilience of pastoral community.

Rehabilitation of HarBuyo Water pan to improve management of water and pasture



no of people from other counties: **700 people**

Animals: **cattle 2,000. Shoat 10,000 Camel 3,000**



Harybuyo after photos

Description of the situation after the intervention

- Fencing and supporting infrastructure such as troughs (2), piping system, storage tank, motor pump and pump house was constructed.
- Sanitation facilities (bathroom and toilet)
- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water; increasing residence time from 2 weeks to over 6 months (Residence time is duration for which the pan can sustain the community).
- Animals do not access water directly from the pan as result water is safe from contamination.

Nature of benefits

- Improved access to water for both livestock and human use.
- Enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); which has improved resilience of locals to climate change immensely.
- Reduce cases of waterborne infection disease due to improved sanitation around the pan
- Pan managed under customary rules and regulation to ensure reciprocal resource access agreements based on negotiation thus reducing the risk of conflict which is critical for building climate resilience in ASAL.
- Improved water storage and regeneration of vegetation in the surrounding area

Construction of the Garba tulla Community Radio Station



Location

GPS mapping coordinates:
Lon:38.45195—lat:0.437925

Date of Implementation

October 2013

Investment cost

Kshs. 2,120, 000

Description of the situation before the intervention

- Prior to the construction of the radio, communities members did not have access to weather information, news on insecurity, worsening drought condition, and livestock market value. When their animals were stolen they didn't have a means of tracking them. The above conditions impacted on them negatively as they would have been impacted by drought and insecurity were rampant with them losing their animals to drought and rustling respectively

Construction of the Garba tulla Community Radio Station



Description of the situation after the intervention

- Installation of the solar power back-up system to ensure that the radio is on air even with power surges
- Sanitation facilities (bathroom and toilet) constructed
- Hallmark of this project is dissemination of weather and development information which has cushioned community members against impact of droughts

Nature of benefits

- Providing information on insecurity, drought situation livestock market value, search of stolen or lost livestock
- Dissemination of rainfall distribution helping pastoralist migrate to areas where there is rainfall
- Ease of tracking of animals when they get lost because of quicker mobilization of search- party through the radio
- Community members using information on rainfall distribution to migrate to areas where there is rainfall

Rehabilitation of Belgesh water pan to improve management of water and pasture



number of beneficiaries

600 people (306 M and 294 F)



Belgesh before (above) and after photos (below)

Location

GPS mapping coordinates:
Lon:38.7347093---lat: 0.8307076

Date of Implementation

October 2013

Investment cost

Kshs. 2,136,000

Description of the situation before the intervention

- Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain).
- Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water posed health risk to both human and livestock.

Rehabilitation of Belgesh water pan to improve management of water and pasture



Belgesh after photos

no. of people from other counties: **500 people**

Animals: **2,000** Cattle; **30,000** Shoat; and **2,000** Camel

Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water, increasing residence time from 2 weeks to over 6 months
- Animals are not assessing water directly from the pan as result water is safe from contamination

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); this is one of key adaptation strategy which has improved resilience of locals to climate change.
- Reduce cases of watershed infections due to improved sanitation around the pan
- Pan managed under customary rules and regulation to ensure reciprocal resource access agreements based on negotiation thus reducing the risk of conflict which is critical for building climate resilience in ASAL.
- Improved water storage and regeneration of vegetation in the surrounding area

Rehabilitation of Belgesh II water pan



number of beneficiaries

600 people (294M and 306F)



Belgesh II before photos

Location

GPS mapping coordinates:
Lon: 38.7313284---Lat: 0.834366

Date of Implementation

June 2014

Investment cost


Kshs. 2,459,719

Description of the situation before the intervention

- Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain).
- Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water poised health risk to both human and livestock

Rehabilitation of Belgesh II water pan



 No of people from other counties:

400 people

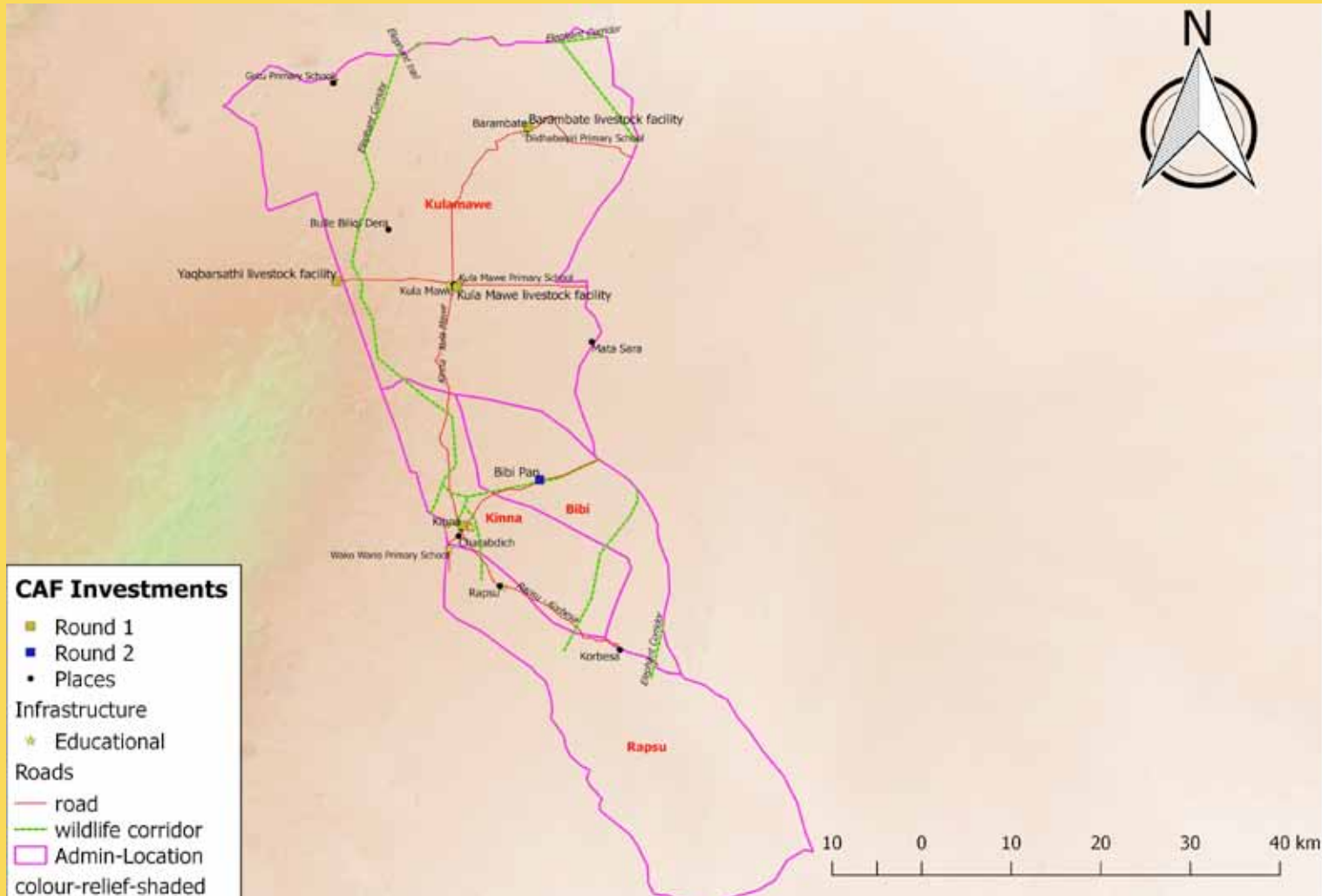
Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump was installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.
- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water, increasing residence time(duration for which the pan sustain community- over 6 months)

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); this is one of key adaptation strategy which has improved resilience of locals to climate change.
- Reduce cases of watershed infections due to improved sanitation around the pan
- Pan managed under customary rules and regulation to ensure reciprocal resource access agreements based on negotiation thus reducing the risk of conflict which is critical for building climate resilience in ASAL.
- The pan is mainly used to provide water for household use.
- Improved water storage and regeneration of vegetation in the surrounding area

ICCCF INVESTMENTS IN PUBLIC GOODS - KINNA WARD



Renovation and equipping of Kinna Livestock Disease Laboratory for timely diagnosis and treatment of livestock



number of beneficiaries

Human: 100 household



Kinna Veterinary Lab before photos

Location

GPS mapping coordinates:
Lon: 38.7313284---Lat: 0.834366

Date of Implementation

October 2013

Investment cost

Kshs. 6,041,122

Description of the situation before the intervention

- The laboratory was built by Embu Meru Isiolo Livestock Development Programme (EMI-LDP) in the year 1988 to help in control and prevention of the rampant livestock disease in Kinna catchment. The laboratory collapsed in 1992-1993 following withdrawal of funding by structural adjustment program. After the collapse of the vet lab, the prevention and control of livestock diseases was neglected for long and due to the change in climatic conditions, there are frequent eruptions of endemic diseases that cause death of many livestock before it subsides.
- The main problem of diseases is that the endemic diseases in the locality have several similarities in manifestation of its observable signs making the distinction between the diseases a major problem. The local veterinary chemists are run by unskilled individuals who prescribe wrong drugs to livestock owners who desperately gamble to attain right medicine for their livestock; this leads to prolonged administration of different drugs resistance, deterioration in health and eventually death of livestock.

Renovation and equipping of Kinna Livestock Disease Laboratory for timely diagnosis and treatment of livestock



People from other counties: over **5000 people**

Animals: **20,000** cattle; **200,000** shoat and **12,000** camels



Kinna Lab after photos

Description of the situation after the intervention

- Renovation, equipping and staffing of Kinna vet lab was done successfully.
- Currently there is fully operational lab with equipment, reagents for proper diagnosis and a small pharmacy with drugs for endemic diseases which is sold at subsidized price.
- Previously the pastoralist had to wait over two weeks to get results because they rely on laboratories from Nairobi and Karatina more than 200 kilometers (125 miles) away leading to high deaths. Two days is the longest it takes now to know what is ailing your animal.

Nature of benefits

- Proper diagnosis and treatment of wide range of diseases including ECF, PPR, CBPP, CCPP, lump skin diseases, anthrax, foot and mouth among other
- Provision of affordable or subsidized drugs to users
- Monitoring and surveillance of livestock diseases
- Early diagnosis and regular monitoring of livestock due to changing climate conditions enabled veterinary department to take preventive action thereby reducing livestock diseases and mortality thereby protecting livelihoods.

Rehabilitation of Bibi water pan to improve management of water and pasture



number of beneficiaries

900 people (459F and 441M)



Bibi Water pan before and after photos

Location

GPS mapping coordinates:

Lon: 38.2836523---lat: 0.3684746

Date of Implementation

June 2014

Investment cost

Kshs. 3,119,012 by Isiolo County Climate Change Fund

Kshs 9,000 by community every month for management (watchman and small repairs).

Description of the situation before the intervention

- Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately (2 weeks after onset of rain).
- Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water posed health risk to both human and livestock

Rehabilitation of Bibi water pan to improve management of water and pasture



➤➤ People from other counties: **600 people**

Animals: **12,000** cattle; **15,000** shoat and **2,000** camels



Bibi water pan after photos

Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.
- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water, increasing residence time from 2 weeks to over 6 months. Animals not accessing water directly from the pan as result water is safe from contamination.

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing pattern (wet, dry and drought grazing regimes); as one of key adaptation strategy; it has improved resilience of locals.
- Reduce cases of watershed infection due to improved sanitation.
- Pan managed under customary rules and regulation ensuring reciprocal resource access agreements based on negotiation reducing the risk of conflict which is critical for building climate resilience in ASAL.
- Improved water storage and regeneration of vegetation in the surrounding area.

Construction of livestock safe handling facility in Kula Mawe, Yaqbarsadhi, Barambate and Boji to increase livestock populations



number of beneficiaries

900 people, 12000 cattle, 25000 shoats and 5000 camels



Location

GPS mapping coordinates:

Kula Mawe: Lon: 338.2006543---lat: 0.5666107

Yaqbarsadhi: Lon:38.07989224--lat: 0.572863264

Barambate: Lon: 38.2726503---lat: 0.7320603

Boji: Lon: 38.3335585--lat: 0.565509

Date of Implementation

June 2014

Investment cost

Kshs. 4,039,055

Description of the situation before the intervention

- Climate sensitive diseases e.g. rift valley fever (RVF) are common in the area due to climate variability. In times of outbreaks/eruption of these diseases, vaccination campaigns to mitigate these outbreaks are organized. The community experiences intricacies in handling livestock during vaccination, spraying and other measures due to the absences of ideal livestock handling facility forcing them to spray their livestock at water points hence polluting water sources and contaminating the soil.
- Community improvised handling facilities are small and constructed using thorny trees without any technical specification. These results in more handling hours, injury to animals and handlers and also a handling of aggressive animals become very difficult.

Construction of livestock safe handling facility in Kula Mawe, Yaqbarsadhi Barambate and Boji to increase livestock populations



Description of the situation after the intervention

Construction of standard animal handling facility with holding yard, race and crush helped in control of spread of livestock disease and also control of both endo and ecto parasites

Nature of benefits

- A standard animal holding facility minimized injury to handlers
- Reduction in handling hours thus animals having ample time for grazing
- Control of livestock diseases thus improving on health; a healthy animal can tolerate adversities of climate change thus building community resilience to impact of climate change
- Control /reduction of diseases subsequently lead to improvement in health of the livestock thus increase in animal population and productivity

Construction of Lengiteng sand dam



number of beneficiaries **2000** people



Lengiteng Sand dam before (above) and after photos (after)

Location

GPS mapping coordinates: Lon: 37.2331231---lat: 0.6156044

Date of Implementation

April 2015

Investment cost

Kshs. 900,000

Description of the situation before the intervention

Lengiteng is ephemeral river (river that flows for a very short period following precipitation). After rainfall this river flows and a lot of water is wasted through runoff. Only small amount of water is stored in coarse sand which is scooped by community for domestic use. The supply is less than 5l/p/day

Description of the situation after the intervention

Construction of reinforced rubble cement wall across the seasonal sandy river. The weir impound coarse sand with water entrapped in its voids. This will increase water percolation/infiltration thus improving water storage capacity.

Nature of benefits

- Improved access to water for domestic and livestock use
- Reduction in walking distance and time wastage in fetching water.
- Improved supply from less than 5l/p/day to 20 litres per day
- Available water for homestead and livestock ensuring availability of milk for homestead use

Construction of Ntumodet sand dam



number of beneficiaries **600**



Ntumodet sand dam before and after photos

Location

GPS mapping coordinates: Lon: 36.9965094- -Lat: 0.633647

Date of Implementation

April 2015

Investment cost

Kshs. 1,000,000

Description of the situation before the intervention

Ntumodet is ephemeral river that flows for a very short period following precipitation. During the flow a lot of water is wasted through runoff. Only small amount of water is stored in coarse sand which is scooped by community for domestic use. The supply is less than 5l/p/day per capita

Description of the situation after the intervention

- Improved access to water for domestic and livestock use
- Reduction of water related diseases
- Available water for homestead livestock ensuring availability of milk around for homestead use

Nature of benefits

- Improved access to the water for both domestic and livestock use
- Reduction of water related diseases like water washed infections etc
- Available water for homestead livestock ensuring availability of milk around for homestead use
- Improved water storage and regeneration of vegetation around sand dams

Rehabilitation of Nantudu water pan



number of beneficiaries **1500** people



Nantudu sand dam before and after photos

Location

GPS mapping coordinates : Lon: 37.0515228
lat: 0.7256414

Date of Implementation

June 2015

Investment cost

Kshs. 1,400,000

Description of the situation before intervention

Open pan

Description of the situation after the intervention

Provision and fixing of 110mm x 150mm x2750 mm long precast concrete posts at 3mc/c using through concreting. Provide and fix heavy gauge 14 chain link fences, supported by gauge 16 barbed wire and curtinary wire. Construction of a cattle trough.

Nature of benefits

- Improvement in water quality
- Reduction in water pan siltation levels
- Will ensure proper control hence prudent management of the source.
- Reduction of water related diseases
- Improved water storage and regeneration of vegetation in the surrounding area

Construction of Siangawun rock catchment



number of beneficiaries **500** people



Siangawun rock catchment

Location

GPS mapping coordinates : Lon: 37.072128
lat: 0.600243

Date of Implementation

October 2013

Investment cost

Kshs. 1,560,000

Description of the situation before the intervention

Siangawun rock was a big exposed basement rock with a good smooth surface. The rock had a surface area of approximately 10,000 m². There exist crevice –pot shaped which after rains store water, from where the local community draws water from during the dry spell

Description of the situation after the intervention

- Construction of a 50,000 litres capacity masonry tank
- Construction of garlands to collect and direct water to the reservoir

Nature of benefits

- Reduction in walking distance and time taken in watching water
- Improved supply from less than 5l/p/day to 20l/p/day
- Reduction of water related diseases
- Available water for homestead and livestock ensures availability of milk for homestead use

Construction of Nempejeto rock catchment



number of beneficiaries **500** people



Nempejeto rock catchment

Location

GPS mapping coordinates : Lon: 37.2452301
lat: 0.7057959

Date of Implementation

October 2013

Investment cost

Kshs 1,600,000

Description of the situation before the intervention

Nempejeto rock is big exposed basement rock with a good smooth surface, which presents an ideal catchment for rain-water harvesting. The rock has a surface area of approximately 10,000 m² and with a good slope.

Description of the situation after the intervention

- 50,000 litres capacity masonry tank was constructed.
- Construction of garlands to collect and direct water to the reservoir

Nature of benefits

- Reduction in walking distance (from 5Km to less than a kilometer) and time wastage in fetching water.
- Improved supply from less than 5l/p/day to 20 litres per day
- Reduction of water related diseases
- Available water for homestead and livestock ensures availability of milk for homestead use

Rehabilitation of 6 Sand Dams in Lagaaman, Nooloroi, Lbaaibor, Rumate, Noontomia, and Mlima-Chui



number of beneficiaries

4,800 (2448 M and 2352 F)



Lagaaman before (above) and after (below)

Location

GPS mapping coordinates

Rumate Lon: 37.0389697---lat: 0.6012542;

Lagaaman Lon: 37.1935318---lat: 0.6770003

Nooloroi Lon: 37.3413057 --- lat: 0.5629458

Lbaaibor: Lon: 37.36426907---lat: 0.525798916

Noontomia Lon: 37.2261474--- lat: 0.5803101

Mlima-Chui Lon: 36.9956186--- lat: 0.6434882

Date of Implementation

October 2013

Investment cost

Kshs 1,685,568

Description of the situation before the intervention

The existing sand dams were constructed by Kenya Red Cross as drought emergency measures in 2007. Oldonyiro has only one permanent source of water (Waso river) and low ground water potential. As a result these sand dams have acted as a livelihood source for portable water for the area resident. However since its construction no repairs was done thus reducing the sand dam storage capacity thus decrease to less than 5l/p/day.

Rehabilitation of 6 Sand Dams in Lagaaman, Nooloroi, Lbaaibor, Rumate, Noontomia, and Mlima-Chui



Animals

15,000 shoat, 6000 cattle and 3000 Camels



Nooloroi before (above) and after (below)

Description of the situation after the intervention

- Excavation and hacking of the existing dam wall to expose the leaking areas basement rock and Increasing the height of buttress weir by 300mm using random rubble wall
- Plastering the dam to produce a monolithic finish to ensure no leakages and Sealing of exposed leaking joint and fractures using water proof slurry mortar

Nature of benefits

- Improvement in sand dam water holding and retaining capacity by about 45% on completion.
- Improved supply from less than 5l/p/day to 20 litres per day
- Reduction of water related diseases like water washed infections etc
- Available water for livestock ensuring improved livestock health and production especially ensuring milk availability at homestead level.
- Improve access to water during dry season and drought helping community to cope with climate change.
- Reduction of walking distance for animals to only source of water(Ewaso river) during severe dry periods thus improving livestock resilience to diseases, drought and increase productivity.

Rehabilitation of 6 Sand Dams in Lagaaman, Nooloroi, Lbaaibor, Rumate, Noontomia, and Mlima-Chui



Lbaaibor before (left) and after (right)



Rumate before (left) and after (right)

Rehabilitation of 6 Sand Dams in Lagaaman, Nooloroi, Lbaaibor, Rumate, Noontomia, and Mlima-Chui



Mlima Chui before (left) and after (right)



Noontomia before (left) and after (right)

Construction of Lemeshemi Lagga, Raap Seasonal River, Looseketef and EL-baaorok sand dams



number of beneficiaries

4,000 people (2448 M and 1552 F)



Lemeshemi Lagga before (above) and after (below)

Location

GPS mapping coordinates

Lemesheni Lagga Lon: 37.19554382---lat: 0.54617955

Raap Seasonal River Lon: 36.9690504---lat: 0.6726095

Looseketef Lon: 36.98507804 --- lat: 0.628320304

El-baaorok: Lon: 37.29348748---lat: 0.715733744

Date of Implementation

June 2014

Investment cost

Kshs 2,796,050

Description of the situation before the intervention

There were 5 ephemeral rivers that flow for a very short period following precipitation. During the flow a lot of only a small amount of water is stored in coarse sand which is scooped by community for domestic use. Due to low storage capacity, the supply of water is less than 5l/p/day

Description of the situation after the intervention

Construction of reinforced rubble cement wall across the seasonal sandy river in all 5 rivers. The weir stores coarse sand with water entrapped in its voids. This will increase water percolation/infiltration thus improving water storage capacity.

Construction of Lemeshemi Lagga, Raap Seasonal River, Looseketef and EL-baaorok sand dams



Animals

15,000 shoat, 5,000 cattle and 2,000 Camels



RAAP sand dam before (above) and after (below)

Nature of benefits

- Improvement in sand dam water holding and retaining capacity by about 45%
- Improved supply from less than 5l/p/day to 20 litres per day
- Reduction of water related diseases like water washed infections etc
- Available water for livestock ensuring improved livestock health and production especially ensuring milk availability at homestead level Improve access to water during dry season and drought helping community to cope with climate variability.
- Reduction of walking distance for animals to the only source of water(Ewaso river) during severe dry periods thus improving livestock resilience to diseases, drought and increasing productivity.

Construction of Lemeshemi Lagga, Raap Seasonal River, Looseketef and EL-baaorok sand dams



Looseketef before (left) and after (right)



EL-baaorok before (left) and after (right)

Rehabilitation of Mokori rock catchment rock



number of beneficiaries

400 people (196F and 204F)



Mokori rock catchment during construction

Location

GPS mapping coordinates : Lon: 37.2452301
lat: 0.7057959

Date of Implementation

June 2014

Investment cost

Kshs 1,894,072

Description of the situation before the intervention

Mokori rock catchment was constructed in 1990 by catholic mission to supply domestic water to over 70 household in Mokori. The area has no surface water and has low potential for exploitation of ground water. Since the tank was constructed, no repairs had been done; the garlands for channeling water to storage tank were destroyed as a result enormous volume of water were lost through runoff. The storage tank was leaking, piping system destroyed leading to further loss of water. Due to the above challenges a very small amount of water was harvested for storage sustaining community only for 1-2 weeks after rainfall.

Rehabilitation of Mokori rock catchment rock



Mokori rock catchment after construction

Description of the situation after the intervention

Construction of a new 50,000 litres capacity masonry tank, repair of garlands to collect and direct water to the reservoir and renovation of 50,000 litres capacity masonry tank and its assortments minimized loss of water through leakage and runoff improving water supply from less than 4l/p/day to 20 litres per capita. The residence time was improved from 2 weeks to over 3 months

Nature of benefits

- Reduction in walking distance (from 5Km to less than a kilometer) and time wastage in fetching water.
- Improved supply from less than 4l/p/day to 20 litres per day
- Reduction of water related diseases
- Available water for homestead livestock ensuring availability of milk around for homestead use
- Improved water storage and regeneration of vegetation in the surrounding area

Drilling of Bambot borehole to improve access to water for livestock during droughts



Bambot during and after construction

Location

GPS mapping coordinates : Lon: 37.2452301
lat: 0.7057959

Date of Implementation

October 2013

Investment cost

Kshs . 5,657,000

Description of the situation before the intervention

Expansive pasture rich area that covers over 200km but not utilized due to lack of water. During drought livestock comes to this area in search of pasture but mortality is high due to lack of water. Animals trek to nearest water points (Strategic borehole of Yamicha) which is over 100Km and they cannot withstand fatigue hence dying in the process.

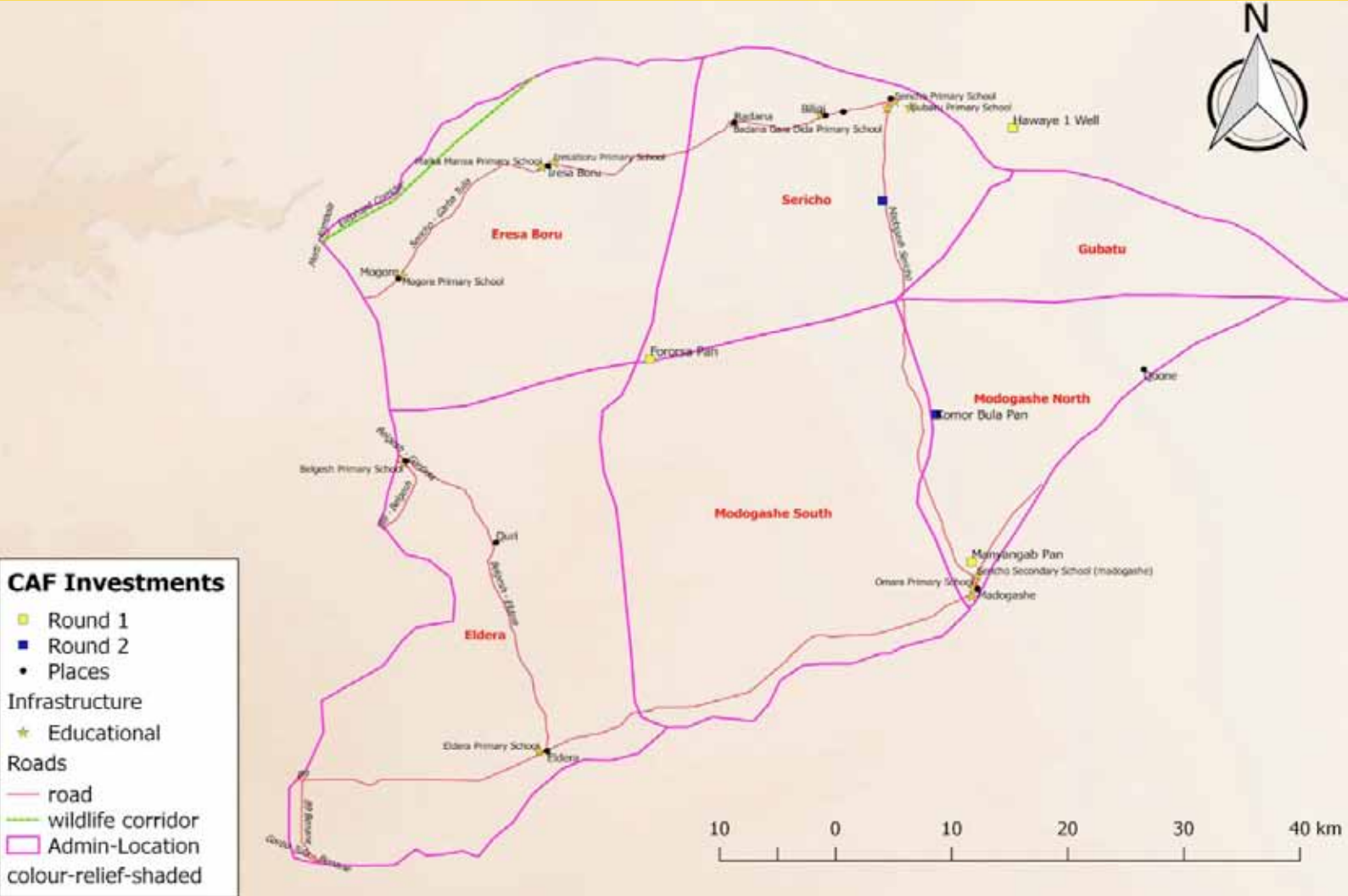
Description of the situation after the intervention

Drilling and equipping of borehole to provide water for livestock during drought. Through provision of water, pasture rich area of Bambot can be exploited decreasing mortality rate

Nature of benefits

- Improved access to water for both livestock and human use.
- Strengthen/enforces seasonal grazing plans/pattern.
- Decrease in livestock mortality during drought thus increasing community resilience to climate change
- Opening up area that was not fully utilized in the past due to lack of water

ICCCF INVESTMENTS IN PUBLIC GOODS - SERICHO WARD



Rehabilitation of Fororsa Water Pan



>> number of beneficiaries
3500 people (1,030 M and 2,470 F)



Fororsa Water pan before rehabilitation

Location

GPS mapping coordinates : Lon:38.9188858
lat: 0.9199172

Date of Implementation

October 2013

Investment cost

Kshs . 2,452,250

Description of the situation before the intervention

Open pan where there is indiscriminate access of water by both humans and livestock causing contamination of water (2 weeks after onset of rain). Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water posed health risk to both human and livestock.

Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump was installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.

Rehabilitation of Fororsa Water Pan



Fororsa Water pan after rehabilitation



number from neighbouring counties

Animal: 2,000 Cattle, 30,000 shoats and 1000 camels

- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water, increasing residence time from 2 weeks to over 6 months.
- Animals are not accessing water directly from the pan as result water is safe from contamination

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); as one of key adaptation strategy which improved resilience of locals to climate change.
- Reduce cases of watershed infection due to improved sanitation
- Pan managed under customary rules and regulation ensuring reciprocal resource access agreements based on negotiation reducing the risk of conflict which is critical for building climate resilience in ASAL.
- Improved water storage and regeneration of vegetation in the surrounding area

Rehabilitation of Manyangab Water Pan



number of beneficiaries

2000 people (1,020 M and 980 F)



Manyangab Water Pan before and after

Location

GPS mapping coordinates: Lon:39.1677769
Lat:0.7528534

Date of Implementation

October 2013

Investment cost

Kshs. 1,418,690

Description of the situation before the intervention

Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain). Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water posed health risk to both human and livestock.

Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump was installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.

Rehabilitation of Manyangab Water Pan



Sanitation facilities at Manyangap water pan



no of people from other counties: **800**

Animals ; **1,000** Cattle, **30,000** shoat, **2000** Camel

- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water, increasing residence time from 2 weeks to over 6 months.
- Animals are not assessing water directly from the pan as result water is safe from contamination

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); as one of key adaptation strategy which improved resilience of locals to climate change.
- Reduce cases of watershed infection due to improved sanitation
- Pan managed under customary rules and regulation ensuring reciprocal resource access agreements based on negotiation reducing the risk of conflict which is critical for building climate resilience in ASAL.
- Improved water storage and regeneration of vegetation in the surrounding area

Rehabilitation of Komor Bulla Water pan



number of beneficiaries

800 people (392 F and 408 M)
 People from other counties - **300**
 Livestock: **5000** cattle and **15,000** shoats



Komor Bulla Water pan before and after

Location

GPS mapping coordinates: Lon: 39.1402942
 Lat: 0.8739839

Date of Implementation

October 2013

Investment cost

Kshs. 2,589,156

Description of the situation before the intervention

Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain)

Description of the situation after the intervention

- Fence and watering infrastructure such as storage tank, troughs and motor pump was installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.
- Pan managed under customary rules and regulation.

Nature of benefits

- Improved access to water for both livestock and human use.
- Strengthen/enforces seasonal grazing plans/pattern.
- Reduce cases of waterborne diseases due to improved sanitation around the pan

Excavation and rehabilitation of Hawaye I and II shallow wells



number of beneficiaries

800 people (350 F and 450 M)
 People from neighbouring counties - **400**
 Livestock: **6000** cattle and **17,000** shoats



Hawaye Shallow wells during and after construction

Location

GPS mapping coordinates: Lon: 39.1999129
 Lat: 1.110079

Date of Implementation

June 2014

Investment cost

Kshs. 2,302,950

Description of the situation before the intervention

Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain)

Description of the situation after the intervention

- Fence and watering infrastructure such as storage tank, troughs and motor pump installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.
- Pan managed under customary rules and regulation.

Nature of benefits

- Improved access to water for both livestock and human use.
- Strengthen/enforces seasonal grazing plans/pattern.
- Reduce cases of waterborne diseases due to improved sanitation around the pan

Rehabilitation of Qote Kora Water Pan



number of beneficiaries
400 people (196F and 204M)
 Livestock : Cattle- 5,000, shoats 10,000



Qote Kora Water pan before and after

Location

GPS mapping coordinates: Lon: 39.1999129
 Lat: 1.110079

Date of Implementation

October 2013

Investment cost

Kshs. 2,302,950

Description of the situation before the intervention

Open pan where there is indiscriminate access of water by both humans and livestock causing serious contamination of water immediately after pan is impounded with water (2 weeks after onset of rain)

Uncontrolled access caused severe degradation of grazing field in proximity of the pan and undermining seasonal grazing pattern thus affecting resilience of the pastoralist. Contaminated water posed health risk to both human and livestock

Description of the situation after the intervention

- Fenced and watering infrastructure such as storage tank, troughs and motor pump was installed.
- Sanitation facilities (bathroom and toilet) were provided.
- Animals are not accessing water directly from the pan as result water is safe from contamination. It can last for over 6 months.
- Hallmark of this project is management of pan under customary rules and regulation resulting in improving quality of water
- Animals are not accessing water directly from the pan as result water is safe from contamination

Rehabilitation of Qote Kora Water Pan



Qote Kora Water pan after rehabilitation

Nature of benefits

- Improved access to water for both livestock and human use.
- Actualization/enforcement of seasonal grazing plan (wet, dry and drought grazing regimes); as one of key adaptation strategy; it has improved resilience of locals to climate change
- Reduce cases of watershed infection due to improved sanitation
- Pan managed under customary rules and regulation ensuring reciprocal resource access agreements based on negotiation reducing the risk of conflict which is critical for building climate resilience in ASAL.
- improved water storage and regeneration of vegetation in the surrounding area

Capacity building to strengthen management of natural resources in 5 wards



number of beneficiaries

75,000 people benefited indirectly ; **38,250 M** and **36,750 F**



Location

Kinna, Garba Tulla, Sericho, Chari and Cherab

Date of Implementation

June 2014

Investment cost

Kshs. 8,469,600

Description of the situation before the intervention

Traditionally, the Waso Boran has Dedha system that manages natural resources. This institution is responsible for making decisions on how to use and manage natural resources. Due to lack of relevant capacity and information to enhance their management skills of this traditional systems and their weakening through emergence of other centers of power (provincial administration and political leaders) undermining governance of natural resources (water, pasture and control of influx). These impacted on the livelihood of the community thus undermining the coping mechanism of the community against disasters such as drought, conflict, and floods and hence reduce community resilience to impacts of climate change.

Capacity building to strengthen management of natural resources in 5 wards



number of beneficiaries due to the training

400 people 196M and 204F



Description of the situation after the intervention

Through series of capacity building meetings across the five wards initiatives of resurrecting and restructuring traditional system of governance of natural resources was initiated. *Dedha* stewards were nominated at *olla*, *ardha* and *dedha* level. Resource map were developed to help community in planning their resource through dividing their land into grazing regimes (wet season grazing area, dry season grazing area and drought reserves).

Communities have actualized their seasonal grazing plans, water points managed under customary rules and regulation and conflicts managed by *Dedha* elders thus building cohesion and harmony among locals and with neighboring communities.

The hallmark of this project was empowering local community to govern access and use of their natural resources and this had remarkable improvement on their resilience. With improved governance of natural resources coupled with few good seasons, the resilience of local community has improved.

Nature of benefits

- Community identified distinct grazing areas(wet, dry and drought reserved)
- Water points managed under customary rules and regulations
- Conflicts managed by *Dedha* elders thus building cohesion and harmony among locals and with neighbouring community.

Capacity building to strengthen management of natural resources in 5 wards



number of beneficiaries

100,000 people from the different wards



Location

Oldonyiro, Cherab, Kinna, Garba Tulla and Sericho

Date of Implementation

June 2014

Investment cost

Kshs. 1,625,200

Description of the situation before the intervention

After withdrawal of donor funding, most of water project collapse due to lack of sound sustainability plans, financial gaps to address breakdowns and repairs and generalized lack of knowhow on managerial skill to run and maintain water projects. Even a small breakdown can paralyse operation at water facilities such as boreholes resulting in massive death. This happened at Yamicha borehole during drought of 2009.

Capacity building to strengthen management of natural resources in 5 wards



Description of the situation after the intervention

To ensure sustainability of these water projects, existing water management committees were trained on areas such as conflict resolution, managerial skills, water hygiene and sanitation, operation and maintenance. Strong representation of youths and women in water management committees strengthened gender and inter-generational equity. Women and youth are primary victims during periods of water scarcity since they walk long distance in search of water. While this does not guarantee greater equity, it strengthens efficiency of management committees. This has thus facilitated greater inclusiveness of women in decision making in adaptation planning.

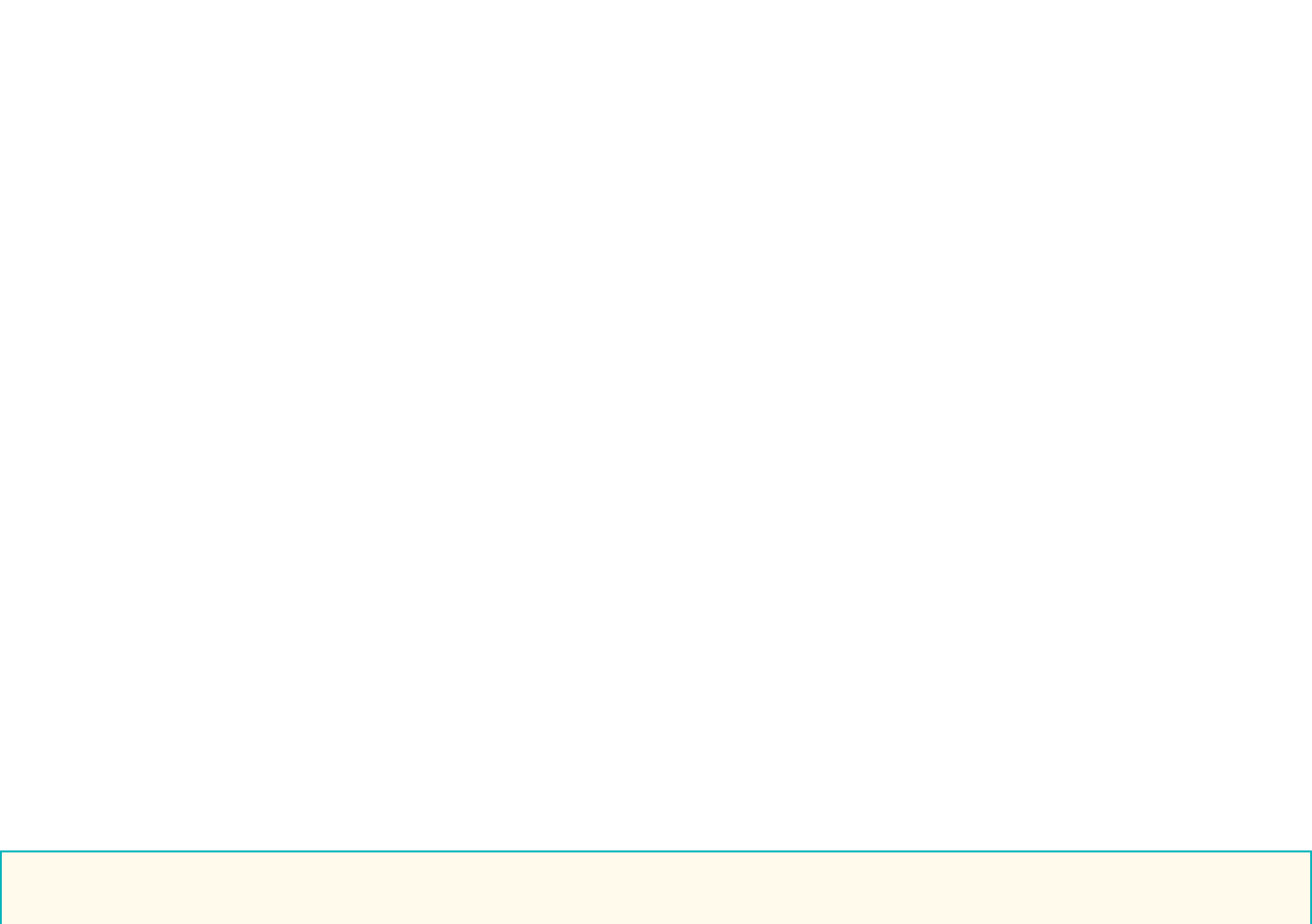
Nature of benefits

- Understanding basic construction features, operation and maintenance involved in water management
- Understanding water policy changes in water sector both within the central and county government.
- Equipping the community with basic leadership skills required to run water project smoothly
- Sensitization of the locals on good hygiene practices when handling water and water pollution.
- Equipping community with conflict management skills to resolve water based conflicts amicably

Conclusion

The Isiolo County Climate Change Fund Inventory provides strong evidence on the success of the County Climate Change Fund mechanism. This document further shows the output of fruitful engagements and partnerships between County Government, local communities and development partners. It demonstrates results of good governance resulting from devolution process as a good model of development where planning and budgeting as well as the ultimate development interventions are products of participatory planning and implementation.

This inventory is designed as an accountability and learning tool, where both public good investments that were successful or failed are recorded. It provides a learning opportunity for all stakeholders that were part of the process of selection, planning and implementation of the public good investments and those who are planning to take similar approach in addressing climate and developments related challenges. Complemented by other products, such as the Resource Atlas of Isiolo County, Kenya: Community-based mapping of pastoralist resources and their attributes this document can be very useful in planning for further interventions as it will provide an opportunity to reduce duplication, wasting of public resources and increase the adaptive capacity of the communities by investing in priorities that increase their resilience



The Adaptation (ADA) consortium is a core component of the National Drought Management Authority (NDMA) strategy and 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 Resource Advocacy Programme (RAP) 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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