SERICHO RESILIENCE ASSESSMENT REPORT

Ministry of State for the Development of Northern Kenya and Other Arid Lands

Kenyan Meteorological Department

Resource Advocacy Programme

International Institute of Environment and Development

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Table of Contents

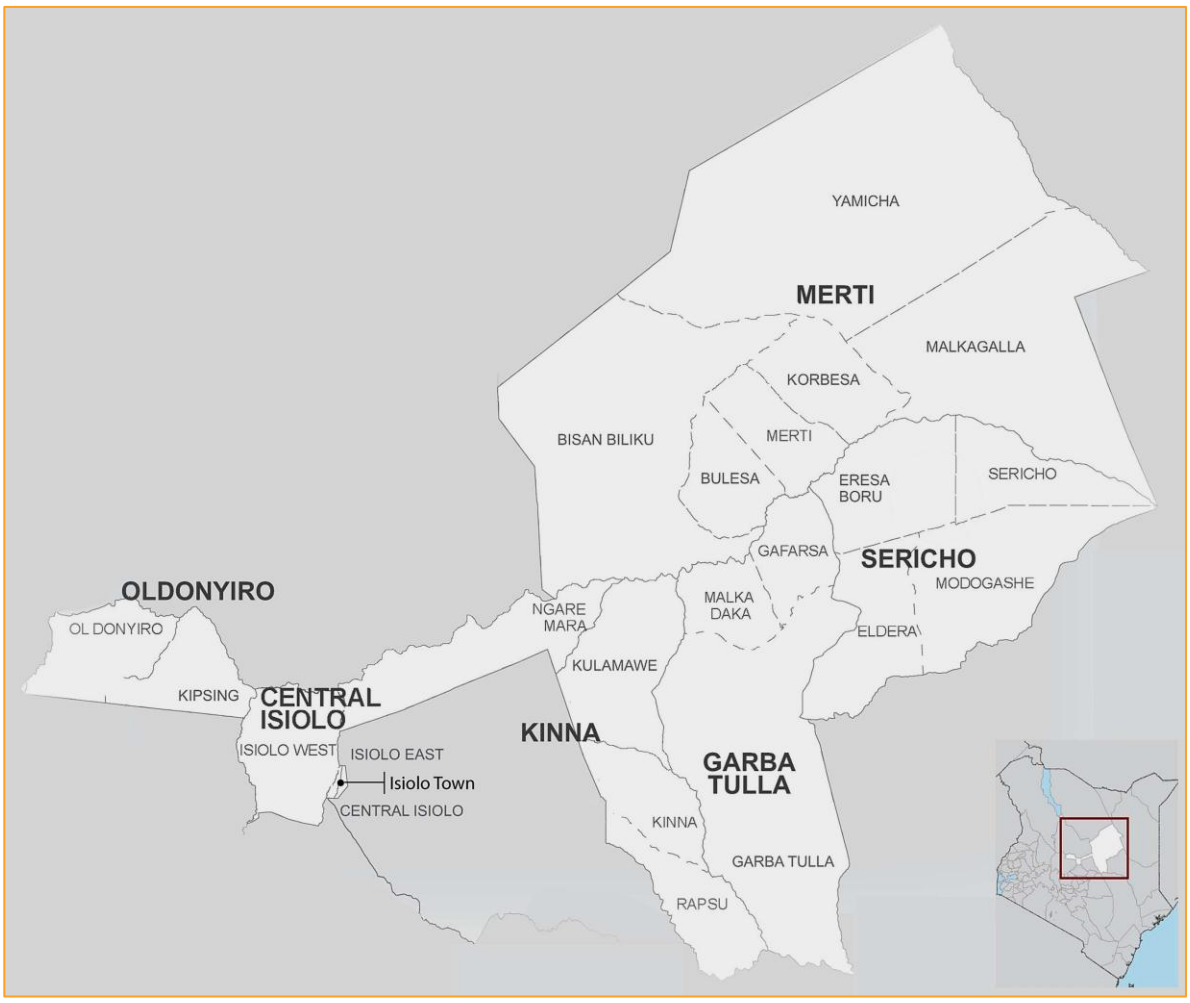
i. List of Acronyms

ACF	Action Against Hunger
ALRMP	Arid Lands Resource Management Project
CAF	Climate Adaptation Fund
CBO	Community Based Organization
DC	District Commissioner
DDO	District Development Officer
DO	District Officer
DSG	District Steering Group
GoK	Government of Kenya
IIED	International Institute for Environment Development
KCPE	Kenya Certificate for Primary Education
KMC	Kenya Meat Commission
KMD	Kenya Meteorological Department
LAPSSET Corridor	The Lamu Port- South Sudan- Ethiopia Transport Corridor
LMD	Livestock Marketing Division
MID-P	Merti Integrated Development Project
MSDNKOAL	Ministry of State for Development of Northern Kenya and Other Arid Lands
MSPNDPV2030	Ministry of State for Planning, National Development and Vision 2030
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
RA	Resilience Assessment
RAP	Resource Advocacy Programme
RUA	Rangeland Users Association
SELIMA-P	Sericho Livestock Marketing Project
SERIYUN	Sericho Youth United
VSF	Vets sansFrontieres
WFP	World food Programme

ii. List of Tables

iii. List of Figures

iv. Map of Isiolo County



1. Introduction

The Sericho Resilience Assessment (RA) is the first of five assessments to be carried out across Isiolo County. The RAs will inform the design of a Climate Adaptation Fund (CAF) which will operate at the county level. Communities will be able to submit proposals to request support for 'public good type' activities that support climate resilience. The five RA sites were chosen in consultation with community representatives as broadly representing the diversity of production systems and livelihood strategies that exist across the county. The aim of the RAs is to build an understanding of the different determinants of resilience to climate hazards and how those determinants vary across sub-groups within the wider community. Another aim of the RAs is to introduce the concept ofCAF to communities and seek their input on how best it could be structured in order to interact effectively with communities. As part of this process an institutional analysis was undertaken in order to assess if there are existing institutions that could form a community focal point in planning the best use of external support for building climate resilience. There was also a strong focus on the role of climate information in supporting the local planning process.

The first RA was conducted in Sericho and was well attended by over 50 people from all over Sericho Ward (encompassing all four Sericho locations: El Dera, Iresa Boru, Modogashi and Sericho). Women (30%) and youth (16%) were represented at the community meeting as well as being consulted separately in small group interviews during the interview phase of the RA process. The core research team consisted of Victor Orindi- Ministry of State for the Development of Northern Kenya and Other Arid Lands (MSDNKOAL), Daoud Tari- Resource Advocacy Programme (RAP), Joseph Ng'ang'a- Ministry of State for Planning, National Development and Vision 2030 (MSPNDV2030) and James Pattison (IIED). In addition to the core team there were two research assistants from Sericho- Rukia Buke and Adan Turo who assisted with translation and arranging interviews and small group sessions. The community meetings were arranged and facilitated by Daoud Tari and the RAP team.

Day One: Community Meeting

2. Constructing the System and Understanding the Challenges

The participants and research team convened under some improvised shade and the meeting was blessed by an elder with a word of prayer (see photograph 1). Daoud Tari started the discussion by emphasizing that people were not participating only as individuals but that they were all representing their community. A brief background to the process was then provided, and some of the participants acknowledged their involvement at previous planning meetings and were generally pleased with the trajectory of the process based on the aims that had been agreed. The overall focus of CAF and the necessity to bring together the local and formal planning processes to enhance climate resilience was then outlined and the role of the RA was explained to participants in this context. Participants responded positively stating that their priorities were not always given consideration in the formal planning process and this had resulted in many failed development projects.

Photograph 1- View from the back of the Sericho RA community meeting

After these introductory remarks the question 'what is climate change?' (*Jijiram, Barra* or *Qilensa*inKiboran) was posed to participants. In their responses community members focused on the increasingly unpredictable

rainfall patterns and the increasing frequency of drought. Participants reported that droughts in 2006, 2009 and 2011 had made people fear for the future of pastoralism as people had not had enough time to rebuild their herds.In order to generate a more structured understanding of how climate change influences livelihoods, a condensed version of a methodology referred to as **'constructing the system'** was used.

Participants were asked to identify the key components of pastoralism (without which their livelihood would not function). Once the key components had been established (the herd, natural resources, and the family/institutions) participants were asked to describe the seasonal aspects of their livelihood. The actions they took during a drought year were then examined and the various impacts on food security etc. were discussed. The consequences of each of the components becoming weakened were also explored through group discussion. The management of natural resources drew the most debate and several participants highlighted how resources were being more effectively managed during the colonial era. Grazing guards were appointed to patrol the drought reserve to ensure that nobody used the resources unless the community decided collectively. Trans-boundary issues were also highlighted by participants as being a key factor in defining the effectiveness of natural resource management.

Through discussion of the seasonal calendar and the way that livestock appearance changes as they become weaker during drought, the period of *badess* was identified as a particularly dangerous time. At the end of the long dry season, when rain would come but pasture has not grown, animals are weak and prone to diseases (e.g. pneumonia). Labour requirements are intensive (digging wells and migrating) but this is also a time for human diseases so there can be a clash (bottleneck)of supply and demand. Participants suggested that for those who were skilled pastoralists but reliant on casual labour, this could be considered the 'festive period' as there was a lot of work digging and servicing wells and assisting herders. At Hawaye 8-9 men are required to operate one well (24 hours) and there are 17 wells so a lot of labour is required to dig and operate the wells after flooding. Not all people who operate wells are paid- it can be done through reciprocal agreements but if you do not have sufficient labour within your family then you must pay someone.

Another challenge which affected the herd and the family was the issue of schooling. The need to settle in order to provide a stable learning environment for the children took labour away from the family. Therefore the

herds did not get to graze on the best pastures. When the herd is grazed separately from the family (in cattle camps or with other people's herds) the family cannot benefit fully from the milk. Both the youth representatives at the meeting and the older women emphasized that even when sacrifices were made to educate children the majority could not find jobs after successfully completing primary. Since they are often without funds to enable children to complete secondary, the youth become divorced from herding but unable to get jobs. This leads to a growing social problem of youths in town loitering and sometimes getting addicted to *miraa*(a natural stimulant).

A factor that weakens the natural resources component is the disconnect between the council of elders/*dedha* committee with the formal governance structures. This means that the decision-making and implementation power of the local institutions are very weak, which has led to poor management and an inability to effectively negotiate reciprocal access with cross-border communities.

Veterinary services were also highlighted by participants as a key weakness in the system. Inaccurate identification of diseases (through lack of laboratory), poor vaccination coverage (Ministry of Livestock programs are regarded as insufficient), and poor tick control meant that preventable livestock deaths were common.

The growing problem of bush fires (during the 2011 drought, an area of several square kilometers was burned) destroying large swathes of standing dry pasture; was also highlighted as an issue undermining management of natural resources. Cigarette smoking was blamed, although some participants stated that people could also lose control of fires that were started to kill ticks. Lack of training and insufficient funds also meant that tick treatment was haphazard and doses were reduced to save money which was believed to result in growing *acaricide* resistance.

Following an extended discussion about all the major threats to the key components of a pastoral livelihood (summarized above) - the threats were ranked in order of importance and then adjusted through a group consensus building. The final list of ranked challenges is presented in *table 1*.

Table 1- Results of the Challenge Ranking Exercise

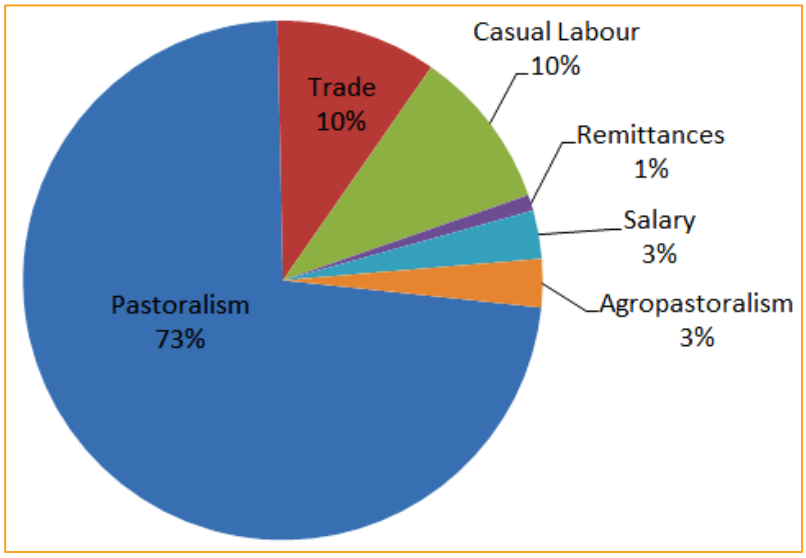
Position		Challenge
1		Institutions for managing natural resources are weak- enforceability and decision-making authority need to be enhanced
2		Sedentarisation, education and lack of jobs for the youth
3		Bush fire
4		Food aid is an exacerbating challenge too as well and is undermining traditional social safety nets
5		Livestock diseases

2.1 Livelihood Types and Relief Food

It emerged that pastoralism is dominant in Sericho Ward as the major livelihood upon which all the other livelihoods are based. Other livelihood types that were mentioned included: agro-pastoralism (incorporating opportunistic cultivation), salaried work, trade (livestock trade, shops etc), people surviving mainly from remittances, and many different forms of casual labour (including: grass cutting, charcoal making, fence making, pole cutting, house building, loading lorries etc.), game hunting, and relief food. Some participants raised the point that some of these livelihoods (charcoal making, tree cutting, and game hunting) need not be mentioned as they are environmentally damaging. Daoud reassured participants that all these issues must come out in order to effectively plan for them and manage the underlying issues.

In order to get a clearer sense of the relative proportions of each livelihood type, community members were invited to participate in a 'proportionate piling' exercise. One hundred stones had been collected earlier in the day by enthusiastic local children. Participants chose three representatives to place stones next to specific livelihood types to represent their relative abundance in the Sericho community (see *figure 1*). After the stones were piled against the livelihood types, the plenary was invited to make adjustments until census was reached.

Figure 1- The Relative Proportion of Different Livelihood Types pursued by Households in Sericho Ward



After further discussion on what constitutes a 'livelihood type' it was agreed that 'relief food' was not a livelihood but rather a resource that contributes to a range of 'livelihood types'. Relief food coverage was estimated at 90% during drought, while in non-drought years (under the World Food Programme's Emergency Operation)coverage was estimated by participants at around 40-50% of the population. There were some forceful comments from some participants about the harmful effects that relief food had on their community. It was believed to compound the attraction of town life to the youth. Provision of free food was also believed to demotivate people from hard work. It was accepted that for a small minority, relief food was essential to survival but that for the majority it reduced their ability and motivation to move their herd to the best grazing and live from the milk- which was stated as the best strategy to build the herd.

There was also a belief that relief food destroys traditional Boran insurance mechanisms like *Dabare*- whereby clansmen and family are assisted in times of need through livestock loans and milk sharing until they are able to recover from herd loss. It was suggested that the poorest were missed by *Dabare* because lending them livestock would not help them- and that it was these people who should be the focus of relief food. However, it was also stated that it is Boran culture to share resources that come into the community so targeting it to a minority was also problematic. Despite the suggested role of relief food in the decline of *Dabare,* participants were also clear that the increasing frequency of droughts and consequent falling size of family livestock holdings also had a role in its decline.

Several participants also said that it was very hard to protest against relief food as it was a free resource which benefited a lot of people. The consensus that emerged from participants was that relief food had short-term benefits but brought harm on their long-term prospects.

One woman expressed her opinion on the effects of blanket relief food provision:

> *"Free things bring laxity- there are people who work hard in their shambas* [farms] *and the government buys from them and gives to us for free which makes us lazy"*

Another man describes his view:

> *"Food aid is undermining pastoralism. It undermines the ability of individuals to work hard. Even with 5 heads- you should work hard- now they give to another person to herd for them and find relief food in town"*

A suggestion from a member of the youth:

> *"They should move FDPs* [final distribution points] from *livestock areas to towns so that it does not discourage people from taking care of their livestock"*

Another suggestion from a participant:

> *"If I had control of relief food in this area I would only provide it during the drought and only to the needy"*

2.2 The Nature of Poverty

The issue of poverty was then introduced in order to get a shared understanding of the process and state of impoverishment (both among participants and between participants and the research team). Following an interesting discussion, which uncovered a lack of consensus on the issue among participants, several rough categories of wealth were agreed on:

Qolle Qunqumtu	'Completely poor'
Qolle	'Poor'
Degg	'Struggling'
Ufurabulla	'Able to sustain themselves'
Dures	'Rich'

There was a good degree of consensus around the categories which were used in everyday parlance but on the livestock holdings associated with each category there was less consensus. For a family of ten people the livestock assets associated with different wealth categories are presented in *table 2* (some participants made the point that if a few boys are herding then you don't need to feed them as much- so it is not just family size but family make-up as well).

Table 2- Wealth Categories

Wealth Category	Number of Cattle (or equivalent*)
Qolle Qunqumtu	0
Qolle	0-10
Degg	10-50
Ufurabulla	50-100
Dures	100+

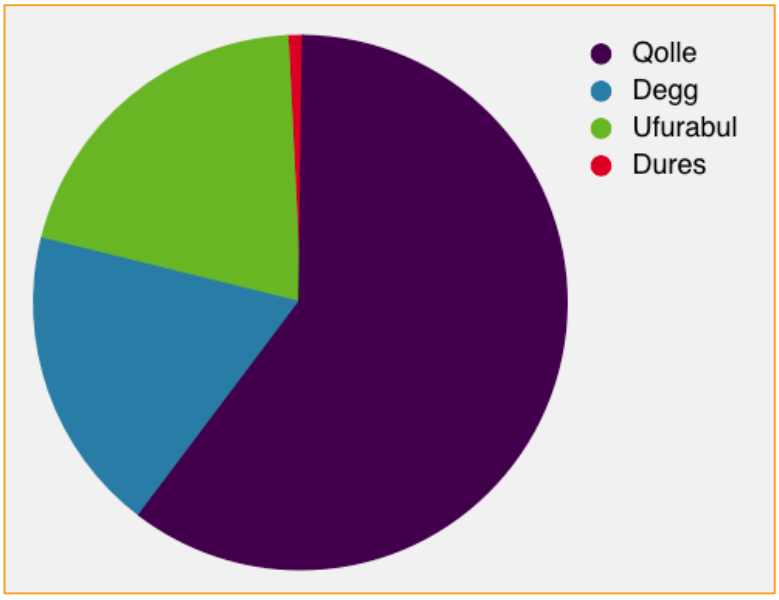
* The participants considered one cows as worth 10 sheep or goats

In order to establish the relative proportions of the various wealth categories in the Sericho community, participants were asked to participate in another proportionate piling exercise. Stones were placed against each wealth category to represent their relative abundance in the community (see photograph 2).

Photograph 2- Participants pile stones to represent the relative number of households of different wealth categories within their community

Figure 2 illustrates the results of the proportionate piling exercise. It was decided during the exercise to subsume *Qolle Qunqumtu* into *Qolle* as the division between the two categories was regarded as very fluid.

Figure 2- The Relative Proportion of Different Wealth categories within Sericho Ward



One participant epitomized the views expressed by several participants on the changing nature of poverty dynamics due to climate change:

> *"In recent years I am seeing a difference in poverty- before drought was followed by a gap in which you can build up your herd again- but now drought comes one after the other before a new generation is established"*

2.3 Seasonal Forecasting

The discussion then moved on to seasonal forecasting- the differences between traditional and 'modern' forecasting were highlighted and the potential role of seasonal forecasts in natural resource management (NRM) was emphasized by several participants. The challenges to effectively integrating this information into NRM were felt to be twofold. Firstly the institutions for NRM are weak for a variety of reasons, and secondly the climate information is not felt to be delivered in an appropriate format (local language, terms easy to understand, availability etc).

The community then participated in a ranking exercise whereby the most important elements of 'useful climate information' were explored. A straight forward ranking was not felt appropriate by the community- rather clusters of related criteria were identified and ranked.

Table 3- Useful Climate information

Cluster A (Types of Information)
1. Information should pertain to Sericho Ward, then to neighbouring Wards including cross-border (downscaled)
2. Overall rains forecast (how much rain will fall over the whole season)
3. Will the river flood and when
4. Start date of the rains
5. End date of the rains
6. Where will the rains fall

Cluster B (Delivery of Information):
1. Availability of information in Kiboran
2. Use of easily understandable terminology
3. Information source should be easily accessible (if downscaled this must be local publication or broadcast)
4. Community institutions should have a role in disseminating information

Cluster C (Utilising information):
1. Information must feed into decision making institutions (e.g. Dedha Committee)
2. The NRM institution must be able to enforce grazing controls
3. The NRM institution should use climate information to make key decisions on management of the drought reserve etc.
4. Government services should also be planned based on forecast

Participants reported currently getting climate information from people travelling, newspapers (if someone brings from Isiolo town), natural indicators (observing bird migration etc.) and *uchus* (traditional forecasters). They also reported getting climate information from the radio (Kenya Broadcasting Corporation (KBC) and Citizen) in Kiswahili. While some understand Kiswahili they didn't take the forecast seriously as the information is very general and often inaccurate.

The majority of participants had never heard of KMD's downscaled bulletins although they did hear that the river was meant to flood the last rains but many people remained on the flood plain and lost property and *shambas* were destroyed. *Uchus* used to be the main source of climate information but this practice had declined- partially due to discouragement at the mosque but also because the information had become unreliable.

Day Two: Community Meeting

3. The Climate Adaptation Fund and Institutional Analysis

Joseph Ng'ang'a (Ministry of State for Planning, National Development and Vision 2030) opened the discussion on the Climate Adaptation Fund by emphasizing the need to bring the local planning system closer to formal planning processes and describing the role of the Ministry in achieving this. He also explained that under the new constitution District Development Officers (DDOs) would be more aware of duplicated efforts (in different places and between different organizations and departments) and so would be able to better coordinate development activities across the county.Victor Orindi (MSDNKOAL) outlined the pilot nature of the process whereby Isiolo was the first county to trial the new approach to development planning using community priorities as the starting point.

This meant that the research team and communities had to learn together how best to structure CAF as a model for a more 'bottom-up' development planning process. The proposed structure of CAF was outlined to participants (see appendix 4) although it was emphasized that there was still room to modify the structure based on community suggestions. The clear mandate in the constitution for greater participation of communities in planning for development was outlined and some of the details concerning which kinds of community institutions and organizations could take a lead in communicating with county-level government structures were discussed. *Table 4* summarizes suggestions from participants on key aspects of the proposed CAF structure.

Table 4- Suggestions from participants concerning the Climate Adaptation Fund

Issue	Suggestions
Community representation on County-level committee	Someone should be elected from each ward to represent communities on the CAF Committee
	A local NGO/CBO from their ward could represent them at the CAF Committee
	Communities at each ward should form a new CBO to interact with the CAF Committee
	Young adult participants requested that a place on the CAF committee is reserved for a youth representative as they felt youth representation through a community CBOs is tokenistic
The characteristics of the CBO/ community representative	CAF committee members should be able to explain things very clearly and members should be close to local people to communicate effectively
	It is important that all the various groups (livelihood types, different ethnic groups, rich and poor, women and youth) within the wider community are represented on any CBO selected to represent this community
	Women felt strongly that there should be a minimum 30 percent representation of women on any community-level committee with the responsibility of communicating climate adaptation/ development priorities to the CAF committee
Criteria for selecting community proposals to support	Number of beneficiaries
	Targeted at most vulnerable to climate hazards and the youth/women (inclusive)
	Funded activities must have tangible benefits and be attainable and the benefits must be sustainable
	Funded activities should benefit people within the county but also address cross-border issues

There was a range of opinions concerning the structure and characteristics of community representation within CAF; although one option drew most discussion- each ward could select a CBO which should act as an umbrella organization to represent the community on the CAF committee. The selected CBO should have an elected management committee and

incorporate representation from other key CBOs in the area as well as from youth and women.
It was acknowledged that CBOs in the area do not have the capacity to organize and fund meetings and awareness raising activities etc. so the role of the CBO in the CAF was subject to a significant improvement in capacity as well as representativeness.

Participants identified organizations active in their community and graded them based on how integrated they were with the community* (see *figure 3*)

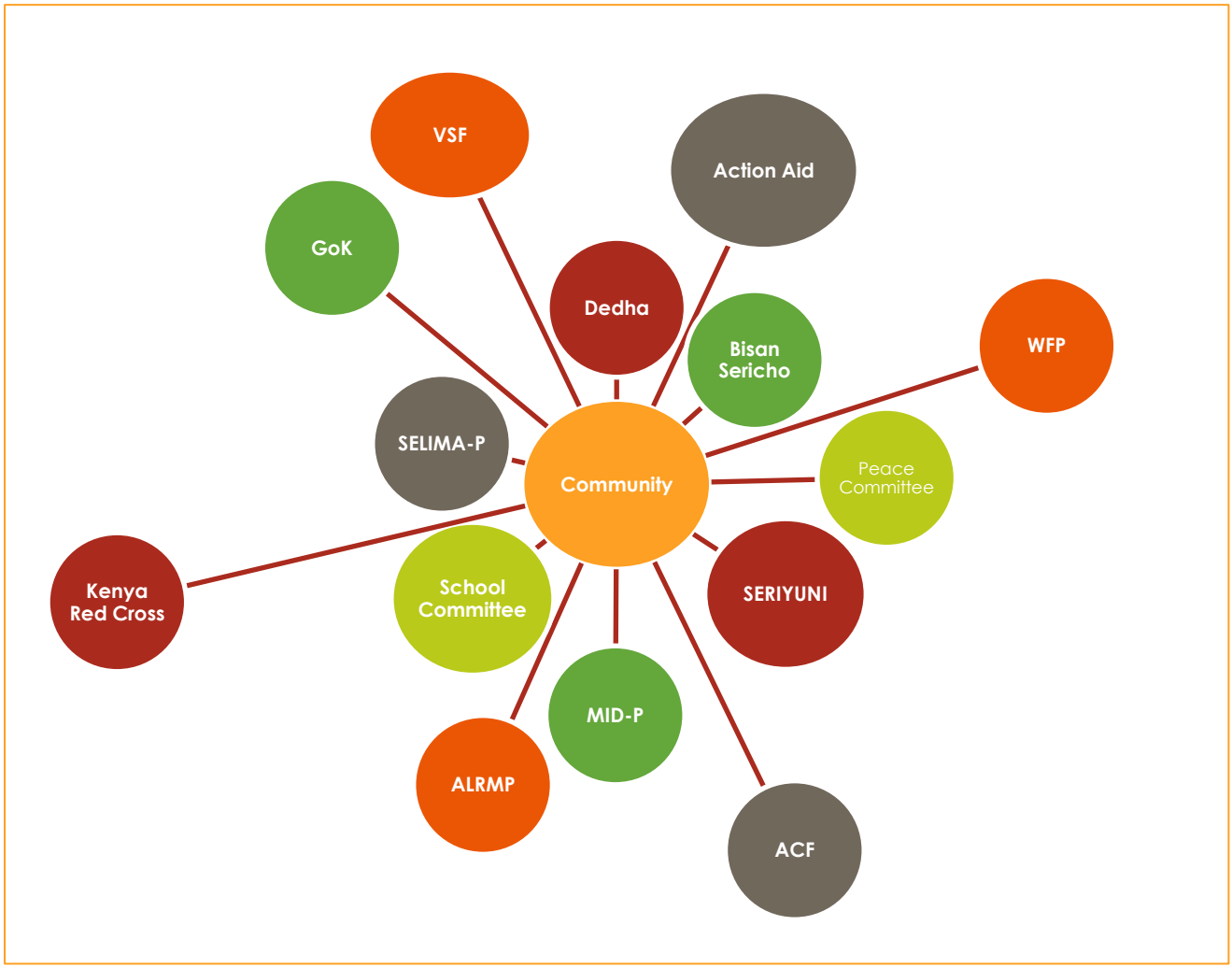


Figure 3- Institutional mapping of organizations' active in Sericho Ward

**Distance from the central community circle indicates the level of integration of the organizations with the community*

The Sericho Livestock Marketing Project (SELIMA-P) was chosen by participants as providing the basis for an umbrella community organization.

The only participants who expressed any skepticism concerning the ability of SELIMA-P to effectively transform itself into a representative CBO were young men, who felt that youth issues would remain sidelined as long as youth could not represent themselves (through direct participation of a youth group- Sericho Youth United (SERIYUNI) on the CAF committee).

Having achieved some degree of consensus of the potential role of SELIMA-P as an effective umbrella organization for Sericho community and other CBOs, participants identified a number of priority areas for reform. *Table 5* summarizes the most important aspects of reform required to make SELIMA-P an appropriate focal point for community interaction with the CAF committee.

Table 5- The key areas of reform required to render SELIMA-P an appropriate organization to represent Sericho Ward on the CAF committee

Reform	Details
They need a CBO constitution	Committee members should be elected and serve a prescribed period with clearly defined roles and responsibilities. There should be no politics or any member with disproportionate power
Transparency	There should be regular and well-advertised community meetings to feedback on the activities and decisions of the organization
Re-branding	The current focus of SELIMA-P on marketing is too narrow and a re-branding would make the function of the organization clearer
Representativeness	Although the committee should be elected, it was also suggested that there should be key positions reserved for women and youth to ensure representativeness
Umbrella role	There needs to be some discussion among local CBOs whether they would be happy for SELIMA-P to act as an umbrella organization
Capacity/ Scope	The capacity of SELIMA-P to hold regular meetings and produce good quality proposals for submission to the CAP committee is a key area for improvement. If this capacity can be enhanced they can source further funding independently by approaching donors

Participants resolved that many of the changes that needed to take place to make SELIMA-P and other local organizations more representative did not need external support, so there was some commitment that in light of the forthcoming CAF they should start to implement changes on their own.

Some of the capacity issues that had been highlighted did need some external support and on these issues Daoud Tari reassured participants that the Resource Advocacy Programme would be able to offer some support and facilitation before the CAF became operational.

3.1 Resilience Enhancement and Community Radio

The construction of a community radio station as part of the broader 'Mainstreaming Climate Change' initiative was explained to participants. There was a very positive reaction to this particularly when it was highlighted that it would be staffed and run by community members and would broadcast in Kiboran and other local languages. Participants quickly linked many of the challenges to enhancing resilience highlighted during day 1 of the meeting, to potential solutions offered by a community radio. Challenges felt to be addressed, at least in part by the operation of a community radio were: accessibility and appropriateness of climate information; lack of real-time information on market prices; lack of information on water and grazing resources during drought; capacity of CBOs to publicize and organize meetings; lack of information on insecurity; and dissemination of emergency climate hazard information. In addition to these functions, participants also identified a range of other benefits which could enhance climate resilience- these included: health information, livestock disease information, and adult education. Finally, the entertainment aspect of a community radio (music and cultural content) was also highly valued although not prioritized as highly as content of a more practical nature (see *tables 6, 7* and *8*).

Tables 6, 7 and *8* show how different groups had different priorities in terms of radio content- this seems to reflect their different 'resilience profiles'.

Table 6- Youth Ranking of Priority Radio Content

Rank*	Content
1	Job opportunities& information on how to access funds
2	Climate information
3	Livestock diseases
4	News- local and international
5	Sport, Music and Cultural Content

Table 7- Women's Ranking of Priority Radio Content

Rank*	Content
1	Climate information
2	Women's rights under new constitution
3	Health and veterinary advice
4	Information on insecurity
5	Educational content (adult and youth)

Table 7- Ranking of Priority Radio Content from Community Meeting

Rank*	Content
1	Climate information
2	Natural resource management issues
3	Market information
4	Information on insecurity
5	Announcing local meetings & workshops

* These rankings were generated based on the number of times these issues were mentioned by the group when asked about what content they would most like to hear on the community radio

3.2 Institutions for Natural Resource Management

The issue of natural resource management (NRM) was ranked by participants as being the most important constraint to improving the climate resilience of the wider community- consequently in the challenge ranking exercise undertaken in day one of the community meeting it was almost unanimously ranked number one. When NRM was revisited in order to address some of the underlying issues, the resulting discussion was highly charged and clearly a subject that the community was in the process of discussing in light of impending government devolution. Consequently there was a high degree of consensus from the start of the discussion on the key factors that were undermining their NRM institution- the *dedha* committee.

The *dedha* committee was widely believed to have been compromised by the interference of the local chiefs through their insistence on appointing members of the committee. The quotes below are typical of many comments during the discussion and give a flavor of the concerns expressed:

> *"The dedha committee has a major problem- they don't meet- they have an important job but they are disorganized. They are meant to meet and consult with community but they are already selected (by chiefs) and they don't communicate"*

> *"The problem is that the chief is appointed and not voted and he has authority of the president which is hard to question […] chiefs appoint the members of the dedha committee which is not how it should be"*

"I am on the dedha committee- the chief picks people to be on the committee. One of the ways to strengthen dedha is to change the committee- make them elected"

When the discussion turned to why the chiefs were involving themselves, not only in the appointment of the *dedha* committee, but in negotiations with cross-border groups from neighbouring districts over access to grazing resources, it became clear that there was significant 'rent-seeking' behavior on the part of the chiefs. According to participants, chiefs were being personally remunerated by cross-border pastoralists who benefitted from grazing resource access granted to them by the chief (in his role on the *dedha* committee).

"We have a lot of interest in our area from Ogaden- these Somalis pay the dedha to access Boran grazing. If this problem were solved we would be okay even in the drought- we could conserve the drought reserves more effectively"

"Even though we have big land areas and pasture, the natural resource management systems are weak […]. The chiefs have been allowing intruders from Wajir and Garissa with so many camels and heads […] Elders should be involved in negotiations allowing crossing over to other people's reserves not the chiefs"

4. Community Conservancies

Despite the unanimity with which participants criticized the involvement of chiefs in the operation of the *dedha* committee, they also acknowledged that even in terms of their internal organization of strategic resource use (conserving specific grazing zones for wet season, dry season and drought), *dedha* had become very weak and resource access something of a 'free-for all'. Participants highlighted that during the colonial period, decisions were taken on when to move between grazing zones at the community level by a council of respected elders- an institution that operated through consensus. During the colonial period the dedha system was supplemented with the 'grazing guard' (funded by the colonial administration). Traditionally, drought grazing reserves and dry season grazing areas would have been controlled by a combination of negotiations, reciprocal agreements, and military defense. The colonial administration instigated much stricter borders and outlawed open conflict, and grazing guards were appointed to report any unauthorized use of grazing resources. Since the abolition of grazing guards, there has not been any effective resurgence in the traditional *dedha* institutions in order to rebuild the negotiated and reciprocal resource access relationships with neighbouring groups- not least because of the

involvement of external actors seeking to capitalize personally on a valuable communal resource (as outlined above).

A more recent development that is playing into this historical context is the advent of 'community conservancies' in Northern Kenya, which are managed by the Northern Rangeland Trust (NRT). NRT implements something very similar to the old grazing guard system except the stated aims are to conserve wildlife, stimulate tourism and stop degradation of the rangeland by uncontrolled use by pastoralists. The principle is that the conservancy is patrolled such that unauthorized grazing is prevented which should act in the same way as a drought grazing reserve. The grey area which was causing a great deal of concern among participants in the community meeting was the issue of who controls when the conservancy can be grazed by the community.

In light of the problem of cross-border communities gaining unrestricted access to the Boran's dry season and drought grazing reserves, the idea of conservancies seemed to be gaining support among local pastoralists (despite misgivings), not because it would enhance the capacity of *dedha* to manage resources effectively, but according to participants, because they saw it as a way of effectively excluding cross-border communities from the best grazing resources (in the old grazing guard model). There are currently a number of requests for conservancies that have been submitted to NRT and if the issue of cross-border access and genuine community control is not addressed at an early stage, the implementation of conservancies in Isiolo County has the potential to exacerbate existing tensions around resource access.

5. The Way Forward

Participants suggested that strengthening *dedha* and extricating chiefs from its decision-making structures was the best way to enhance climate resilience among the wider Sericho community. Enhancing the capacity of *dedha* to consult and mobilize the community as well as engage positively with cross-border communities was seen as key next steps in improving natural resource management. Another key activity is getting the dedha resource management rules recognized by the County Government's formal structures through integration into local by-laws. This was also seen as vital to the effective management of natural resources by *dedha*. In order to make strategic resource management decisions, good information was also prioritised by participants, which was felt to fit very well with the role of the community radio in providing down-scaled accessible seasonal forecast

information, and as a tool for *dedha* to communicate effectively with the wider community at times of community dispersal.

6. Differentiated Climate Resilience

6.1 Resilience Profiles

A 'resilience profile' (see Appendix 5 for a summary of resilience profiles) aims to identify the specific elements that make a sub-group (based on asset holdings, livelihood strategy, gender or age) share particular seasonal or climate related vulnerabilities. Through understanding the specificities of their vulnerabilities (assets, income, health etc.) it is possible to understand the ways in which different forms of support (including 'public good type' investments) will impact on the resilience of specific groups. The concept of 'resilience profiles' is therefore utilized in order to better structure our understanding of differentiated resilience to climate hazards among communities across Isiolo County. In this way it can be ensured that the priorities of the least resilient households are not being overlooked as communities develop their proposals for submission to the Climate Adaptation Fund.

The resilience profile of specific groups within the wider community is defined based on the asset holdings and access to capital, and the skills and knowledge common to families/ individuals within that group. These factors also define livelihood strategy options. Within each sub-group (high, moderate and low livestock holdings, and mobile versus sedentary households) vulnerabilities to specific types of climate hazards will be similar although other factors will differentiate resilience between individuals. These additional factors which can affect resilience (e.g. social and human capital levels), will vary among individuals/families within the sub-groups. Therefore, resilience profiles generalize the way in which climate hazards affect different groups. In reality each individual or family will be affected differently for a number of reasons (see appendix 3 for a list of factors defining resilience in a pastoral context). However, having resilience profiles for the most vulnerable groups helps in conceptualizing the impacts of specific forms of support in enhancing climate resilience.

6.2 Wealth and Resilience in a Pastoral Context

The ability of wealthier households to employ a wider range of herd management strategies and to diversify through investment generally results in significantly higher levels of resilience to climate hazards such as droughts and floods.

A rich pastoralist:

> *"In the 2000/2001 drought I had my herd split across three bomas- in two of them most of the animals died but the other one was ok so at least I was left with enough to survive."*

The above quote demonstrates that having adequate access to labour and a large enough herd to split over three *bomas* (corrals) can significantly increase the chances of livestock survival in an environment with high spatial and temporal rainfall dispersal. Equally herd splitting reduces the chances of a specific disease outbreak or the occurrence of insecurity affecting all of your livestock. This therefore represents a climate resilience enhancing management practice which cannot be employed by the majority of pastoralists.

The quotes below from two medium wealth pastoralists suggest that several other management strategies that can increase livestock survival (therefore improving resilience to drought) which are dependent on access to sufficient labour and capital.

A medium wealth pastoralist:

> *"The drought affects the rich differently- they can sell some animals to sustain themselves or they may have some savings they can use. In drought people should move to Yamicha or Duma but you need a lot of labour and food stocks- you also need money to use the borehole. For people with 10-20 cows they can't afford these management strategies. You need about 50 cows to be able to effectively use these strategies"*

A medium wealth pastoralist:

> *"I went to Hawaye in 2009 where the cost of water for livestock was high* [20Ksh/animal] *but I had no other option"*

In addition to the utilisation of resource intensive management strategies to enhance their resilience, more wealthy families also have more ready access to capital with which to diversify into capital intensive enterprises such as livestock trading, building shops and transporting goods long distances from large urban centers (shops often also operate as sources of credit for less wealthy pastoralists willing to accept high rates of interest). Below the impacts of different climate hazards on different groups are examined more closely to get a clearer picture of differentiated resilience profiles across the community.

6.3 Resilience to Specific Climate Hazards

Drought and floods affect different groups at different degrees and for different reasons. For example, participants emphasized that periods of drought offer an abundance of employment opportunities (herding, well digging/operation) for stockless pastoralists reliant on casual labour, whereas drought represents the height of vulnerability for more wealthy pastoralists.

While pastoralists can normally migrate away from flooding, those reliant on casual labour are extremely vulnerable to food insecurity and ill health as employment opportunities in settlements decline. This can serve as a significant asset bottleneck whereby any remaining livestock must be sold or slaughtered to survive. This is accentuated by relief food supplies being regularly interrupted by flooded roads for one or two months during severe flooding. Therefore for those with few assets and reliant on casual labour, the impacts of flooding can trigger asset divestment which compromises future resilience.

6.4 Primary and Secondary Climate Effects

Primary climate effects impact directly on assets and activities (e.g. livestock and crops killed by drought, or flooding related disease). Secondary climate effects impede income-generating activities not directly affected by climatic factors. For example, stockless pastoralists engaged in petty trading lose customers as wealthier pastoralists' disposable income declines and they migrate away from settlements. These secondary climate effects tie almost all community members into the pastoral economy. Opportunities for income diversification into activities that do not depend on the patronage of wealthier pastoralists are almost non-existent in dryland areas. When participants were asked to plan how they could enhance their resilience to climatic hazards, even stockless pastoralists often prioritized actions that did not directly benefit them (e.g. strengthening natural resource management institutions and improving veterinary services).

A stockless pastoralist reliant on casual labour:

> *"As much as we don't have any livestock of our own- any interventions that benefit livestock keepers will also benefit us"*

These findings lend support to an approach utilizing 'public good type' investments to support the climate resilience of the wider community (and the dominant economic activity). Although, stockless pastoralists, youth and single mothers primarily prioritized the need for small enterprise support and

investment, they also highlighted the importance of livestock based support (e.g. the need to reform institutions for natural resource management) recognizing that the success of most small enterprises in dryland areas rely on a healthy pastoral economy.

6.5 Diversification beyond secondary Climate effects

An exception to this economic interconnectedness was highlighted by members of a local youth group who saw the potential of their area to tap into the lucrative tourism industry.

> *"The main problem of the youth is lack of jobs- but we see that our area has a lot of wildlife resources. We youth could make a living from this if we had a chance to start something"*

They cited successful examples from other areas of community run eco-lodges (e.g. Kibanda Women's Group Lodge in Kinna) and explained the advantages of diversification into enterprises not affected by the pastoral economy.

> *"In terms of the best way to assist us to be strong against the drought and flood- we need some investment so that we can start a business with more earning potential like that lodge run by the women's group in Kinna"*

Another example of an income generating activity not solely reliant on the patronage of pastoralists was provided by a woman whose family owned 10 head of cattle:

> *"During the drought time those who burn charcoal are better off than us- the people who buy charcoal always have money. Livestock keeping is up and down whereas small trade, labour etc. never have the chance to earn a lot but they also don't have assets to lose in drought"*

Charcoal represents a grey area in terms of sustainable livelihoods in dryland areas. There are licenses granted by the local council for a set number of producers but because of the relatively high price of charcoal (which is sold on the roadside and transported to large urban centers) there is significant illegal trade going on in most dryland areas, which undermines efforts to control tree cutting. Therefore as the participant stated in the quote above, charcoal burning represents a livelihood not subject to secondary climate effects but is not a promising avenue for supporting climate resilience due to the extra pressure it places on key natural resources.

6.6 Youth and Climate Resilience

The majority of youth generally do not have control of family capital and those who have attended school often lack adequate skills and knowledge (and motivation) to successfully engage in pastoralism. Participants stated that particularly for boys, school attendance had deprived them of the informal education that would have been transferred through herding cattle camps during their youth. Participants (both youth and adults) identified a trend common to young men and women who had attended primary school whereby exposure to settled town life and an education system, which trained children to regard pastoralism as 'backward' and 'anti-modern'; was closing any possibility for those children returning to a pastoral way of life. Despite unemployment sons and daughters were reluctant to tend to livestock when they had completed primary school, which left families with a significant labour deficit. Few families have the resources to fund secondary education which leaves a large number of youth under-employed in urban centers. However, the youth are the most formally educated section of the wider community and possess skills and knowledge which would allow them to successfully diversify or access higher education if they had access to capital. If job opportunities existed in pastoral areas, they would also be best placed to take advantage of such opportunities.

It is against this backdrop of unemployed youth reluctant to engage in pastoralism, and their consequent reliance on their parents, that youth resilience to climate hazards must be understood. Their resilience is therefore mediated by their parents' resilience. Youth prioritized radio content on employment opportunities but also climate and market price information, in recognition of the importance of their parents' livelihood to their own opportunities.

6.7 Women and Climate Resilience

It is recognized that the resilience profile for women does not apply to all women because of differing wealth levels etcetera- but it does provide a guide to the specific ways in which women are affected by climate hazards when they are vulnerable. Women cannot therefore be regarded as a group with a generalized resilience profile. However, that is not to say that women experience climate hazards in the same ways as men, nor does it mean that within the household women are subject to the same levels of food security as men. Women who have the skills and knowledge to diversify their income sources such that they are not solely reliant on proceeds from livestock sales are more likely to be able to maintain theirs and their

children's consumption levels and seek appropriate medical care during droughts and floods. Supporting women in developing the skills and knowledge to enable them to successfully diversify their income sources can be achieved through support for female enrolment and participation in school, adult education and training (female participants requested a role for the community radio here), and small enterprise investment. All of these activities, if properly targeted through the Climate Adaptation Fund, could support the climate resilience of women and families in tandem with support for the wider pastoral system.

Female participants highlighted domestic water supply as an issue affecting their resilience to drought over and above that experienced by men. Maintaining domestic water supply becomes more burdensome during the long dry season and droughts, and leaves them less time to ensure that village livestock get enough fodder, and to engage in alternative income generating activities. Interventions which reduce women's labour burden would therefore free up women to utilize their skills and knowledge to supplement their income and maintain the health of their livestock which ultimately supports the resilience of women and the family.

A woman from Biliqi explained the challenge:

> *"The major constraint for us* [women] *during drought is water; the second priority is the health center. There are no wells- the nearest is 20km- we want a borehole because in the drought the pipeline from the river stops flowing so we have to take donkeys to Gafarsa [25km]. How can we do other things when we are spending the whole day on water?"*

7. Summary and Next Steps

The research team presented a summary of the findings from the Resilience Assessment (RA) on the final day of the community meeting. Participants validated the findings while making some amendments and adding caveats where necessary. The remainder of the final day was devoted to outlining next steps in the process of operationalizing the Climate Adaptation Fund (CAF). Victor Orindi (MSDNKOAL) emphasized that CAF will only be successful if local people and government staff fully engage with the process in order to build mutual understanding of the constraints and strategies to address increasing climate variability. Victor informed participants about the next steps in the process- the first being a stakeholder meeting to discuss the finer details of the CAF structure, the second- a

seasonal forecast workshop with KMD- delivered prior to the short rains[1] (April), and the third- a community resource mapping exercise which is intended to compliment the information from the RA as a basis for CAF committees to make decisions concerning resilience building priorities. Having answered some questions from participants regarding the next steps Victor invited the local Imam to bring the meeting to a close with a prayer.

[1]The April rains are known locally as the 'short rains' while for much of Kenya (and KMD) they are known as the 'long rains'- this reflects the different duration and intensity of the two rainy seasons in different parts of the country.

APPENDIX

v. Appendix 1- Participants List

	NAME	ORGANISATION	TELEPHONE NO.
1	AbdikadirDaud		
2	AbdullahiDiba		
3	Adan Bule		
4	Adan Godana	Boru	
5	Adan Turo	IHRN	0725535015
6	Ahmed Shugri Mohamed		
7	Amina Jatani		
8	Benson M. Kimatu	OOP	
9	Daoud Tara	RAP /IIED	
10	Ebla Dagane Maalim	SELIMA	
11	Habiba Muktar		
12	Haj Hassan Wako		
13	Hani Mohamed	Maeto Sutu	
14	Hassan Jadesa		
15	Hassan Kost		
16	Hussein Boru	RAP	
17	Hussein Diba	Seriyuni	
18	Hussein Sora		
19	James Pattison	IIED	
20	Joseph G. Ng'ang'a	MoSPND& V2030	0724656840
21	Kula Jaldesa		
22	Maalini Abdi Ali	SELIMA	
23	Mohamed Godana	SELIMA	
24	Mohamed Golo		
25	Mohamed Madera	SELIMA	
26	MuktarAbakula	SELIMA	
27	Nicholas Koech		
28	Pinky Zala	MDNKOAL	0717966953
29	RukiaBuke	H.M.C	0725359065
30	SadiaHuka Abdi		
31	Salad Sora		
32	Victor Orindi	MDNKOAL	

vi. Appendix 2- Schedule of Activities

Timing	Planned Activity
Preparation 11-02-12 12-02-12	RA team arrives from Isiolo
	Meeting research assistants/ interpreters - agreeing on contract and logistics
	Methods training and discussion of key concepts with research assistants/ interpreters
Day 1 13-02-12	Commence two day community meeting (circa 40 participants) to discuss issues around climate change resilience and CAF
	Request interviews with families in villages around the ward utilising research assistants' and community meeting participants' networks
Day 2 14-02-12	Second day of community meeting. Priorities for resilience strengthening activities reviewed and next steps discussed
	Research assistants begin to plan small group meetings (women, youth etc.) and household interviews
	Afternoon/early evening- first visits to surrounding villages on foot and by vehicle, conduct interviews and arrange additional interviews for the following day
Day 3 15-02-12	Travel to surrounding villages to conduct further interviews
	RA team to review initial findings, methodology and approach in the evening
	Arranging small group sessions for the following day
Day 4 16-02-12	Conduct small group sessions with youth and women's groups
	Review of sample demographics and characteristics (wealth, livelihood type) in order to target remaining interviews and ensure a representative sample
	Travel to surrounding villages to conduct further interviews
Day 5	Wealth ranking exercise with research assistants and key informants. Confirming the asset holdings of each respondent in order to contextualise responses

17-02-12	Community meeting to validate findings. Opportunity for community and research team to seek clarification, address inconsistencies, identify priority activities, and plan next steps
Day 6 **18-02-12**	RA team departs for Isiolo

vii. Appendix 3- Two Day Community Meeting- Agenda

1. What are all the different livelihoods that people pursue in Sericho (Is there only Boran in Sericho area?) **Proportionate piling** (if there are other major livelihood types). Leads into pastoralism- what is required for successful pastoral livelihoods? **Constructing the system** (resources, livestock, and family). What is poverty (is there a Boran word)? Who is poor- what livelihoods do the poor pursue? (How many livestock do they have?) What proportion of the Sericho community is rich and poor- can we agree on some categories. **Proportionate piling exercise.** What proportion of families are mobile versus sedentary? Need to define categories again.

2. Who is the most affected by droughts and flooding? The concept of resilience (what defines a family's resilience- is there a Boran word? Link to baseline- how can we increase resilience- identify target and link with community plans). Are the poor most vulnerable/ the mobile? Who is most affected by drought/floods of these groups we have identified (livelihood types, rich/poor, mobile)? Why are they more affected? **Climate Hazard Time-Line**

3. Another method here (**Resilience Spectrum Analysis**- done in sub-groups) is the one outline by Ced- draw a line with very resilient at one end and very vulnerable at the other- ask participants to put a cross on the line with where their community is now (why are you here?(river doesn't flow, mobility curtailed for school etc.). How can you get here-towards resilience (flip side of first list)? This builds a baseline. Back in the plenary each group conclusions are presented and compared.

4. Local groups/institutions- what do they do (last six months) whose interests do they represent? List all then identify overlaps. **Institutional analysis-** maybe this should also include key service providers rather than just local institutions? This would also include development projects etc? All people who are involved in planning and implementing in their area (education, bore-holes, health, RUA etc)?

DAY TWO

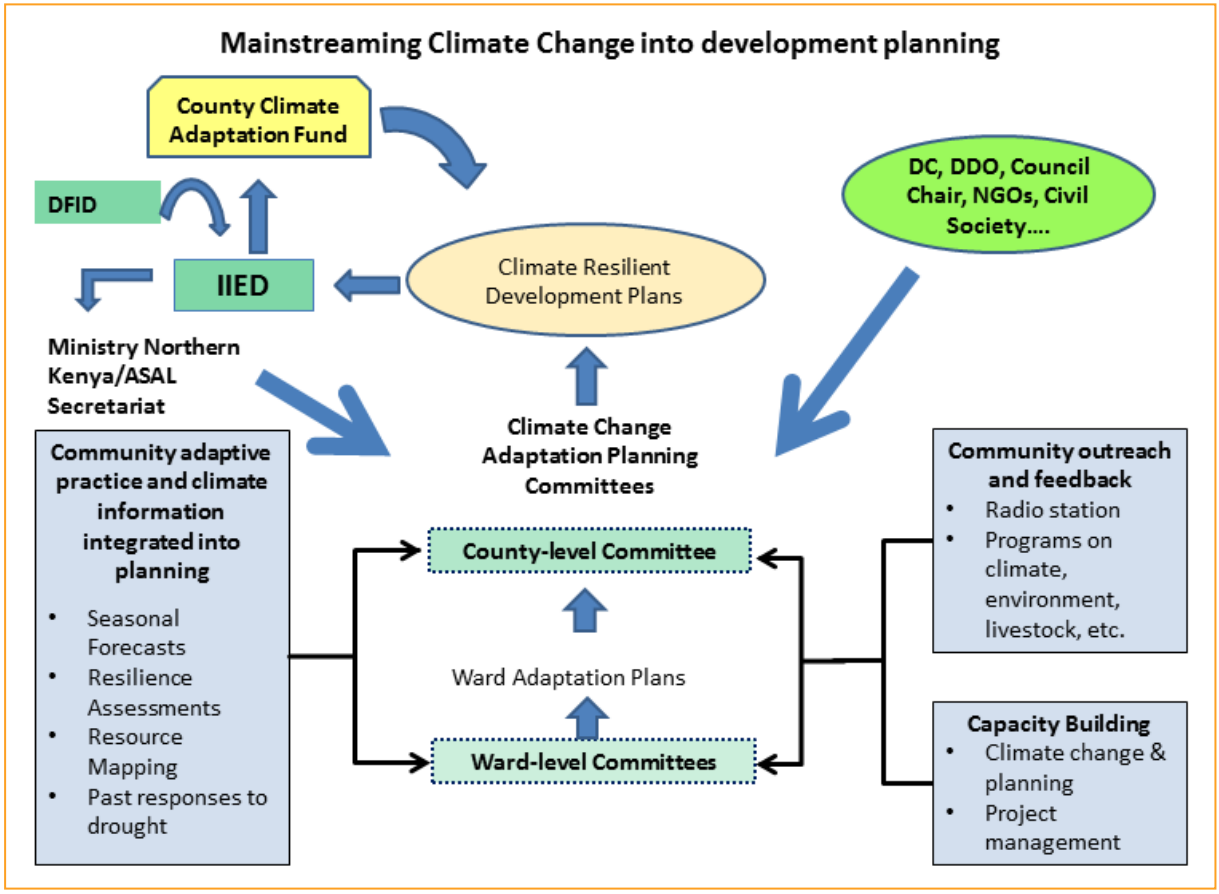
5. Discuss draft 'operational structure'- new approach to development planning- new constitution. Discuss criteria for selecting plans- Should sub-groups (poor/most vulnerable to climate hazards) be the focus of community plans (need to outline fund structure before this point!)? Come back to this when discussing criteria for selecting plans. Livelihood constraints -**Pair wise ranking & seasonal calendar.** Refer back to the **Climate Hazard Time-line** in order to ask 'what were the constraints to effectively managing this climatic event?'

6. Climate info in the last 12 months- action taken? What should the community radio do/ where should it be in the County? What should the 'action space' be for the resource mapping?

viii. Appendix 4- What defines a family's resilience in a pastoral context?

Key Factors	Key Characteristics/ Examples
Asset holdings	Quantity, diversity, and dispersal
Income and food sources	Diversity and reliability
Social capital	Wealth of extended family/ friends/ neighbours, level of community integration
Access to key resources	Dry season grazing reserves, water points etc.
Adequate human capital (skilled and healthy)	The skill and knowledge of the livestock keeper influences resilience
Access to external support and services	Relief food and affordable/ accessible medical and veterinary care
Reliance on the market	Food price volatility, livestock price crashes correlated with climatic events
Insecurity	Impedes mobility and compromises asset holdings

ix. Appendix 5- Proposed Structure of the Climate Adaptation Fund



x. Appendix 6- Resilience Profiles Summaries

Group	Summary Resilience Profile
Wealthier Pastoralists (20+ Cattle or Equivalent)	Wealth (assets/ access to capital) is the most reliable indicator of climate resilience in pastoral communities. High wealth pastoralists are more likely to employ a household splitting strategy (which requires enough wealth to marry multiple wives and maintain multiple households) to enhance production and more fully take advantage of livestock products for subsistence, while at the same time benefitting from integration into services and networks that require a permanent presence in 'town'. High and medium wealth families are able to diversify their income sources more effectively than low wealth families because of their greater access to capital to invest in higher-return enterprises with significant start-up costs (and take advantage of economies of scale). Drought (and the period of rainfall immediately following drought) presents the most vulnerable time of the year for wealthier pastoralists when risk of large-scale asset loss is highest. There is a large spike in labour demand for a labour force that it is not efficient to maintain all year. Higher wealth families can employ a range of management strategies (herd splitting, long distance migration, payment for water at boreholes/ water-trucking, veterinary drugs, household splitting) which enhance resilience to climate hazards Moderate wealth families can invest in small enterprises like shops and hotels although the labour requirement of the herd may leave less time or labour for diversification as they cannot afford hired labour. Asset buffering behaviour of moderate wealth families may mean consumption levels fall significantly during droughts and floods. **Participant Prioritized Activities:** Strengthen and legally empower institutions for natural resource management Improved access to climate/ market information (participants identified an important role for community radio) Improved veterinary services Address issue of uncontrolled/ non-negotiated influx of pastoralists from neighbouring districts

Low Wealth/Stockless Pastoralists	Pastoralists with few or no livestock generally rely heavily on a combination of relief food, paid herding, casual labour (selling firewood, pole cutting, construction, transporting livestock to market, digging pit latrines) and petty trading (cigarettes, miraa, cheap goods etc.). Social capital becomes especially important as many stockless participants benefitted from loaned livestock, milk sharing and free herding from wealthier relatives (or in some cases clansmen). High vulnerability to food insecurity due to lack of assets with which to buffer periods of depressed income. Low wealth pastoralists are vulnerable to drought as town-based employment and commerce decline- the exception is if drought related employment opportunities can be taken e.g. well digging, well operation and temporary herding- although this requires specific skills and knowledge. High vulnerability to floods as casual labour demand declines at the same time as relief food can be cut due to impassible roads. Poor nutrition status, water-borne diseases and ill-health can also affect the ability of stockless pastoralists to take advantage of the meager opportunities for employment/ petty trade that do exist during periods of severe flooding. **Participant Prioritized Support Areas:** Restocking programs Improved natural resource management and veterinary services Investment in small enterprise
Women	Women's resilience to climate hazards is mediated by factors such as wealth, social capital and education although it is possible to identify ways in which women are impacted by specific climate hazards differently from men. It is also possible to identify societal processes which can compromise women's climate resilience. Due to women's marginalization it is important to consider these gendered impacts in order to ensure that climate adaptation support addresses challenges faced primarily by women. Some of the differentiated impacts and factors which compromise resilience are outlined below: During drought women's water fetching duties and herding of household livestock can preclude them from engaging in other income generating activities which participants suggested can improve mother's and children's nutrition and health status. During floods, when roads are cut off, pregnant and birthing women cannot access healthcare services which can threaten their lives. During floods, women are less mobile (encumbered with children etc.) and have poorer nutrition which generally results in higher levels of water-borne ill-health. Several processes result in females being less well educated although this imbalance was felt by female participants to be changing. Lower levels of education and illiteracy deprive women of some of the skills necessary to successfully diversify income sources through engagement in petty trade, milk marketing etc. Female and child nutrition is generally poorer during drought as males can feed from the herd for longer as they travel to drought grazing

	reserves with the majority of the livestock. **Participant Prioritized Support Areas:** Domestic water (in specific areas) Healthcare Veterinary services
Youth	The resilience of youth to climate hazards is generally mediated through their parents' resilience levels. The majority of youth still depended on their parents to supplement their income from town-based activities. Due to the increasing frequency of drought, families' livestock holdings have declined and fathers delay inheritance depriving young men of a viable herd. In tandem with this process, education and the declining herd sizes have also demotivated young people from engaging in pastoralism. Despite the growing number of KCPE holders, lack of local jobs and competition with better educated youth in larger urban centers has created a generation left in 'no-man's land'. They have the skills and knowledge to diversify into alternative income generating activities but lack investment. **Participant Prioritized Support Areas:** Better information on County-wide job opportunities (it was suggested that youth from Garbatula and Kinna got all the NGO jobs). Participants saw significant potential for the community radio to fulfill this function. Support and investment for small enterprise Scholarships for secondary education and vocational training courses
Mobile vs. Sedentary Households	Families that maintain household mobility have a resilience profile which is distinct from sedentary families with comparable livestock holdings. Families that move with their herd can be regarded as more effectively subsisting from their assets than families which herd their livestock in remote areas while they live in 'town'. The reasons for the difference in efficiency are twofold and have implications for climate resilience. Firstly, households moving with their herd generally maximise consumption of milk which necessitates less livestock sales to buy food. This is because milk is perishable and livestock can be herded at considerable distances from a sedentary household. Secondly, the quality of pasture and the level of veterinary care are generally higher in herds grazed by their owner (or his sons under his direct supervision). This results in better livestock condition and consequently lower mortality in droughts and floods. Herds which are amalgamated by different owners and herded by hired labour in remote cattle camps are generally regarded to receive inferior management. The superior management associated with household mobility improves the rate of herd reproduction, reduces ill-health and boosts production which enhances the family's climate resilience. However, there are a number of advantages to settlement which can be argued to increase climate resilience in different ways. Settlement brings greater opportunities to educate children (which can be viewed as a long term income diversification strategy), there are also opportunities for diversification into petty trading, small enterprises like hotels etc. Greater access to relief food and participation in NGO activity (restocking etc.) also comes with a more permanent presence in 'town'.

Mobile households are less prone to asset loss during drought and floods. However, sedentary households are more integrated into external support networks which enhance short term climate resilience. Sedentarisation and household splitting brings greater access to education but has been shown to increase female workload with negative resilience implications for women and young children. Communicable diseases are more prevalent in settlements and can compromise family resilience when income generating activities are affected by ill-health

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