



GARBATULA 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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i. List of Acronym

ACF	Accion Contra Famine
ALLPRO	ASAL Based Livestock and Rural Livelihoods Support Project
ALRMP	Arid Lands Resource Management Project
CAF	Climate Adaptation Fund
CBO	Community Based Organisation
DC	District Commissioner
DDO	District Development Officer
DO	District Officer
DSG	District Steering Group
GIS	Geographical Information Systems
GoK	Government of Kenya
IGA	Income Generating Activity
KCPE	Kenyan Certificate of Primary Education
KMC	Kenya Meat Commission
KMD	Kenya Meteorological Department
LAPSSET Corridor	The Lamu Port- South Sudan- Ethiopia Transport Corridor
LMD	Livestock Marketing Division
MSDNKOAL	Ministry of State for Development of Northern Kenya and Other Arid Lands
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NRM	Natural Resource Management
RA	Resilience Assessment
RAP	The Resource Advocacy Programme
RUA	Rangeland Users Association
STEP	Society to Triumph in the Empowerment of Pastoralists
WRUA	Water Resource Users Association

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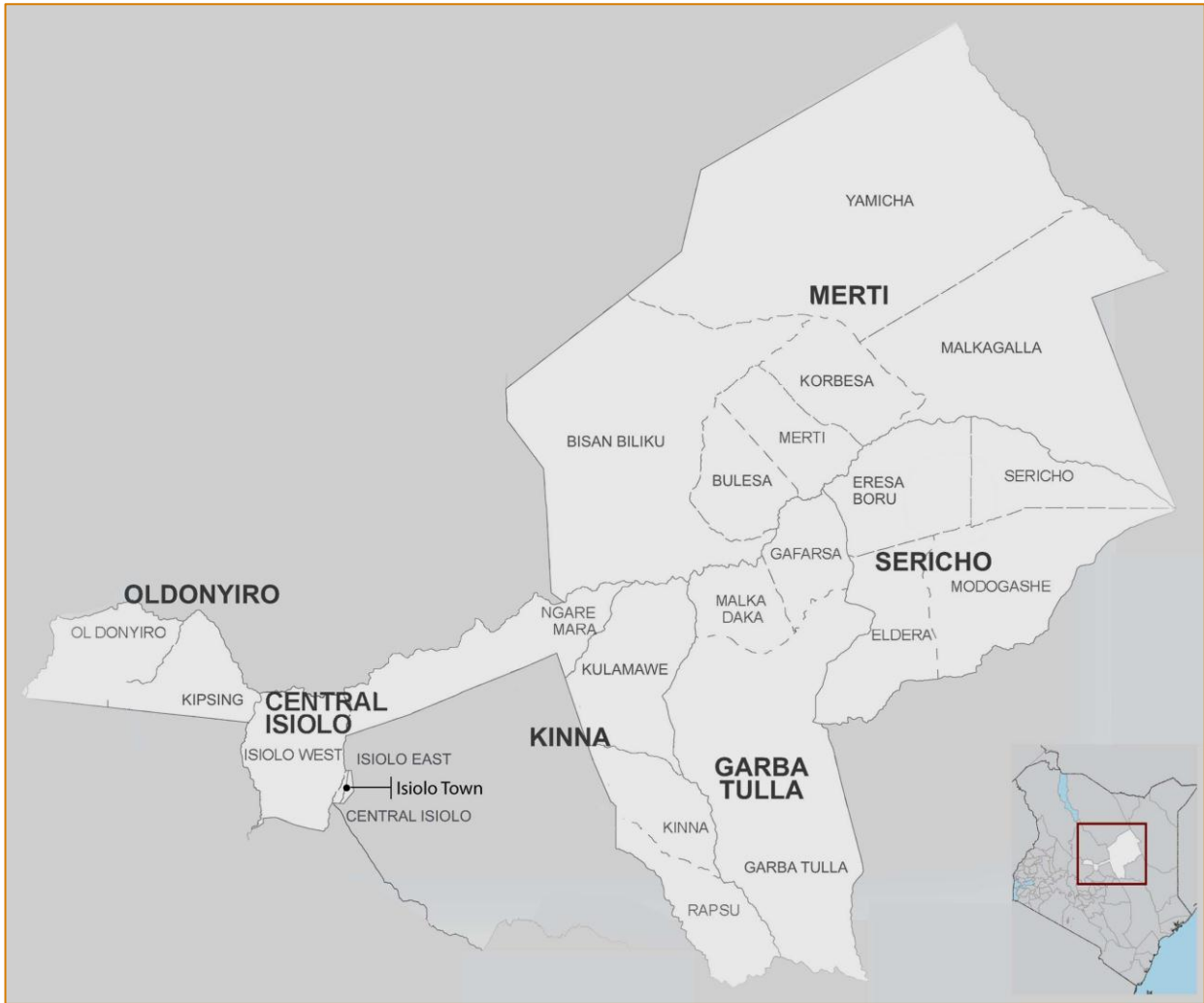
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Day One: Community Meeting

1. Introduction

Daoud Tari of RAP (Resource Advocacy Programme) welcomed participants to the meeting (see appendix 1 for a full list of participants) and invited the local Imam to bless the meeting with a word of prayer. He then recapped the process that had brought all the partners and the participants together. Describing a process that had been ongoing for three years, Daoud outlined the six workshops that had taken place in order to design a collaborative approach to addressing climate resilience in Isiolo County. There was then a short discussion on the importance of mainstreaming climate change and the opportunities afforded by the process of government devolution for affecting real change in the way 'development is done'. It was explained that the partnership between the Ministry of State for Development of Northern Kenya and Other Arid Lands (MSDNKOAL); the Ministry of Planning; National Development and Vision 2030 (MPNDV2030); the Kenya Meteorological Department (KMD); and the International Institute for Environment and Development (IIED,) is focused on bringing together local and formal processes of planning to strengthen communities' climate resilience.

The agenda for the 6 day process was outlined (see appendix 2) and agreed on by participants. The first half of the first day would be devoted to discussing the Kenya Meteorological Department's (KMD) short rains¹ seasonal forecast. Participants from outside Garbatula ward would also participate in this session in order to disseminate the information as widely as possible. For the remainder of day one and all of day two the focus of discussions would be issues around climate resilience in Garbatula ward.

As the meeting got underway there were 31 community participants (of which 8 were women and 6 were under the age of 25 years), there were a number of CBOs represented including the Society to Triumph on Empowerment of Pastoralists (STEP) and the Water Resource Users Association (WRUA). The chiefs from Malkadaka, Belgesh, Muchuro and Kombola were in attendance as well as the Constituency Development Officer (CDO). The assistance of STEP in helping to organise the meeting and accommodation for the Resilience Assessment (RA) team was gratefully acknowledged. The RA process would begin with the seasonal forecast presented by Ayub Shaka of KMD and then after lunch the background to the RA and the Climate Adaptation Fund (CAF) would be outlined before beginning the discussion on livelihoods and climate resilience.

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

2. Seasonal Forecast

Introducing Ayub Shaka, Daoud reminded participants that some of them had attended the long rains forecast workshop in Merti the previous year and that the predictions they had been given had been very accurate. Participants responded by affirming Daoud's comments and citing specific examples when the information had helped them.



One participant in particular had not heeded Ayub's advice to leave the riverine grazing area due to imminent flooding of the Ewaso Nyiro. He conceded that he had ignored the advice and as a result had lost a significant number of livestock. There was a consensus among participants that climate information should form a key part of their planning process despite some residual mistrust about its accuracy.

"If you see a bad animal from far of course you run away but if it catches you by surprise you are in problems- so your forecast is like that- it allows us to make our plans"

Participants highlighted the fact that their traditional systems for forecasting conditions in the rainy seasons had become unreliable and even the ability of their *uchus* who look at sheep's intestines was declining. Ayub explained the basis for scientific forecasting and the measurement of air and sea temperatures and circulation. He also addressed the resistance from local Imams in accepting the use of any systems for predicting the future:

"We get data from all over the country every hour. All the information is put into a computer and it comes up with the 3 month forecast based on previous years when the signals were the same as the ones observed now. It is purely scientific- there is no witchcraft and no conflict with Islamic teachings. I am a Muslim myself and feel completely comfortable with this technology"

When asked about the evidence of climate change that participants had been witnessing in their area, the main focus was increasing frequency of droughts, more erratic rainfall patterns and increases in temperature, although it was also emphasized that climate change has secondary effects which influence a range of other factors:

"Even diseases that we were not seeing before are now becoming a problem or those that were rare are now found more frequently"

Ayub confirmed that at KMD they were seeing the same patterns in terms of rainfall and temperature and that this had provided the impetus to improve the coverage of weather stations in Northern Kenya. KMD's plans to install weather stations in Northern Kenya recognized the increasing importance of accurate forecasts in areas on the 'frontline' of climate change. It was also emphasized that the line ministries should also utilize the seasonal forecasts to plan strategic support for specific challenges associated with certain climate events.

2.1 March-April-May 'Short Rains' Forecast

The forecast detailed rainfall patterns both across the county and the neighbouring counties to the North and East. Due to the mobility of livestock herds, the seasonal forecast for neighbouring counties is as important in determining the likely scarcity of resources in Isiolo as the forecast for conditions inside Isiolo County itself. From Central Province eastwards the rains were expected to be below average and sporadic with unevenly distributed heavy bursts of rain followed by a dry period. Ayub then explained the concept of 'average' rainfall (see Box 1). The rains in Isiolo were forecast to commence at the same time as those in Central Province, around the third or fourth week of March. The majority of the rain was forecast to fall in April and cease by the end of the first week of May although in Central Province rains would continue until the third week of May. This implied that the Ewaso Nyiro would start flowing around the same time as the rains start falling but would continue flowing for a few weeks after the rains cease. Rains were forecast to start later in Wajir and Mandera Districts and finish at the same time meaning that grazing is likely to be better in Isiolo. This may have implications for migration of livestock into the county². Participants agreed that this was a very important aspect of climate information due to the importance of cross-border resource use to pastoral livelihoods.

Box 1- The Concept of 'Average'

Ayub explained that certain areas get 200-300mm of rain if you look at annual rainfall over a long period of time- so it cancels the very high rainfall and the very dry periods. This means 'average rainfall' can be a misleading figure for arid areas which experience highly variable rainfall across years. However, in order to describe predicted rainfall it is still a useful concept which gives users an idea of broadly whether to expect a 'good' or 'bad' year.

Ayub asked participants if they were aware of El Niño and how it affected the climate of their area. Most participants said that they had heard of El Niño and associated it with heavy and prolonged rainfall. The opposite part of the cycle (La Niña) was explained to be associated with a cooling of the Pacific Ocean which leads to drying in East Africa. It was explained that conditions are in a constant cycle between these two states and that currently the status is moving from La Niña conditions observed in January towards a

² See appendix 4 for realised rainfall in March, April, May as a percentage of the long-term mean. As predicted Wajir received between 0-50 % of its long term mean for the short rains which triggered significant migration into Isiolo County.

neutral status. It is then believed to move towards El Niño conditions by the time of the long rains in October. Participants were quick to question the certainty of this forecast and Ayub suggested that in a few months he would be able to give them a more confident forecast for the long rains.

Participants congratulated Ayub on visiting Garbatula to provide climate information but expressed some concerns about the sustainability of the workshops:

“This info is crucial to us and you are here for 1 or 2 days but what of next season- will you be with us?”

Ayub reassured participants that this was one of the big functions of the community radio and that until that was up and running (March 2013) he would continue to provide local level climate information. This opened a broader discussion on the community radio station and what functions it could provide. Ayub clarified that the radio could serve any purpose that Isiolo citizens requested but it could not be used for politics or religion. There are many other community radio stations that KMD had got up and running and they had experience of recruiting and training local people to take charge of every aspect of running the radio station. KMDs role was purely oversight and guidance.

3. The Climate Adaptation Fund and ‘Bottom-Up’ Approach to Adaptation Planning

Victor Orindi (MSDNKOAL) introduced the Climate Adaptation Fund (CAF) and its overall structure (see appendix 3). It was made clear that there was still room to modify the structure based on community suggestions. Victor also confirmed that construction of the community radio station would commence once land had been allocated by the county council. The decision to site the radio in Garbatula for technical reasons was agreed upon by participants³. Victor explained that CAF had been chosen as the mechanism through which community adaptation priorities would be supported because it would create and test a structure for ‘bottom-up’ adaptation planning. The focus on *public good type*⁴ support was viewed as a promising approach to building longer-term resilience and was more likely to support local institutions and community cohesion than individual or small group support. Setting out the agenda for the rest of the meeting, Victor proposed that the remainder of the first day should focus on the livelihood types and on local conceptions of poverty and the history of drought and flood events in Isiolo County. The second day of the community meeting would then relate these themes to climate vulnerability, differentiated resilience and the role of

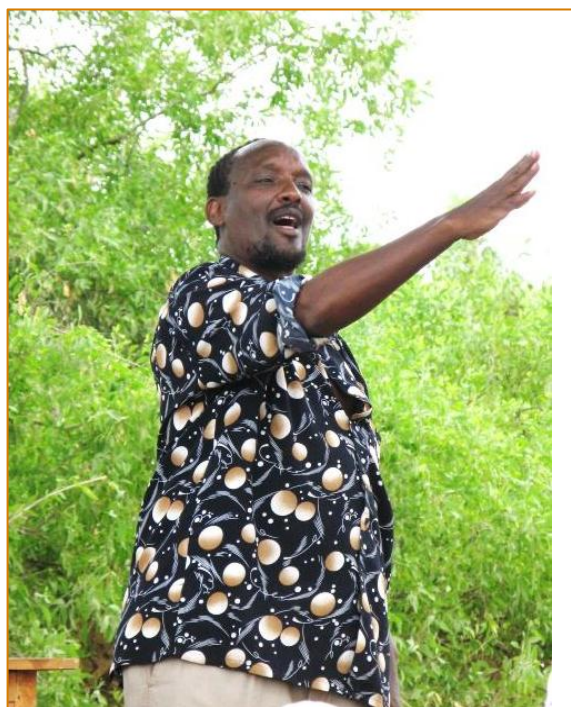
³Garbatula’s central location and slightly elevated position within the county makes it the most efficient broadcast site.

⁴ A ‘public good type’ form of support would incorporate the principles of a public good in the sense that its utilisation should not create rivalry nor should it only benefit a specific group within the wider community. A good example of a ‘public good type’ intervention is the creation of the community radio station. Although not all activities and actions supported by CAF will be strictly a ‘public good’, they should adhere as closely as possible to those principles.

institutions. There was agreement from participants on the agenda and Victor adjourned the meeting for lunch.

3.1 Livelihood Types

The discussion around livelihood types began with defining a livelihood. 'Livelihood' was termed *Jirruin* Kiboran. Daoud encouraged participants to consider a 'livelihood type' as the activity which produces the most food or generates the most income for a household. For example, collecting and selling *Gum Arabica* may be a common activity but if it is not something that households engage in as their main activity then it should not be considered a livelihood type but a 'supplementary activity'. Daoud explained that every livelihood within the ward should be included in the discussion. He gave the example of the previous resilience assessment in Sericho ward whereby charcoal burning was acknowledged as a common livelihood type that had its own



specific climate vulnerabilities. Even if the project could not directly support charcoal burning we still needed to understand it otherwise we could not support transition to more sustainable and resilient livelihoods. Participants began listing the common livelihood types in Garbatula ward. Once a consensus had been reached, participants took part in a proportionate piling exercise in order to establish the relative numbers of households engaged in the various livelihood types. *Table 1* presents the range of livelihood types listed and *figure 1* shows the proportion of households pursuing them.

Table 1- The range of livelihood types pursued in Garbatula Ward

Livelihood Type (English)	Livelihood Types (Kiboran/Kiswahili)
Pastoralism	Horsisa Bula
Agropastoralism	Horsisa Qota
Business/Trade	Biashara
Casual Labour	Humna
Salaried Work	Mushara
Remittances	Hori Ala Galchan

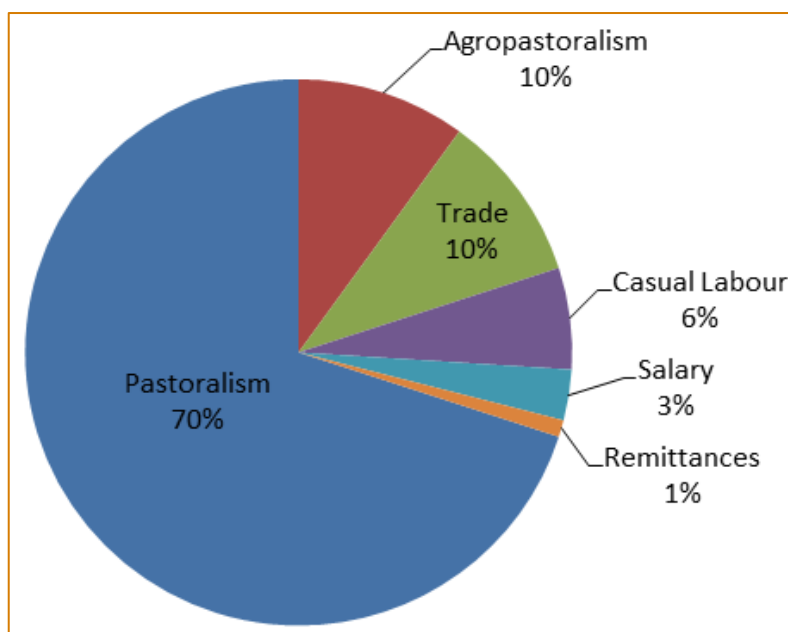


Figure 1 - The proportion of household pursuing different livelihood types in Garbatula Ward

There was some debate around the categories of pastoralist and Agro-pastoralist. Unlike the definitions used in previous RAs (see *Merti and Sericho RA reports*), participants regarded cultivation as a supplementary activity for the majority of pastoralists. Several participants made the point that if livestock were plentiful as they had been years before then very few pastoralists would engage in cultivation, one participant offered an analogy implying that agriculture was a reaction to lack of livestock rather than a diversification choice:

“With termites, if they get something on the ground they don’t climb trees”

After some disagreement it was decided that roughly 10% of households focus equally on livestock keeping and cultivation although there was no real consensus on the issue. Garbatula was described by several participants as the ‘bread basket’ of Garbatula District which implied that the amount of households engaging in cultivation as a main livelihood activity is high compared with the rest of the county. Another controversial issue was relief food and the question of



whether receiving relief food should be considered a livelihood activity because it was described as ‘passive’. The idea that receiving relief should be considered a livelihood type was rejected quickly but there was some debate around whether it should be

considered a supplementary activity or not. Finally, relief was categorized in a separate category as it was felt to be 'external support' and should be considered alongside some other local forms of support like *Dabare* (Kiboran word for 'assistant from others'). Some participants also mentioned that they sometimes sowed the maize they received as relief food or they used it to pay for *harambee* (reciprocal community labour) on their farms. Therefore, relief food was considered more as a resource rather than a livelihood activity. As the discussion on relief food broadened, Daoud reminded participants that relief food and its role in defining a household's resilience would be discussed further during the next day's meeting. The meeting then broke for tea and refreshments.

3.2 DC Garbatula Addresses the Meeting



As the meeting was being reconvened after the tea break, the District Commissioner for Garbatula- Mr. Joseph Onyango- arrived and was thanked for attending and invited to address the meeting. He stated his support for CAF and the approach of the project; he also encouraged people to engage in the new constitutional process of participation.

The DC referred to the recent flooding of *shambas* (farms) which was exacerbated by a channel designed and constructed by an engineer from the Ministry of Water and Irrigation against the advice of the local elders. He informed participants that he had requested that the engineer visit the community to apologize for the loss of their maize crops last year but unfortunately he had refused. The DC highlighted the incident in terms of the value of local knowledge and the necessity to incorporate this knowledge into development planning to achieve beneficial outcomes. He then handed the floor back to Daoud Tari to continue the meeting.

3.3 Poverty

The discussion on local conceptions of poverty started with trying to define 'who is poor'. Overwhelmingly, people without livestock were identified as poor although this was also dependent on the wealth status of their extended family and if they had other sources of income (e.g. a small shop, a salaried family member). In terms of distinguishing people's wealth status there were several local categories although in Garbatula more than in the previous two RAs (Sericho and Merti) participants gave consideration to ownership of a shop or a vehicle in addition to livestock assets. However, because livestock are easier to value, when participants were asked to estimate the assets associated with different wealth categories, they tended to use only livestock. *Table 2* lists the four wealth categories identified and the livestock holdings associated with each category. Because the link between wealth category and livestock holdings is dependent on the number of mouths to feed (household size), participants were told to assume that wealth categories were for a family of 10 with a typical age/sex structure⁵.

Table 2- Local wealth categories and associated livestock holdings

Wealth Category	Description	Livestock Holdings
Dures	Rich- is able to help others	>100 cows
Ufurabulla	Has enough to satisfy the needs of the family	200 goats + 50 cows
Degg	Poor	100 goats or <10 cows
Qolle	Completely poor	<30 goats

The process of establishing the livestock holdings associated with each wealth category took some time, and interpretations among participants differed considerably. In a similar way to the participants in the Merti RA, there was a divide between more 'traditional' ideas of wealth categories, and wealth categories based on more of a 'relative' approach to poverty (shifting the meaning of 'rich' to balance the number of people in different wealth categories). As in the Merti RA, the consensus that emerged was in-line with traditional categories because of the underlying capabilities associated with households in the 'dures' and 'ufurabulla' categories. A 'dures' is meant to be able to assist other members of their family or clan and an 'ufurabulla' should be able to subsist from the herd while being able to also sell



⁵ The age/sex structure of a household can have a significant influence on its consumption requirements. For example, if the household contains a number of young male herders who herd for a wealthier pastoralist then they will be subsisting from their employers herd and will not require feeding.

livestock to satisfy the needs of the family without undermining the growth of the herd. Therefore, there is a certain asset threshold below which these wealth categories cannot be shifted if they are to retain their links with underlying capabilities. In order to establish the amount of households in each of the four wealth categories, participants were invited to conduct a proportionate piling exercise using kernels of maize (See figure 2). The results of the proportionate piling exercise illustrate the scarcity of 'dures' and 'ufurabulla' households in Garbatula.

Box 2- Key Components for Successful Pastoralism

- Security
- Effective management of resources (includes planning)
- Herders
- Livestock
- Rainfall
- Drugs
- Pasture
- Fire control
- Accessible market

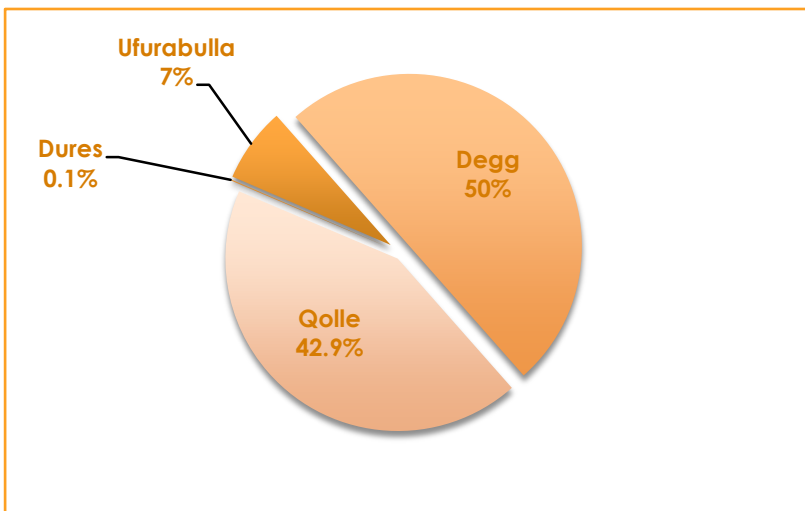
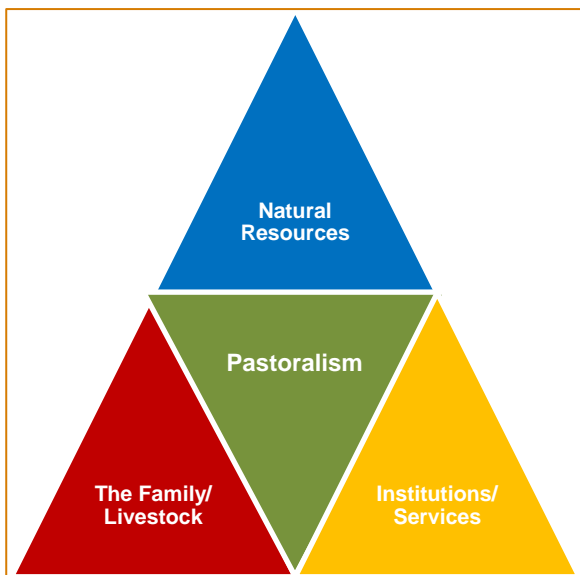


Figure 2- The proportion of Garbatula households in different wealth categories

3.4 Constructing the System

Participants were asked to describe the key components of pastoralism (these are summarised in Box 2). After the list had been agreed Daoud asked participants whether some components could be grouped together under themes. Pasture and water were grouped together under 'natural resources', and accessible market, drugs, fire control, security, and management of resources were grouped together under 'institutions and services'. Livestock was left on its own and there was some debate about where to situate the herder/family. The consensus was to place the livestock as part of the family.

Based on the linkages between key components of the livelihood system established by participants, Daoud consolidated the components under three main themes which were represented in a triangle (see figure 3).



Natural Resources- comprises pasture, trees, water etc. which must be adequate (quality, quantity, distribution) and accessible.

Institutions and Services- Institutions (local and formal) should facilitate effective planning and natural resource management, as well as providing key services (security, veterinary, education etc.).

The Family/Livestock- The family must have adequate skills and knowledge, and well-adapted breeds and diversified species.

Figure 3- Structuring the Key Components of Successful Pastoralism

As participants started discussing the ways that the three components linked together, the analogy of three cooking stones was suggested whereby if any one of the stones are weakened or missing then the whole system doesn't function. The first example of a weakened system component was institutions for natural resource management (NRM). Since they have become weak this has negatively affected the natural resources, which in turn affects the health and well-being of the livestock and the family. Regarding the weakness of NRM institutions, many participants alluded to the role of chiefs in compromising the ability of NRM institutions to regulate influx⁶. A chief present at the meeting conceded that "we have yet to change to these new times". The problem was summarized by several participants:

"If we organize ourselves there is no reason we should be poor. We know what we lost last drought- if we had plans we could have saved many on those - we need these plans to build resilience together not just to benefit a few among us [referring to bribes]"

"The grazing system here is being ruined by people benefitting themselves [referring to bribes]-also traders like the influx as it expands their market but it finishes the grazing. The poor and others go to the leadership but they don't escalate our concerns to produce action"

The loss of household mobility, due to a range of factors including declining per capita herd sizes, compulsory primary education, relief food, and changing culture, has a similar effect to weakening institutions for NRM. With reduced herd mobility natural resources around settlements come under increasing pressure and decline in quality, which impacts negatively on the livestock and therefore the family. Participants estimated that less than 10 families in the whole ward still moved their households with the herd.

One woman summarized:

⁶ 'Influx' refers to the unregulated migration of herds and people from neighbouring counties

“We have been taken to sedentary life by school and relief but even the men have followed us and do not stay with livestock”

Another key dynamic affecting the whole system is the weakening of the family component through lack of adequately skilled labour. This is happening due to the youth becoming disengaged from pastoral livelihoods through attendance at school. It is increasingly rare for a child to complete primary education and then return to herd for the family, despite the lack of employment opportunities.

A representative of the youth commented:

“The school is not of good quality- many students only get D+. The father expects a return on investment but the child can't get a job. Even with higher grades it is very difficult”

On one hand they have not learnt the skills and knowledge required to take good care of livestock, while on the other hand they have become used to town life and have been educated to regard pastoralism as archaic.

“Even the school curriculum puts pastoralism into their minds as very negative. Children also become soft and unused to work”

The result is a shortage of good quality herders which reduces herd mobility and well-being which impacts negatively on the climate resilience of the family.

“Those that follow animals are meant to be the young men but they have become old. Now there is a focus on school -what are they getting from that?”

An old man commented on the disparity between what participants had said about livelihood types (see figure 1) and the direction of the debate around youth unemployment:

“We have said 70% of us are pastoralists - how does this fit with what the youth are doing? We are storing problems for the future. How can the schooling be combined with the need for labour?”

Another participant agreed and suggested the problem lies with the way services are planned:

“Policy planners for education have never come down to our level- so they don't understand this big problem of pastoral education”

Moving on from the issue of youth and education, participants focussed the discussion around inadequate provision of other key services (veterinary, healthcare, security, markets etc) which they regarded as reducing the resilience of the livestock and the family by reducing livestock production, survival and profitability. The livestock was felt to be the pillar that is strongest and does not need to be changed. Participants recalled that ALLPRO (ASAL Based Livestock and Rural Livelihoods Support Project) tried to bring a 'high-class' breed but it did not survive well. They felt that this demonstrated the need to focus on improving the other components of the system because their livestock were inherited from their grandparents and were well adapted to the environment.

3.5 Institutional Mapping

Having discussed some of the issues around NRM institutions, participants were asked to list the institutions active in their community (both internal and external), they then ranked the organizations based on how 'close' or integrated they were with the community, and the level of resources they invested in community development. Figure 4 represents this information- the distance the organization is from the community circle in the center represents the organization's integration, and the size of the circle illustrates the level of resources invested (with the exception of the central 'community' circle).

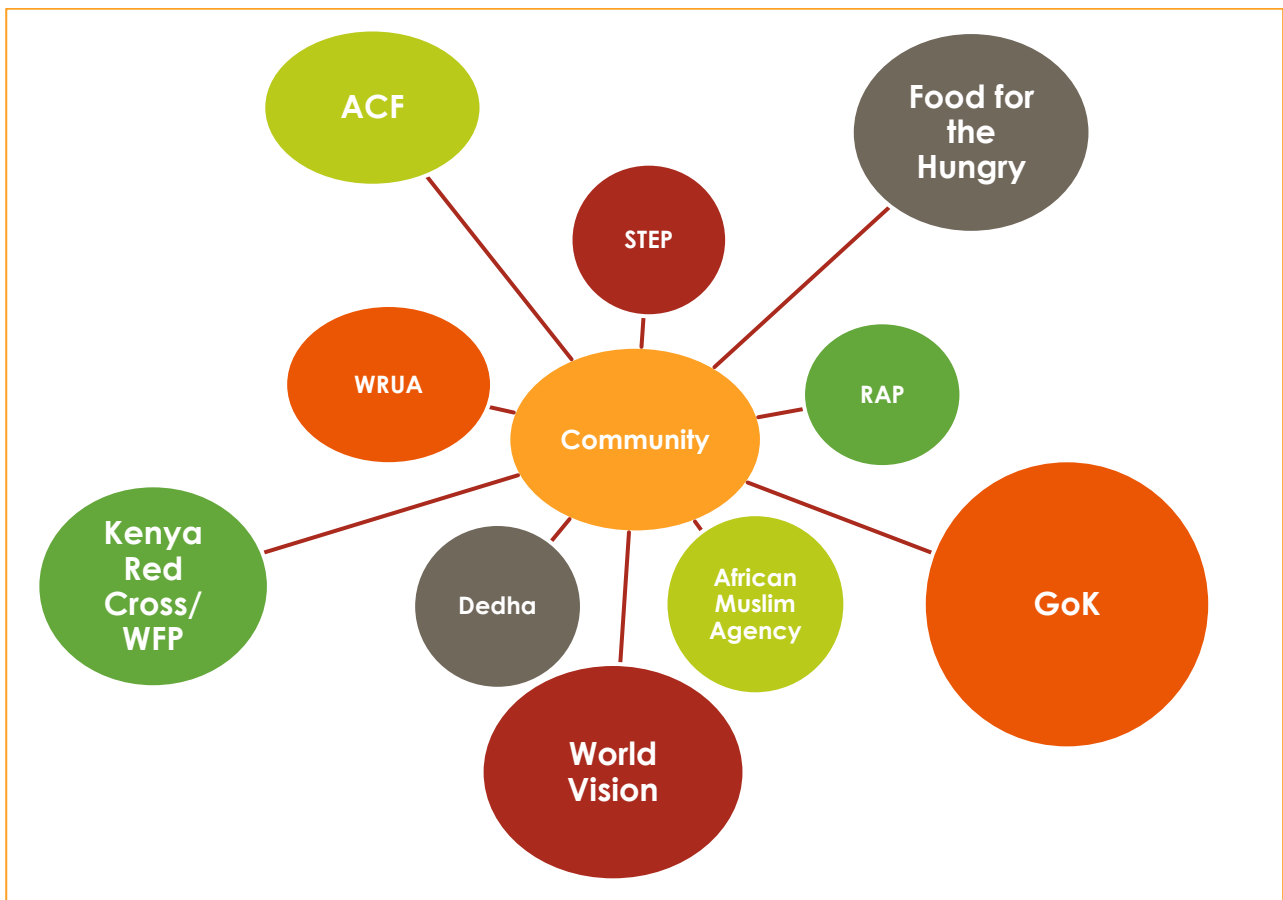


Figure 4- A schematic depicting the relationship of various institutions with the community

Participants regarded STEP (Society to Triumph in the Empowerment of Pastoralists), RAP (Resource Advocacy Programme), WRUA (Water Resource Users Association) and *dedha* (Kiboran traditional institution for NRM) to be closest to the community although none of them were very active due to lack of available resources to invest in development activities. The African Muslim Agency (AMA) was felt to be the next closest organization to the community although they had only moderate capacity to invest resources in community development. The Government of Kenya (GoK) was regarded as the most active of the external organizations, particularly through the Arid Lands Resource Management Project (ALRMP), although the line ministries were also somewhat active. The Kenya Red Cross (as implementing agency for the WFP) was regarded as the

second most active organization through their distribution of relief food although there was some debate around whether this really constituted to 'community development'. STEP in particular was regarded as a potential starting point for constituting the Climate Adaptation Fund (CAF) ward committee because it represented the community, although several participants suggested that STEP would need to be reformed to fulfill the CAF function effectively. The most important of these reforms concerned forming a constitution to ensure transparency and accountability, and investing to increase its capacity.

3.6 History of Climate Hazards

Before the meeting was drawn to a close for the day, participants were asked to outline the recent drought history of their area (see *table 3*). It is interesting to note that participants' conception of drought extends beyond the lack of rainfall and includes severe disease outbreaks (see 2007 in *table 3*). An event known as 'Olla Kolagi' describes an influx of Somali pastoralists which led to resource shortages. Even this form of resource shortage is referred to as 'drought' (*olla*). This broad understanding of the concept of 'drought' is important to understand if responses to questions concerning drought are to be interpreted correctly. Following this discussion of climate history participants were thanked for their active engagement throughout the day and logistics were agreed for reconvening the meeting the following morning.

Table 3- The history of climate hazards affecting families in Garbatula

Year	Name of Drought	Description
2005	No name	Poor rains
2006	Olla Stag or Olla Ejja	The animals stopped walking and then died (unknown disease). <i>Stag</i> is a Somali word for 'stop'. Very severe livestock mortality.
2007	Rains after Olla Stag	Severe outbreak of Rift Valley Fever (RVF)
2009/10	Olla Dogogicha/ Hawaye/ Kinna	Rains missed- people migrated with their livestock to either Dogogicha, Hawaye or Kinna
2011	Olla Kore Dalkan or Olla Kilisa	'Kore' is a place in Samburu and 'dalkan' means go. People migrated across into Samburu

Day Two: Community Meeting

4. Resilience Spectrum Analysis

The meeting was opened by Daoud Tari who welcomed everybody and thanked community members for their continuing participation. Having recapped the previous day's meeting Daoud challenged participants to define the meaning of resilience and find an equivalent word or concept in kiboran. The concept of resilience was linked to the kiboran word *jajaben*- which means the ability to 'come back' or 'rebound'. The kiboran word for vulnerability was translated as *lalafin* which literally means 'weakness' but is normally used in the context of 'ability' or 'capacity'.

Droughts and disease outbreaks were the major challenges that participants discussed in the context of resilience. Flooding was felt to be of secondary significance, particularly because the negative aspects of flooding mainly affected urban centers, and because some of the positive effects such as pasture re-growth counterbalance the negative impacts.

Having discussed resilience in general terms, a method called the 'resilience spectrum analysis' was used to structure information on the key challenges to improving the community's resilience to climate variability and hazards. Participants were selected by the group to place the community on a scale going from vulnerability to resilience (*lalafin* to *jajaben*) and then with the help of the group, to articulate what is preventing them from being more resilient to droughts and floods and outbreaks of livestock diseases. Having listed the key challenges to improving resilience, participants were asked to identify actions with which to address the challenges. Once a list had been discussed and agreed upon, participants ranked the actions in order of importance. The results of this process are summarized in *tables 4, 5 and 6*.

Table 4- Key challenges to improving community resilience

Challenge	Description
Managing natural resources	Management of resources must be done at a larger scale and institutions must be able to enforce the community strategy
Lack of negotiation prior to influx of livestock from neighbouring district	Corruption and vested interests alongside lack of effective NRM institutions leads to uncontrolled influx
Lack of labour to move with livestock	Schooling and sedenterisation has led to a lack of competent herders
Lack of a good local livestock market	Transportation is costly and people are tied to selling if they have walked far despite bad prices- there is a local market at Belgesh but security/roads are always the problem
Declining herd sizes	Pastoralism is a less viable venture with smaller herd sizes and there are no signs that herds will grow due to droughts
Livestock diseases	Increasing prevalence and appearance of new diseases combined with inadequate veterinary services undermines livestock survival
Under investment in livestock sector	Agriculture gets more investment than livestock in Isiolo which does not reflect the proportion of households pursuing these livelihoods
Flooding of Garbatula town and surrounds	Although flooding brings some positive impacts (i.e. pasture regeneration), the flooding of the town compromises health and trade

Table 5- Key actions to address challenges and build the resilience of the community

Resilience Building Action	Description
Controls on water point development	Control the creation of 'open access' dams which cause conflict due to lack of governance system
Appropriate education policy	Address the conflict between the need for skilled herders and the rules on compulsory education. There needs to be a 'third-way', maybe distance learning or mobile schools
Empower local NRM institutions	Empower local NRM institutions to enforce regulations concerning water points and pasture management- must be supported by county authorities
Integrate climate information into local planning	The recent seasonal forecasts have demonstrated the value of climate information which can be used to initiate cross-border negotiations early as well as plan resource use strategies and destock
Community Slaughterhouse	Guaranteed fair prices, cutting out middlemen and accessing national markets
Restocking	Lack of adequate livestock reduces mobility and undermines pastoral subsistence. Households should be targeted for restocking based on community criteria
Improved veterinary services	Inadequate vaccination, tick treatment, availability of good quality drugs with clear instructions in local language is undermining livestock survival
Livestock Disease Control	Lack of quarantine regulations and enforcement leads to unnecessary spread of livestock diseases within and across district borders
Create community conservancy	Another strategy for preventing resource use by neighbouring pastoral communities is to create a conservancy which can exclude non-members
Flood management	Digging a trench/channel to divert flood water around the town could make the community more resilient during floods

Table 6- Participant ranking of priority resilience building actions

Rank	Resilience Building Action
1	Empower local NRM institutions
2	Restocking
3	Livestock disease control/ Improved veterinary services
4	Appropriate education policy
5	Flood management

In agreeing on the ranking presented in *table 6*, participants prioritized actions that required external support and were felt to address the aims of the Climate Adaptation Fund (CAF). Resilience building actions that were felt to be overly ambitious to be included in CAF were not included in the final ranking (e.g. constructing and equipping a community slaughterhouse). Participants spontaneously developed these criteria for selecting priority actions based on the information on CAF discussed the previous day.

The top priority action (empowering NRM institutions) was actually the amalgamation of two resilience building actions discussed by participants. Firstly, consolidating *dedhas* to manage resources at larger scales (rather than adhering to administrative boundaries) and seeking broad community agreement about the designation of specific grazing zones and the rules of access was the first action. The second phase would require empowerment of local NRM institutions (consolidated *dedhas*, possibly based on Merti's Rangeland Users Association (RUA) model) to draft clear community-backed regulations, and a partnership with county-level authorities to enforce these regulations. There would also need to be a clear structure for negotiating reciprocal access with neighbouring communities and enforceable penalties for non-adherence to cross-border agreements.

There was some disagreement among participants concerning the realistic prospect of changing education policy to incorporate the need for pastoral mobility. Ultimately, it was ranked in fourth position because while reform would be difficult to implement, it was felt to be the most important action for building long term resilience due to the growing problem of youth unemployment and pastoralist labour shortages.

Lobbying the new county authorities to structure sectorial investment based on the number of households pursuing livelihoods in each sector (livestock versus agriculture) was felt to be an important action for building resilience, and one that would address other service related challenges (e.g. veterinary and marketing facilities). However, it was decided that this was something that community leaders could approach through political channels and could address internally without much added value from external funding. It was therefore recognized as important but not prioritized for support through CAF.

The proposal to approach the Northern Rangeland Trust (NRT) for assistance in securing funding for establishment of a community conservancy generated considerable discussion. There was consensus that if the community could be guaranteed access to graze the area when their local NRM institutions decided, then it could be an effective strategy for safe-guarding a 'drought reserve' against unsanctioned use by neighbouring groups during non-drought periods. However, based on Maasai experiences of 'group ranches' and ultimately losing control of large areas of their territory, there were concerns around the ownership of the land under the conservancy and uncertainties around whether NRT could use the conservancy to get title deeds. The constitutional process of transferring 'trust land' to 'community land' added further confusion about land tenure status. Participants framed the conservancy in terms of "creating a buffer zone" between their areas and neighbouring districts which would remove the requirement on their side for monitoring their drought reserve during non-drought periods. This required significant resources and was currently not viable which led to extensive use of drought reserve pastures by neighbouring communities with little community capacity to enforce sanctions. Ultimately, it was not ranked as a priority resilience building action because of the uncertainty around tenure and the feeling that empowerment of local NRM institutions were a preferable option. It also may be that NRT could provide any external support required for establishing a 'community conservancy' and therefore the process did not require support under CAF.

Box 3- Resilience enhancing management strategies available to the rich:

- The ability to hire herders and move the herd far;
- Hiring lorries to transport livestock to water and pasture;
- Trucking water to areas with pasture but no water;
- Herd splitting;
- Paying to use boreholes;
- Destocking;
- The ability to purchase adequate veterinary drugs;
- Purchasing fodder from agriculturalists in Meru;
- Diversified income sources and savings reduce need to sell livestock.

4.1 Differentiated Resilience

Participants were then asked to consider how individual households' resilience to specific types of climate variability/ hazards varied and what factors were important in defining this differentiated resilience. Household resilience was related to both livelihood type and wealth category as well as a range of other key factors (see appendix 5 for a summary of key resilience factors).

In terms of pastoralism, the lowest wealth categories (*Qolle* and *Degg*) were felt to be affected most adversely by drought and floods. There were several management strategies available to the rich, which helped them to reduce the impact of drought and floods on herd survival. Resilience enhancing strategies that were mentioned are summarized in Box 3. Other participants had a different view on the resilience of the poor

during periods of drought and flood. They suggested that because the poor had few livestock assets they could usually keep them alive around settlements while engaging in casual labour and receiving relief food, therefore they were not affected to the same extent as richer pastoralists who own significant assets which were vulnerable to drought conditions. There seemed to be an important conceptual distinction inherent in this view whereby resilience was considered in a more 'relative' rather than 'absolute' way. Thus, a rich pastoralist was considered vulnerable because they may lose 50% or more of their herd in a severe drought, despite the fact that they were still left with a viable herd which could be rebuilt. On the other hand, a poorer household could be regarded as resilient because they didn't lose many assets in the drought, despite enduring food insecurity and on-going poverty.

This conceptual distinction may be relevant to targeting resilience building activities at the most vulnerable because of the overlapping but distinct conceptions of 'absolute' and 'relative' resilience. It would appear that based on participants conceptions of 'relative' resilience, the identification of the most vulnerable may be skewed towards those with the most *vulnerable asset base* rather than those most *vulnerable to food insecurity* as a result of droughts or floods.

Participants clarified that although the poor were largely unaffected by direct climate effects, casual labour opportunities in towns and larger villages were also dependent on the pastoral economy. Therefore, if richer pastoralists do not have disposable income due to drought or flood, many of these casual labour opportunities will decline drastically. This could therefore be regarded as indirect or *secondary climate effects*. Even relief food could be affected by climate variability as supplies frequently get cut due to flooded roads. Flooding also affects opportunities to engage in casual labour, so there were significant secondary climate effects from flooding which also affected poorer households. Participants also mentioned specific forms of casual labour which actually increased significantly during drought. For owners of large herds the labour requirement during drought and immediately after the arrival of the rains was higher than during any other period. Extra herders were required for security and herding assistance during drought as livestock move further than usual, more labour was also required to maintain shallow wells and to water livestock at the boreholes. When livestock are weak and struggling in the mud after the rains arrive but before pasture has grown, extra labour was also required to ensure their survival. As it does not make sense to maintain a labour force to cope with all this extra labour (that is only required every few years), there are employment opportunities for skilled and knowledgeable members of poorer households who do not have their own herds to attend to. Therefore, the effects of drought and flood on poorer households depends on their access to some of these opportunities for employment, which in turn depend on some of the factors outlined in appendix 5 (social capital- to be offered opportunities by richer herders, and skills and knowledge- they must be considered competent herders).

Farmers were regarded as experiencing the first effects of droughts and floods as crops were more sensitive than livestock to these conditions. The lack of mobility was also

suggested by some participants as reducing farmers' resilience compared with pastoralists:

"Farms have no legs to run away from hazards"

There were some compensating factors also mentioned, such as the role of the market in supporting or undermining the resilience of farmers versus pastoralists. During drought the price of farm produce rises sharply, which is in direct contrast to the value of livestock. As the drought proceeds, the price of livestock drops as local 'over supply' artificially depresses prices due to lack of market integration nationally. The fact that the Ewaso River can flow in June and July makes livestock keepers who engage in agriculture more resilient during this period as there is water but no pasture.

Respondents regarded traders, shopkeepers and business owners as one of the most resilient groups within the wider community. This was not due so much to the specificities of climate impacts on their businesses; rather they were regarded as resilient because it is generally wealthier families who are able to diversify their income sources through investment in these kinds of businesses. In most cases, owners of these businesses (particularly smaller-scale) are also livestock keepers, therefore their diversity of income sources results in increased resilience to specific climate events. For this reason, traders, shopkeepers and business owners were not regarded as a target group for CAF and were generally given less consideration in discussions of resilience, both in the community meeting and during household interviews.

The lively discussion on resilience was brought to a close due to time constraints and participants were thanked for their enthusiasm and careful consideration of the issues around climate resilience. Before the meeting was brought to a close, Daoud Tari (RAP) outlined the next steps for the Resilience Assessment process.

5. Next Steps

Daoud outlined the next few days' schedule, which involved conducting household and small group interviews across Garbatula ward in order to ensure that as many people as possible were able to contribute their opinions to the RA process. The details and logistics of the feedback meeting (to be held at the same venue three days later) were discussed and participants agreed to attend in order to review the RA team's analysis of the household and group interviews. The meeting was brought to a close by a word of prayer by the local Imam.

Days Three and Four: Interviews and Analysis

6. Introduction

Over the subsequent 2 days the RA team worked with two research assistants- Adan Turo and Abdiya Bonaya Haro to arrange and carry out 14 household interviews and 4 group interviews. The household interviews were dispersed across Garbatula Ward (Malkadaka, Belgesh, Muchuru, Kombola, Gafarsa and surrounding villages) and respondents were chosen in order to reflect the proportions of livelihood types and wealth categories described in figures 1 and 2. The result was a broad representative sample of the wider Garbatula community based on clan, wealth status and livelihood type. Two of the 4 group interviews were with groups of women while the other two were with youth groups. The information that was provided during this process formed the basis for the analysis of resilience below.



6.1 Resilience and Wealth

By analyzing the content of the household interviews, it is possible to identify patterns in responses that correlate to the wealth status of the respondent. While not true for every family, the patterns described in Box 4 broadly represent the resilience building requirements of different wealth groups based on the household and group interviews.

Much of the information concerning capital intensive livestock management strategies (see Box 3) that participants highlighted during the community meeting was also mentioned during the household interviews. There was also a focus during the interviews on the lack of herders and youth unemployment, which came out strongly as a key issue for longer-term resilience during the 'constructing the system' session on day two of the community meeting. These issues had been discussed in earlier sections and despite the emphasis on the same issues during the household and group interviews; this section would focus primarily on additional or contradictory information to avoid repetition.

Respondents emphasized the role of livestock and other assets in defining a family's resilience to climate variability but also stressed that the circumstances of each individual family are important as well. Factors such as the structure of the family

Box 4- Summary of Resilience Building Requirements of Different Wealth Groups

Qolle/Degg- While NRM reform will support the poor due to livestock's importance to the wider economy, the poorest households require more direct forms of support in tandem with these reforms (restocking, cash transfer, retraining, group business grants/loans) if they are to move above the poverty threshold.

Ufurabulla- In addition to NRM reform, for families who still have a herd adequate for subsistence the focus should be on facilitating access to and improving services related to livestock production and farming.

Dures- The rich are generally more concerned with broader issues of security, NRM, and market access although they would also benefit from improved services (particularly veterinary).

(number of young men and women of working age), whether or not children are enrolled in school, receipt of assistance from the wider family, all serve to dictate the resilience of the family in tandem with asset holdings. Appendix 5 summarizes the key factors in defining a family's resilience.

Due to the small size of poor families' livestock holdings they typically engage in a greater diversity of supplementary Income Generating Activities (IGAs) compared with other wealth groups. Alternative income sources included collection of gums and resins, petty trade (miraa, sugar, cigarettes, and fruits), charcoal burning, pole cutting, and firewood collecting, and running tea kiosks on market days, small-scale livestock trade and casual labour. Respondents identified several barriers to expansion of these activities: lack of capital, transportation problems and unreliable demand being the most significant. Women are usually the driving force behind IGAs with the exception of pole cutting, livestock trading and casual labour. Due to lack of capital there were some examples of profit sharing arrangements with suppliers in return for

receipt of goods on credit. Even though this made petty trading even less profitable, one woman still regarded it as key to the resilience of the family:

"I can't pay up front so I split the profit with a trader from Maua [...] I sell sugar which makes me resilient- we can't just depend on livestock"

Another respondent linked increasing engagement in alternative IGAs with falling herd sizes and consequently falling returns from mobility:

"We are almost getting out of pastoralism as people don't want to move around looking for pasture. Herd sizes have reduced so much so that there is no incentive in moving as the animals alone cannot meet one's need. This is why we engage in other activities to supplement what we get from livestock"

Some IGAs engaged in by poorer families had unlikely connections with issues compromising the resilience of the wider community. Examples, of this were the sale of tea and chapattis to Somalis from the neighbouring district at Belgesh dam during droughts. In certain areas, cheap milk sold by Somali herders was seen as an important

food source during the dry season (despite the resource competition with the same herders by more affluent members of the Boran community). The tree-cutting associated with charcoal burning also compromised natural resources and therefore the resilience of the surrounding community in the medium-term. Similarly farmers reported that Somali families were the primary market for their produce because they were not eligible for relief food (because they were visiting from another district). This also raised questions about the role of relief food in undermining local agricultural production. While there was a broad consensus that unarranged 'influx' of livestock and herders from neighbouring districts (principally Somalis) undermined the NRM of the Garbatula community, there were certain groups who profited from their presence- shopkeepers/traders and chiefs being regarded as the biggest beneficiaries. To some extent this explains why coordinating their exclusion from key drought reserve areas had proved so difficult to achieve. The following section looks at farming and the specific challenges to building the resilience of those that depend on agriculture.

6.2 Resilience and Farming

Respondents focusing on farming as one of their main livelihood activities highlighted the unreliable nature of river flow and the limits to which hand-dug irrigation channels could supply water to all community farms.

"The Ewaso Nyiro used to flow for some definite periods and people knew when it would stop. Patterns have now become very unpredictable"

Consequently, the need for generators and pumps to irrigate farms not served by the irrigation channels was seen as key to building the resilience of farming families as a whole. Several of the medium wealth agro-pastoralists had purchased pumping equipment and therefore had considerably higher yields (average of 21.4 bags of maize= 1070kg based on 4 interviews) than Agro-pastoralists without such equipment (average 7.1 bags= 355kg based on 5 interviews). Some respondents in Kombolawere irrigate their crops using pumps and generators from a dam, and complained that stagnant water leads to crop diseases. There was, however, some confusion around whether it was the stagnant water itself or the associated insects that were causing the crop disease. Higher temperatures were identified by agro-pastoralists as one of the most noticeable effects of climate change. An increase in insect related disease as well as the appearance of new insects/diseases was commonly blamed on these climatic changes. In addition to the need for pumping equipment, respondents suggested that CAF could provide an alternative source of water specifically for cultivation purposes. Suggestions included a system for harvesting and storing flood waters, or the drilling of a borehole by the river.

Another challenge highlighted by agro-pastoralists was the poor local market for their produce. Some claimed that relief food artificially depressed prices locally and demotivated people from increasing production above subsistence level.

"If people could be supported to buy generators, they could get a good harvest as soil is fertile. Buyers are mainly pastoralists from Garissa who migrate to the area and are not entitled to food aid"

“In fact the soils are fertile and we can farm large areas but poor market conditions is a disincentive”

Concerning the flow of the Ewaso Nyiro River, respondents were divided over whether the reduced and erratic flow was caused by upstream users or by climate change. The consensus was that both factors influenced river flow and there had been some exchange visits arranged by a local CBO (Water Resources Users Association- WRUA) in order to facilitate more equitable usage but respondents did not consider that this had had any tangible effects.

Households that engaged in agriculture seemed to be broadly split between those who were able to invest some resources in equipment and labour to maximise their chances of success, and families who speculatively engaged in agriculture, with minimum investment and consequent meager returns, due to lack of capital and resources (i.e. labour). Other factors complicate this picture, such as whether a household owns one of the better plots of land served by the community irrigation channels (also supported and extended by the WFP, Food for Work Programme), or whether they rely on rainfall and receding flood waters.

As articulated in the community meeting, there are very few households who rely heavily on agriculture because it is not viable every year. However, it does seem to be a useful way of diversifying food sources despite its competition with livestock keeping for dwindling household labour. This also points to the importance of household demographics in defining livelihood strategy options through the availability of adequate household labour.

In terms of resilience building activities, respondents engaged in farming still prioritize the reform of NRM institutions as the most important activity, although they differ in their prioritization of other activities. Based on 5 interviews with respondents who were investing significant resources in agriculture, there was an alternative ranking of resilience building activities (see *table 7*).The ranking presented was based on the number of times each 'resilience building action' was mentioned by Agro-pastoralists as a top priority for CAF.

Table 7- Agro-pastoralists' ranking of resilience building actions

Rank	Resilience Building Action
1	Empower local NRM institutions
2	Develop an alternative source of water for cultivation
3	Ewaso catchment management- ensure equitable use (police upstream user practices)
4	Livestock disease control/ Improved veterinary services
5	Accessible and accurate climate information

6.3 Women and Resilience

Conversations with groups of women and with female headed households revealed a differentiated set of resilience building priorities to those that emerged from the community meeting. However, women were quick to emphasize that despite the fact that they are affected differently from men by droughts and floods, they still recognize that actions prioritized by the men will also benefit them. Although the resilience of different household members is linked, there are still intra-household differences in well-being during climate hazards which could lead to differentiated priorities for resilience building actions between household members based on age and gender.

Women recognized and prioritized the need for reform and empowerment of NRM institutions, and the need for accessible and improved veterinary services, while highlighting parallel actions that would build the well-being of women in particular. See *table 8* for a summary of women's prioritization of resilience building actions, which is based on the number of times an action was highly prioritized by female respondents in the context of CAF. One female respondent stated explicitly that while she appreciated the research team's efforts to include the voices of women, they were reluctant to have their welfare considered separately from that of the wider community.

"We don't want to separate our problems from the rest of the community because if the grazing system is really strengthened rather than just talk, talk, talk then our livestock will benefit the same as the rest"

Even women whose families owned very few livestock supported the prioritization of reform of NRM institutions in recognition of the role that a successful pastoral economy plays in supporting all the other economic activities engaged in by poorer families. However, some women (particularly those who had organized into groups) regarded the exclusion of women from community decision-making fora and the consequent lack of recognition of women's issues as being highly problematic and negatively impacting on the resilience of the family.

"Women are not consulted in meetings, sometimes for NGOs we are called but this happens rarely- so we cannot raise the profile of women's issues"

Two of the main issues which women referred to as being neglected by men were inadequate access to domestic water and poor health services for expectant mothers.

“The women are the ones who fetch water so this issue doesn't come from men. There is only one source in town that decreases during drought [...] the time we spend getting water takes time away from our other duties”

“Expectant mothers are most affected by drought. They have constructed a maternity unit but it has not been equipped or staffed yet and it has been there for long”

Women regarded fetching water as highly time-consuming during periods of drought, which means that they are unable to concentrate on other activities such a petty trade, collecting tree pods, and herding small stock/young stock that have been left in the village. Women also requested training on cutting and storing pasture, which could potentially enhance the survival of livestock during drought. This was also regarded as an activity that they could usefully engage in if they didn't have to spend so much time fetching water.

In terms of petty trade, poorer women in particular highlighted the need for support to help them expand these activities and buy in larger quantities to get a better price. Women's groups in particular were focusing on petty trade of sugar, cigarettes and fuel, and some small-scale livestock trading between Garbatula and Maua. Both women's groups interviewed had successfully applied for support for their businesses from either ALRMP or the HIV/AIDS fund. In both cases, they had paid the local teacher to help them put together the proposal. Both groups were investing profits in goats as they were perceived as more resilient than sheep or cows.

Table 8- Women's priorities for resilience building actions

Rank	Resilience Building Action
1	Reform/empower local NRM institutions
2	Improve domestic water supply (Develop high capacity pipelines or new boreholes for domestic use)
3	Improve health services for pregnant women
4	Support for small-scale business enterprise
5	Improved veterinary services and drug dispensaries

6.4 Youth and Resilience

Young people (17-25 years old) supported the resilience building actions prioritized in the community meeting. Respondents highlighted the inter-connectedness of the local economy and the capacity of pastoralism to invigorate the rest of the economy when it was functioning well. However, like the women, the youth also regarded their priorities to have been 'down-graded' or 'excluded' during the ranking exercise conducted during the community meeting. Youth representatives emphasized that although actions to support pastoralism would also benefit them in the short term, they need support to develop alternative IGAs and livelihoods in recognition of the trend of educated youth disengaging from pastoralism for reasons discussed above (see the 'Constructing the System' section).

Both of the youth groups interviewed (Gumesa and Muchuro) prioritized: job creation for the youth; vocational training and support for further education; small enterprise support; development of an alternative water source for cultivation; in addition to the actions that were prioritized in the community meeting (*table 9* summarizes youth priorities for resilience building actions to be funded under CAF). The youth groups that were interviewed had successfully written proposals and secured funding to start a small enterprise (Ministry of Youth KSH 50,000) or to conduct community sensitization work (HIV/AIDS Fund Kshs.175, 000). One of the groups had used small enterprise funds to begin an irrigated agriculture business which they supplemented by investing profits in livestock and a small Agro vet shop. More recently one of the groups had purchased a motorcycle which they were operating as a taxi- this was by far the most profitable of their businesses (the group had saved KSH 30,000 in three months) due to the chronic lack of affordable transportation in the area. Each of the two groups had between 25-50 members.

Younger respondents were also curious about the viability of other enterprises based on intensive livestock production such as poultry keeping (using commercial feed) and a zero grazing system with 'improved' livestock. This demonstrated that the youth favour trying to stabilize the variability of their environment by moving to intensive livestock systems where inputs were controlled by the market. Reforming NRM institutions is effectively an alternative strategy to reduce the variability of the climate by better managing available natural resources. Although the youth recognized the value in reforming and empowering NRM institutions, their interest in more intensive livestock production systems reflected their perception of worsening environmental conditions for pastoralism and their engagement with an education system which heavily promotes irrigated agriculture and intensification of livestock production as 'modern' and 'sustainable' responses to climate change.

Table 9- Resilience building actions prioritized by youth groups

Rank	Resilience Building Action
1	Reform and Empower local NRM institutions
2	Provide support for youth enterprise
3	Support for youth training, job opportunities and further education
4	Develop an alternative water source for cultivation
5	Community radio- climate information and job opportunities

Day Five: Community Feedback Meeting



Having travelled widely across the ward completing the household and group interviews, the RA team compiled a summary of the findings to present back to the community. This was felt to be important, firstly in terms of giving the community a chance to verify and contest information and any assumptions on the part of the RA team. Secondly, the RA team did not want to 'extract information' and then disappear to analyze it in isolation from the community.

The feedback meeting was opened by Daoud Tari (RAP), who welcomed participants

and gave some background to the RA process for the benefit of participants who had not taken part in days one and two of the community meeting. Various members of the RA research team then presented a summary of the information from the community meeting contrasting it with information from the household and group interviews when there were significant differences. *Tables 6, 7, 8 and 9* were presented to facilitate a discussion on differentiated priorities for resilience building. There was some acceptance on the part of participants that the priorities of farmers, women and youth were legitimate and could form an appropriate focus for resilience support under CAF, in addition to the priorities identified in the community meeting.

Participants were presented with content that had been prioritized for broadcast on the community radio during the household and group interviews (see *table 10*). They were then asked to add any additional information that they believed would be important (see *table 11*). Household and group interview respondents regarded between 7pm and 10pm as the best time for key information to be broadcast, although some male respondents also felt that between 7am and 9 am was appropriate for key bulletins. Participants in the feedback meeting agreed with these time slots.

Table 10- Household and group interview respondents' priority content for the community radio

Prioritized Radio Content
Climate information
Music , entertainment and cultural content
Grazing patterns, pasture surveillance, grazing conditions, water source conditions
Peace and security information
Information on human health- prevention and symptoms/cures
Market price information at different markets (both crop and livestock)
Sharing information between dedhas of different areas- best practice
Information on alternative IGAs
Salam Groups (sending greetings from one area to another)
Information on job opportunities

Table 11- Feedback meeting participants' additional content for community radio

Prioritized Radio Content
Announcing government, NGO, CBO and local meetings
Information on managing/treating livestock diseases
Information on the new constitution
Local, national and international news
Educational programs (both for children and adults)
Information during emergency situations- droughts and floods
Sports coverage

Participants were then asked to consider the criteria that the CAF county committee should use to select resilience building actions for funding. The criteria selected during the individual and group interviews were presented to participants (see *table 12*). There was agreement with the criteria selected by participants, with the exception that a focus on the poverty level of beneficiaries was felt to be secondary to the other criteria.

Table 12- Household and group interview respondents' criteria for proposal selection by CAF county committee

Criteria for Proposal Selection by the CAF county committee
Proposals should be realistic and attainable
Proposals should benefit a large number of beneficiaries
Beneficiaries should include all groups: women, youth, and vulnerable (widows, orphans, elderly)
Proposals should benefit those within the county but also address cross-border issues
Proposals that come from more impoverished areas should be favoured
Look at the poverty levels of beneficiaries
In addition to purely public good actions there should be support for groups

The remainder of the feedback meeting was devoted to discussing the next steps in operationalizing CAF. During July and August RAP would be publicizing the process of forming ward level committees to interact with CAF. RAP would also facilitate the training of ward committee members and the formation of the county level committee. The process of resource mapping that would be carried out in July and August was also outlined to participants. It was explained that a new methodology for community resource mapping had been developed in Tanzania and that at some point in July representatives from around Garbatula would be invited to take part in this process. The methodology utilizes Google Earth (this was briefly explained to participants) to identify key community resources (water points, livestock migration routes, grazing zones, areas of insecurity etc.) which were easily identifiable to community participants. This method has been found to be much quicker and cheaper than traditional geo-referencing techniques that are used to map community resources (the process of geo-referencing with GIS devices was also briefly explained). The aim of the resource mapping process was to produce maps which would continue to evolve as conditions change, and which could be used by local people to advocate for land use policies or resource management by-laws, and for county planners to plan strategic and timely support.

Participants were eager to take part in the resource mapping exercise and agreed to send their most knowledgeable representatives. Daoud Tari (RAP) thanked participants for their active involvement in the RA process and assured them that he would return in July to carry out the resource mapping and start to facilitate the formation of the Garbatula CAF ward committee. The meeting was brought to a close by Bonaya Racha of STEP who then handed over to the local Imam for a word of prayer.

APPENDICES

vi. Appendix 1- Participants List

	NAME	ORGANISATION	TELEPHONE NO.
1	Abdi Bonaya Haro	Gafarsa	
2	Abdi Huka Wako	Provincial Administrator	0728787059
3	Abdi Wario	Gafarsa	0723226354
4	Abdikadir Tulla	Malkadaka	0724111526
5	Abdishakur Abdusa	STEP	0710318880
6	Abdulla Ibrahim	BELGESH	0714838709
7	Abdullahi Kuno	Malkadaka	
8	Adan Gine	Gafarsa	0705189107
9	Adan Obundo	OOP	0706822229
10	Adan Turo	SELIMA P./ IHRN	0725535015
11	Ali K. Dido	Gafarsa	
12	Ali Kala	DEDTHA Comm. GAFARSA	0700560938
13	Amina Wako	Youth	0712435843
14	Ayub Shaka	KMD	0722747738
15	Bisharo Ali	Rahmati Women's Group	
16	Bonaya Racho	STEP	0714943970
17	Bonaya Ralha	Gafarsa	0714943970
18	Danch Goliche	STEP	0718549012
19	Dansoye Elema	Self Employed GAFARSA	0716967787
20	Dokata Jaldesha	Gafarsa	0715794491
21	Gababa Hapicha	Garbatulla	1033104
22	Galdeja Godana	MIDAKA	
23	Galgalo Jaldesa	Gafarsa	0714024434
24	Galgalo Sora	Gafarsa	0717579153
25	Golicha Kalicha	Kombola	0714585551
26	Guyo Ade	BELGESH	
27	Habiba Diba	Self Employed MALKADAKA	
28	Happi Guyo	DEDTHA Comm.	0715257815
29	Hassan Allan	STEP	
30	Hassan Dulma	Isaslo	0725216541
31	Huka Jardesa	STEP	
32	Hussein A. Huka	YEDF	0724235003
33	Hussein Boru Ungiti	RAP	0716565958
34	Hussein Roba	Youth	0720944179
35	Ibrahim	Kombola	
36	Ibrahim Molu	Malkadaka	
37	James Pattison	IIED	
38	Jillo Bagaja	Gafarsa	0729826547

39	Joseph G. Onyango	OOP/PAPS	0722883365
40	Mohamed Halkano	Kombola	0735767487
41	Mohammed Hussein	BELGESH Livestock Market	0713914359
42	Mumina Abdi	Peace Group	0728658507
43	Nanki Kaur	IIED	+44770284790
44	Nasir Mohamed	WRUA	0723490314
45	Nyaburi Guyo	STEP	0716968996
46	Ralia Madicha	Self-Employed BELGESH	0706369832
47	Sadia Kuri	Kombola	
48	Said Abdikadir	Malkadaka	0700785582
49	Saul Abdi	Malkadaka	0700785582
50	Shoba Huka	Gumesa Women's Group (GAFARSA)	0718226586
51	Soka Boru	Gafarsa	0701121210
52	Somo Roba	Garbatulla	0714489928
53	Victor Orindi	CC- MDNKOAL Advisor	0720689909
54	Wako Dida	BELGESH	0700527181
55	Wako Roda	STEP	

vii. **Appendix 2- Schedule of Activities**

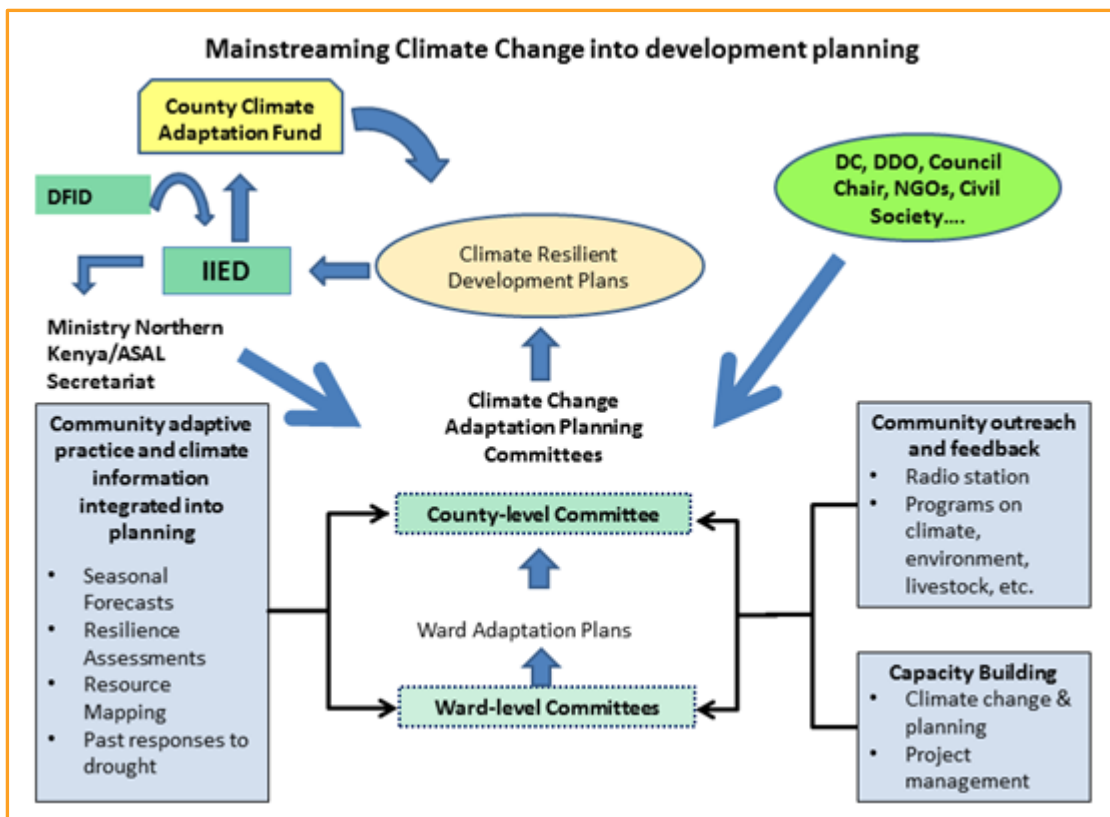
Timing	Planned Activity
Preparation 15-03-12 16-03-12	RA team arrives from Isiolo
	Meeting research assistants/ interpreters – agreeing on contract and logistics
	Methods training and discussion of key concepts with research assistants/ interpreters
Day 1 17-03-12	Commence two day community meeting (circa 40 participants) to discuss seasonal forecast (KMD) and then 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 18-03-12	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 19-03-12	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 20-03-12	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 21-03-12	Wealth ranking exercise with research assistants and key informants. Confirming the asset holdings of each respondent in order to contextualise responses

Community meeting to validate findings. Opportunity for community and research team to seek clarification, address inconsistencies, identify priority activities, and plan next steps

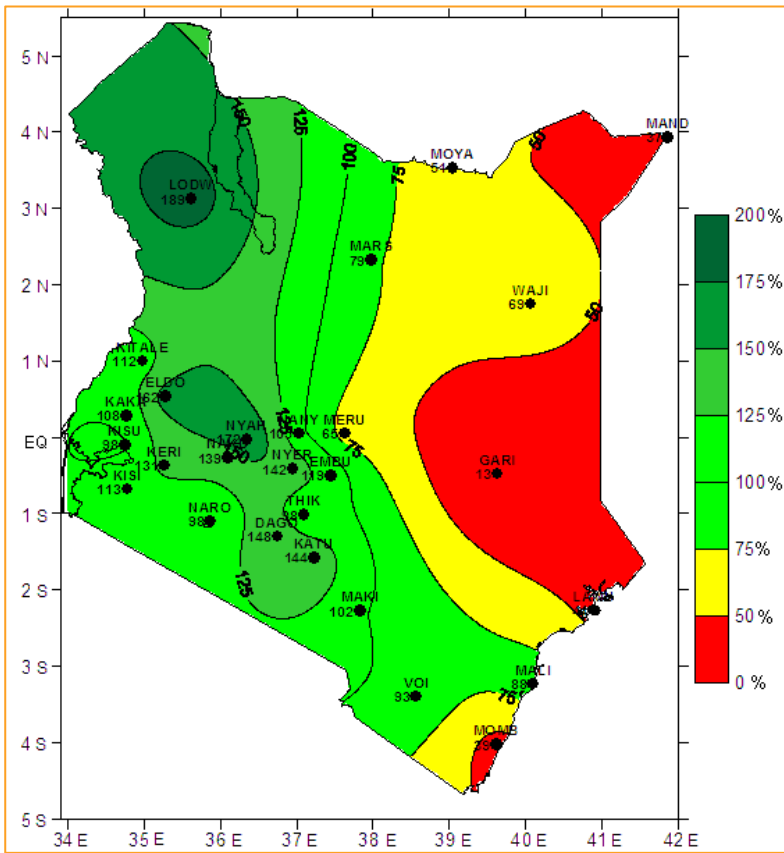
Day 6
22-03-12

RA team departs for Isiolo

viii. **Appendix 3- Proposed Structure of the Climate Adaptation Fund**



ix. Appendix 4- Kenya Rainfall % MAM Long Term Mean



x. **Appendix 5- 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



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