



# OLDONYIRO 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

May 2013

*DISCLAIMER: This research was funded by UKaid from the Department of International Development and Cordaid. However, the views expressed in the report do not necessarily reflect those of DFID or Cordaid.*

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## **i. List of Acronyms**

ALRMP	Arid Lands Resource Management Project
CAF	Climate Adaptation Fund
CBO	Community Based Organisation
DC	District Commissioner
DDO	District Development Officer
DMO	Drought Management Officer
DO	District Officer
FFA	Food for Assets
FFW	Food For Work
GIS	Geographic Information System
GoK	Government of Kenya
IIED	International Institute of Environment and Development
KMC	Kenya Meat Commission
KMD	Kenya Meteorological Department
MSDNKOAL	Ministry of State for Development of Northern Kenya and Other Arid Lands
MPNDV2030	Ministry of Planning National Development and Vision 2030
NDMA	National Drought Management Authority
NGO	Non-Governmental Organization
NRM	Natural Resource Management
NRT	Northern Rangelands Trust
RA	Resilience Assessment
RAP	The Resource Advocacy Programme

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# Day One: Community Meeting

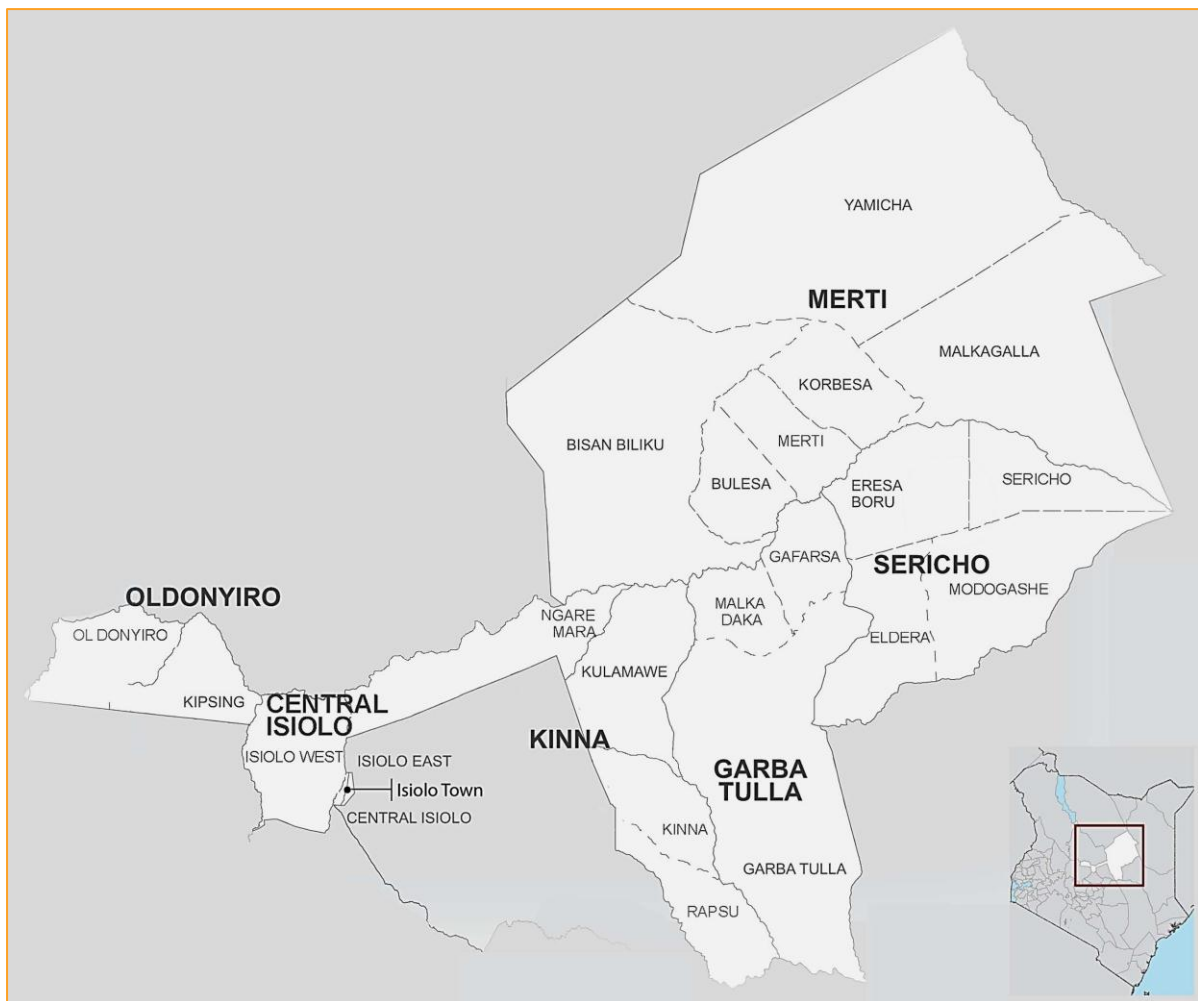
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## 1. Introduction

Lordman Lekalkuli (National Drought Management Authority) welcomed participants to the meeting (see appendix 1 for a full list of participants) and invited a local elder 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 on-going for four years, Lordman outlined the six workshops that had taken place in order to design a collaborative approach to addressing climate vulnerabilities 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); the International Institute for Environment and Development (IIED); and the Resource Advocacy Programme (RAP) is focused on bringing together local and formal processes of planning to strengthen communities' climate resilience. Participants identified the Kisamburu word for climate change- '*nkibelekenyataesiwo*' and highlighted the changes they had witnessed. These changes included higher temperatures, more erratic rainfall and more frequent droughts. Other linked effects were also mentioned, such as changes in trees and grasses and the spread of insects which used to be restricted to the lowlands.

The overall schedule for the 5-day process was outlined (see appendix 2) and agreed with participants. Then the agenda for the community meeting element was agreed. The first day would be devoted to exploring the livelihood types and conceptions of poverty within Oldonyiro community. The background to the Resilience Assessment (RA) and the Climate Adaptation Fund (CAF) would also be outlined before beginning a discussion on the history of climate hazards and the key components of the pastoral livelihood system. The second day would focus on processes that undermine the various livelihood systems and how the resilience of different livelihood types to

climate variability could be enhanced through 'public good type' support. It was also agreed that there would be a resource mapping exercise to be completed at the end of the second day. After the RA team had conducted household and group interviews during days 3, 4, and 5 a feedback meeting was arranged with community participants for day 6. Although some of the participants were unable to attend the feedback meeting, they were able to provide alternative representation from their village/ area.



**Figure 1- Map of Isiolo County**

As the first day of the meeting got underway there were 42 community participants (including 11 women and 8 participants under the age of 25), there were also a number of CBOs, chiefs and local leaders in attendance. Participants came largely from Oldonyiro, Lobarishereki, Kipsing, Longopito, Lemguruma, and Naingura. After some complaints on the first day that the



meeting lacked representation from Tuale, a delegate from that area was invited to join the second day and the feedback meeting (the research team also pledged to visit Tuale to conduct household interviews).

## 2. 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. Emphasising the importance of community participation, Victor explained that if the fund was to address community priorities and support the role of local institutions, it needed to articulate well with community decision-making structures. If CAF were to be designed externally it may end up duplicating community structures and creating a parallel system, which is what we want to avoid if formal and local planning are to be harmonized. Participants commended this approach but cautioned that participation should be equitable and political divisions must be understood by the research team if all groups are to be involved in the process.

It was explained that the role of climate information had been relatively absent from formal planning processes until recently and communities in other wards mentioned that their traditional climate forecasters had become less dependable. This was the reason for KMD's inclusion in the project- in order to deliver local climate information to both communities and to county planners in order to aid decision-making and to allow more timely provision of support. Participants were informed that KMD would be installing a full weather station in Isiolo County in recognition of the importance of climate information to Northern Kenya.

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*<sup>1</sup> support was viewed as a promising approach to

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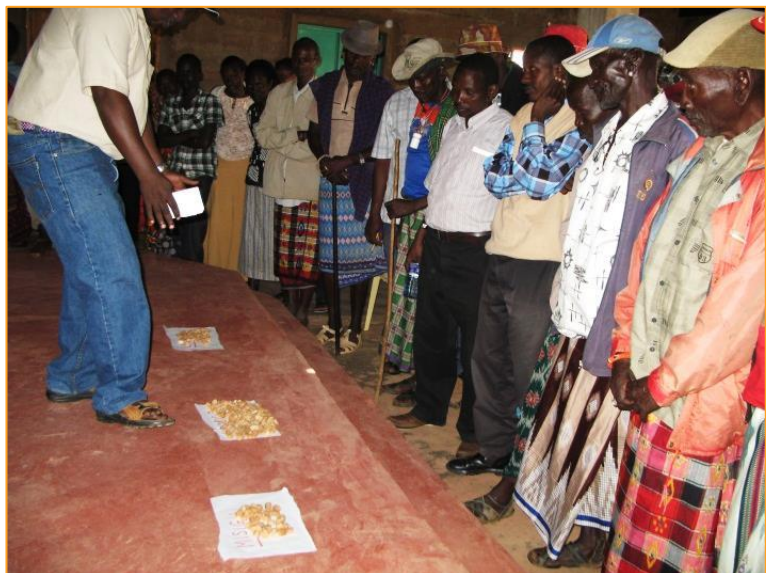
<sup>1</sup> A 'public good type' form of support would incorporate the principles of a public good in the sense that its utilisation should not create rivalry nor should it only benefit a specific group within the wider community. A

building more long-term resilience; was more likely to support community cohesion; and less likely to disrupt traditional social insurance mechanisms than purely individual or small group support. Participants wanted to know whether each ward would receive equal funding under CAF. Victor responded that these details had yet to be decided but that it was likely that the proposals that were funded would depend on the needs of each ward and the type of proposals submitted. Participants expressed concerns that Oldonyiro Ward was very marginalised as the only non-Boran dominated ward in the County. Traditionally this had meant that Oldonyiro received very little funding from Isiolo County Council. Victor reassured participants that the mandate of the Ministry (MSDNKOAL) was to rebalance the marginalization of communities in Kenya's ASALs, so they were very alert to the dangers of exacerbating marginalisation through preferential investment of funds.

Victor described the role of the community radio in delivering climate information in local languages as well as a range of other functions to be decided by the community, he also confirmed that construction would commence once land had been allocated by the County Council. The decision to site the radio in Garbatula for technical reasons was agreed on by participants<sup>2</sup>.

## 2.1 Livelihood Types

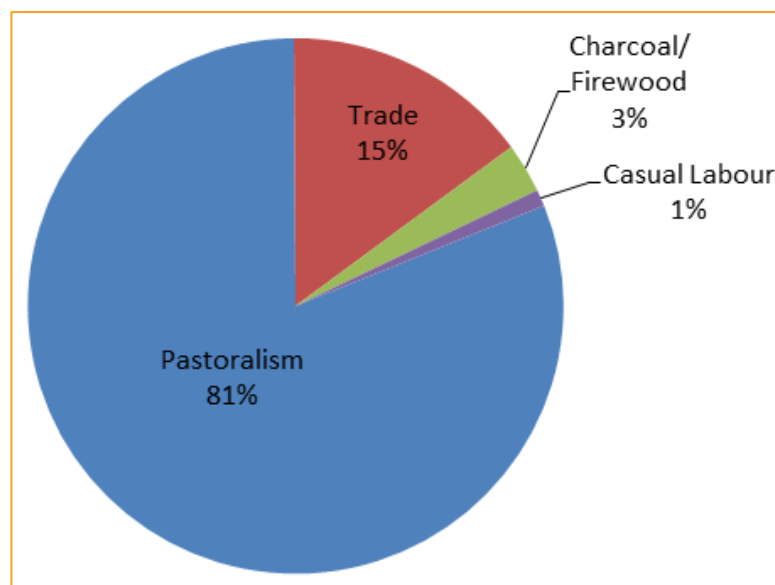
Daoud Tari of RAP (Resource Advocacy Programme) encouraged participants to consider a 'livelihood type' as the activity which produced the most food or generates the most income for a household. For example, collecting and selling *Gum Arabica* may be a common activity but if it was not something that



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.

<sup>2</sup>Garbatula's central location and slightly elevated position within the county makes it the most efficient broadcast site.

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.



**Figure 2- The proportion of the Oldonyiro community pursuing different livelihood types**

Participants began the discussion by listing the livelihood types of families within the ward. A proportionate piling exercise was then conducted whereby community representatives piled maize kernels next to symbols for each livelihood type. The rest of the participants then debated and adjusted the piles until a consensus was reached. *Figure 2* illustrates the results of the proportionate piling exercise. In addition to the livelihood types represented in figure 2, the inclusion of wage labour (a permanent job) was discussed but a negligible number of families were judged to be dependent on this livelihood. Families engaging in farming (cultivation) were normally engaged in livestock keeping as well therefore farming was adjudged to be a 'supplementary activity'. Reliance on relief food was also discussed as a potential livelihood type to be included in the proportionate piling exercise. Ultimately it was agreed that it was better described as a form of external assistance.

*“Relief food cannot be termed as a livelihood as it cannot be relied upon. Relief food is something that assists us when we are down but it is not sustainable. It helps us a bit during very dry periods if it is there”*

Participants estimated that over 40% of all families in Oldonyiro Ward were officially receiving relief food but were very skeptical concerning its role in improving the resilience of people's livelihoods.

*“Our coping mechanisms have been badly affected by relief. People get used to receiving it and they can sell their animals in the market and drink [alcohol]”*

It was suggested by participants that provision of relief food constrains the mobility of the herd if family labour is limited. This was especially true if relief provision was tied to Food for Assets (FFA) or Food for Work (FFW), because each family was required to provide a family member to complete 12 days of work per month. In Tuale, the recipients of relief food were required to work on community farms although harvests had been disappointing due to recurrent droughts.

The question of livelihoods pursued by the youth was briefly addressed during the discussion and the consensus among participants was that youth largely depended on their parents' livelihoods due to lack of job opportunities. Some youth depended on charcoal burning and casual labour with the majority engaging in livestock keeping under the control of their parents.

## **2.2 Poverty**

The discussion on local concepts of poverty began by identifying Kisamburu words for 'poverty'- *ndoropisho* or *misigin*. A common theme was that somebody without livestock was regarded as poor. This was encapsulated by the local saying:

*“One who has no cow dung in his compound is completely poor”*

Anyone keeping chickens or burning charcoal was also regarded as poor.

*“Long ago we didn't have poultry- that is why we define those who have resorted to it as poor”*

Participants emphasised that defining a family's poverty status was not just about their livelihood or their livestock- it also depended on the size of the family and the number of 'dependent' family members (not earning their

own keep- e.g. *moran* or warriors would mostly feed from the herds and did not need to be fed at home).

*“It depends on family size not just herd size- with 20-30 cows and 10 children you are considered Ldorop”*

Three wealth categories were identified based on terminology used locally (see table 1).

*Table 1- Wealth categories among Samburu pastoralists*

Category	Description
Lparakuoni	Rich
Ldorop	Enough to survive
Misigin	Poor (has almost nothing and depends on others)

Participants stressed that these terms were relative because of changing conditions:

*“[...]but there are certain times when you have 20-30 cows and you are considered rich- it all depends on the size of the herds in the community”*

*“In yesteryear if you had less than 50 cows you were poor- but there was a time when the Samburus were almost finished [...] and the time of someone with 50 cows being poor are long gone”*

This is quite different from the more fixed conceptions of wealth categories used by Boran pastoralists in the other four wards. *Table 2* outlines the livestock assets associated with the different wealth categories for an average family of 10 people. Participants also commented that poverty had become more ‘absolute’ over time, because social assistance mechanisms had broken down due to falling herd sizes and a decline in social support networks.

*“During older times- you went to your clan and helped them with herding and your children will be given food”*

Table 2- Livestock holdings associated with different wealth categories

Wealth Category	Livestock Assets
Lparakuoni (Rich)	Over 50 cows
Ldorop (Medium)	Over 15 cows
Misigin (Poor)	Up to 15 goats, or 1-2 cows

It became apparent to the research team that there appeared to be a missing category between *misigin* and *ldorop*. When respondents were questioned about the possibility of a missing category they responded that families with around 5-10 cows did not fit into the three wealth categories but they did not have a specific name for that group.

In order to establish the relative size of different wealth groups within the wider community, participants were asked to take part in a second proportionate piling exercise. The results of which are presented in figure 3.

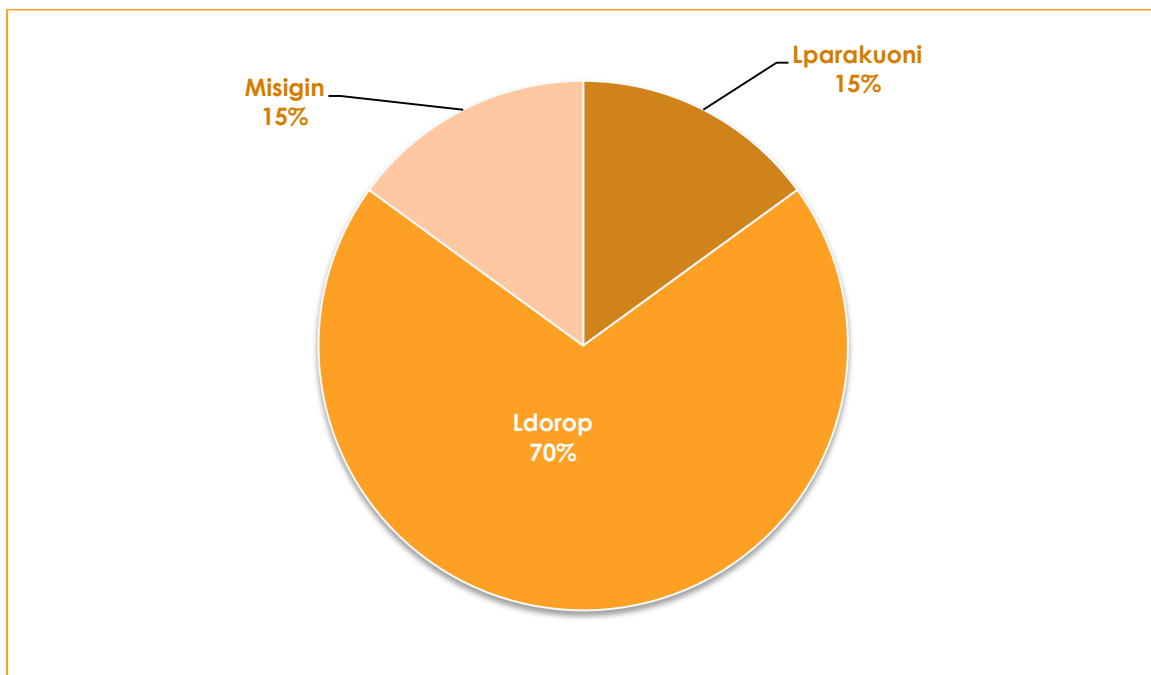


Figure 3- The relative proportion of families in each of the three wealth categories

## 2.3 Climate Hazard Timeline

Daoud Tari asked participants to describe the major climate hazards that had affected their lives in recent years. With the exception of the El Niño rains in 1997/1998 participants focused on drought events as those most severely affecting their lives. *Table 3* outlines the timeline of major climate hazards highlighted by participants.

*Table 3- A history of drought and flood events that affected families in Oldonyiro Ward*

Date	Hazard Description
1997/1998	El Niño rains- rain fell for 9 months causing widespread flooding, disease outbreaks and impaired pasture growth
2000	<i>Rai Borana</i> - The 'Borana Drought' when many families migrated into Boran grazing areas leading to stock theft and conflict
2005	<i>Rai Ndoinyo</i> - 'Drought of Ndoinyo' many families moved to Mt. Kenya and suffered from tsetse infestation in the forested areas
2009-2010	<i>Rai EeLpokot</i> - 'Drought of Pokots' A very severe drought with complete lack of pasture and widespread livestock disease outbreaks. Conflict with Pokots and between Boranas and Somalis past Archers Post restricted access to resources
2011	Rains were poor although this was not regarded locally as a severe drought and was not given a name

Adding to the climate change effects outlined during the introduction, participants described the appearance of new livestock diseases they had not seen before and the spread of ticks and biting insects. One of the key factors undermining the community's ability to cope with these intensifying droughts is livestock price crashes in local markets that accompany drought events. Described locally as 'throw-away' prices- cows were being sold for as little as KSh1000 at the height of the drought. Despite their poor condition it was felt that traders buying at this price could easily fatten them with some investment and then sell them at a huge profit. This and other weaknesses in the pastoral system were discussed as part of the next section on 'constructing the pastoral system'.

## 2.4 Constructing the System

Daoud Tari asked participants to describe the key components of a successful pastoral livelihood system. The ensuing discussion generated a large number of factors related to institutions, governance, natural resources, politics, climatic conditions, services and social structure. Through further discussion Daoud facilitated the consolidation of these diverse components under eight themes which are outlined in box 1.

The discussion then turned to the factors compromising the various system components and their interconnections. The initial focus of the discussion was the relationship between 'natural resources' and 'planning'. Participants emphasised the increasing variability of access to natural resources due to increasing climatic variability, increasing resource conflicts, lack of adequate labour and other constraints on livestock mobility. The key mechanism for managing access to natural resources and ameliorating these constraints were local natural resource management (NRM) institutions. Participants highlighted the decline of the traditional system of setting aside grazing zones for dry seasons and drought. *Mpagailpaiyani* (literally 'reserved by elders')

refers to a system for conserving specific areas of land for use exclusively in the dry season and during drought. This was controlled by the elders but participants reported that the power of this traditional institution had diminished due to a wide range of factors including the decline in the ability of the Samburu to defend grazing reserves by force; the increasing market integration of the pastoral economy; and declining herd sizes.

Currently, there was no institution working at the ward level to coordinate NRM. Rather there was a sparse network of 'community conservancies' or 'dry season reserves' which were controlled largely by families in the surrounding settlements. In Kipsing there was a 'community conservancy' (*MpusKutuk* Conservancy) that was run in partnership with the Northern Rangelands Trust (NRT). This had the advantage that NRT sources donor

### Box 1- Key Components for Successful Pastoralism

- *Livestock (healthy, breed diversity, well-adapted)*
- *Natural resources (pasture, water, trees etc.)*
- *Peace and security*
- *Adequate labour (healthy, skilled, age, gender)*
- *Planning (functional institutions, community consensus)*
- *Management (effective strategies i.e. herd splitting, destocking)*
- *Mobility (free movement of livestock, effective cross-border negotiation)*
- *Markets (accessible, information on prices, less segregated)*



funding to support the setting up of the conservancy; the development of eco-tourism; and the training of armed 'grazing guards' who ensure that grazing was only utilised by conservancy members during specific periods. The disadvantage of this arrangement was that decisions on when to open the conservancy for grazing had to be made together with NRT staff. There was also suspicion by part of the community that NRT was able to raise funds from donors which were not invested in the conservancy. There were two other conservancies run in partnership with external organisations (Nalare Conservancy/ Sabuk Lodge and Narupa Conservancy/ OILentile Sanctuary). 'Community conservancies' was the preferred strategy (partly due to the decline of local NRM institutions) for excluding neighbouring pastoral groups from their dry season grazing reserves. The potential for eco-tourism revenues was seen very much as a secondary benefit as thus far revenues had been unreliable.

Participants were clear in stating that if there were a system for negotiating migration of livestock from one area to another then there would be less need to create restricted areas.

*"Ours is trust land- so people come from anywhere and settle. There needs to be a system, not only that we should control it but there must be a system"*

Together with the potential role of the County Government in supporting the rehabilitation and enforcement of local NRM institutions and regulation, participants also felt that the lack of government support for pastoralism at the national level was also undermining their livelihood because of lack of investment in services supporting livestock production.

One of the key weaknesses in terms of planning was felt to be the increasing lack of community consensus.

*"The biggest problem with pastoralists is unity- if you can try to tell people where to settle at a certain time- they may not obey. The same with drought reserves- there is not that discipline now"*

This problem was linked with the declining authority of the community elders in making decisions for the community. The 'influx' of pastoralists from other areas was felt to make controlling natural resource use difficult as people could see livestock in the dry season reserve when they were told to move further away into the wet season areas. Based on this discussion, there appeared to be a number of related processes, whereby community

consensus was becoming more difficult to achieve (due in part to more social differentiation) and the institution of the elders was becoming less influential, while at the same time NRM was becoming compromised by uncontrolled access by other groups. In the absence of any support for NRM institutions, communities have favoured the 'community conservancy' model which offers exclusive control of grazing resources within the locality of a defined membership group. Currently there is no coordination between conservancies or reciprocal arrangements. This system of NRM harks back to the 'ranching model' promoted in Maasai rangelands (which is largely regarded to have been a failure<sup>3</sup>) whereby public resources are privatised. In the context of high spatial and temporal rainfall variability, the weakness of this approach is that it does not support livestock mobility; rather it fragments a communal resource for the benefit of specific sub-groups. There was broad consensus that empowering local NRM institutions was preferable to the spread of 'community conservancies' although until the County Government pledges support for this initiative, the conservancy model at least ensures some protection of localised grazing resources.

The livestock component of the system was also discussed and was felt to be strong. When it was suggested by one of the Ministry staff that livestock breeds could be substantially improved in terms of productivity, participants were quick to respond:

*"The reason we have our smaller herds [cattle] is because they can survive the drought!"*

There was, however, interest in diversifying into camel keeping as this has been proven to be a resilient, highly mobile species that survives well in Oldonyiro. There was a lack of knowledge on camel diseases and treatment and many participants suggested the need for training on husbandry.

The increasing importance of access to market and price stability was also raised by participants who described management strategies changing in response to the increasing frequency of drought and consequent falling herd sizes.

*"People used to have 100 cows and never sell any, but now you have to sell some strategically to avoid severe deaths in drought"*

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<sup>3</sup>See for example: Galaty, J.G, 1992 *The Land is Yours: Social and Economic Factors in the Privatisation, Sub-Division and Sale of Maasai Ranches*. In *Nomadic Peoples* (30) pp.26-40

There had been some support for the community to market their livestock en masse direct to ranchers, which was felt to be a good system by participants as it returned more of the final market price to producers. It was suggested that such events should be coordinated with the forecast on-set of drought whereby people could destock before prices crashed. Such mass marketing initiatives required the support of the County Government in terms of security and coordination.

Inadequate veterinary services; poor availability of drugs; and lack of knowledge on drug administration were regarded by participants as undermining the livestock component of the pastoral system. Likewise, poor health services also undermined the labour component. As with livestock the period after drought when the first rains come was identified as a particularly risky period for ill health. The effects of ill health were compounded during this period because labour requirements were at their highest. Another issue weakening the labour component was lack of employment opportunities following completion of primary education. As in the previous wards, participants described a process whereby through education children became divorced from pastoral livelihoods and were left in 'no-man's land'-without employment or further education opportunities and without the motivation or skills to engage in a successful pastoral livelihood.

After a lively discussion, the meeting was closed by Lordman Lekalkuli who urged participants to be punctual for the next day's meeting.

# Day Two: Community Meeting

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## 3. Resilience Spectrum Analysis

The meeting was opened by Daoud Tari who welcomed participants and outlined the schedule for the day. The meeting was then blessed by a local elder and a discussion began on the concepts of resilience and vulnerability with regard to droughts and floods. Daoud asked participants to identify words in their own language for resilience and vulnerability. After some reflection and debate, it was decided that the local word for vulnerability is 'nchalan' (literally 'weakness') and resilience is 'reten' (literally 'the ability to come back').



Participants were asked to reflect on the factors that made one family more able to cope with drought than another. The result of this discussion is summarised in table 4.

*Table 4- Factors that define a family's resilience in a pastoral context*

Key Factors	Key Characteristics/ Examples
Asset holdings	Quantity, diversity, and dispersal
Income and food sources	Diversity, seasonality 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. Also information is a key resource for planning
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
Market Access/ Dynamics	Food price volatility. Livestock price crashes are correlated with climatic events- the opposite of agricultural products. Logistics of market access can severely affect prices
Insecurity	Impedes mobility and compromises asset holdings

In terms of the differential effects of drought and flood on different wealth groups, there was some consensus that the rich were affected most because their work load went up dramatically and they were most vulnerable to severe herd loss because it was difficult the keep many animals satisfied. Some participants suggested that because poor families were accustomed to having little food and livestock, and have coping mechanisms (e.g. engaging in some casual labour etc.) they were not affected as drastically. This revealed an interesting aspect to local concepts of resilience which also came in during resilient assessments in other wards. There seemed to be a focus on the vulnerability of a family to asset loss, rather than their vulnerability to food insecurity- this is important to understand if community concepts of resilience/vulnerability are used in order to target the 'most vulnerable'.

The poor were regarded as most vulnerable to ill health because they had few spare resources with which to buy medicine. While some management strategies available to the rich (herd splitting, hiring herders etc) were regarded as enhancing survival, they were also believed to require high levels of management and stress. Equally, the greater need for herd mobility

that is inherent in larger herd sizes was also believed to increase workload and security risk.

Outbreaks of flooding affect specific areas (Longopito, Tuale, SabSab, Lorumoki, Naitomia, Kawalash, Naingura, Ndikir, Parkurak, Raap) and all families in those areas are affected by livestock and human ill health unless they migrate away. The role of climate information was emphasised by participants in forewarning families in these areas of imminent river flooding. The disruption to transportation networks also affected relief food provision, small business and traders, and could limit opportunities to engage in casual labour. Therefore flooding was only regarded as having positive effects for livestock keepers who were able to migrate away from flooding and then return to take advantage of nutritious ephemeral grasses.

Participants were split into two groups in order to identify the key issues undermining the various components of their livelihoods and also the key actions to address these issues (based on the 'constructing the system' method). Daoud introduced this exercise by drawing a scale for community resilience going from 'nchalan' (vulnerability) at one end to 'reten' (resilience) at the other. He then asked participants where they were on the scale currently. Participants were then asked to list all the reasons why they were at that level of resilience/vulnerability, and to identify key actions which would push the community further up the scale towards resilience. This method provided a visual focus and a structure to open a detailed discussion on building community resilience. Tables 5 and 6 produced by group 1 and 2 respectively, summarise the outcomes of this process. Once the two groups had completed their lists they were presented back to the plenary. A consolidated list of ranked actions to address climate vulnerabilities was then produced (see *table 7*). There was a reasonable level of consensus concerning which actions should be prioritised most highly for support by the Climate Adaptation Fund (CAF). It was anticipated that differences in the priorities of different sub-groups within the wider community would be easier to understand in the context of the household and small group interviews over the following days.

**Table 5- Group one's priority challenges and actions to build community resilience**

Issue	Vulnerabilities & Actions	
<b>Resource Management</b>	Vulnerability	Poorly managed pasture which increases livestock death during drought. Lack of institutional framework to manage the Influx of neighbouring pastoral groups
	Actions	<p>Pasture control and settlement control by elders with support from County authorities- requires awareness raising, capacity building and legitimisation and enforcement of local resource use regulations</p> <p>Set up community conservancies to control access to grazing resources</p>
<b>Livestock Health</b>	Vulnerability	Preventable livestock deaths during drought years
	Actions	<p>Improved veterinary services (deworming, vaccination, training of CAHWs)</p> <p>Certified drugs (quality) and a network of dispensaries that can provide training on drug administration/usage in local language.</p>
<b>Water Availability</b>	Vulnerability	Inadequate water for livestock and household use, results in inefficient resource use and over burdens women
	Action	<p>In areas where pasture is inaccessible during dry seasons, develop boreholes which should be placed under the control of elders of that area.</p> <p>Develop separate sand dams or boreholes for domestic use (incl. household small/young stock)</p> <p>Training and equipment for harvesting rainwater</p>
<b>Livestock Price Crash During Drought</b>	Vulnerability	Livestock prices fall very quickly at the onset of drought because of the huge increase in supply at local markets
	Action	<p>Implement a community marketing scheme- similar to the Kenya Meat Commission but with fairer prices linked to final market prices</p> <p>Improve roads, transportation and security</p>
<b>New Constitution</b>	Vulnerability	Lack of knowledge on rights and responsibilities under the new constitution
	Action	Utilise the community radio station to provide information in the local language concerning community land rights and other key issues concerning devolution of power to County Assemblies
<b>Climate Information</b>	Vulnerability	Climate information broadcast on radio and printed in newspapers does not focus on their area and is difficult to understand

	Action	KMD should supply detailed and simple climate information via the community radio station- there should also be feedback on what type of information is most important to local people
<b>Conservation</b>	Vulnerability	Uncontrolled tree cutting will exacerbate erosion
	Actions	Support for tree planting and regulations for production of charcoal
<b>Camel Keeping</b>	Vulnerability	Increasingly frequent droughts are triggering a shift from cattle keeping to camels but training is required for a successful transition
	Action	Training on husbandry and treatment of camel diseases
<b>Maternal Health</b>	Vulnerability	When complications occur during childbirth there is no way of getting to hospital quickly
	Action	Provision of ambulances and training for local people to staff medical facilities across the county



**Table 6- Group two's priority challenges and actions to build community resilience**

Issue	Vulnerabilities & Actions	
<b>NRM</b>	Vulnerability	Natural resources are not managed effectively because of lack of capacity of local NRM institutions and uncontrolled influx of livestock from neighbouring communities
	Actions	<p>Build the capacity of local NRM institutions to manage resources as well as coordinating management between different areas of the ward and across borders (ward and county)</p> <p>Establish by-laws for NRM backed by the County Government</p> <p>Create more protected conservation areas</p> <p>Advocate for the 'Land Bill' to be implemented</p>
<b>Income Diversification</b>	Vulnerability	The strong seasonality and variability of livestock production undermines household consumption for extended periods
	Actions	<p>Diversified sources of income can buffer periods when income/production from livestock is inadequate.</p> <p>Diversification requires training and support. The community radio may have an important role in promoting opportunities and training events</p>
<b>Information Networks</b>	Vulnerability	Inadequate or inaccessible climate information compromises the ability of the community to plan effectively for droughts and floods and lack of up-to-date information on market prices reduces the ability of families to strategically market their livestock
	Action	Ensure that climate and market information is gathered and disseminated effectively by the community radio station in Kisamburu as well as the other languages used in Isiolo County
<b>Veterinary Services</b>	Vulnerability	Inadequate veterinary services and lack of trained dispensary staff undermines the survival of livestock during droughts and floods
	Action	Improve government veterinary services and train community animal health workers. Also instigate a system for registration and training for all agro vet dispensary staff
<b>Planning</b>	Vulnerability	Government interventions are often inappropriate or the timing renders the intervention useless
	Action	Closer coordination between local and formal planning systems should allow the incorporation of local knowledge to improve the effectiveness of Government interventions

<b>Constitutional rights</b>	Vulnerability	Lack of clarity on 'rights' and inequitable ability of different groups to exercise their rights
	Action	Educate people on their rights under the new constitution- the community radio will be a key tool in achieving this
<b>Access to Water</b>	Vulnerability	Time spent by water fetching water during drought reduces their ability to diversify food/income sources
	Actions	Develop alternative water points (boreholes or pipelines) in settlements for domestic use

*Table 7- A consolidated list of ranked resilience building actions*

Priority	Issue	Actions
1	Awareness raising	Awareness raising and training on climate change, the use of seasonal forecasts (community radio), and how to strengthen traditional NRM institutions
2	Supporting NRM institutions	Support for building the capacity of local NRM institutions and getting NRM regulations supported by County Government and coordination across wards and counties
3	Conservancies	Creating community conservancies to protect grazing reserves for the exclusive use of conservancy members
4	Water	Development of strategic water points for livestock in areas of abundant pasture during dry seasons and for domestic use in settlements
5	Animal Health	Improved veterinary services and better access to veterinary drugs, equipment and trained dispensary staff (local language). Dispensaries must stock certified products as there is problems with fake or diluted drugs
6	Marketing	Improve roads, transportation, security and market information (community radio)
7	Environmental conservation	Tree conservation and tree planting- linked with awareness rising. There needs to be support for alternative livelihoods/training for charcoal burners

### 3.1 Community Radio

Victor Orindi (MSDNKOAL) then described the role of the community radio and emphasised that the radio station would be run by members of the community (5 broadcasters, 5 information collectors, and 2 or 3 management staff) who will be trained by KMD. The radio would broadcast in all of the five languages of Isiolo County inhabitants: Boran, Somali, Turkana, Samburu, and Meru. The only rules were that there should be no politics or religion broadcast on the radio. This was to ensure the radio did not have a divisive role within the wider Isiolo community. Participants were then asked what kind of content should be prioritised for broadcast on the radio. Table 8 summarises their responses.

*Table 8- Content for the community radio as prioritised by participants*

Radio Content
Climate information
News- local, national, international
Peace and security
Market prices
Information on the new constitution
People's migration during drought
Livestock disease outbreaks
Stolen animals- sightings at market, tracing etc.
Job opportunities
Educational issues
Cultural content (songs, traditions etc.)

Participants were asked to comment on access to radios in their community and the best time of the day to broadcast the most important content. The majority of participants (both men and women) stated that 7-9pm was the most convenient time for them to listen. Morning programs from 7-9am were also regarded as being a convenient time depending on the time of the year. Participants reported that most families had access to a radio even if they didn't own one.

### 3.2 Community Resource Mapping

Victor Orindi (MSDNKOAL) asked participants to select a small group of knowledgeable people to lead the resource mapping process- the rest of the community representatives then contributed through discussion as the mapping group drew the map. Victor suggested that those involved in the mapping process should map those resources that were most important to their livelihoods. He then outlined some of the uses for resource maps (see below):

- Mapping highlights the resources at the disposal of the community. This process can facilitate a greater appreciation of the need to manage resources efficiently by all involved.
- Maps can be used by the community to explain their natural resource management system to external actors, which can facilitate more effective support.
- Maps may also play a role in formalising the regulations of local natural resource management institutions which govern access to key resources. Formalising local natural resource use systems and linking informal and formal planning processes also forms the basis for joint enforcement of regulations through the drafting of county and national legislation.
- Production of community resource maps in tandem with support for local natural resource management institutions can enhance the capacity of cross-border communities to effectively negotiate reciprocal resource sharing agreements.

It was also pointed out by Victor that the process of drawing maps could be highly political which suggested that the process needed to be firmly embedded in county and national governance structures. After a discussion about which resources were most important to the livelihoods of the community in Oldonyiro Ward, Victor informed participants that their completed maps would be used as the starting point for the creation of a digital map using satellite imagery provided by Google Earth.

The mapping process began with a 20 minute discussion about how the mapping group should conduct the process. The outline of the ward was then sketched out. Agreeing on symbols and finalising which resources to map took another 15 minutes, and drawing the map took about an hour and a half. After the map had been completed it was presented and explained

to the non-community participants. The community was then asked to select five representatives to participate in a workshop in Isiolo the following week to test the methodology for digitising community resource maps.



## Days Four and Five: Household and Small Group Interviews

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### 4. Methodology

For the household interviews, the RA team targeted respondents in order to reflect opinions from different areas of Oldonyiro ward, different wealth categories and different livelihood types. Eighteen household interviews were carried out over three days. Two research assistants Patrick Lenawasae and Hilda Naokes



were given the task of identifying and arranging these interviews after a training session on the goals of the research and the key factors for targeting respondents.

*Table 9* summarises respondent wealth and livelihood type characteristics and contrasts them with the characteristics of the community as a whole (based on data from the community meeting). As *table 9* illustrates there was a bias towards poor respondents and towards marginalised livelihood types in terms of the number of families interviewed. This reflects the focus on understanding the livelihoods of the most vulnerable sub-groups from the wider community. Household interview respondents were selected from across the ward: Oldonyiro Town (4), Kipsing (2), Naingura (2), Lenguruma (2), Tuale(3), Longopito (2),Lobarishereki (3).Eight women and 10 men were interviewed during the household interviews. There were also two small group interviews- one with a group of women and one with youth.

**Table 9- The distribution of household interview respondents according to wealth category and livelihood types compared with the wider community**

Household Interview Respondents	Category	Wider Community
<b>Wealth</b>		
11 %	Lparakuoni (Rich)	15 %
33 %	Ldorop (Medium)	70 %
56 %	Misigin (Poor)	15 %
<b>Livelihood Type</b>		
61 %	Pastoralists	81 %
11 %	Small Business	15 %
11 %	Charcoal Burners/ Firewood Sellers	3 %
17 %	Casual Labour	1 %

Household interviews were carried out predominantly with members of the Samburu ethnic group although interviews were also conducted with several Turkanas and a Merian. The RA team split into two groups for the majority of the household interviews in order to increase the number of interviews possible per day and also to have a less intimidating group of interviewers to help respondents relax and communicate freely. See appendix 4 & 5 for the interview guides used for household and group interviews. These guides were used flexibly such that if a particular respondent had specialist knowledge; interviewers were not bound to complete the set questions but were encouraged to explore the respondent's knowledge in a more conversational way.

#### **4.1 Differentiated Resilience**

The specific factors undermining pastoral resilience were outlined during the 'constructing the system' and 'resilience spectrum analysis' methods, during the first two days of the community meeting. This section seeks to develop a more differentiated understanding of resilience by looking at how different groups within the wider community were affected by specific climate hazards. Resilience is differentiated by livelihood type, wealth levels, gender and age. Before looking at the comparative vulnerabilities of different groups, *tables 10, 11, 12, 13, 14 and 15* summarise the priorities of respondents from different groups for resilience building activities to be funded by CAF. The ranking in these tables are based on the number of times each of the priority actions were mentioned during interviews.

**Table 10- Resilience building priorities for respondents**

Priority Action
Improve domestic water supply
Conservancies/ NRM reform
Support and training for small group enterprise
Improve healthcare facility (particularly maternity care)
Improve veterinary services and dispensary standards

**Table 11- Resilience building priorities for female respondents below the age of 25 years**

Priority Action
Support for further education and training
Create job opportunities/ Support youth enterprise initiative
Conservancies/ NRM reform
Restocking
Improve domestic water

**Table 12- Resilience building priorities for charcoal producers**

Priority Action
Restocking
Support/ training for small enterprise
Improve domestic water
Properly staff and resource the healthcare facility
Improve schooling standards and support further education

**Table 13- Resilience building priorities for casual labourers**

Priority Action
Support and training for small enterprise
Restocking
Control influx, instigate conservancies or rehabilitate NRM institution
Improve access/standard of healthcare
Improve access to water for domestic use



**Table 14- Resilience building priorities for medium and rich pastoralists**

**Table 15- Resilience building priorities for poor pastoralists**

Priority Action		Priority Action
Conservancies/ rehabilitate NRM institutions/ control influx		Conservancies/ rehabilitate NRM institutions/ control influx
Restocking		Improve security
Improve veterinary services and dispensaries		Better provision of climate information
Better provision of climate information		Improve market access and information
Improve access to water for domestic use		Improve veterinary services and access to drugs from trained dispensary staff

By contrasting the above tables with the outcomes from the community meeting (see tables 5, 6 and 7) it is clear that the priorities of marginalised groups (women, youth, charcoal burners) are not reflected adequately by addressing these issues in the context of a community meeting. While more wealthy pastoralists prioritised actions to improve herd survival and profitability, women's top priority was improving access to water for domestic use. Female respondents justified this priority by emphasising the opportunity cost of time spent fetching water. Lack of time to engage in alternative income generating activities, tending to small stock and gathering pasture and tree pods was regarded as undermining the family's drought resilience. Although improvement of domestic water was prioritised during the community meeting (see table 7) it was given a lower priority than that assigned by women. It is essential to understand the specific vulnerabilities of marginalised groups if they are to be targeted effectively by resilience building activities (even if those activities are 'public good type'). For this reason, it is intended that the analysis of differentiated resilience from all the resilience assessments will inform the criteria used in disbursement of the Climate Adaptation Fund.

An interesting innovation from one group of women was the construction of a community slaughterhouse. The group had estimated the project would cost Kshs. 300,000- so far they have invested Kshs.100,000 half of which was a grant from District Social Services. They intend to raise the rest of the capital through fund raising activities and submitting proposals to various district/county funds and to international donors. This innovative enterprise has the potential to benefit both the women's group and the community.

Slaughtering livestock locally and transporting meat to large urban centres is much easier logistically than transporting live animals and it involves fewer middlemen which returns more of the final market price to the producers. Such enterprises, that add value to livestock products, offer significant potential in terms of opportunities for women and youth groups to positively engage with the livestock economy without adopting traditional roles (herding etc). Youth in particular are the most educated members of the community and should be playing an active role in forging rural-urban links by using knowledge of the pastoral system and their numeracy and literacy skills to forge equitable arrangements with urban traders. The challenge to support these innovations is lack of affordable transportation. Poor infrastructure and insecurity drives up the cost of transportation and effectively increases the distance between the community and the final market. Nevertheless, enterprises that support the employment of youth and enhance the resilience of the community by capturing a greater share of the final market price, offer potential for support under CAF.

Young people prioritised support for further education and training, and for youth enterprise. This reflects their disconnection with their parents' pastoral livelihoods. None of the young people interviewed wanted to herd livestock and regarded the pastoral livelihood as too risky in light of the trend of increasingly frequent drought events. Young people who had completed primary education overwhelmingly wanted to gain paid employment or continue their education. Due to the lack of such opportunities many young people requested support for group enterprises connected with livestock keeping or irrigated agriculture.

Charcoal producers and casual labourers both prioritised restocking which indicated that despite their engagement in non-livestock based livelihoods, they were still keen to return to a livelihood incorporating livestock keeping. This emphasises the profitability of livestock keeping and calls into question the notion that people have chosen to rid themselves of 'vulnerable livestock' to engage in alternative more resilient livelihoods.

Despite the divergent priorities of women, youth, rich, poor and casual labourers from the priorities agreed in the community meeting, all of these groups prioritised reform of NRM institutions and establishment of conservancies very highly. This underlines the centrality of the livestock economy to all other livelihood activities and suggests that improving the

resilience of the whole community to climate hazards must begin with improved NRM. When questioned about the role of climate information in improved local planning, several respondents stated that until there was a system for NRM, the community would not have the capacity to utilise improved climate information other than to destock individually.

#### 4.1.1 Livelihood Types

Pastoralists are affected by droughts in different ways to households depending on casual labour or small business. Pastoralists experience more 'direct climate impacts' such as lack of water and pasture to sustain livestock production, whereas those reliant on business or casual labour experience more 'indirect climate effects' such as depressed demand for products and employment opportunities respectively. However, business owners and casual labourers also experience some 'direct climate effects' e.g. when businesses cannot restock due to flooding of roads, or when construction opportunities diminish for casual labourers because inadequate water is available to make building blocks.

*"Livestock keepers are least resilient, charcoal burners are most advantaged in that way. Labourers are too but to a lesser extent as many types of work depend on pastoralists having money"*

*"Pastoralists are more affected by drought because they need to be mobile and far from their home. They lose animals and families are split. The double task of looking for pasture for animals and food for family is too exhausting. Businesses on the other hand are mostly affected by floods when roads get cut [...] Most people ask for goods on credit which is not good for business"*

The issue of neighbouring pastoral groups migrating with their livestock into Oldonyiro Ward was identified by respondents as the factor most compromising their resilience to drought. The main problem that stems from influx (other than depletion of pasture generally) is the inability of local NRM institutions to maintain drought grazing reserves and dry and wet season grazing zones. By contrast, other livelihood types can benefit from influx of affluent pastoralists from neighbouring areas. Business owners and traders in particular can benefit from trade with outsiders.

Whereas flooding affects most livelihood types adversely, pastoralists can benefit from the abundant ephemeral grasses that proliferate as flood waters recede (and indirectly through the fertile alluvial deposits and recharge of

ground water). There is also an increased prevalence of livestock and human diseases although most respondents regarded flooding as being positive for pastoralists overall.

#### **a. Small Business**

Despite the fact that respondents regarded most small business owners (with the exception of women running tea kiosks and petty trading) as relatively wealthy and therefore resilient to climate hazards, there were a number of direct climate effects that impacted on their livelihoods (albeit not their food security). A Merian shopkeeper describes the situation:

*"Floods affect me more than drought as roads get cut- I can't get stock and transport costs are higher. During rainy season foodstuffs are expensive and goods get finished so this is the time you could make money but stock is not there"*

During drought there are ameliorating affects for shopkeepers and business people who supply basic food stuffs. Despite falling disposable income and increasing prices for agricultural produce, many families have no option but to purchase more food during periods of drought as milk production falls drastically. Also as noted above, migration of neighbouring pastoral groups into the ward increases their clientele.

#### **b. Charcoal Burners**

Charcoal burners are regarded as one of the most insulated from both direct and indirect drought effects. Some respondents actually regarded charcoal burners to be able to benefit from drought. Because charcoal is sold to traders who transport it to large urban centres for use in the *nyama choma* industry, the demand is relatively constant and the supply of dry wood and fallen branches actually increases during periods of drought (pastoralists often cut down tree branches to allow livestock to eat the browse that is out of reach). During periods of flood, charcoal producers can be negatively affected if transportation becomes problematic although there is usually some local demand for charcoal that can sustain them. Despite their apparent 'climate resilience' all the charcoal producers interviewed were in the lowest wealth ranking according to local categorisation and according to observations concerning the condition of the household; ability to pay for education; and food security. The current level of tree cutting was fundamentally unsustainable and environmentally damaging according to

all respondents (including those producing charcoal), therefore charcoal production is regarded as incorporating a kind of 'short-term resilience'. Because of the hand-to mouth existence and lack of social networks of the majority of charcoal producers, they are very vulnerable to ill health which is often exacerbated by delayed recourse to medical assistance due to cost and accessibility barriers.

### **c. Casual Labour**

When the issue of families reliant on casual labour for their livelihood was discussed, participants insisted that the majority are still regarded as pastoralists (who have temporarily lost their herd). They are referred to locally as the 'sweat guys' because they are forced to engage in arduous casual labour. Casual labourers can be adversely affected by both drought and floods depending on their particular skills and social networks. Access to specific forms of labour is dependent on personal contacts. The types of employment opportunities that increase during drought and immediately after the rains are often only available to pastoralists with particular skills and knowledge (well-digging, herding, providing security for transport to market etc). Most employment opportunities are dependent on a buoyant pastoral economy. Construction (and linked activities such as pole cutting, block making), firewood selling, truck loading/unloading, taking livestock to market, are all activities that are adversely affected by drought and the majority are also affected by heavy rainfall and flooding. In a similar way to charcoal producers, families reliant on casual labour are very vulnerable to ill health and are generally very food insecure, with very few assets.

Due to the dominance of the pastoral economy, many of the indirect climate effects experienced by households pursuing non-livestock based livelihoods are mediated through direct climate effects on pastoralists. For

#### **Box 2- 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;*
- *Ownership of donkeys to transport water*
- *Herd splitting;*
- *Paying to use boreholes;*
- *Destocking;*
- *The ability to purchase adequate veterinary drugs;*
- *Paying ranchers for access to private grazing land;*
- *Diversified income sources and savings reduce the need to sell livestock.*

example, during drought pastoralists' disposable income declines drastically as livestock prices in local markets crash. This results in a decline in demand for non-essential consumer products and services. Despite this, participants emphasised that opportunities for certain forms of casual labour actually became more abundant during drought periods because of the increase in workload associated with large herds of livestock during and immediately after these periods (due to increased mobility and the necessity for more intensive management).

There were also growing numbers of families who engaged in a range of income generating activities to mitigate the seasonal vulnerabilities associated with a particular activity. A respondent engaged in both construction and charcoal making highlights this point:

*“During rainy season I get a lot of construction work because the ground is soft- and you need water to set the blocks- but during dry season there is little work so I make charcoal”*

#### **4.1.2 Wealth and Pastoral Resilience**

The ‘assets’ component of family resilience (see *table 4*) was regarded by respondents as the key determinant of resilience to climate variability and drought. The role of livestock assets in defining the management strategies and inputs that can be utilised to enhance the survival of the herd is summarised in box 2. Respondents were also quick to point out that a family's livestock assets could only be meaningfully quantified in relation to the number of dependents.

*“Richer pastoralists are able to divide their herd into smaller groups and move them to different places so that certain groups may survive if one area is badly affected [lack of rainfall, disease outbreak or conflict]. Rich people also have camels which give more milk during dry periods so long as they have something to eat”*

*“Those with labour to split herds into different directions often survive better. Those who cannot afford such labour often lose many animals as they concentrate in place”*

The above quotes demonstrate that having adequate access to labour and large enough herds to split over multiple *bomas* could 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 could not be employed by the majority of pastoralists. Access to grazing resources out of the reach of poorer pastoralists could also be secured through payments to land owners.

*“Richer pastoralists can rent ranches to graze animals during drought [it costs approximately Kshs. 100/cow/day]. The rich pastoralists can also sell good enough numbers to buy adequate animal feed, drugs and food for the family which the poor cannot”*

In addition to the utilization 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. Therefore wealth and diversity of income sources are the most important determinants of climate resilience among pastoral families. Some of the other components of resilience outlined in *table 4* (access to key resources, adequate human capital, access to external support and services, access to markets, insecurity) form key intervention points for CAF. Specifically, access to key resources and key services offer significant potential as the basis for 'public good type' support initiatives.

## Day Six: Community Feedback Meeting

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Having travelled widely across the ward completing 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 analyse it in isolation from the community.

### 5. Priorities for Resilience Building Actions

Participants were presented with a summary of the information from the community meeting with some provisional analysis. Information on the priorities of different groups for 'public good type' support (see *tables 10, 11, 12, 13, 14 and 15*) and other information generated by the household and small group interviews was also presented for further discussion. It was largely accepted by participants that the first community meeting did not capture everyone's priorities equally because of power dynamics and the process of consensus building in a group setting. However, agreement around the importance of NR management, empowerment of local NRM institutions and establishment of conservancies from all groups (including respondents from other ethnic groups and non-livestock based livelihood types), demonstrated that the community meeting had correctly identified the key issue defining community climate resilience.

#### 5.1 The Climate Adaptation Fund

For the benefit of those not present during the community meeting, Victor Orindi (MSDNKOAL) briefly outlined the Climate Adaptation Fund (CAF) (see appendix 3) and asked participants if the structure was clear and for any comments or suggestions. The details of the ward and county-level CAF committees were also explained. The ward committee would have 11 members and would include 2 youth and 3 female representatives who should be involved in electing the committee chair and secretary etc. The county-level committee would comprise the clerk to the County Council, District Development Officer (DDO), Drought Management Officer (DMO),



NGO representatives, MSDNKOAL, KMD, IIED, and the five ward representatives. Community members should elect a chair from this group who should sit for two years. On both the ward and county committees, decisions should be reached by consensus and voting is to be used as a last resort.

## 5.2 Next Steps

The remainder of the feedback meeting was devoted to discussing the next steps in operationalising CAF. During July and August RAP will publicise the process of forming ward-level committees to interact with CAF. In October and November RAP will facilitate the training of ward committee members and the formation of the county-level committee. The process of resource mapping that will 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 August representatives from around Oldonyiro would be invited to take part in this process. The methodology utilises 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 are easily identifiable to community participants. This method had been found to be much quicker and cheaper than traditional GIS (Geographic Information System) geo-referencing techniques that map community resources (the process of geo-referencing with GIS devices was also briefly explained). The aim of the resource mapping process is to produce various 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.

The meeting was brought to a close by Victor Orindi (MSDNKOAL) who thanked participants for their enthusiastic engagement with the process, he then handed over to a local elder who led the meeting in a final prayer.

# APPENDICES

## iv. Appendix 1- Participants List

	NAMES	ORGANISATION	TELEPHONE NO.
1	Benson Lalmakar	Kipsing	0708481338
2	Elizabeth Lekaikuli	Ol-Donyiro	0725996670
3	Elizabeth Leruso	Ol-Donyiro	0701218566
4	Eturen Simon	Kipsing	
5	Francis Lekula	Office of the President- Ol-Donyiro	0727976315
6	Fransisco Letimalo	Translator. LIFADA, CBO	0720415846
7	Henry Lesokoyo	Office of the President- Kipsing	
8	Immaculate Lengiro	Kipsing	0712358944
9	Immaculate Napuda		
10	Jacinta Lentaam	Ol-Donyiro/ Longopito	0705281095
11	Jane Lekochere	Nashamu Lesuya	0702275063
12	John Lekadaa	Ol-Donyiro	
13	John LeKaragwa	Pst. Longopito	0713899949
14	John Leluai	Kipsing	0714076671
15	John Lengirnas	Peace Committee	0729280441
16	John Letimalo	H/TRAAL- Ol- Donyiro	0720930263
17	John Weluada		
18	Joseph Leparmorijo	Chief Ol- Donyiro	0723739909
19	Kanja Lesankourikira		
20	King Letrok	Ol-Donyiro	
21	Koisan Leparmoruy	Kipsing	
22	Kuterei Lemantile	Kipsing	
23	Langashar Lekula	Ol- Donyiro Leader	
24	Ledarika Lesingiran		
25	Lekaros Leerantilei	Kipsing	
26	Lemerin Lekirnas	Ol-Donyiro	
27	Lesaraka Lesingiran	Ol-Donyiro	
28	Lesuuda Hilda Nduku	Research Assistant	0721836478
29	Lodumura Lebeketeti		
30	Loini Lemantile		
31	Loodomurt Leseketeti	Ol-Donyiro	
32	Loongolia Lesangirukuli	Kipsing	
33	Ltulon Lukumoisa	Lenguruma	
34	Lucas Lejunoni	Youth	0720416703

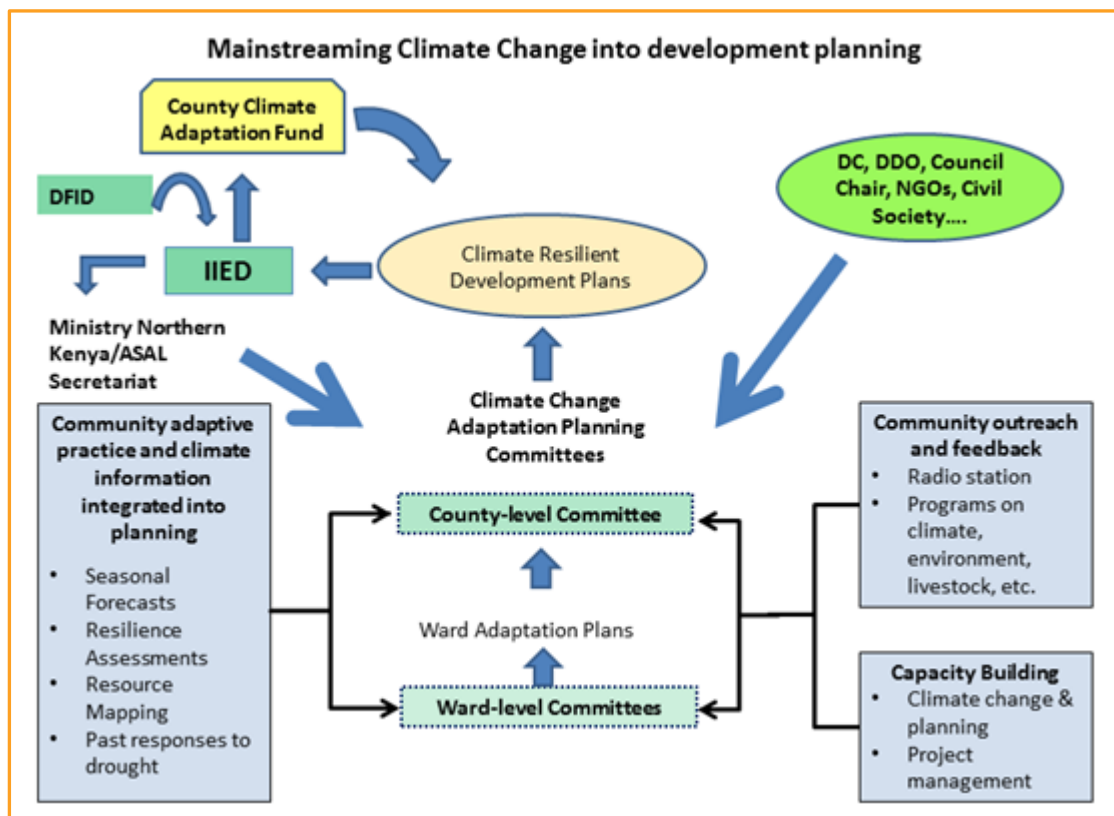
35	Luija Lesuuda	Ol-Donyiro	0724345201
36	Males Lokosowan	Kipsing	
37	Mary Letimalo	Resident student- Chuka	0706926857
38	Moika Peter	Translator, Tws D.Monitor	0726882342
39	Moses Lerosian (CLLR)	CLLR OL- Donyiro	0720867341
40	Mtolon Lekumolsa		
41	Mzee Lomanwe		
42	Nicholas Lebokoyo	Ol-Donyiro	0726751365
43	Nosurwai Lepalo	Ol-Donyiro	
44	Nturura Lengojjine	Ol-Donyiro	
45	Ntutuka Leruso		
46	Patrick Lenawasae	Research Assistant, Ol- Donyiro	0725678871
47	Paulina Matei	Kipsing	
48	Peter Lekutut	CLLR- Kipsing	0721820556
49	Red Bull Lemantile	Ol-Donyiro	
50	Sakin Lepiranto	Ol-Donyiro	
51	Samuel Lekaikuli	Ol- Donyiro Leader	
52	Sanneng' Leluai		
53	Seneneng Lelesupat	Ol-Donyiro	
54	Silangei Leatitia	Kipsing	
55	Simon Lemiruni	Ol-Donyiro	
56	Soita Lejaale	Kipsing	
57	Suayon Cealia		

## v. Appendix 2- Schedule of Activities

Timing	Planned Activity
Preparation 10-05-12 11-05-12	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 12-05-12	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 13-05-12	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 14-05-12	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 15-05-12	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

16-05-12	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	RA team departs for Isiolo
17-05-12	

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



## vii. Appendix 4- Household Interview Guide

### Resilience Assessment- Household Interview Guide

1. Respondent name/age/clan? Number of wives?
2. No. of people in the household(s)? [This refers to their direct dependents- not their sons who have their own families]. **We are trying to understand how many people/children depend on them exclusively for their food.**
3. Income generating activities (comprehensive list including e.g. occasional paid labour, selling miraa, taking the animals of others to market etc)
4. Food sources (comprehensive list including e.g. relief food (how much/ any missed months?), livestock loaning, opportunistic cultivation (**how many harvests last 5 years?**)
5. What are their livestock assets? (incl. small stock, camels, donkeys etc) If they are unwilling to provide exact figure ask them to give a rough estimate (e.g. more than 50 cows).**After every interview check with the research assistant the correct livestock numbers**
6. Going through the list of recent droughts can you ask the respondent to give the story of how each drought affected them; how they managed their livestock (migration? where? herd splitting?), and the effects on livestock numbers.
7. How do floods affect their livelihoods?
8. **What are the major constraints that they face in terms of effectively managing the droughts and floods?** Of all the issues they raise **rank them in order of importance.**
9. What makes one family more able to resist the drought than another?
10. How are pure pastoralists/ labourers/ farmers affected differently by the drought (and then, the flood)?
11. In what ways are richer pastoralists better able to resist the drought? -----  
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12. Explain the Climate Adaptation Fund and how it will function. Explain *Public Good Type* activities. Of these types of activities, which would most support their resilience (*jajaben*)? **Ask the respondent to rank these activities (refer back to constraints highlighted in question 8).** There will be representation from each area of Isiolo on the Climate Adaptation Committee- which institution or organisation represents them? How do they think their community should be represented on the committee? And how should the committee select which community proposals should be funded (e.g. number of beneficiaries, activities targeting the poor, sustainability etc)
13. Have they received KMD forecast? How did they hear + what action have they taken (specifics)?
14. Community radio- informs them of the plans. What content would they be interested in?

## viii. Appendix 5- Group Interview Guide

### Resilience Assessment- Group Interview Guide

**(For collections of youth or women rather than 'organised groups', many of these questions will not apply- instead refer to the household interview guide)**

1. What is the name of your group? When was it started and why? How many members? Has it received any funding?
2. What activities do you undertake as a group?
3. What are the main challenges faced by your members?
4. What are the major constraints/challenges facing your members in terms of dealing with droughts and floods?
5. How can these challenges be addressed (**one by one**)?
6. Explain the Climate Adaptation Fund and how it will function.

Also explain the kind of *Public Good Type* activities that it will support. Of these types of activities, which would support their resilience (*jajaben*) the most (ranking)?

There will be representation from each area of Isiolo on the Climate Adaptation Committee- which institution or organisation represents them? How do they think their community should be represented on the committee? And how should the committee select which community proposals should be fund (e.g. number of beneficiaries, activities targeting the poor, sustainability etc)?

7. Have your members received any assistance- what kind and from whom?
8. Explain the plans concerning the community radio- what content would interest your members?
9. Are there any other issues you wish to highlight to us or any questions for us?



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