

“Pastoralism at the Edge”

Effects of drought, climate change and migration on livelihood systems of pastoralist and mobile communities in Kenya



(NORTH EASTERN, TURKANA, AND THE MAASAI REGIONS)

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IOM International Organization for Migration

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FORWARD

Recurrent drought and climate change have over the years put additional strains on the already limited livelihood resources in the Arid and Semi-Arid Land (ASAL) regions, predominantly occupied by pastoralist and mobile communities especially in Northern Kenya. The regions have been adversely affected by the prevailing drought in the country and the worsening effects of climate change, which have led to environmental degradation and drying up of water pans.

IOM commissioned this study at a time when Kenya was experiencing an onset of disaster due to massive loss of pasture, water scarcity, declining terms of trade for livestock, high food prices and famine. Poverty and malnutrition rates have been forcing the vast majority of the pastoralist communities to fall out of their traditional livelihood activities. They have now turned to charcoal burning, infringing on the already strained local resources and further degrading the environment.

Such pressure on the increasingly scarce resources has greatly led to increased pastoralists' movement to insecure and more fragile places in search of resources. Furthermore, migration trends that increase vulnerability to abuse and human trafficking especially among children and the youth have been evident.

Promoting pastoralists' internal mobility needs, climate change adaptation strategies and conflict reduction mechanisms should be reconciled with pastoralists' livelihood needs including cross-border mobility for access to water and pasture. This study has examined the effects of climate change, drought and decreasing natural resources amongst mobile populations, specifically pastoralists in the North Eastern and North Rift Valley provinces of Kenya. The study provides an evidence base and proposes programmatic interventions that would be implemented in collaboration with the regional governments and other key players to address conflicts over resources and increased migration to [peri] urban areas.

As the leading international agency for migration, IOM is part of a regional partnership with UN-OCHA, UNEP and the Institute for Security Studies (ISS). This partnership aims at facilitating and highlighting regional preparedness strategies to reduce the impact of drought-induced cross-border conflict amongst pastoralists in the Horn of Africa. IOM is also part of the Climate Change, Environment and Migration Alliance.

The recommendations in this study will inform future interventions to further address mobility associated with drought and climate change amongst the pastoralist communities of Kenya.

Ashraf El Nour

The Regional Representative, IOM East and Central Africa

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Such an assignment could not have been accomplished without the involvement and cooperation of various stakeholders, all of whom invaluable contribution towards its success was made. The possibility of leaving out very helpful persons and institutions owing to the limited space and the error of forgetfulness is a danger posed by enlisting of names.

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LIST OF ACRONYMS

AMREF	Africa Medical and Research Foundation
ARDEP	Arid Lands Development Focus
ASAL	Arid and Semi-Arid Lands
AU	African Union
CBO	Community-Based Organization
FBO	Faith Based Organizations
FGD	Focused Group Discussions
GHG	Greenhouse Gases
IOM	International Organization for Migration
IRC	International Rescue Committee
KII	Key Informant Interviews
LNGO	Local Non Governmental Organization
NEP	North Eastern Province
NGO	Non-Governmental Organization
OXFAM	Oxford Committee for Famine Relief
PACIDA	Pastoralist Community Initiative and Development Assistance
PDC	Participatory Development Centre
PRA	Participatory Rural Appraisal /Assessment
RACIDA	Rural Agency for Community Development and Assistance
UN	United Nations
WASDA	Wajir South Development Association

EXECUTIVE SUMMARY

The Drought, Climate Change and Migration assessment was conducted between April and December 2010 among pastoralist and mobile communities in Kenya. The purpose of the assessment was to solicit for evidence so as to widen and deepen understanding on climate-related changes and particularly, the effects of droughts, their dynamics and how these changes have affected the pastoralist (mobile) communities in Kenya.

The assessment sought to examine the effects of climatic changes on general mobility, cross-border migration, use of common pool natural resources amongst mobile populations, specifically pastoralists in the North Eastern, Turkana and the Maasai parts of Kenya with a view to developing programmatic interventions in collaboration with the regional governments and other key players including UN agencies.

To achieve the above, IOM commissioned a study with the following specific objectives:-

- To examine the effects of climate change, droughts and decreasing natural resources amongst mobile populations, specifically pastoralists in the North Eastern and North/South rift valley regions of Kenya.
- To conduct a security and mobility needs assessment of pastoralist and drought- affected communities in the targeted areas
- To explore the cross-border and internal migration dynamics and their resultant impact on security and stability of these communities
- To assess the effects of the growing migration to urban areas among pastoralist communities especially the youth – who tend to form the largest segment of pastoralist drop-outs, and how this has impacted on their vulnerability to additional displacement.
- Map out services and collaborative partners and donors working in these areas.
- Document current responses and identify policy gaps in the protection of the vulnerable groups, and facilitation for safe internal (and cross-border) migration options as well as give policy recommendations towards a normative framework for pastoralists' mobility as an adaptive strategy to climate change.

The study reached out to International NGOs, LNGOs, Government bodies and line Ministries, Community Based Organizations (CBOs), Faith based organization (FBO), and the Pastoralist communities in North Eastern, Turkana and the Maasai regions. Data was collected using both qualitative and quantitative methods including: Focused Group Discussions, semi-structured interviews, and key informant interviews.

A total of 918 respondents participated in the study including technical teams, County/District personnel, NGO representatives, traditional and local opinion leaders and general members of the pastoralist communities in the three clusters.

Key findings

Drought and Climate Change situation

In the three regions, there was a high level of awareness among the pastoralist communities on the occurrence, severity of droughts & change of climate, its dynamics and impacts. There was general anxiety among pastoral communities regarding the changes they have observed in weather patterns in recent years. Many of the adverse effects were reported to be on the increase both in terms of the frequency and severity. Most of the pastoralists expressed uncertainty over the future, coupled with rising levels of desperation as they felt that their key sources of livelihood were threatened.

Livelihood Activities

In the three areas under study, increasing diversification amongst households was reported. It was worth noting that in both the North Eastern and Turkana regions, less than half of the respondents reported livestock keeping as their current main source of livelihood (28.6% and 39%, respectively). Even though livestock keeping was the most preferred source of livelihood among these pastoralists, there was increasing income diversification among them particularly as an immediate survival mechanism during and after drought periods. Among the reported diversification options were: casual employment (including petty trade and hawking), charcoal burning, sale of house construction materials and dependency on relief from the Government and/or development agencies. Although the latter was not a desired option, many households reported that helplessness during and after droughts and livestock raids left them mainly dependent on relief food for survival.

In this study, it was found that the growing unpredictability of weather patterns was increasing thereby rendering communities more vulnerable to any other socio-economic shocks. As a result of the complexity and magnitude of the prolonged problems related to drought and poverty, majority of the respondents (71% in the North Eastern, 82% in the Turkana and 66% in the Maasai clusters) preferred to leave the issue of future happenings to God.

As a strategy to minimize costs, improve security and livestock mortality during drought, the vast majority (91% in the North Eastern, 98% in Turkana and 80% in the Maasai clusters) of those interviewed reported that they moved their livestock along with one or several other friend (s) or relative (s). That confirmed the existence and utilization of both strong kinship and friendship ties amongst pastoralist communities. While away from their homes, most pastoralists preferred to manage their livestock collectively during such movements. In the case of Turkana and North Eastern areas, most of the respondents (98% and 47% respectively) cited the improvement of security as the main reason, then the provision of collective services (such as herding) as well as cost sharing.

Internal and Cross-border Livestock Mobility

It was evident that the frequency of movement in search of pastures had increased in recent years. That was confirmed by a large percentage of the respondents (85% in the North Eastern, 68% in Turkana and 73% in the Maasai clusters). The youth within the family set up - especially the males, were heavily depended upon in the movement of livestock in the three areas (71%, 85%, 73%). However young women were also involved. It is further noted that, only in the North Eastern and Maasai regions, were the hired herders engaged (14% in North Eastern and 15% in the Maasai cluster).

Over the years, the pastoralist communities have grazed their livestock along defined migratory paths. The study revealed that these migratory paths have changed periodically as a result of various reasons. In this study two of the main reasons were climate and/or security related.

Livestock movement across the borders

In the preceding ten years, about two thirds of all the respondents had moved at least once across the border in search of pasture and water. The respondents considered the main pull factor for cross-border migration as the availability of pasture (79% in North Eastern, 98% in Turkana and 94% in the Maasai regions). The clan and friendship ties transcended borders, and the business links (17% in North Eastern) were also highlighted as being important.

There was general reluctance to move across the border but the push and pull factors were inevitable. Over 85% of the respondents in the Turkana area did not wish to move across the borders, but they considered it critical to their survival.

Their position may be explained by the exposure to chronic insecurity and conflicts with their neighbours within and across national borders.

Future cross-border movements

Most pastoralists expressed their wish to be allowed to move into the neighbouring country during future droughts (87% in North Eastern, 64% for Turkana and 79% in the Maasai clusters). Social and policy-related solutions were preferred in ensuring that movements across the borders were maintained. Besides the social solutions, service provision (especially water) was seen as needed additional support for pastoralists

Rural–Urban Migration and the congregation around shopping Centres

The loss of livestock was the greatest push for the movement to, and settlement around shopping centres in both the North Eastern and Turkana regions (69 and 85%, respectively) followed by the search for employment (19.4%) in North Eastern, and insecurity (11%) in the Turkana regions. Generally, the high poverty levels and sudden loss of livestock in the rural areas were augmenting the rapid movement from rural to urban areas. After losing livestock, or support from relatives, many reluctantly took up a “settled life” in villages and towns - but without any assets and little skill for urban income-generation, they found life very difficult. Most depended on past social linkages – through relatives and past acquaintances, for some support.

The most affected segments of these communities were the male and female youth. In this study, youthful women were among those leaving the rural areas and settling in the urban centres as reported by the respondents (31% in North Eastern, 36% in Turkana and 18% in Maasai regions). The male youth were also migrating in large numbers into the urban centres as reported by respondents (69% in North Eastern, 64% in Turkana and 83% in the Maasai regions). Related to this movement, this study established a strong urban – rural connectivity with a large number of the respondents (84% in the North Eastern, 77% in the Turkana and 97% in the Maasai clusters) visiting their rural homes at least once or more times every year.

Government and NGOs' Service provision to pastoralists

In the three areas, the majority (82% in North Eastern, 91% in Turkana, and 90% in the Maasai) of the respondents singled out the provision of veterinary and advisory services as the key support they received from the government. NGOs were also reported to be providing restocking services especially in the North Eastern and Turkana areas. Additionally, livestock marketing services were an important segment of the services provided by the NGOs (CBOs, International NGOs, United Nations Agencies, and Government ministries).

Summary of Recommendations

Many of the adverse effects of climate change seem to be on the increase both in frequency and severity. The unfolding unpredictability of seasons has created general anxiety among pastoral communities as they witness the fast changing weather patterns. Because of this anxiety and future uncertainties, pastoralists are diversifying en-masse, but depending on the available short and long term options. Droughts have been confirmed as the greatest biophysical force pushing pastoralists out of the pastoral system and abruptly increasing vulnerability to other shocks such as floods, diseases and loss of income sources.

In addition, there was general alarm among the adult population regarding the rate of movement into urban areas by both male and female youth in search of opportunities. Hired labour is a widespread option to support the rural livestock economy, but for the poor this trend makes life more difficult as they could not afford to hire herding labour. The settlement of communities around shopping centres and water points is growing rapidly especially in the North Eastern and Turkana clusters. That was evident along the highways, water trucking zones, the immediate vicinity of refugee camps and the existing water points.

Drought-triggered conflicts remain a real threat and a common occurrence along the shared boundaries of Kenya and Sudan, Somalia, and Uganda. Partnerships and networking among the different organizations (CBOs, Local NGOs, and other stakeholders) on cross-border issues are nevertheless making a significant contribution in peace building. However, more concerted effort by the affected governments is essential if border conflicts within these areas are going to be effectively addressed.

Mobility is not optional, but the most critical ingredient of pastoralism. If the livelihood system is to be sustained, movement from place to place will therefore need to be sustained. Of all the key mitigation and coping mechanisms, mobility stands out as the most essential.

There are serious emerging problems associated with those that fall-off from the pastoral system especially the youth. Majority of them end up in the urban areas and sooner than later they start despairing in life as they fall into the grip of poverty. In all the three clusters, levels of education are very low. Pastoralists have an uphill task competing with other communities that have better access to formal education. The disparities in educational enrolment and attainment favour the well-endowed areas while making it more difficult for the students from pastoralist communities. As a result, the rate of development of skilled manpower in the arid areas is slow and way behind that of other parts of the country.

Based on these observations and deductions, this study makes the following recommendations:

- i. Lobbying and establishment of linkages with development partners, regional bodies and governments in order to invest more in appropriate development initiatives that have climate change adaptation integrated into them in pastoralist areas. These would include: basic services like health care and education, livestock marketing opportunities including the dissemination of livestock marketing information and information about weather patterns through local radio stations, facilitating the provision of enterprise and business skills to women and men, improving livestock market infrastructures and encouraging alternative economic activities using other appropriate livestock products e.g. animal hides, milk and wool.
- ii. Empowerment of pastoralist communities and their local leadership in order to influence the establishment and strengthening of traditional and indigenous institutions as avenues for community dialogue and reconciliation.
- iii. Creating a pool of financial and human capital to support livelihood diversification for pastoralist communities and ex-pastoralists (Pastoralist drop-outs) through practical skills development, culturally sensitive income generating activities and funding.
- iv. Investment in education in the rural areas (especially through well-funded boarding schools and centres of excellence) where pastoralists are encouraged and supported through the application of a certain degree of preferential treatment.

- v. Appropriate mechanisms within the horn of Africa communities (IGAD, the East African community), and the African union (AU) to enable cross-border migration and conflict resolution, while incorporating lessons from past experiences to ensure national security is not compromised.
- vi. Involve regional bodies, especially the AU to develop a pastoral policy framework that will provide coordinated policies, with a special emphasis on cross-border migration, including among others, livestock movement and disease control.
- vii. The donor community, the UN and the Government to urgently set aside resources to support and facilitate achievement of these proactive strategies to deal with this extensive and potentially explosive issue.

1.0 INTRODUCTION

This assessment comes at a time when development partners are acknowledging with great concern that there seems to be an unending problem in pastoralist communities in Kenya related to frequent droughts, floods and reliance on relief food . Coupled with these problems, are the growing levels of insecurity especially in the North-Eastern and Turkana areas. The International Organization for Migration (IOM) took the initiative to commission this study in order to better understand the growing migratory challenges experienced locally and across international boundaries.

This opportunity therefore provided a platform through which discussions, opinions and suggestions from pastoral communities could be shared and improved upon to inform desired potential futures for the pastoralist communities particularly in relation to climate change mitigation strategies. This study was meant to build on the previous work by an inter-agency team of organizations comprising the IOM, UN-OCHA, ISS, and UNEP that had come up with the Security in Mobility (SIM) approach to address pastoral mobility issues . The objectives of the SIM approach mainly focused on the reconciliation of pastoralist livelihood and security needs with broader regional security priorities.

The key aims of the inter-agency team were to closely consult, and partner with communities in the search for comprehensive responses to mitigate the risks associated with conflict and displacement entwined with pastoralist livelihood activities (OCHA et al 2010 Devereux 2004) .

There are variations in the definitions of terms such as pastoralism, nomadic pastoralism, transhumant pastoralism, semi-sedentary pastoralism and other related terms. Scholars have shown the complexity of these terms and the futility of dwelling on the detailed definitions . In this report, pastoralism is the use of extensive grazing rangelands for livestock production where marked seasonality dictates the movement of livestock to pasturage and water, rather than bringing fodder to herds, and the heavy reliance for food on the production from domestic herds . The three geographical areas that are the focus of this study may be categorized as being engaged in pastoralism although with some variations in practice.

1.1. Background Information

Magnitude of climate change

Basic facts about global climate change include: increasing temperature (0.74°C increase per annum), melting polar icecaps, uncontrolled forest fires and annual average increase in sea level of 3.1 mm . Such changes have already had some impacts on the natural equilibrium at the risk of the survival of human beings and other biodiversity. It has been demonstrated that African countries that depend more on natural resources and rain-fed agriculture are more vulnerable to the risk of climate change (Ringer 2008) .

In Kenya, it has been reported that temperatures have been increasing annually at the rate of 0.2°C over the past five decades. Communities have experienced prolonged droughts resulting in acute water shortages given the cumulative effects over the span of several years. At other times, there have been random and unexpected flush rains leading to the bursting of dams and even displacement of people and their livestock.

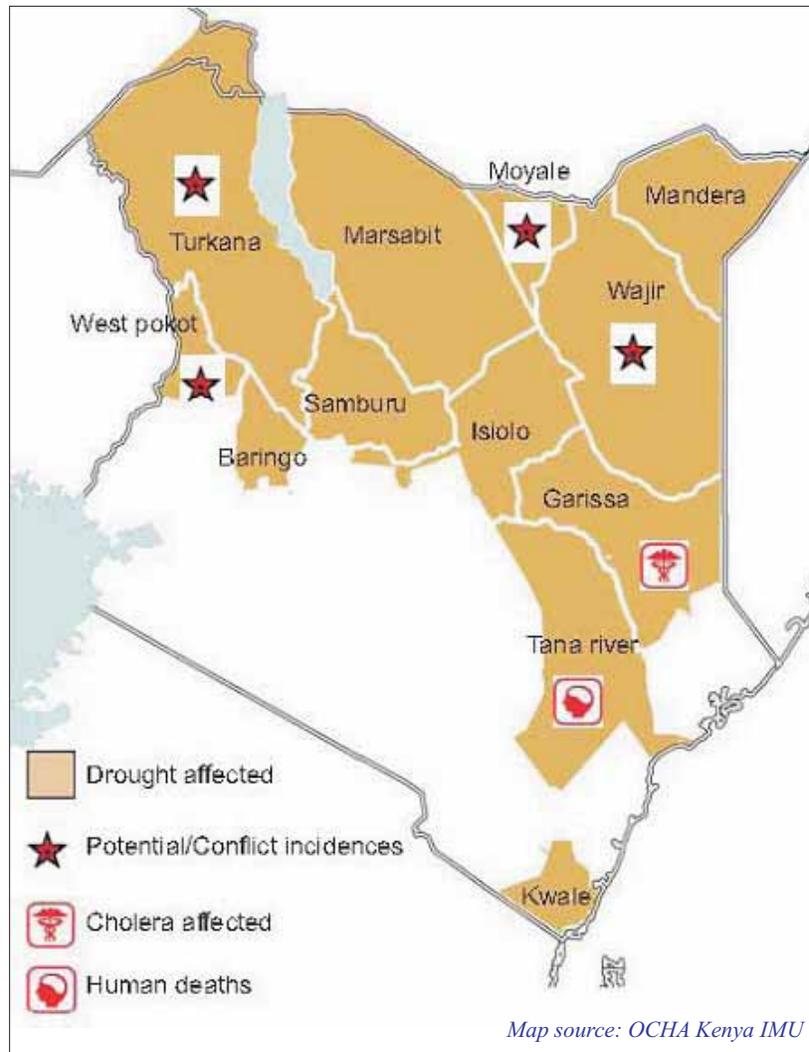


Figure : Map of Kenya showing drought-hit areas; the NE and Turkana areas fall under arid while most of Kajiado falls within the Semi-Arid lands.

Arid and Semi Arid Lands (ASALs)

Pastoral production systems are thought to support 100–200 million mobile pastoralists globally. The Arid and Semi Arid Lands (ASALs) of the world make up over 40% of the earth's surface on which over one billion people depend for their livelihoods. Livestock systems are mostly found in the ASALs of the world and occupy about 45% of the global surface area (Herrero et al 2009, Reid et al 2008)

In Kenya, the ASALs constitute about 80% of the total land mass and are home to about ten million people. They are also remotely located with scant infrastructure thereby making life difficult for the residents and their livestock. In these dry land environments, rainfall amounts are low, the timing erratic and unreliable in spatial and temporal terms. Over 60% of ASAL inhabitants live below the poverty line (subsisting on less than one dollar per day). The ratio of livestock to human population continues to decline; droughts, conflicts and household food insecurity are common, and in most cases increasing features.

Pastoralists in the ASALs own about 70% of the national livestock population with an estimated value of close to USD 1 billion. They are also home to over 90% of wild game that supports the national tourist industry. Pastoralism provides direct employment and livelihood to over three million Kenyans. ASALs have an enormous potential for mineral exploitation. For example, soda ash mining in Lake Magadi contributes substantial revenue to the exchequer and employment opportunities. Moreover, the symbiotic interactions between wildlife and pastoralism, coupled with the rich cultural heritage of pastoral communities, have been shown to be of great benefit to the country's economy. In the past, this has earned Kenya in excess of Kshs 50 billion annually¹

Given this aridity it is hardly surprising that pastoralists are subject to higher levels of climate variability risk than those living in areas where farming is a viable option. Rain is scarce, infrastructure is almost entirely dilapidated, and Small Arms are often easily available due to poor security and geographical remoteness especially in the Northern parts of Kenya. Nevertheless, there is a considerable body of evidence that pastoral livelihoods are well-designed along risk-management and on adaptation strategies. Several studies have even found that pastoralism can compare favourably to commercial ranching approaches to livestock keeping². Pastoralists are facing enormous challenges in the form of the ever-changing and dynamic climatic changes which have constantly disrupted the livelihood support mechanisms in the overall ASAL regions.

¹National policy For the sustainable development of Arid and semi arid lands Of Kenya; Feb 2005

²Draft national policy for the sustainable development of arid and semi arid lands of Kenya.

Causes of Climate Change

At a global scale, the main causes of greenhouse gas (GHG) emissions are from carbon dioxide (70%), primarily from burning of fossil fuel. Other sources for GHG are methane and nitrous oxide caused by deforestation and agricultural activities (Herrero et al 2009, McKee 2008).

There are historical accounts indicating that climate variability and change are not recent phenomena in Kenya. The famines were due not only to shortage of rain but also to extended periods of excessive rain. As a result of the unpredictability, pastoralists have developed adaptation mechanisms to climatic variability in many ways making it a way of life. However, recent deviations from what has been known as the seasonal changes are creating widespread inability to cope. On the other hand, there is a widespread belief among many communities (Pastoralists, farmers) of different faiths (including Christians and Muslims) that droughts are an act of God against human sin.

In this regard, in his work on famine and epidemics, Pankhurst underlined that “several subsequent epidemics and famines are mentioned in the literature of the thirteenth and fourteenth centuries which suggested that such outbreaks were regarded as punishments sent down by God”. This historic account also underlines that despite such cultural perceptions of the causes of climate variability, communities employed different coping mechanisms, including crop diversification, mobility and migration.

Regardless of the diverse arguments, climatic variability has led to a disruption of livelihoods, decline in biodiversity, shortage of food and increase in human and livestock health problems, rural-urban migration and dependency on external support. Factors compounding the impact of climate change in Kenya are rapid population growth, land degradation, widespread poverty, dependency on rain-fed agriculture, lack of awareness by policy and decision-makers about climate change and lack of appropriate policies and legislation (Kasahun 2008, National Meteorological Agency 2007).

Pastoralist Traditional Adaptation Mechanisms

In the arid and semi-arid areas, drought is part of a normal cycle, and pastoralism in the regions has evolved in response to long-term climate variability. Pastoralists have developed some strategies to cope with such variability, such as mobility, livestock species diversity, reciprocity in use of resources, territorial fluidity and social safety nets. However, according to research findings, the vulnerability of pastoralists to drought is varied and complex. It is claimed that the weather alone is not fully responsible for the losses associated with droughts.

Rather, pastoralists' vulnerability is exacerbated by increased marginalization and a lack of appropriate drought response mechanisms . Restriction on mobility of people and livestock, intensification of conflicts and stricter control of cross-border trade and defective tenure policy are some of the threats. Some authors underlined that the prolonged droughts, combined with environmental degradation and increasing sedentarization, have led to deterioration of pastoral livelihoods (Gebre 2001).

Mobility is considered the core of the pastoral livelihood system, and crucial to managing risk in these harsh and unpredictable environments . Complex systems of natural resource management and negotiated access enable groups to effectively co-utilize and sustain pasture and water resources . In the North-Eastern parts of Kenya, pastoralists ordinarily cross the Kenya-Ethiopia and Kenya-Somalia borders in search of pastures and water.

They have relatives across the borders, they share language and culture and so the movement is almost seamless. The same situation is the case along the Kenya-Ethiopia-Sudan-Uganda borders for the Turkana pastoralists. In the Maasai cluster, the Maasai people move to and from Tanzania whenever the need arises. This situation is common in many countries in the Horn of Africa region and similar in other pastoral communities where mobility is a necessary drought-coping strategy.

1.2 Purpose and Objectives of the Assessment

The purpose of the assessment was to solicit for evidence so as to widen and deepen understanding on climate-related changes and particularly, the effects of droughts, their dynamics and how these changes have affected the pastoralist communities in Kenya. The study sought to examine the effects of climate-related changes on mobility, migration, and use of common pool natural resources amongst mobile populations, specifically pastoralists in the North Eastern, Turkana and the Maasai regions of Kenya with a view to developing programmatic interventions in collaboration with the regional governments and other key players including UN agencies.

The following were the specific objectives of the assessment:-

- To examine the effects of climate change, droughts and decreasing natural resources amongst mobile populations, specifically pastoralists in the North Eastern and North/South Rift valley regions of Kenya.
- To conduct a security and mobility needs assessment of the pastoralist and drought affected communities in the targeted areas.

- To explore the cross-border and internal migration dynamics and their impact on the security and stability of these communities.
- To assess the effects of the growing migration to urban areas among pastoralist communities especially the youth – who form the largest segment of pastoralist drop-outs, and how this has impacted on their vulnerability to additional displacement.
- Map out services and collaborative partners and donors working in these areas
- Document current responses and identify policy gaps in the protection of, and facilitation for safe internal (and cross border) migration options for the vulnerable populations and develop policy recommendations to inform a normative framework for pastoralists' mobility as an adaptive strategy to climate change.

1.3 Methodology

Study Methodologies and Process

The study on the effects of drought and climate change on pastoralists was an exploratory one that employed both quantitative and qualitative methods. Qualitative data were collected using a pre-determined household interview schedule while qualitative data was captured using focused group discussions (FGD) and key informant interview guides.

In addition, secondary documents were reviewed to triangulate and compare the emerging issues. The review of secondary documents included previous studies, documentary and program review reports by Non Governmental and Governmental bodies in the geographical area of coverage

The target population included International NGOs, LNGOs, Government bodies and line ministries, Community Based Organizations (CBOs), Faith-based organizations (FBO), and the Pastoralist communities in the North Eastern, Turkana and the Maasai regions.

The data were collected from North Eastern, Turkana and the Maasai areas, where local enumerators were engaged in each area. Prior to data collection, a training session for the enumerators was conducted to ensure that they were thoroughly familiar with the content and the interviewing methods, including proper translations into the local language (s).

Quality Control mechanisms were put in place through close supervision by the researchers who were in close contact with the enumerators to ensure that the envisaged processes were closely followed.

Both Stratified and random sampling techniques were employed in this study. The selection of households employed the use of random sampling. In the rural areas the sample was selected by interviewing respondents in alternate bomas/settlements. The respondents in this study were the household heads (unit of analysis). A household head was defined as any person who was 18 years and above, charged with the responsibility to protect, and provide for members of a family. The study took into account the widespread polygamy in the three pastoral areas and the fact that many older sons lived with their parents. In the case of such sons living with their own children within an extended family set-up, but taking care of them, the research treated them as separate households

Quantitative data, derived from the questionnaires were keyed in and analyzed using Statistical Package for Social Sciences (SPSS) programme and were later interpreted in accordance with the assessment objectives. Qualitative data on the other hand was analyzed by organizing the issues emerging from the focus group discussion (FDG) sessions, Key Informant Interviews (KII), in-depth interviews and observations into various thematic areas. The trends emerging from the foregoing were summarized to provide qualitative explanations to the statistical impressions.

Respondents

A total of 918 respondents participated in this study. Key categories involved technical teams, county/district personnel, NGO representatives, traditional and local leaders and communities.

Table : Study Respondents

Level	Categories	North Eastern	Turkana cluster	Maasai cluster	Total
Technical Government & Departmental Level	Ministry of Livestock (Department), Social Development Officer, Local Government – Council, Provincial Administration, Immigration and Education departments	6	4	6	16
County/District Level Interviews	District Commissioners (DC) and Officers (DOs)	3	3	2	8
Key informants	Faith-based leaders, & NGO staff	12	14	8	34
Focused Group Discussions	Men, Women and Youth	50	64	64	178
Household Interviews	Selected Community households	226	191	226	624
National stakeholders' workshop	Government district officers in North Eastern, Turkana and Maasai regions; Embassies, USAID, Oxfam, PACT, SIM team (OCHA), other international actors and community based organizations working the pastoralist areas				39
Total		308	284	287	918

Most of the key informants and technical teams were male with a limited number of females. However, to counter-check that bias, deliberate efforts were made to have more women during focused group discussions.

Study Limitations

Although the assessment processes culminated into this report, several challenges were encountered that brought forth a number of limitations. These included the following: -

- The North Eastern and Turkana areas were difficult to access - particularly the Mandera and Wajir areas, mainly due to insecurity and poor infrastructure, where fear of Alshabaab presence in the region was quite a threat. Even as far as Wajir; accessing the pastoralist community at the settlement sites was a tradeoff between risks involved and acquisition of relevant information. At the time of the study; inter-clan conflict and fights erupted in Garissa between two major clans bringing the locality to almost a stand still and limiting the accessibility to the targeted households. In the Turkana cluster, traveling with police escort made it logistically challenging and less cost effective.
- Some key respondents could not be accessed either because they had travelled on official duty or they had to attend to other commitments while time flexibility was limited. Nonetheless, the research team managed to replace the affected respondents whenever possible.
- Field visits in the Maasai cluster coincided with the short (October-December) rains. It was muddy and logistical arrangements were put to test. The period for respondents' interviews was inevitably prolonged.

2.0 PROFILE OF THE STUDY AREA AND RATIONALE FOR SELECTION

The study focused on three main geographical areas, North Eastern Kenya, North Western (Turkana cluster) and the Southern Rift Valley (Maasai Cluster) which are predominantly occupied by pastoralist communities. The rationale for selection of these three clusters was guided by the fact that geographically, they are representative of an inclusive spread of the pastoral system in Kenya. These are the three dominant pastoral regions in Kenya where drought, mobility and cross-border migration are typical. Moreover, the context is such that it can be generalized for the rest of the country and to a large extent, the region and beyond. The lessons in these clusters will undoubtedly be applicable across other pastoral areas.

2.1 North Eastern (NE) Kenya Cluster

The North Eastern Province (NEP) borders Somalia to the east and Ethiopia to the north. NEP is one of Kenya's formerly eight administrative provinces with its provincial headquarters in Garissa. The total population is estimated to be more than 962,143 people (according to the 1999 census; - since the 2009 census is still disputed), with a land area of 126, 902Km². It is inhabited by pastoralist and agro-pastoralist communities, the prominent ethnic group being the Somali people. As a survival strategy, increasing numbers of households are now diversifying into activities such as petty trade, charcoal burning, firewood harvesting, provision of herding labour, while also relying on remittances from relatives abroad. Extended drought and food-aid relief support have become common in this region.

Like in many other ASAL areas, rainfall is very unreliable in northeastern, both in density and distribution. Camels, cattle, sheep and goats are the dominant livestock in the region. However, with the widespread adoption of ground water tanks and the growth of settlements around them, cattle-keeping is becoming popular. Each year, food, fodder and water emergency support is given in the region by government, NGOs and International agencies, yet there is no clear indication whether and how these emergency interventions have supported or undermined community adaptation capacity. In spite of this support, the livelihoods of these pastoralists are deteriorating over time. The mushrooming settlements are evident along the highway to Mandera and in other spots where water trucking services have been provided.

The consumption of miraa (khat) and several other variants of the drug (such as kubera and shisha) is on the increase among the male youth and household heads. This behavior may be partly attributed to joblessness and poverty.

2.2 The Turkana Cluster

Northwestern Kenya is occupied predominantly by two Nilotic ethnic groups – the Pokot and the Turkana who mainly keep livestock such as cattle, shoats, donkeys and camels. The two communities are known to share some similarities in lifestyle, economic patterns and value systems that define their traditional nomadic pastoralism. In this study, Turkana District was the main focus area. It receives an average annual rainfall of about 200mm in the east to over 500mm in the northwestern highlands. The rainfall is characterized by small total amounts, strong seasonal and bimodal distribution, with high temporal and spatial variability between seasons and years. Annual mean temperatures experienced in the region range between 26^oC to 38^oC.

The Turkana area borders Ethiopia to the North, Sudan to the Northwest and Uganda to the West. Locally, the district is bordered by Samburu and the Pokot communities to the south and south-east. Reports indicate that most of the neighbouring communities within Kenya and across the border in the afore-mentioned countries present a real (and reportedly reciprocal) security threat that manifests as animal thefts, abductions, killings and displacements.

The conflicts between the Turkana and the neighboring communities notably the Toposa and Nyang'atom (of Sudan), Dassenach and Nyang'atom (Ethiopia) and the Pokot and Samburu (of Kenya) has been linked to the competition for scarce natural resources, the proliferation of small arms, political incitement and contests over territory among other causes. These conflicts have had a negative effect on the general development of the district rendering it one of the most underdeveloped in Kenya. According to current national statistics, 70% of Turkana population live below the poverty line. To underline the enormity of this problem, Turkana's Conflict Incident Diary from November 2005 through April 2006 by a local organization (Riam Riam), indicated a total of forty nine (49) violent incidences reported between the Turkana and the neighboring communities resulting in the loss of six thousand five hundred seventy seven (6,577) head of livestock. One hundred and eleven (111) people died in the process with many more sustaining injuries.

It was noted that the figure was far from accurate since a good number of the incidences went unreported while under-representation of the actual figures was common. Most emerging land use activities and enterprises are based on exploitation of the region's natural resource base: growing crops through irrigation along the Turkwel and Kerio Rivers and also along some seasonal rivers like Wei-wei and harvesting of wild fruits (mainly *Dobera glabra*, *Hyphaene compressa*, *Ziziphus mauritiana*, *Balanites rotundifolia*). Other activities include stone quarrying in Kappedo, Lokwamusing, Kasei, fishing in Lake Turkana, manufacture of woven crafts, and production of honey.

2.3 The Maasai Cluster

In this study, the Maasai cluster mainly comprised the Kajiado District, which stretches to border Tanzania to the south, Nairobi to the North, Narok to the west and Makueni to the North-East. The rainfall varies from about 300 mm in the Amboseli Basin to about 700mm/annum around the Kaputiei Plains to the North-West. The highlands (especially on the slopes of Mt. Kilimanjaro and the Ngong Hills) receive more rainfall that can support arable farming. The Amboseli zone is dry and mainly suitable for livestock keeping and wildlife. However, abundant sources of spring water at the base of Mt Kilimanjaro (the highest mountain in Africa) have attracted increasing numbers of small-scale irrigated farms in the Kimana, Namelok and Isinet areas to the north of Loitokitok. Due to favourable rains and fertile soils around the slopes of Mt Kilimanjaro there are many (growing and collapsing) farming activities. In general, there is an increasing rainfall gradient from the south-east (excluding Mt Kilimanjaro) to the North-western parts of the district. The main community in the district is Maasai, but with pockets of people from other communities especially in the urban areas, Ngong and Loitokitok towns. Traditionally, livestock keeping has been the mainstay of the Maasai people. This land use is still predominant but there is increasing diversification into other options . Land fragmentation, lack of land use planning and an influx of large numbers of people from outside the district are key constraints to the sustainability of the livestock keeping system.

Land tenure in the district ranges from privately-owned individual parcels to group-owned ranches. It is in the individually-owned lands where the greatest fragmentation is occurring. This fragmentation has been cited as one of the key hindrances to livestock mobility and sustainable pastoral livelihoods .

3.0 RESULTS AND DISCUSSION

3.1 Demographics of the Respondents

More than half of the respondents (58%, 63% and 62% in the North-Eastern, Turkana and Maasai regions respectively), were male. In normal cases, men in these communities would be expected to respond as the heads of households. However, due to the demand for men's time during the day (such as herding and watering the herds and visiting the shopping centres), a significant proportion of the respondents were females as more of them could be found at home during the day.

For North-Eastern and Turkana regions, female-headed households comprised about a third in the interviewed households. In the Maasai region there were 15% of them. The disparity could partly be explained by the heightened conflict and insecurity fuelled by availability of small arms in the two former areas. According to the marital status data, 14% and 18% of the households were widowed in North Eastern and Turkana clusters respectively, while in the Maasai cluster it was 10%. The ages ranged from 18 to 82 years and the mean ages of the respondents were 46, 48 and 39 and household sizes ranged from a mean of 7.4, 7.6 to 7.9 in the North Eastern, Turkana and Maasai regions, respectively. These findings were consistent with those of previous studies where household sizes ranged between 6-9 persons per family among the Maasai of southern Kenya .

Table : Demographic Data of the Respondents

Variable		North Eastern	Turkana	Maasai Area
No. of respondents		226	191	207
Sex of Respondents	Male	130	120	128
	Female	96	71	79
Sex of Household Head	Male	164	134	174
	Female	63	51	31
	Child	1	0	0
Mean age of the respondents		46	48	39

Number of Households per Settlement

Although each and every settlement was known by a particular name (belonging to the most prominent of those living there with their families), the common trend was that due to security, family ties and/or friendships, several households lived in one settlement. The number of households per settlement varied in the three areas with the highest aggregation found in Turkana (with a mean of 8 households per settlement) followed by the south with a mean of 5 while the North Eastern had a mean of 3.3 households per settlement. In Turkana cluster where insecurity was widely reported, there were no cases of single-household settlements. The reported minimum of households per settlement was one, three, and one in the North Eastern, Turkana and Maasai clusters, respectively.

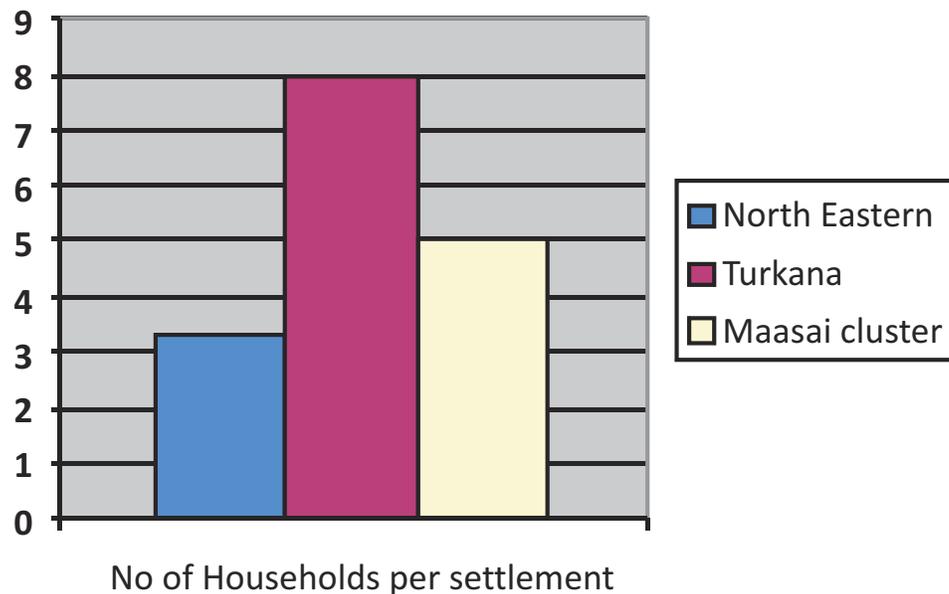


Figure : Average number of Households per Settlement

Livelihood Activities

The study captured increasing diversification amongst households in all the three regions. Interestingly, in both North Eastern and Turkana clusters, less than half of the respondents reported livestock keeping as their main source of income (29% and 39%, respectively). In the Maasai cluster two thirds of the respondents cited livestock keeping as their main source of income. Other diversification options were reported as casual employment (including petty trade and hawking),

charcoal burning, sale of house building materials. Dependency on relief food from the Government and/or development agencies was widespread. In isolated pockets of water availability particularly along the river Dawa in Mandera, the Amboseli swamps near Loitokitok and along the Turkwell River in the Turkana cluster some subsistence and minimal commercial agriculture was practiced. As a result of widespread poverty, the highest levels (33%) of dependence on other family members were reported in Turkana region. The rest of the areas had lower dependencies at 14% and 7% for the North Eastern and Maasai cluster respectively.

Table : Livelihood Options and other Sources of Support

Livelihood Options	North Eastern (%)	Turkana (%)	Maasai (%)
Livestock Keeping	29	39	66
Casual Employment	43	27	24
Hawking and small businesses	14	1	3
Dependent on Relief food & others	14	33	7

3.2 Weather Variations, Natural Resources and impact on Pastoral livelihoods

Previous studies have singled out droughts as the greatest drivers of change in the pastoral areas . It is expected that with increased frequency and severity of droughts, pastoralists will continue to be among the most vulnerable to climatic changes as water and pasture scarcity will prompt not only frequent but also prolonged movements . Furthermore, droughts have been known to force pastoralists to move across ecological systems that span several countries in search of water and pastures hence facing diverse policy environments .

Common causes of livestock losses

The lack of pasture and outbreak of unfamiliar diseases were singled out as the two main causes of livestock mortality during drought. Additionally, cattle raids in the Turkana cluster were reported to be a major cause of livestock loss. In both North Eastern and Maasai clusters, the onset of rains especially after a prolonged drought was an additional reason for increased mortality. That was related to the condition of livestock after a prolonged period of starvation and sometimes, diseases.



Figure : This photo demonstrates the loss of Livestock during the Drought experienced in 2009, as captured in the local media. These cattle died as they were waiting to be slaughtered at the Athi-River-based Kenya Meat Commission (KMC) Facility

The climate change phenomenon was perceived and expressed by the communities in a variety of ways. It was felt that the dry season was becoming longer while the rains failed more often. In Focused Group Discussions, elderly people narrated that continued erratic rains had made the environment very harsh and less habitable by both humans and livestock. In all the areas under study, the start and distribution of the rains were perceived to be increasingly unpredictable. According to elders in Wajir, droughts had in the past resulted from the failure of either the short or the long rainy seasons. In more recent times, they said, it was common for both seasons to fail.

“In the 1980s, droughts occurred within a cycle of about eight years. However this has changed and today it is happening within an interval of about 2 years”

That was cited by an elder in Northeastern³. Moreover, the very severe droughts that only occurred after about 50 years were reported to be occurring in less than 10 years. Similar sentiments were shared in Oropoi, Turkana West District.

³Information from the Arid lands Resource Management Project (ALRMP) in Kenya's Garissa indicates that, for more than ten of the 15 years between 1990 and 2005 (1990 – 93; 1995 – 96; 1998 – 99; 2000 – 2002 and 2004 – 2005), droughts afflicted the North-Eastern parts of Kenya. Drought was considered a chronic problem in the region.

As a result of such failures, there were prolonged periods of both pastures and water scarcity that subsequently led to longer migrations and higher livestock mortality.

Also reported were the random and unexpected flush floods at local and regional levels. These led to broken bridges and impassable luggas. For instance, in a distance of 30 kilometres between Kalubeyei and Kakuma in the Turkana region, there were more than 10 luggas whose bridges had been frequently broken due to the flush floods. Community members linked the chronic food shortages and endless conflicts to the depressed amounts and disorganized patterns of rainfall. Many found themselves migrating towards the national border areas in spite of the associated risks. In addition, the periodic outbreaks of human and livestock diseases were also linked to unfamiliar and adverse weather conditions. During the community interviews, some elderly women observed the following with deep concerns:

Local knowledge in changing times

Traditionally, local communities have been known to use local knowledge to predict to a certain degree, the possible occurrence of a drought. In this study, the level of unpredictability of weather patterns was found to be increasing thereby rendering communities more vulnerable to unfavourable weather changes. Majority of the respondents (71% in the North Eastern, 82% in the Turkana and 66% in the Maasai regions) preferred to leave the issue of future happenings to God. However, the rest felt that the occurrences of droughts followed five, to ten-year cycles.

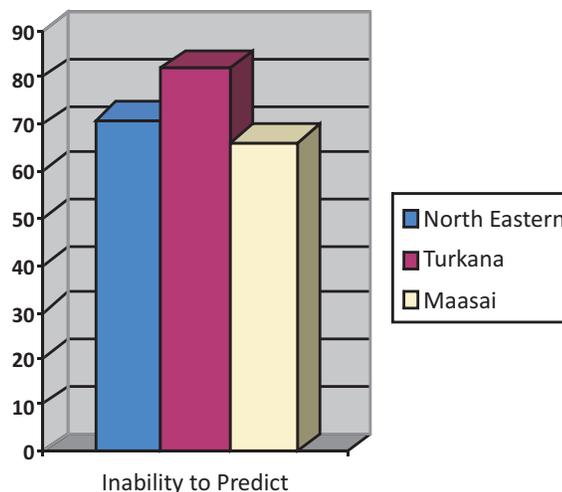


Figure : Communities inability to Predict Climatic Changes



“We are used to extreme drought effects since 1980s. Most times we survive by relief food as even the wild fruits can never be found. The worst droughts starting hitting from 1994, during the Nakwajom drought, and other subsequent droughts like Kanyang'ang'iro (2004), Ngimunio and Lopiar Liago”

Figure : Elder Edung Loriama, Oropoi - Turkana, narrates his past drought experiences (October 2010)

Drought Mitigation Strategies

In the North Eastern area, the preferred, future drought mitigation measures were, in order of priority the preservation of pastures (47%), the sale of livestock before the onset of drought (23%), construction of additional water reservoirs (15%), engagement in other income generating activities (12%) and finally, wider and farther movement of livestock within and outside the national boundaries (3%). In the Turkana cluster, the majority expressed their top wish as 'movement into far away places' in search of pastures (59%), followed by construction of water sources (19%), and then the sale of livestock before drought (9%). In the Maasai cluster the sale of livestock before a drought was the most preferred measure, followed by preservation of pastures (29%) and engagement in other income generating activities (29%).

The differentiation in the responses may be attributable to prevailing options available within the three general environments. In both the North Eastern and Turkana areas, the lack of water, pastures and the prevalence of insecurity were common.

In the Maasai cluster, cases of insecurity were intermittent as they occurred mainly during the height of droughts and not in normal times. In this area the magnitude of the problem was minimal compared to that in the North Eastern and Turkana due to the proliferation of small arms in the Northern regions.

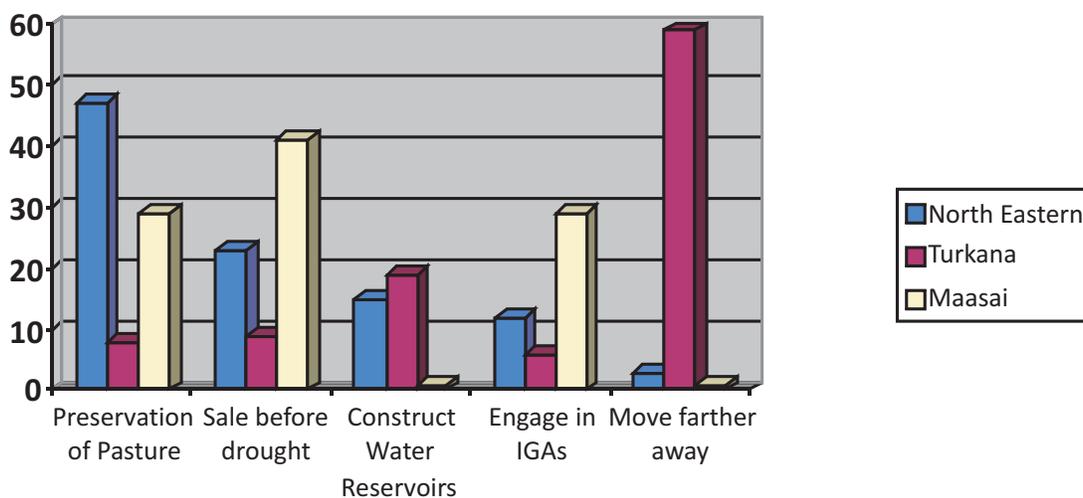


Figure : Communities' Preferred Drought Mitigation Measures

3.3 Security in Mobility Needs

Drought Coping Strategies

In arid and semi-arid areas, livestock mobility has been employed as a coping strategy for millennia. The equilibrium and non-equilibrium changes have forced pastoralists to frequently move to ensure spatial and temporal utilization of water and pastures as and when they occur . The question in recent times revolves around whether the patterns used in the past will continue to hold in the face of increasing climatic variability.

Majority of pastoralists (91% in the North Eastern, 98% in Turkana and 80% in the Maasai clusters), moved their livestock along with one or several other friend or relative. That confirmed the existence and utilization of both strong kinship and friendship ties amongst pastoralist communities.

It further underscored the importance of support for one another during times of hardship and the need for mutual support within an insecure and unpredictable environment. In terms of insecurity, the Turkana cluster stood out as the most affected followed by the North Eastern area. One possible reason for the heightened insecurity in the former had to do with being in the neighborhood of various different livestock-keeping ethnic communities and disputed international boundaries as compared to the North Eastern region where the Somali community was dominant.

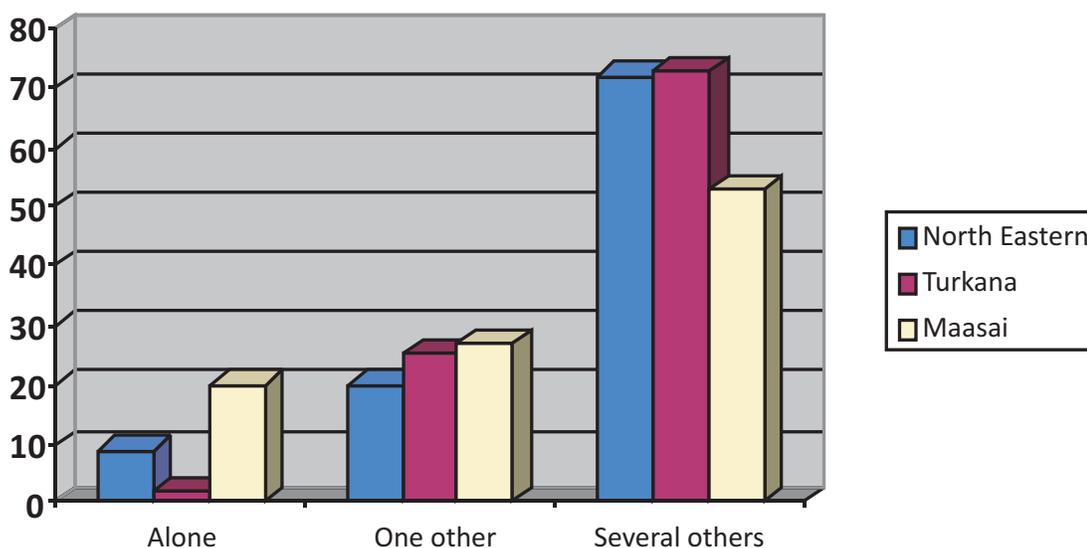


Figure : Pastoralists Preferences in Livestock Movement

Management preferences during livestock movements

Majority of the pastoralists in Kenya (69% in the North Eastern, 91% in the Turkana and 66% in the Maasai regions) preferred to manage their livestock collectively during drought-related movements. The reasons for such considerations were numerous. In the case of Turkana and North Eastern areas (98% and 47% respectively) enhancing security was the main reason, then the provision of collective services (such as

herding) as well as cost sharing.

In the Maasai cluster, the largest segment of the community (43%) reported that the need for joint management was a means of cost sharing and a way of leveraging the available labour for herding. Other reasons included the need to support friends and relatives, to pool financial resources, and increase chances of finding a place to go. One of the young respondents in the Turkana cluster of Lodwar had this to say in relation to insecurity during movement:

“Our enemies are always watching.....when we are together, they know our strength, but when we separate, they are quick to strike...”

In the Turkana area, most of the cattle movements were undertaken by the head of the household and/or family members, unlike in the North-Eastern and Maasai areas where it was reported that 35% and 34% of those who moved livestock were hired herders, respectively. This confirms the emergence of commercialization of labour for herding among pastoralists and particularly in the North Eastern and the Maasai areas.

Livestock Spreading as a Coping Strategy

The spreading of livestock⁴ as a drought mitigation and coping strategy still works among pastoralist communities. This was reported to be more prominent in the North Eastern (61%) and Maasai cluster (56%) compared to 49% in the Turkana cluster. The main reason cited was to minimize losses by taking advantage of uneven spread of rainfall in different geographical niches that varied by season. Livestock spreading among pastoral friends and relatives has been a common coping strategy as noted in previous studies in the Maasai cluster and in the Northern areas .

⁴*Livestock Spreading is commonly practiced among pastoralist communities. It involves the division of the herd into smaller numbers and driving each of them to a relative or friend where they are looked after together with the host's herd. In so doing, pastoralists expect to reduce the risk by keeping their 'wealth in different baskets' and increasing chances of survival of at least some of them if the rains fail in some areas or a disease outbreak occurs in one of the areas.*

Plans to Rebuild the Herd after Drought

Most pastoralists wished to rebuild their stock to previous levels (64% in the Turkana, 90% in the North Eastern, and 74% in the Maasai clusters, respectively). Interestingly, about 20% in both the North Eastern and Maasai regions did not wish to rebuild their stock to previous levels. They expressed their wish to engage in other income-generating activities to supplement livestock keeping.

Preferred ways of rebuilding Livestock

The communities expressed four possible options in rebuilding their herds, namely: (i) buying more livestock, (ii) managing their current herd, (iii) borrowing from relatives and friends and (iv) starting new income generating activities to support the purchase of livestock in the future. In both North-Eastern and the Maasai areas, the key strategies for rebuilding livestock were a combination of buying more livestock and managing what had remained after the drought (86% in the North Eastern and 83% in the South). In the Turkana area, recovery strategies included better management of the current herd and borrowing from friends and relatives.

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Table 1: Methods of Restocking

Methods of Restocking	North Eastern (%)	Turkana (%)	Maasai (%)
Livestock Keeping	29	39	66
Casual Employment	43	27	24
Hawking and small businesses	14	1	3
Dependent on Relief & others	14	33	7

3.4 Internal and Cross-border Migration Dynamics

Internal and Cross-border Livestock Mobility

The communities (85% in the North Eastern, 68% in Turkana and 73% in the Maasai areas), reported that the frequency of movement in search of pastures had increased in recent times. In both the Turkana and Maasai clusters, cases of a decreasing trend in the frequency of movement were reported (24% and 20 % respectively).

To effect the movement, the male youth were heavily depended upon in the three areas (71%, 85%, and 73%, in the NE, Turkana and Maasai clusters, respectively). However, in some cases, young women were also involved especially in moving the small stock. It was further noted that, only in the North Eastern and Maasai areas were the hired herders engaged (14% for North Eastern and 15% for the Maasai areas). For most of the respondents, (77% in North Eastern, 57% in Turkana and 73% in the Maasai areas), distances covered by livestock in search of pastures and water had increased in the last decade.

Fragmentation of the southern rangelands

The problem of fragmentation was highest in the Maasai cluster. Privatization of land followed by rapid sub-divisions were fragmenting the southern Maasai rangelands of Kajiado beyond any meaningful pastoral use . The trend had been steady and increasing with the passage of time . In the absence of widespread regulations backed by solid policies on land use in these rangelands, the future of pastoralism would clearly be in jeopardy as the open lands were fast disappearing. In comparison to the other two areas, the Maasai cluster was most at risk from land fragmentation due to its proximity to the city of Nairobi, better roads network and higher rainfall potential . Given the current trends, it was highly likely that without any serious interventions, the mobility of livestock would be seriously hampered in the southern rangelands of Kajiado within the next decade.

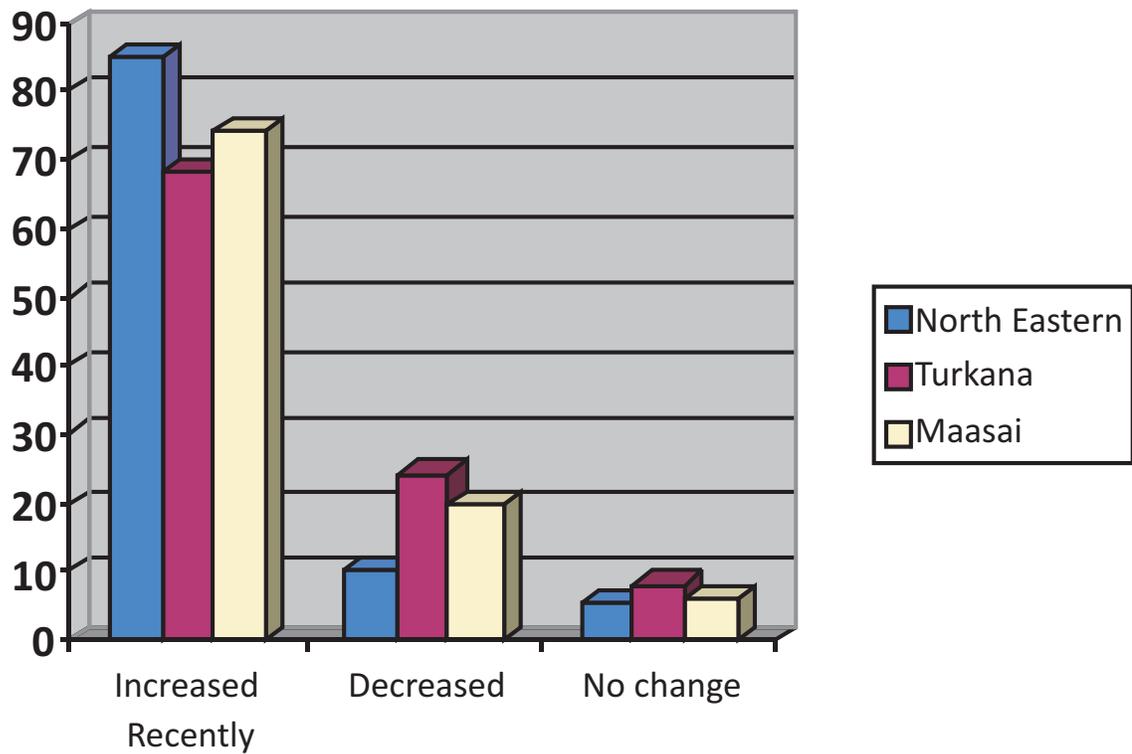


Figure : Pastoralists Perception on the Frequency of Cross Border Movements

Over the years, pastoralist communities have grazed their livestock along defined migratory paths. These paths have changed periodically as a result of various reasons. Two of the main reasons cited in this study are climate and/or security related. In the North Eastern area, respondents attributed the changes equally to security and climate related reasons. In the Turkana and the Maasai regions, the vast majority (74% and 71%, respectively) of the respondents, cited security-related reasons as the main cause of change of the routes. Whereas the Turkana cluster was plagued with cattle rustling, the Maasai region had a different kind of insecurity where cattle were stolen by a cartel of thieves who ended up selling such animals to unsuspecting buyers in livestock markets. In the Maasai area, the theft mainly occurred during droughts when livestock were crowded in small areas of comparably better pastures or water supply.

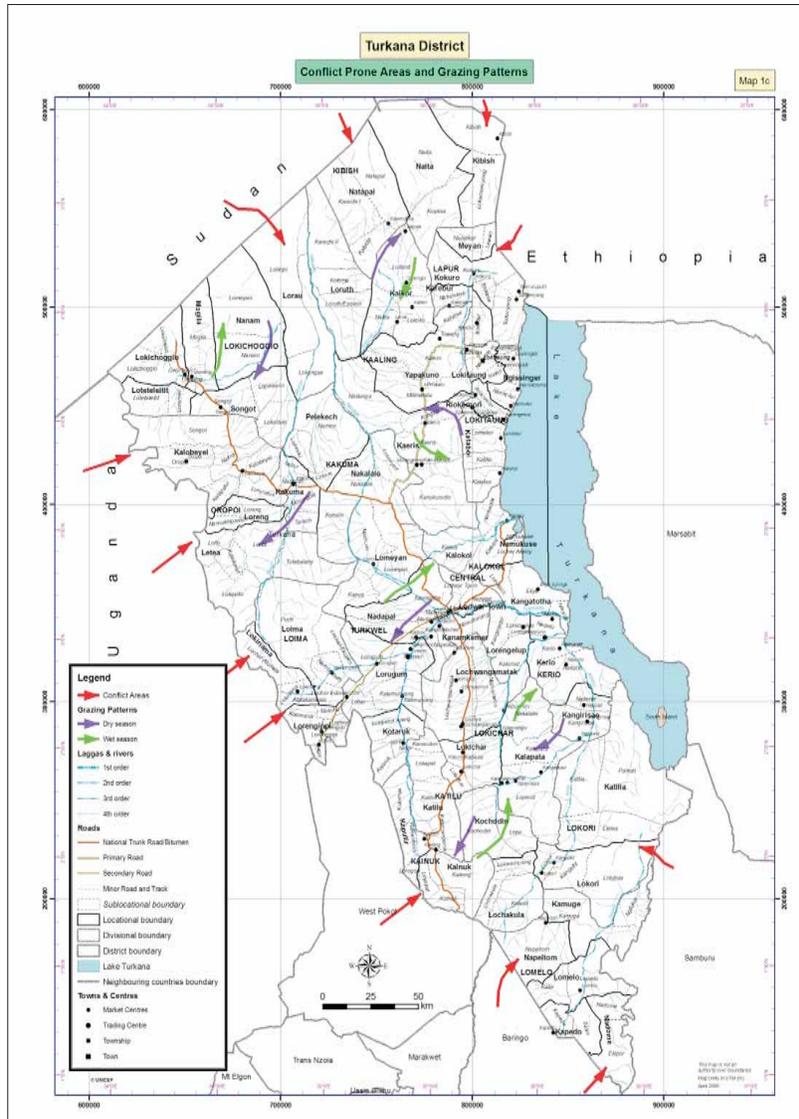


Figure : Migratory Paths, Grazing Patterns and Conflict Prone Areas in Turkana Region

As shown on figure 9, the mobility patterns of pastoralists in the Turkana region were complex and dynamic. The Turkana people border pastoralist communities of three different countries namely, Sudan, Ethiopia and Uganda. The practice of cattle rustling was rampant in the area.

In recent times, there had been the emergence of community based institutions aimed at reducing conflict by engaging in both pre and post combat conflict mitigation activities.

In one such case, the Riam Riam (a local NGO) had helped to return some stolen livestock to their rightful owners in Sudan.

Livestock movement across international borders

About two thirds of the pastoralists had moved across the border in search of pasture and water in the preceding 10 years. The main pull factor for cross-border migration was the search for pasture (79% in North Eastern, 98% in Turkana and 94% in the Maasai clusters). Other factors enabling the cross-border movements included the clan and friendship ties that transcended borders, and in the North-Eastern area, business links (17%). The trade links were strong especially because goods were cheaper in Somalia (as there was no government hence no taxation on goods). Overall, drought was considered the strongest push force prompting movement (77% in North Eastern 88% Turkana and 92% in the Maasai clusters).

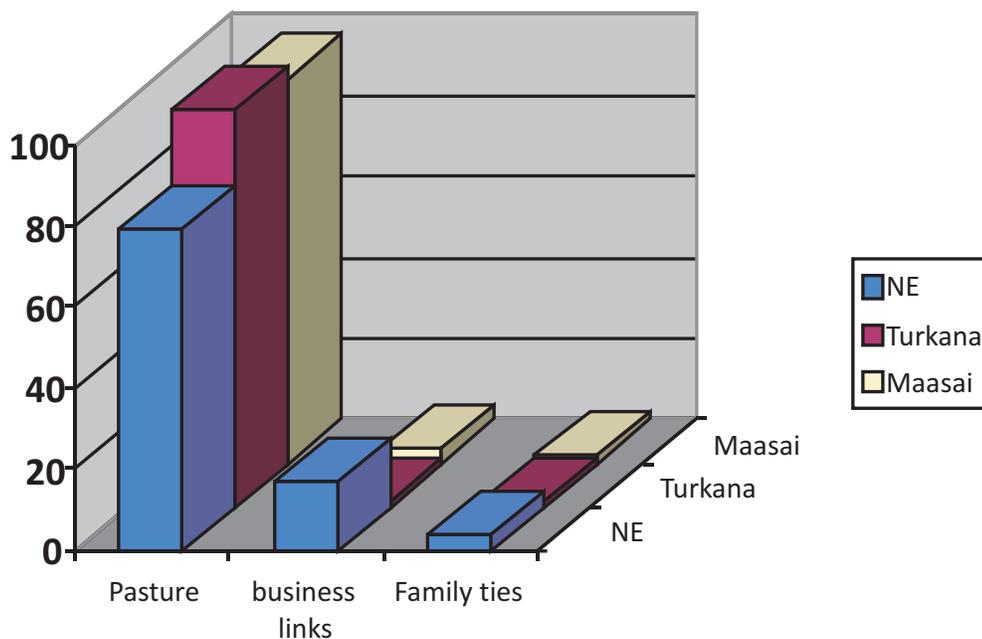


Figure : Reasons Advanced for Cross Border Movements

There was general reluctance to move across the border but over 85% of pastoralists in Turkana were forced to move as a survival strategy. The main problems in mobility were the heightened exposure to insecurity and resource-related conflicts.

When drought occurred, access to pastures and water across the borders became a critical survival mechanism, and inaccessibility greatly eroded this drought-coping mechanism.

Need for Cross-border Movements

Most pastoralists expressed their wish to be allowed to move into the neighbouring country during future droughts (87% in North Eastern, 64% in Turkana and 79% in Maasai regions). In the three areas, social and policy-related solutions were preferred in ensuring that movement across the border was sustained. Besides the social solutions, service provision (especially water) was seen as needed additional support for pastoralists.

Kinship and Friendship ties across the Borders

In the North Eastern area, most (64%) of the pastoralists had relatives in both Somalia and Ethiopia. In the Turkana cluster, relatives were mainly in the three neighboring countries (44% - Sudan, 24% - Uganda and 18% - Ethiopia). Two thirds of the Maasai interviewed had relatives in neighboring Tanzania. The cross-border family ties had been reported in previous studies , and the existence of these relatives provided respite during times of difficulties especially if the spatial spread of rainfall favoured one side.

Signs of Drought: the onset of the 2008 – 2009 Drought

A large segment of the respondents in the three areas (46% in North Eastern, 86% in Turkana and 39% in the Maasai regions) considered the scarcity of a combination of water and pastures as key observable indicators marking the onset of droughts. Either of the two was not taken to be a sufficient indicator of a potential drought. Death of the livestock was also mentioned, but with caution since that occurred at a later stage, and was often an indication of the severity of drought. Like in previous droughts in the southern rangelands , Northern arid lands of Kenya and the North-Western Kenya , all manner of movements and decisions are employed to avert a disaster in livestock mortalities.

The frequent recurrence of droughts was among the most disturbing reasons for pastoralists. For example, immediately after the 2008-2009 drought that devastated livestock and wildlife across most of the rangelands, there was another drought in 2011 . The kind of frequency was not hitherto experienced and was therefore pushing pastoralists beyond their usual coping and mitigation limits.

Table 1: Signs of Drought Onset

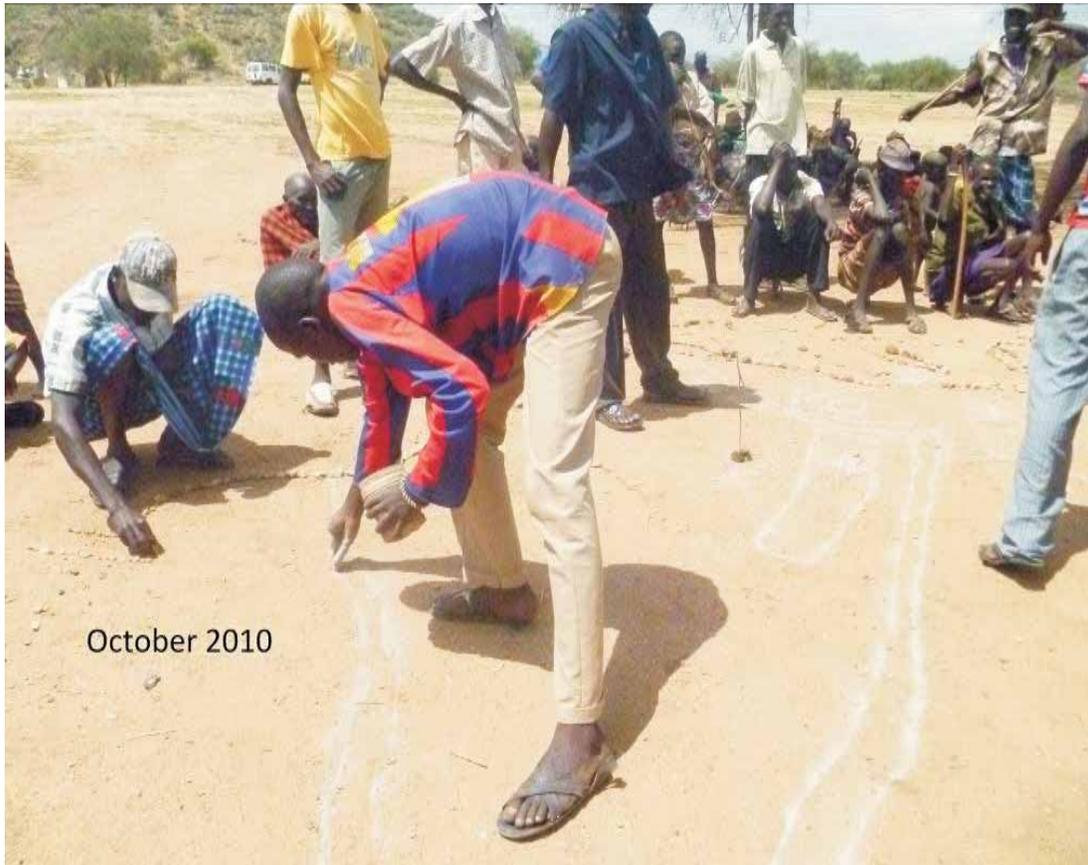
Signs	Northeastern (%)	Turkana (%)	Maasai (%)
Water Scarcity	20	2	5
Scarcity of Pasture	23	6	29
Water & Pasture scarcity	46	86	38
Death of livestock	11	6	28

Mobility as a key Survival Strategy

During previous droughts, respondents confirmed that majority (84% in North Eastern, 87% in Turkana and 92% in the Maasai regions) moved their livestock elsewhere despite the risks and vulnerabilities associated with their mobility. As cited in Oropoi, Turkana pastoralist “couldn't afford to see their animals die even if it meant grazing next to their enemies”. This was echoed in Mandera district in Northeastern Kenya:

“We (pastoralists) watch the clouds and where the rains fall we move our livestock there regardless of the boundaries and distances involved. My camels are now in Kismaiyu, in South Central Somalia”

Majority of the communities moved and settled elsewhere during the droughts. This underscored the fact that livestock mobility remained a critical drought coping strategy in the three areas.



October 2010

Figure : This figure demonstrates group Simulation exercise in Kalubeyei - Turkana, using Community Mapping - A PRA Tool, to demonstrate their migratory patterns

While livestock mobility is a key coping strategy for pastoralist communities across the world , it is ironically the most threatened lifestyle, especially in areas where modern land tenure changes continue to impose restrictions on movement

Preferred Livestock Species for Movement

Cattle were the most preferred for movement as they are the most vulnerable to drought. Unlike goats and Camels, they are more water and pasture-dependent. The browsers are more tolerant to dry weather and majority of the pastoralists (62% North Eastern, 73% Turkana and 91% for Maasai regions) moved their cattle during drought. The rest could not move for lack of finances, lack of labour to move and herd livestock, and insecurity.

3.5 Rural–Urban Migration and the Congregation around shopping centres

Table 1: Trends, Rural- Urban Migration

Trend of movement	North Eastern (%)	Turkana cluster (%)	Maasai cluster (%)
Increasing	92	73	88
Decreasing	3	22	7
No change	6	5	5

The loss of livestock was the greatest push for settlement around shopping centres in both the North Eastern and Turkana areas (69 and 85%, respectively) followed by the search for employment (19.4%) in North Eastern and insecurity (11%) in the Turkana region. Generally, poverty is the major push factor (82%) in the North Eastern area, and 76% in both the Turkana and Maasai regions in augmenting the rapid movement from rural to urban centres. Similar findings have been seen in past studies where massive losses of livestock and poverty have driven off large numbers of pastoralists from the pastoral system. In the Maasai cluster, the prospects for employment were the strongest push factor followed by the loss of livestock. Among those interviewed in the three areas, majority (77% in the North Eastern, 83% in the Turkana and 75% in the Maasai regions), had at least a relative living in an urban area.



Figure : Service provision across river Dawa and in the Mandera Township

After the loss of livestock many take up a settled life in villages and towns - where without any assets and hardly any skill for urban income-generation, they find life very difficult. An Oxfam field report on the Turkana district describes ex-pastoralists as surviving on food aid, gathering wild fruits, fishing, and begging. The most affected segments of the community were the male and female youth. Although the movement of women into urban areas has largely been frowned upon in the past in recent times a trickling but steady flow of pastoral women into the urban centres had been seen. In this study, youthful women (31% in North Eastern, 36% in the Turkana and 18% in the Maasai clusters) were among those leaving the rural areas and settling in the urban centres.

The male youth (69% in North Eastern, 64% in Turkana and 83% in the Maasai clusters) were also migrating in large numbers into the urban centres. Since these young men were traditionally the source of herding labour, most respondents reported a growing shortage of herding labour and further expressed fear for the future. It was expected that the situation would worsen in the future hence likely to entrench a new culture where hired herders became a key component in the supply of labour in the arid and semi-arid lands. The provision of security by the young people was also likely to change with time as fewer and fewer of them would be available to guard their herds and kinsmen. In the Turkana region, insecurity was highlighted as critical, especially if the youth continued to move out in large numbers.

Among those that went into the urban areas, a sizeable proportion preferred to stay there “for as long as economic opportunities remained”. The peri-urban pastoralists (33% and 41% in North Eastern and Turkana regions respectively), expressed their desire to live in the urban centres for the rest of their lives. However, there was general uncertainty among the urban respondents as some said their next move would depend on how events would unfold in the future. A vast majority (93% in the North Eastern, 82% in the Turkana and 91% in the Maasai clusters) of the respondents stated that the rural-urban trend was on the increase.

Related to this movement, this study established a strong urban – rural connectivity with a large number of the respondents (84% in the North Eastern, 77% in the Turkana and 97% in the Maasai regions) visiting their rural homes at least once or more times every year.

Incomes and Remittances

Only a minority (30% in North Eastern, 5% in Turkana and 15% in the Maasai regions) of those who had moved to urban centres earned more than KES 6,000 (USD 75) per month. The rest earned less, an explanation to why per capita contributions were very low despite the fact that those who had moved to urban centres remitted money back home.



“I have seen many droughts including Kimudumudu (1970), Lapiar (1980), Lomuajom (1992), Ekisil Namorkai (1978), Kanyang'ang'iro (2004) and the recent ones; and it is unfortunate that the rains are reducing and the heat increasing. In my opinion women should be supported with business grants, relief food and some work to do because we suffer most....”

Figure : Margaret Nakuru (60) gives an account of droughts she experienced in her life time

3.6 Services and Collaborative Partners & Donors

In the three areas, majority (82% in North Eastern, 91% in Turkana, and 90% in the Maasai regions) of pastoralists received veterinary and advisory services from the government. Non-governmental organizations were also reported to be providing restocking services especially in the North Eastern and Turkana areas. Additionally, livestock marketing services were an important segment of the services provided by NGOs.

During the assessment, discussions held with the Government, International NGOs, Local NGOs, Community Based Organization (CBOs) and Faith-based initiatives validated that a lot of studies and efforts were in place to alleviate the suffering of the pastoralist communities. It was generally believed that their interventions dealing with capacity-building, natural resource management, marketing, and conflict resolution and water development, among others, had direct relevance to dealing with climatic variability.

There was also an emerging concern that environmental issues needed long-term commitment, while most NGOs were engaged on short-term projects. It was revealed that most of the NGOs were considered weak in documenting community adaptation to climate change and incorporating this into their implementation planning. Nevertheless, a few pastoralists thought that the top-down planning approach employed by some government and NGO interventions posed a great threat to creating dependency syndrome. This might lead to a decrease in innovative local adaptation.

The study revealed that the key stakeholders involved in the struggle to reverse the impact / effects of drought and climate change on the pastoralist communities were in three main categories namely UN and international development partners, NGOs and Community Based Organizations, and the Government and the Local Authorities.

The following tables (7, 8 and 9) provide an overview of some of the services offered by development agencies actively involved in the areas and some existing gaps.

Service by UN and International Agencies

Table 1: Services offered by UN and International Development Agencies

Services offered	Gaps / Impediments
<ul style="list-style-type: none"> • Health and Nutrition • Peace building • Advocacy • Livestock health • Provision of Water • Re-stocking • Infrastructure development (markets, roads, Health Centres) • Drought Recovery and Rehabilitation • Natural resource management • Agriculture • Relief food • Education 	<ul style="list-style-type: none"> • Strategic positioning • Absence of community contingency plans • Low capacity on adaptation and mitigation on Climate Change challenges • Low access to energy services • Creation of dependency by the community • Poor infrastructure • No trusted early warning and response systems • Poor information sharing especially on research findings • Insecurity • Unfriendly policies on crossborder migration • Poor governance and local leadership

Service by Government and Local Authorities

Table 1: Services offered by Government and Local Authorities

Services offered	Gaps / Impediments
<ul style="list-style-type: none"> • Veterinary services– vaccination, disease surveillance, permits, treatment • Extension services– livestock services, water services • Human health services– medical health • Security services • Education • Water and sanitation 	<ul style="list-style-type: none"> • Low staffing • Poor marketing systems • Inadequate health facilities– referral hospitals, mobile clinics • Insecurity along the porous borders • Inadequate funding • Lack of commitment to address pastoral issues through policies and implementation

NGOs and Community Based Organizations

Table 2: Services offered by Community Based Organizations

Services offered	Gaps / Impediments
<ul style="list-style-type: none"> • Lobbying and advocacy for behaviour change • Peace building and conflict management • Livelihood support • Support to livestock sector– Vet Kits • Water and sanitation– Protection of water sources and desilting • Capacity building for adoption of traditional coping mechanisms and indigenous technical knowledge(ITK) • Intervening during emergencies– humanitarian services 	<ul style="list-style-type: none"> • Lack of friendly policies and legal framework for ASAL development • Insecurity and lack of preparedness mechanisms • Limited funds and stringent regulations e.g. 2002 water Act • Lack of contingency mechanisms, capacity and funds

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

In the three regions, there is a high level of awareness among the pastoralist communities on the impacts of drought and the dynamics of climate change. Key indicators on this include their will and drive to move their livestock farther than before (regardless of boundaries and risks involved). It is clear that the situation is getting worse with the passage of time. Appropriate and timely action on this front will reduce human suffering, save many lives, protect livelihoods and help to build resilience by reducing vulnerabilities to future shocks. In this connection, short, medium and long term strategies will need to be well coordinated through a concerted effort by the key stakeholders. To help counter the unfolding uncertainties, certain interventions are urgently needed.

There is general anxiety among pastoral communities regarding the climatic changes they have observed in recent years. Many of the adverse effects seem to be on the increase both in frequency and severity. Pastoralists are unsure of the weather patterns. As a result, there is a rising level of desperation as their key sources of livelihood are threatened. High dependency on natural resources that are highly sensitive to climate change and the prolonged and frequent droughts are making it difficult for the communities to survive, while negatively influencing other possible diversification options.

Because of the increased anxiety and future uncertainties, pastoralists are diversifying en-masse, but most of the available options are ad hoc, short term, and/or unsustainable. Serious planning on other medium and longer term options are seriously needed. Ironically, some of the options that have less impact on the natural resource base include movement into urban areas where infrastructure is better and provision of services easier. However, the towns are mushrooming in a haphazard way.

There is general alarm among the adult population regarding the rate of movement into urban areas for both male and female youth in search of opportunities. Hired labour is emerging as a widespread option to support the rural livestock economy, but for the poor, it may augment further traps into poverty.

Rising poverty levels occasioned by severe droughts (in all the three areas) and insecurity (especially in the Northeastern and Turkana areas) are generating more drop-outs from the system and worsening dependency levels at household level.

Settlement of communities around shopping centres and water points are getting permanent and increasing especially in the North Eastern and Turkana areas. This is evident along the highways, water trucking zones, the immediate vicinity of refugee camps and existing water points.

One clear impact of these settlements is land degradation which is likely to increase with time unless urgently addressed.

There is a high occurrence of cross border-movements for both people and livestock, despite the frequently heightened tensions and insecurity which have resulted in widespread and many casualties. The pastoralists indicated that in most cases, it was not desirable to move across the borders but they were forced to do so to increase the survival chances for their livestock and their families. The vast majority were sure they would need to move more frequently and probably farther away in the future in spite of the anticipated restrictions and deterioration of security.

The degree of vulnerability to climate change between and within pastoral groups varied greatly according to various factors such as age, sex, ownership of different livestock species and geographical location. This therefore implies that interventions geared towards enhancing pastoralists' adaptation to climate change should be implemented in a heterogeneous manner, as opposed to a one-fit-all prescription.

Drought-triggered conflicts remain a real threat and a common occurrence along the pastoralist-shared boundaries of Kenya and Sudan, Somalia, and Uganda. Although dangerous, indications were that movement across these borders would increase as long as adverse climatic variability remained.

Mobility is the most critical ingredient of pastoralism. If the livelihood system is to be sustained, movement from place to place will need to be sustained. Of all the key mitigation and coping mechanisms, mobility stands out as the most essential for pastoralists. Therefore, for pastoralism to survive, safe mobility will have to be entrenched and facilitated in the system at local and cross-border levels. Since rainfall gradients exist in all the ecological systems in the three regions, mobility will remain critical for all the pastoralists as they track water and pastures.

There are serious emerging problems associated with those that fall-off from the pastoral system especially the youth, who end up in the urban areas. There is growing desperation among them as they fall into the grip of poverty. Due to low levels of education, most of the women and youth can only engage in petty trade and provision of some labour-intensive services. Life for the youth is even more complex as many expect to access better education, jobs and training. In many of the towns, these opportunities are scarce or non-existent.

In all the remote areas visited, levels of education were very low. It was unlikely that the youth in these areas would stand any reasonable chance of competing with their counterparts in urban or less remote areas. The rate of development of skilled manpower is slow and way behind that in other parts of the country.

Despite the great loss as a result of climatic changes, the pastoralist communities have made great adaptation efforts which keep them afloat and surviving against all odds. This therefore suggests that the level of success of future adaptation interventions will be dependent on how much the pastoralists are put at the centre stage. Local innovation in adaptation to climate change is considered as a prerequisite to sustained food security, genuine participation in decision making and sustainable resource management.

4.2 Recommendations

Climate change is by no means the end of the road for pastoralists in the ASALs of Kenya and in the region. In fact, at the level of 'survival for the fittest', pastoralism may succeed where other livelihood systems have failed. Pastoralist communities could have a sustainable and productive future in a world affected by climate change, if given the appropriate support and an enabling environment. Based on the study findings as expressed by the communities, key informants, development partners and many stakeholders, the following interventions are recommended to promote effective adaptive mechanisms that safeguard the lives of millions of pastoralist and mobile communities in the country:-

Lobbying and establishment of linkages with development partners, regional bodies and governments in order to invest more in appropriate development initiatives that have climate change adaptation integrated into them (including integrated early warning on adverse climatic change and conflict mitigation) in pastoralist areas. These will include:

- Basic services (for common use between warring communities where possible) like health care and education through outreach along the migratory patterns to ensure access and safety for the pastoralists.
- Pasture management and conservation interventions along with enhanced water harvesting and conservation strategies - Explore water conservation technologies e.g. borehole, solar and wind energy technology.
- Improved livestock management practices that encompasses: Disease surveillance, control and treatment, improvement of (while taking into account the prevailing climatic and environmental conditions) livestock breeds; invest in, and practice livestock off-take/de-stocking, processing of meat, hides and other by-products.
- Provision of financial and technical support services, including further exploration, testing and out-scaling of weather risk insurance, and veterinary and other non-farm extension services where appropriate. If more people diversify into sustainable livelihoods, there will be less pressure on available natural resources.

- Livestock marketing opportunities including the dissemination of livestock marketing information and information about weather patterns and changes through local radio stations and the mobile phone networks.
- Facilitating the provision of enterprise development, business skills and alternative livelihood options to women, out of school youth and men, improving livestock market infrastructures and encouraging diversification of economic activities using other appropriate livestock products e.g. animal hides, milk and wool. Other potentially viable options and alternatives include: Fishing (where water is available), Planting and utilization of available natural resources like Aloe Vera, greenhouse irrigation, Mining, regulated quarrying, Eco-tourism, Vocational training / Skills training, Bee keeping, Promoting business income generating opportunities.
- Wildlife conservation can also be promoted and benefits shared at household and community levels.
- Carbon trading: As an emerging climate change mitigation strategy, ways of engaging communities in the promotion of carbon sequestration activities and receiving money in return will need to be explored in the drylands. The expansive grasslands, bush and scrublands, pockets of forests and opportunities for planting of trees in dry lands will help arrive at a win-win situation, at household and global levels.

Empowerment of pastoralist communities and their local leadership in order to influence the establishment and strengthening of traditional, indigenous institutions as avenues for community dialogue and reconciliation through the following mechanisms:-

- Strengthening County governments, Community Based Organizations (CBOs), traditional structures and institutions like pastoral associations for enhanced community participation in decision making, decentralized planning and accountability mechanisms.
- Sensitize interested parties and ensure the appropriate mechanisms are in place to manage conflicts between pastoral groups and enable practical early warning of conflicts and rapid response through the provision of adequate funding and resources. This should be built on existing traditional conflict resolution mechanisms.
- Support community level initiatives that enhance community planning and ensuring pastoralist women and youth are equally involved.

- Encourage and support local organizations to take the lead in capacity building of community leaders on governance, community participation, dialogue and peace building among communities.
- Promote the establishment of structures at the grassroots like District, Divisional and Locational peace building committees geared towards enhancement of constant consultation and dialogue across the borders, respect for community grazing patterns and land ownership.
- Promote Integrated programming / conflict sensitivity by all stakeholders in conflict prone areas in the pastoralist communities within and beyond the boundaries.
- Awareness creation about the dangers of the proliferation of small arms & light weapons. Work with governments to disarm on a regional scale as opposed to focusing on small pockets.
- Promote Enactment and operationalization of complementary policies that promote pastoral development.
- Strengthening community policing at the community and village level to complement government efforts.
- Formalize and map out the key migratory routes and partners, and engage them in integrated planning.
 - i. Creating a pool of financial and human capital to support livelihood diversification for pastoralist communities and ex-pastoralists (Pastoralist drop-outs) through practical skills development, culturally sensitive income generating activities and funding.
 - iii. Investment in education in the rural (especially through well-funded boarding schools) and centres of excellence in the urban and other selected areas where pastoralists are encouraged and supported through preferential treatment.
 - iv. Creating appropriate mechanisms within the horn of Africa communities (IGAD, East Africa community, and the African Union (AU) to enable cross-border migration and conflict resolution, while incorporating lessons from past experiences. In this regard, it is crucial to note that no country in this region can singly solve the climate-and-livelihoods problem. A concerted effort at inter-government level is urgent and inevitable.

- v. Involvement of regional bodies (particularly IGAD) to develop a pastoral policy framework that will provide coordinated policies with a special emphasis on cross-border migration, including livestock movement, disease control, marketing, conflict management, disarming, freeing up cross border trade in livestock products and commodities and establishing a border commission that focuses on migrants, authorities and local communities.
- vi. The donor communities, the UN and the Government to urgently set aside resources to support and facilitate achievement of these proactive strategies to deal with this extensive and potentially explosive issue.
- vii. Proper planning on land tenure and use are highly and urgently needed especially through the County but also the national governments. Support to build the needed capacity is highly required as the ASAL regions still lag behind other areas. Lack of such planning will only compound the existing and emerging problems and hasten the process of land fragmentation.

Return of stolen livestock was considered as a good gesture. It was therefore very clear that partnership and networking among the different organizations (CBOs, Local NGOs, and other stakeholders) on cross-border issues can make a significant contribution. A collective responsibility by the affected governments is essential if the issue of border conflicts is to be effectively addressed.

4.3 References

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4.4 Appendices

Agenda for the Stakeholders' Validation Workshop held in December 2010 in Nairobi

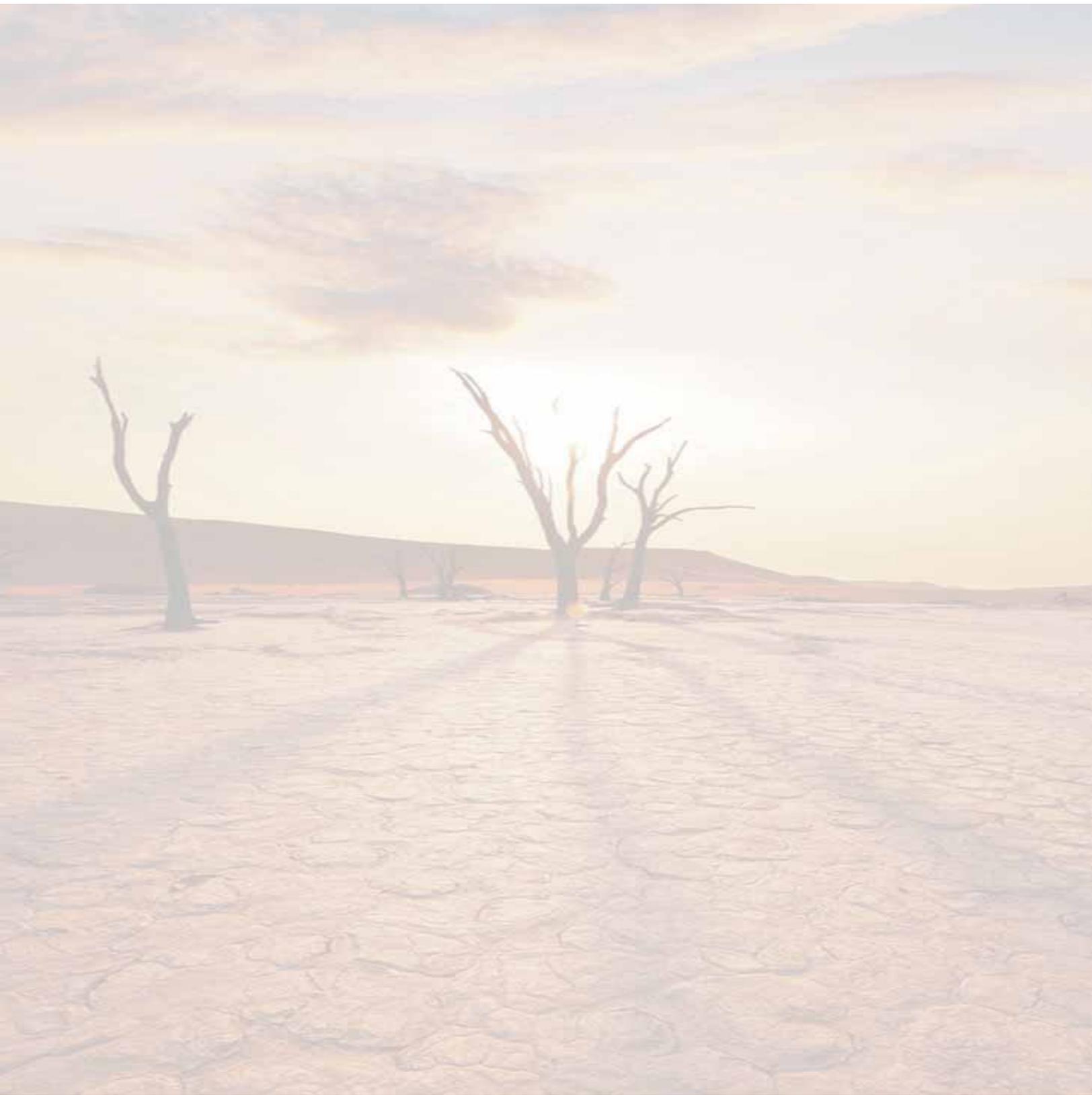
Agenda	
08:30a.m.	Arrival and Registration
09:00a.m.	Welcome and Introductions <i>Japheth Kasimbu</i> Security in Mobility among Pastoralists in the Horn and East of Africa <i>Choice Okoro; UNOCHA</i> Pastoralists' Voices (Documentary)
10: 00a.m	Official Opening <i>Ashraf El Nour; East and Central Africa Regional Representative, IOM</i>
10:30a.m.	Break
10:45a.m.	Presentation: Summary of the Study Findings and Recommendations <i>Dr. David Nkedianye and Peter Kilonzo</i>
12:15a.m.	Plenary Discussion <i>Alia Hirji / Japheth</i>
01:00p.m.	Lunch
02.00p.m.	Group Work: (Securing Diversification of Pastoralists' Livelihoods, Climate Change Adaptation Methods Policy Framework, Participation of local NGOs and CBOs)– Japheth /Fatma
03:00p.m.	Group Presentations <i>Fatma Said</i>
04:00p.m.	Wrap-up & Way Forward

List of Participants for the Validation Workshop

<p align="center">Drought, Climate Change and Migration of Pastoralist Communities in Kenya</p> <p align="center">A Stakeholders' Validation Forum, at Nairobi Safari Club</p> <p align="center">on 9th December 2010</p>			
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