

Islamic Relief Worldwide

Situation Analysis and Proposal Writing – Livelihoods in the Horn of Africa

Research Analysis Report – First Draft

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EXECUTIVE SUMMARY

Project Title: Drought Risk Reduction and Climate-resilient Livelihoods

Impact: Reduction in drought risk

Indicator: Rate of beneficiaries dependent on relief aid

Outcome: Development and implementation of climate-resilient livelihoods

Indicator: Number of households engaged in climate-resilient livelihoods

Output 1: All urban-based beneficiaries have access to urban and peri-urban agriculture programmes

Output 2: All urban-based beneficiaries have access to urban-based livelihood programmes

Output 3: All rural-based beneficiaries have access to agroecology programmes

Output 4: All rural-based beneficiaries have access to dryland forestry programmes

Output 5: All rural-based beneficiaries have access to improved livestock management programmes

Output 6: All settlements-have have access to rangeland management programmes

1.0 INTRODUCTION

In this report the issues around livelihood resilience and climate change in northeast Kenya and southern Ethiopia are investigated. Following the Methodology (Section 2.0), the Research Questions and Findings (Section 3.0) are presented, which is followed by a section addressing Programme Implications and Recommendations (Section 4.0).

The causes of the current crisis in the Horn of Africa are resulting from a combination of factors that are linked to environmental change and political ecology. The continuous cycle characterised by drought impacts have been exacerbated through the cumulative effect, also known as the ratchet effect, where through repeated exposures to drought impacts increase vulnerability.

Environmental changes, including changes in rainfall patterns from regular seasonal cycles to shorter and more intensive rainfall periods have impacted on rangeland regeneration resulting in the degradation of pastures thus increasing in seasonal livestock migration. Such patterns have also increased livestock drop-outs and urban migration as young people go in search of other opportunities such as urban employment.

Despite these conditions, there are still opportunities to build climate-resilient livelihoods based on adaptation strategies to the changing climatic conditions. The three themes that these opportunities can be grouped into: 1) Urban and Peri-urban Interventions; 2) Rural Interventions and; 3) Landscape Interventions. Using these three themes the following project is proposed:

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2.0 METHODOLOGY

This section provides an overview of the methodology, including the main research components as identified in the Terms of Reference, the research tools that were used, details of actual schedule, and details of key informant interviews that were undertaken.

2.1 Research Components

The methodology consisted of three main research components as identified in the Terms of Reference (see Annex 4), these components consisted of:

1. Climate change data collection (primary and secondary).
2. Consultations with IRW programme staff.
3. Key informant interviews.

2.2 Research Tools

At the community-level the main research tools that were employed consisted of transect walks (in household compounds, on-farm, and at communal sites) and semi-structured interviews, which allowed the best use of the limited available-time to capture local knowledge and to observe a range of livelihood practices in each location. In addition, digital images were taken to provide additional records of the different livelihood practices; these are analysed in Section 4.0 Programme Implications and Recommendations. Throughout the fieldwork period consultations were undertaken with IRW programme staff. These discussions were recorded in note form and with sketches and diagrams for programme design purposes. In each of the locations that were visited the research teams undertook joint key informant interviews which also allowed for the collection of secondary data.

2.3 Actual Movements

December 2011

Saturday	10.12	Departed London – Arrived Nairobi
Sunday	11.12	Briefing with Kenya Office Staff
Monday	12.12	Kenya Public Holiday
Tuesday	13.12	Attended FAO Workshop
Wednesday	14.12	Attended FAO Workshop
Thursday	15.12	Departed Nairobi – Arrived Wajir
Friday	16.12	Field surveys – Wajir
Saturday	17.12	Field surveys – Wajir
Sunday	18.12	Field surveys – Wajir
Monday	19.12	Departed Wajir – Arrived Mandera

Tuesday	20.12	Field surveys – Mandera
Wednesday	21.12	Field surveys – Mandera
Thursday	22.12	Departed Mandera – Arrived Nairobi
Friday	23.12	Departed Nairobi overland to Garissa
Saturday	24.12	Departed Garissa overland to Dadaab
Sunday	25.12	Departed Dadaab overland to Garissa
Monday	26.12	Am Departed Dadaab overland to Nairobi Pm Departed Nairobi – Arrived Addis Ababa
Tuesday	27.12	Departed Addis Ababa – Arrived Goda, overland to Hargelle
Wednesday	28.12	Key informant interviews – Hargelle
Thursday	29.12	Departed Hargelle overland to Charati
Friday	30.12	Departed Charati overland to El Kari
Saturday	31.12	Departed El Kari overland to West Emi

January 2012

Sunday	01.12	Departed West Emi overland to Hargelle
Monday	02.12	Key informant interviews – Hargelle
Tuesday	03.12	Departed Hargelle overland to Goda
Wednesday	04.12	Departed Goda – Arrived Addis Ababa
Thursday	05.12	Key informant interviews – Addis Ababa
Friday	06.12	Departed Addis Ababa – Arrived Nairobi
Saturday	07.12	Debriefing with Kenya Office Staff
Sunday	08.12	Depart Nairobi
Monday	09.12	Arrive London

2.4 Key Informant Interviews

December 2011

11.12.11	Muktar Behi, African Relief Fund, Birmingham
13.12.11	Constance Neely, Programme Development Facilitator, World Agroforestry Centre, Nairobi Katja Kehlenbeck, Associate Scientist, Tree Genetic Resources & Domestication, World Agroforestry Centre, Nairobi Julien Custot, Food for the Cities – Facilitator, UN-FAO, Rome Francesca Gianfelici, Food for the Cities, UN-FAO, Rome Paul Munro-Faure, Principle Officer, Climate, Energy & Tenure Division, Natural Resources Management & Environment Department, UN-FAO, Rome Daniel Luis Paffenholz, Director, Takataka Solutions, Nairobi
14.12.11	Alebel Bayrau, Poverty and Sectoral Department, Ethiopian Development Research Institute (EDRI), Addis Ababa, Ethiopia Linda Beyer, UNICEF, Nairobi, Kenya Ali Hussien, WFP, Nairobi, Kenya Anwar Mohamud A., Programme Officer, Kenya Livestock Marketing Council, Nairobi

- Abdikadir A. Sheikh, Programme Assistant, Kenya Livestock Marketing Council, Nairobi
- Annet Birungi, Senior Programme Assistant, WFP, Southern, Eastern & Central Africa Regional Bureau, Kampala
- Catherine Juan Benaiah, Director of Extension, Ministry of Agriculture & Forestry, Republic of South Sudan
- Sworo Yopesi, Assistant Emergency Coordinator, Emergency & Rehabilitation Coordination Unit, UN-FAO Southern Sudan
- Mulu Bezuneh, United Nations Mission in Sudan (UNMIS), Khartoum
- 15.12.11 H. Abdikarim, District Agriculture Officer, Wajir East
Abdi Sheikh Ahmed, District Irrigation Officer, Wajir East
Maiyuri, Metrological Officer, Wajir Metrological Office
- 16.12.11 Karim Victou, Griftu Division Agriculture Officer
- 18.12.11 Fatuma M. Amin, Program Officer, WASDA, Wajir
Mohamed H. Hussein, Finance Manager, WASDA, Wajir
Abdifatah Yale Dakane, Program Officer, WASDA, Wajir
- 19.12.11 Khalif Barrw, Mandera Irrigation Officer
Mohamed Mohamed, Zone Manager, Mandera District Forestry Office
- 20.12.11 Ibrahim Ahmed, Executive Director/Founder, Northern Kenya Caucus, Kenya-Somalia NGO's Consortium, Nairobi
- 21.12.11 Derow Gatmow, Drought Management Officer, Arid lands, Mandera
Mr. Peterson, Mandera Metrological Office
- 22.12.11 Dr. A.S. Abdalla, Senior Assistant Director, District Veterinary Office, Mandera
- 23.12.11 Abdinoor Dubow, Deputy Drought Management Officer, Garrisa
- 24.12.11 Thomas K. Beti, Deputy District Commissioner, Dadaab
Albert G. Kimathi, District Commissioner Dadaab
John McCue, Head of IOM Dadaab Sub-office
- 28.12.11 Abdi Sataar Farah, District Disaster Prevention & Preparedness Head, Hargelle District
Bashier Mohamut Dahir, Acting District Administration Chairman & Education Officer, Hargelle District
- 30.12.11 El Kari District Chairman
Abdullah Abdi, District Disaster Prevention & Preparedness Head, El Kari
Ismael Ahmed, District Disaster Prevention & Preparedness Officer, El Kari
Aadan Maxamed Barils, District Water Officer, El Kari
- 31.12.11 West Emi District Chairman
Hussein Mohammad, District Disaster Prevention & Preparedness Head, West Emi
Khdar Farah, Agroclutre Officer, West Emi

January 2012

- 05.12.12 Mahlet Eyassu, Climate Change Program Manager, Forum for Environment Information Officer, Climate Change Forum-Ethiopia
Gebru Jember, Programme Officer, Climate Change Forum-Ethiopia
Teriessa Jalleta, PILLAR and Project Manager, Save the Children UK, Addis Ababa

- Teshome Assefa, Emergencies Coordinator, Save the Children UK, Addis Ababa
Aden Tekle, Early Warning Advisor, Save the Children UK, Addis Ababa
- 06.12.12 Throdros Hailemariam, Social Development Advisor for Food Security Program – PSNP and HABP
Hasen Keder Edris, Soil & Water Conservation Officer, National Focal Point on Conservation Agriculture, Ministry of Agriculture, Addis Ababa
Adrian Cullis, Food Security Section, Disaster Response and Rehabilitation Unit, UN-FAO
- 07.12.12 Bo Lager, Programme Director, SCC-Vi Agroforestry Eastern Africa
Hanna Wetterstand, Programme Officer, SCC-Vi Agroforestry Sweden
Yesuf Abdella Mohammed, Irrigation and Rural Infrastructure Engineer, Africa Service, Investment Centre Division, Technical Cooperation Department, UN-FAO, Rome

3.0 RESEARCH QUESTIONS AND FINDINGS

To assess the impacts of climate change, particularly the medium to long term environmental and social trends and the implications that these have on livelihoods in the Horn of Africa, 9x research questions were drafted and listed in the Terms of Reference (see Annex 4). In the following section each research question is listed along with brief overviews of the findings and knowledge gaps.

3.1 What is the evidence for climate change altering livelihoods?

Increased Rainfall Variability

Climatic data from Wajir and Mandera Weather Stations provide an indication that there has been an increase in rainfall variability which provides the clearest evidence of the impact of climate change on livelihoods. For example, Mandera has seen an actual increase in total rainfall each year over the last 3x years (rainfall values not supplied), whereas the annual total rainfall figures that were collected at the Wajir Weather Station for the last three years were given as:

- 2011 - 547 mm (January to November)
- 2010 - 234 mm
- 2009 - 355 mm

In the locations that were visited in Afder Zone, Southern Ethiopia similar data was not available.

It is well documented that farmers and pastoralists are reporting shorter but more intense rainfall periods often resulting in heavy storms and flash flooding. The consequence of these intense rainfall patterns is accelerated surface flow thus reducing rainfall infiltration which also contributes to pasture degradation. Thus the increases in rainfall variability directly impacts on pasture regeneration resulting in the limited availability of quality pastures which then forces pastoralist to extend and increase their livestock movements to other grazing areas.

In the Highlands of Ethiopia, the change of land use from forestry to agriculture also contributes to flash flooding in the downstream areas of Northeast Kenya and Southern Ethiopia. When it rains the surface flows are accelerated due to the loss of vegetation on the Highland farms resulting in reduced infiltration capacity and faster surface flows. Coupled with increasingly heavier and intensive rainfall periods, large areas of Northeast Kenya and Southern Ethiopia are now prone to flash flooding particularly settlements that are located in low-lying flood prone areas or along river systems such as Garrisa and Mandera in Northeast Kenya and West Emi in Southern Ethiopia.

Climate Hearings

In both Northeast Kenya and Southern Ethiopia climate hearings have taken place. These are platforms for local people to provide them with an 'opportunity to tell their stories about the negative effects of weather extremes and how they are adapting to it' (NCCF, 2009). In 2009, over 21,000 people came to speak at climate hearing events organised by the National Climate Change Forum. Some examples of voices from the hearings in Ethiopia and Kenya include:

“It was very unusual for us to wait for 10 months to see a drop of rain – now however, it has become normal”.

Mr. Kajelo Watiro, 55-year old farmer, Lake Abjatta, Zeway, Oromia, Ethiopia (NCCF, 2009).

“We used to have many streams, but these days most of them have dried out”.

“Now we have to walk long distance to get water making it difficult to take care of our children at home”.

“We have to protect our trees and be more responsible in protecting our natural resources”.

Jemila Mergo, farmer and mother of five, Assela, Arsi Zone, Oromia, Ethiopia (NCCF, 2009).

“In the last few years when the rain started becoming short and unpredictable, we switched to potato that grows fast with less rain. We ate and sold that which helped for the last few years. This year, the rain was even shorter and the land refused to give us even potatoes – what are we going to do? God help us!”.

Abba Ayalew Tegene, 83-year old farmer, Lay Gayint, Amhara, Ethiopia (NCCF, 2009).

“Lately we have experienced complete crop failure due to lack of sufficient rain at the appropriate time. The drought in the area has a peculiar pattern which is really daunting and hard to cope for an average farmer”.

“The drought in the area has a peculiar pattern which is really daunting and hard to cope for an average farmer”.

Atakilti Ambeye, 64-year old farmer, Astbi Wonberta Woreda, Tigray, Ethiopia, (NCCF, 2009).

“Coffee beans have become smaller and in some instances the coffee trees are not productive at all. Most farmers are now shifting to other crops for food security such as Enset which is a drought resistant plant”.

Mr Getachew Araras, 30-year old, Hafersa Farmers Cooperative (1,068 farmers), Dilla, Gedeo Zone, Southern Nations, Nationalities, and People’s Region, Ethiopia (NCCF, 2009).

“In the old days, if drought happens, a household that have more livestock and is in a better situation share or support a neighbor that lost a lot, but unfortunately now everyone is in the same situation”.

Dama Boruu, 42-year mother of 5, Borena Zone, Oromia, Ethiopia, (NCCF, 2009).

“I have seen many changes over decades in both drought and other problems related to climate change, the effect of climate change is recurrent and these changes have affected the patterns of rains that have led to more drought and land being unsuitable to my pastoralist tradition. Pastoralist is our backbone and source of living but this tradition is becoming extinct since few animals were eroded by drought, we need to sort an alternative source of livelihood now that is why am cutting trees and burning charcoal so that I can earn a living”.

“Have devise several coping mechanism for these drought. Due to hunger some people have resorted to eating wild fruits locally known as lugo in order to survive. Those with

few herds of cattle have moved their animals to areas with pasture but resorted to trucking water to the animals. Since most pastoralist cannot afford to pay the truck owners, they are forced to share part of the remaining animal in order to settle water trucking debts”.

Abdurrahman Hussein, 60-year old pastoralist, Buna, Wajir North District, Kenya (Oxfam and WASDA, no date a).

“My customers were purely pastoralist who come to water their animals but because of the recurrent drought the shallow wells are dried up, people have migrated to Ethiopia with their livestock, now my café has collapsed due to lack of customers and huge expenses I incurred buying water and pasture to salvage my animals from drought, unfortunately after all these effort the animal did not survive”.

Samoy Hussien, 35-year old mother of 5, ran a cafe, Buna, Wajir North District, Kenya (Oxfam and WASDA, no date a).

“I believe nature and I cannot predict future anticipations but the consequences of climate change could be more worse if these trend continues, am for seeing in the next five years nomadic way of life will become extinct and people moving from place to place will settle in town, pastoralist will have no livestock to move with due to frequency and severity of drought”.

Ahmed Abdi, 30-year old pastoralist, Ajawa, Kenya (Oxfam and WASDA, no date a).

“We coped with the drought by bringing the animals to town to share with us the little food and water. Those in good condition were sold to feed the weak ones, people of all ages climbed the hill to fetch grass at the apex of the hill, we buy hay from Ethiopia and truck water and a 20 litre jerry can cost Kshs 80 equivalent to 1 US dollar”.

Farah Hussein, 55-year old mother of 6, Ajawa, Kenya (Oxfam and WASDA, no date a).

“During the drought when the milk is scarce and young ones cry for milk its me who bear the brunt because am at home taking care of them, the man is always away to look after the larger herds so I must find away to take care of the small herds at home to enhance their milk production to avert hunger and improve the immunity of my young ones”.

Habiba Bare, 40-year old mother of 10, Sabuli, Kenya (Oxfam and WASDA, no date a).

“The only long term solution to these drought is to form groups with the support of NGOs. We can harvest the water of our seasonal streams for diversification of livelihoods, to engage small scale farming to curb food insecurity”.

Hamara Kusa, 42-year old mother of 9, women’s group leader, Sabuli, Kenya (Oxfam and WASDA, no date a).

“Climate change in my opinion is caused by emissions from factories of the developed countries, secondly is caused by cutting down of trees as trees play an important role by providing shields acting as wind breakers and provides fresh air. If we conserve our environment by planting more trees, we will not feel the effect of climate change”.

Abdirashid Bulle, businessman with family of 9, Buna, Kenya (Oxfam and WASDA, no date a).

From the above climate hearings some generic principles for improving the resilience of livelihoods and farming systems can be deduced, along with the fact that traditional coping systems have failed which exacerbates the dependency of external government and NGO aid:

- Crop monocultures (particularly potato) are susceptible to crop diseases and pests outbreaks, which increases risk of crop failure and therefore the vulnerability of farmers.
- Farming systems should be diverse, and use a range of dryland farming and forestry techniques, including agroecology, agroforestry and soil nutrient and water conservation.
- Diversifying livelihood options, for example expanding gum and resin production, will improve income generation and thus provides an alternative means to food security while also reducing demand on charcoal production as a livelihood option.
- Drought resilient crops and crop varieties should be adopted but within a broader farming system package that mainstreams dryland farming and forestry techniques.

3.2 What are the underlying trends in livelihoods within these communities?

Understanding the underlying livelihood trends and patterns requires systemic research at the community level through the application of participatory rural appraisal (PRA) and farm/village survey techniques as frequently applied during local government agency and NGO surveys. In this section data is primarily obtained from reviewing locally produced reports but this is also supported from field observations made during transects walks and conducting key stakeholder interviews within the communities concerned. But to improve current knowledge attempts should be made to obtain additional reports that can contribute and build upon current understanding of underlying livelihood trends, for example: divisional agriculture and livestock annual reports; environmental degradation survey reports; village health committee reports; provincial administration reports; district statistics – population reports; nomadic pastoral appraisals and; public health reports. In addition, reviewing drought and emergency bulletins, also provides overviews of coping strategies at the community level which contributes to current understanding of livelihood trends, and as each district uses standardized bulletin templates this assist monitoring over time so that trends and patterns can be identified although bulletin data requires further investigation for quantification purposes. Bulletin examples include the early warning and response analysis bulletin in Ethiopia and the monthly district drought bulletins in Kenya.

Kenya

In Kenya, sources of useful survey data include the Broad Based Survey (BBS) and Participatory Approach to Poverty and Livelihood Dynamics (PAPOLD) reports and Community Action Plans (CAP) as produced by the Ministry of Agriculture, along with the monthly district drought bulletins as produced by Arid Lands. In this section, data from the Garissa and Mandera monthly district drought bulletins is presented and analysed and then a short case study from the village of Lafaley located 9 miles from Wajir is presented. In Tables 3.1 and 3.2, the Garissa seasonal calendar and the coping strategies in Garissa District from December 2010 to November 2011 are presented respectively,

followed in Tables 3.3 and 3.4 with similar data for Mandera. These tables these provide details of seasonal pressures which force many of the underlying trends and livelihood patterns. The remainder of the section is then used to present the short case study of Lafaley village which is produced from the Ministry of Agriculture survey report for the village (Mohamud, 2010).

Table 3.1 Garissa seasonal calendars

Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec
Dry period – Jilaal High temperatures			Long rainy season – Guu		Dry and cold period – Hagaa				Short rainy season – Deer		
Livestock migration in search for pasture & water Herd separation Livestock marketing Pressure on boreholes			Livestock selection & breeding Weeding ceremonies Weaving Male circumcision Livestock restocking Rainfed crop planting Livestock deworming		High rate of livestock and household migration High labour demand Destocking & culling Surveillance for pasture & browse Caravan water trekking				Livestock restocking Bred improvement Rainfed crop planting Crafts & weaving Calving & kidding period		

Table 3.2 Coping strategies in Garissa District December 2010 – November 2011

Activity	2010	2011										
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Practicing of petty trade												
Reliance on remittances												
Herd separation												
Credit & borrowing												
Herd & household migration												
Reduction in meal size												
Skipping of meals												
Sale of wood products to substitute livestock sale ¹												
Household depending on casual labour												
Pastoral dropout												
Rural urban migration												
Change of lifestyle												
Increased charcoal burning												

¹ Charcoal burning and wood product sales

Table 3.3 Mandera seasonal calendars

Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec
Short dry spell – Jilaal			Long rains – Gu'u		Long dry spell – Hagai				Short rains – Deyr		
Migration Conflicts Watering of livestock Pressure on boreholes Land preparation			Pasture surveys Mating season Planting		Livestock diseases Labour demand Cold dry weather				Migration Conflicts		

Calving & kidding period

Table 3.4 Coping strategies in Mandera County January – September 2011

	2011								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Relief food & supplementary feeding									
Casual work									
Sharing of relief food with pastoral relatives									

Lafaley Livelihoods Case Study: Background Data

Population approximately: 3,369 (female – 1,963; male – 1,409) (2009 population census).
 Number of Households: 549.
 Estimated land area: 990 square km (820 square km is communal land ownership).
 Water resources: Shallow wells (deeper than ordinary Wajir wells); 2x boreholes (low output); 1x KBC borehole (good output but not accessible).
 Soils: sandy; organic content negligible, low water retention capacity.
 Vegetation: Deciduous bush and shrubs, predominantly grass and acacia species e.g. *Acacia tortalis*.
 Average rainfall: 250mm (evaporation rates estimated at 200mm).
 Opportunities: Rainfed agriculture, horticulture and livestock production.
 Constraints: Vegetation pressure from removal of firewood which is increasing due to poverty, increase in firewood in Wajir, and illegal firewood cutting and charcoal burning from Wajir residents.
 Agriculture constraints: Groundwater saline; high use of uncertified seed (62%); inorganic fertilizer not available; livestock manures not used.
 Livestock Constraints: Poor local breeds; lack of adequate pasture; poor management practices (e.g. de-worming/tick control); disease outbreaks; poor cultural/traditional practices (large herd sizes with low productivity beyond land carrying capacity).

Table 3.5 Timeline of key historical events

Year	Event
1980	Ministry of Works drilled first borehole
1983	Vegetation depletion from drought and rampant bush/tree clearing due
1984	Loss of livestock from prolonged drought
1990	First Lafaley settlement arrived First well dug for settled communities First chief employed for area
1991	Administrative police camp established Outdoors school (under tree) established
1992	Displaced pastoral families arrived expanding settlement Good rains/ wet period
1997	El Nino phenomenon
2001	Current borehole sunk
2005	Community dispensary established

Table 3.6 Changes in livelihoods in Lafaley 1990-2010

Activity	2010	2000	1990
Declining Livelihoods			
Livestock rearing	5	15	22
Milk vending	2	8	11
Herdsman		2	6
Livestock trading	2	6	1
Rising Livelihoods			
Firewood vending	23	16	3
Casual labour	8	3	
Table businesses	7	3	
Poultry keeping	3		
Pawpaw production	2	1	
Selling pawpaw seedlings	1		
Static Livelihoods			
Goat milk vendor	2	2	2
Gum/resin production	2		2

(Source: Total number of survey respondents 47).

Additional livelihoods that were reported in the survey included:

2010 Kiosk business (x2); vegetable farming (x2); selling wooden poles (x1), shoat rearing (x1).

2000 Hotel business (x3); rainfed farming (x3); retail shop (x1), preserving meat – nyiri nyiri (x1).

1990 Hotel business (x2); charcoal burning (x1); mat production (x1); retail shop (x1).

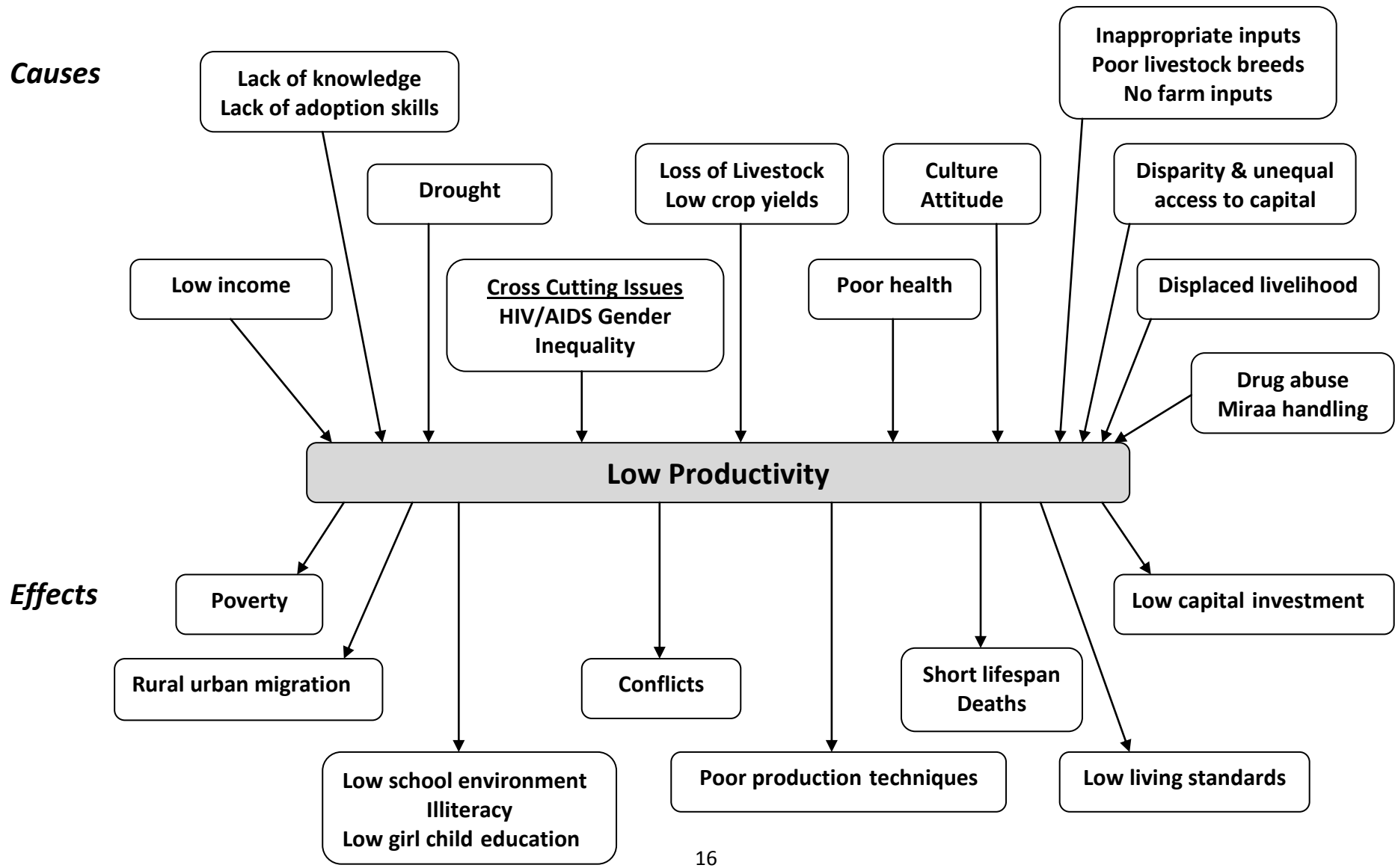
Table 3.7 Livelihoods and gender breakdown in Lafaley

Livelihood	Male	Female	Youth
Firewood vending	20%	30%	50%
Casual labour	60%		40%
Table business	10%	50%	30%
Livestock rearing	40%	10%	50%
Hotel business		90%	
Livestock trading	95%	5%	

Table 3.8 Perceptions of livelihood importance in Lafaley

Activity	Future	2010	2000	1990
Firewood vending	Very important	Very important	Important	Important
Casual labour	Very important	Very important	Important	Not important
Table business	Very important	Very important	Important	Not important
Livestock trading	Important	Important	Very important	Very important
Hotel business	Very important	Very important	Important	Not important
Rainfed farming	Not important	Not important	Important	Important
Livestock rearing	Important	Important	Very important	Very important

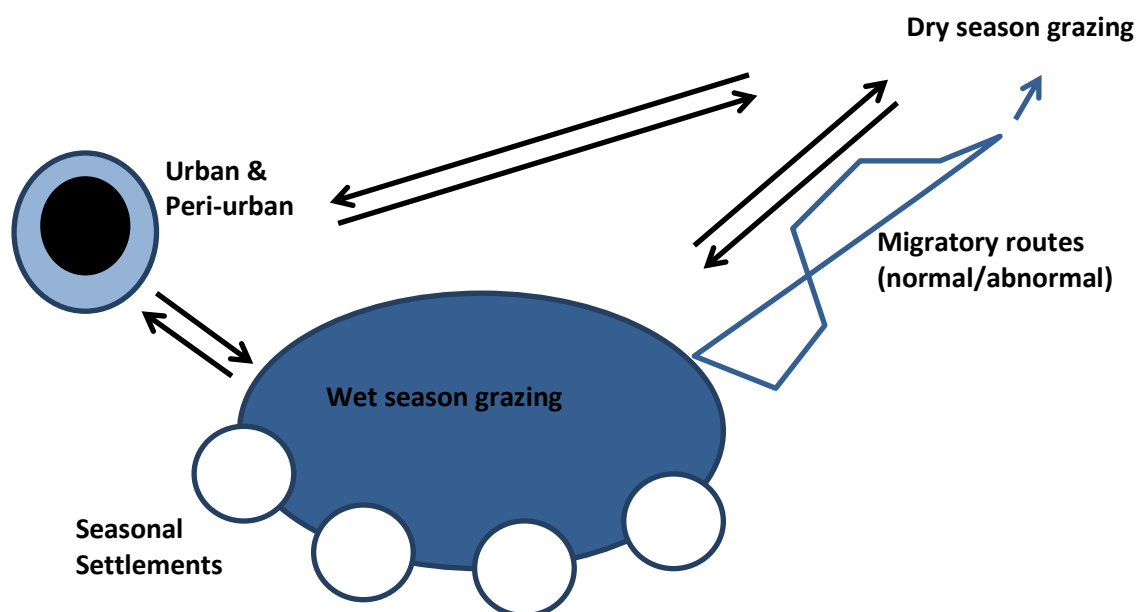
Figure 3.1 Problem tree



From the above tables the main coping strategies consist of reducing the frequency and size of meals, receiving relief food and supplementary feeding (vulnerable groups), obtaining credit and loans, receiving remittances, splitting and migrating livestock herds, and adopting alternative income generating activities. From field observations in Ethiopia and Kenya, and the reviewing of monthly district drought bulletins that were obtained in Garissa and Mandera, an overview of underlying livelihood trends, in no particular order, can be summarised as:

- Increased pastoral dropout.
- Uptake in charcoal burning and the sale of wood products.
- Migration of young men to provincial and major urban centres.
- Uptake of rainfed and river irrigated agriculture (agropastoralism).
- Increased livestock movement to distant grazing areas (and markets).
- Increase in livestock splitting (weak/lactating livestock remain local remainder are moved).

Figure 3.2 Spatial arrangements linked to seasonal migration patterns



(Source: McDowell, 2011)

3.3 Assessing the impact of climate change on host communities of refugees/IDPs

In Ethiopia, it was not possible to visit refugee camps/sites due to time constraints, the enforced government restrictions, and the required security clearance procedures that have to be fulfilled prior to visiting refugee areas (2x FAO refugee livelihood assessment reports were obtained).

In Kenya, it was not possible to host communities around the Dadaab Refugee Camp, due to security operations that were being conducted in the Dadaab Refugee Camp by the Kenyan Government. However 2x villages along the Dadaab-Garissa highway (wide sandy track) were visited and in both

locations despite limited NGO activity, a range of water infrastructures were clearly evident including bore wells, shallow wells, and open reservoirs. Also established were government tree nurseries and some evidence was evident that three seedlings were being distributed and planted by community members. Residents also raised concerns about increase pressures on local resources (grazing/trees) from Dadaab refuges that are using donkey carts to roam further afield in order to collect firewood for use in Dadaab camp, and also moving their livestock from the camp for grazing (September 2010 livestock figures kept in Dadaab included 53,000x sheep/goats, 8,000 cattle, Enghoff *et al.* 2010). Similar views have been raised at public climate change hearings:

“We are affected by the presence of refugees, you will realize that a lot of trees have been cut to act as firewood for refugees this has caused desertification contributing to increases in temperature and rain failure as trees which would have act as a shade and attracts rainfall. This is why poverty level is high in these areas especially affected by the refugees, we would appreciate if the government and the UN agencies can intervene”.

Mama Nathifa Jibril, 55-year old, Biyamathow, Kenya (Oxfam and WASDA, no date).

3.4 What are the strategies of the governments in these two regions and the other main development agencies?

Government Strategies

The main government strategies in the two regions are based on early warning and emergency food relief in conjunction with longer-term food security initiatives such as improved irrigation and rainwater harvesting capacity. Sector based interventions, such as reforestation programmes and open pan reservoir construction, are administered and implemented by respective local government departments, such as respectively Forestry Department and Arid Lands in Kenya, but the overall development strategy is coordinated at a local authority level (district administration level in Kenya and zone administration in Ethiopia), and contained in district development plans. In Ethiopia, there are four components of the food security programme:

1. ***Productive Safety Net Programme*** – Development-orientated approach to address food gaps through transfers for to meet consumption need. Beneficiaries participate in public-works with a focus on watershed management and development.
2. ***Household Asset Building Programme*** – Provision of technical assistance (extension services; SME Development Agency and financial services (credit provision).
3. ***Complimentary Community Investment*** – Focuses on rangeland development, irrigation and water resource development for livestock and human consumption in drought prone highland and pastoral areas.
4. ***Resettlement*** – Intended to resettle households from highly degraded and overpopulated areas to with access to land for food self-sufficiency.

In Kenya, inter-agency food security operations are coordinated through the district drought committee which is headed by the respective district drought manager officer. The early warning

indicators are based on the monitoring of crop and livestock prices, along with other non-farm parameters such as the incomes rates for casual labourer thus providing a food access matrix.

NGO Strategies

The predominant NGO activities remain the provision of emergency relief to vulnerable groups coupled with interventions covering a range of sectors including education, water and sanitation. In Ethiopia, early warning programmes have been developed by Save the Children UK which consists of a variation of early warning and emergency relief coupled with long-term development programmes. In essence the early warning approach improves response mechanisms to food insecurity but unless such interventions are directly coupled with watershed management and development (at the landscape level) the current programmes offer little adaptive capacity for livelihood resilience.

In Wajir Kenya, the local NGO WASDA, in partnership with OXFAM UK have been implementing community-based disaster risk reduction programmes (DRR) in Sabuli village, Wajir South District, with pastoral communities. The aim of the programme is 'minimizing drought hazard/effects and diversifying livelihood means of the Sabuli residents through implementation of integrated irrigation based developments' (Oxfam and WASDA, no date_b). A participatory capacity and vulnerability analysis and 'bottom-up' planning approach was used along with district level workshops to sensitize various government and NGO stakeholders. From the community-based assessment the 'most common identified capacity gaps of community were limited knowledge and skill to use their borehole to improve pasture lands and to cultivate agricultural products'. A 'community disaster management plan' was developed involving all stakeholders, including district agriculture and livestock departments, as the main components that were implemented involved small vegetable gardens and improved pasture plots. Drip irrigation kits were provided to conserve water and provision was also made for reseeded the surrounding rangelands (Oxfam and WASDA, no date_b).

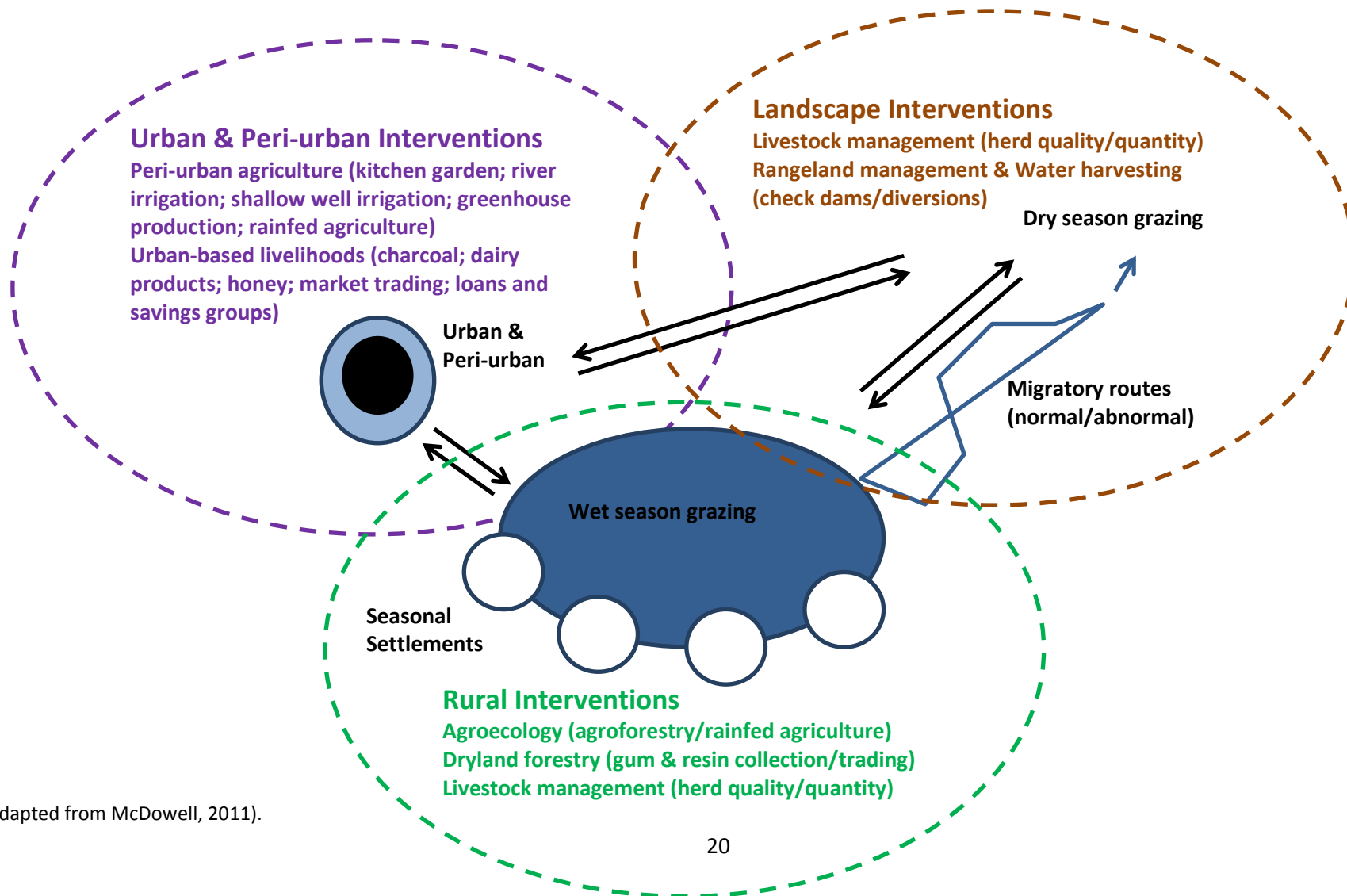
3.5 What are the gaps in our understanding that require greater research?

Understanding Rainfall Variability

In Kenya the collection of monthly rainfall and temperature data in respective district centres allows the opportunity for analysing and understand rainfall variability patterns. Such data and analysis is invaluable in the planning and design of disaster risk reduction (DRR) programmes. In Nairobi, at the main Metrological Office the monthly rainfall and temperature data from local weather stations is available on payment of a fee per parameter such as rainfall or temperature. Obtaining the monthly data records for the locations of Mandera, Wajir and Garrisa, for a period dating back over 10x years, would provide an opportunity to identify and map the current rainfall changes and patterns in rainfall variability, while also identifying critical rainfall periods as experienced in November 2011.

3.3 What opportunities exist for supporting resilience and risk reduction?

Figure 3.3 Interventions at multiple scales



(Adapted from McDowell, 2011).

3.7 How would a livelihoods response be strategised and planned (give logframe analysis)?

Project Title: Drought Risk Reduction and Climate-resilient Livelihoods

Impact: Reduction in drought risk

Indicator: Rate of beneficiaries dependent on relief aid

Outcome: Development and implementation of climate-resilient livelihoods

Indicator: Number of households engaged in climate-resilient livelihoods

Table 3.9 Project outputs and activities

Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	
All urban-based beneficiaries have access to urban and peri-urban agriculture programmes	All urban-based beneficiaries have access to urban-based livelihood programmes	All rural-based beneficiaries have access to agroecology programmes	All rural-based beneficiaries have access to dryland forestry programmes	All rural-based beneficiaries have access to improved livestock management programmes	All settlements-have have access to rangeland management programmes	
Impact Weighting	Impact Weighting	Impact Weighting	Impact Weighting	Impact Weighting	Impact Weighting	Total =
20%	10%	20%	20%	10%	20%	100 %
Activities	Activities	Activities	Activities	Activities	Activities	
Kitchen gardens; container gardening; river irrigation; shallow well irrigation; rainfed agriculture; greenhouse production; integrated pest management (push pull); integrated soil management	Improved charcoal production; dairy products; honey; market trading; handicrafts; light manufacturing; loans and savings groups	Agroforestry; kitchen gardens; container gardening; fodder banks; rainfed agriculture; integrated pest management (push pull); integrated soil management	Reforestation; tree nursery; trees for water catchment protection and windbreaks; fuelwood plantations; gum plantations; gum and resin collection and trading	Community-based veterinary health services; improved breeding; improved fodder programmes; destocking	Community-based rangeland management; integrated watershed management; check dams; improved pasture seeding; seasonal water diversions; reforestation	

3.8 What would be the advised activity costs budget?

Cost for activity item to be estimated by area offices.

3.9 What other critical sectors need to be addressed in conjunction with livelihoods for sustainable change (i.e. water catchment infrastructure, health etc)?

Integrated Watershed Management

Crucial to the development of a drought risk reduction programme is the adoption of an integrated watershed management approach which will provide a platform which enables the development of climate resilience land management approaches, particularly adaptation techniques that improve rangeland regeneration and aid reforestation. Water harvesting and storage must be planned and designed to maximise water collection from shorter and intensive rainfall periods.

Water, Sanitation and Hygiene (WASH)

The provision of drinking water, sanitation infrastructure and the delivery of primary health care services are all important components of community-resilience, and in settlements where these three services are absent then communities will face higher vulnerability to climate-related hazards. However, these interventions should be seen as 'core services' as opposed to core disaster risk reduction activities, as while they clearly reduce vulnerability they play a marginal role in the long-term development of climate-resilient livelihoods. In previous and current disaster risk reduction programmes there has been a disproportionate focus on localised issues that have little bearing on building long-term climate resilience, whereas such measures must be planned and designed within a broader approach that address land management practices at the landscape level.

Health Services

In addition to primary health care services and WASH programmes, provision should also be made to improve access to dispensary services and secondary health care facilities, such options can include improved mobile health services, nutritional monitoring units, and the training of community-based health care workers. Many of these components can be mainstreamed into food security activities.

4.0 PROGRAMME IMPLICATIONS AND RECOMMENDATIONS

In the following section plates are used to highlight a range of programme implications and recommendations that can be applied in the planning and design of climate-resilient livelihoods.

4.1 Climate-smart Compounds

Plate 1



Plate 1

Compounds without trees are more vulnerable to increasing rainfall variability and temperatures.

Plate 2



Plate 2

Agroforestry in compounds provides construction materials, fodder, food (fruit/nuts), living fences, pest control, shade, wood fuel, and soil and water conservation.

Plate 3



Plate 3

Trees provide opportunities to keep traditional (and modern) beehives for honey production.

Plate 4



Plate 4

Leguminous tree species fix nitrogen and provide fodder for livestock while multiple purpose trees such as neem (*Azadirachta indica*), can be used for shade, fuel wood, production of pesticides for farming, while also giving protection around the compound due to the deterrent effect on mosquitoes. After tree planting some irrigation is required during the dry season but domestic wastewater is sufficient.

4.2 Agroforestry and Communal Resources

Plate 5



Plate 6



Plate 5

Fast growing and drought tolerant trees such as neem are ideal to improve human settlements by providing shade and improving circulation of cool air and acting as windbreaks during high winds.

Plate 6

Fast growing species also provide sustainable biomass for charcoal production and the supply of building materials while even living trees also used for the support of structures used in tea shops.

Plate 7



Plate 8



Plate 7

Trees can be used to conserve and protect water resources as tree closed tree canopies provide shade and wind break cover reducing evapotranspiration of water resources such as seasonal ponds.

Plate 8

Trees also provide river bank protection while on-farm agroforestry sequesters carbon in soils providing opportunities for BioCarbon Funds.

Plate 9 Applications of agroforestry at the landscape level



4.3 Agroforestry and Protection of Water Resources

Plate 10



Plate 10

Underground water tanks can provide water storage for domestic purposes however the water catchment area should be ring-fenced to prevent contamination from livestock.

Plate 11

Living fences can provide effective livestock barriers to all water infrastructures while trees planted around the water catchment area can reduce evaporation and the effects of wind erosion.

Plate 11



Plate 12



Plate 12

Open water tanks used for irrigation should also be protected from evaporation by the planting of wind breaks adjacent to the tanks and the use of trellises to reduce the effects of direct sunlight.

Plate 13

Open water reservoirs used for irrigation should also be protected from evaporation by the planting of wind breaks adjacent to the reservoirs thus reducing wind erosion and evaporation.

Plate 13



5.0 REFERENCES

- Oxfam and WASDA (no date a) *Public Climate Change Hearing*. Oxfam and WASDA, Wajir, Kenya, pp. 5.
- Oxfam and WASDA (no date b) *Contributions and Lessons Learnt from DRR Project in Pastoral Communities*. Oxfam and WASDA, Wajir, Kenya, pp. 4.
- McDowell, S. (2011) 'Connecting with Change: A Risk Management Approach to the Drought Crises'. In de Jole, H. (ed.) *Disaster Risk Reduction in the Drylands of the Horn of Africa: Good Practice Examples from the ECHO Drought Cycle Management Partners and Beyond*. Regional Learning and Advocacy Programme (REGLAP) for Vulnerable Dryland, pp. 29-32.
- Mohamud, H.J. (2010) *Lafaley Focal Area, Central Division: Period Survey Conducted 2009-2010*. BBS, PAPOLD, CAP Report. DIVNCO, Central Division, Ministry of Agriculture, pp. 48.
- Mohamud, H.J. (2011a) *Shelete Focal Area: Period Survey Conducted 2010-2011*. BBS, PAPOLD, CAP Report. DIVNCO, Central Division, Ministry of Agriculture.
- Mohamud, H.J., Somo, A.G., Otieno, G., Omar, H. and Daar, F. (2011) *BBS/PAPOLD Appraisal Report for Wagberi Focal Area: July-Dec 2011*. Ministry of Agriculture.
- NCCF (2009) *Climate Hearing in Ethiopia: Hearing the Voices of the People. September – November 2009*. The National Climate Change Forum, Ethiopia, pp. 7.

6.0 ANNEX 1: TERMS OF REFERENCE

Terms of Reference

Situation Analysis and proposal writing – Livelihoods in the Horn of Africa.

- Objective:** To write two proposals for Northern Kenya and South Ethiopia for livelihoods recovery taking into account medium to long term environmental and social trends.
- Timeframe:** 10th Dec 2011– 7th Jan 2012
- Location:** N.E Kenya, and Southern Ethiopia.

1. Background

The IR programme areas of northern Kenya and southern Ethiopia have undergone recurrent problems of drought and climate change, exacerbated in Kenya and Somalia by violent conflict. IR is preparing for its recovery programme from the devastating drought in 2011 and is seeking to understand the long term trends for livelihoods in these largely pastoral communities. Any long term investment in livelihoods work we believe should be based on a thorough understanding of the possibilities for sustainable communities in these marginal lands. To this end IR is investing in some in-depth research into livelihoods and climate change in this region. The consultant would be working alongside the IR Climate change and food security adviser and would link into and undertake elements of the research being undertaken, but concentrate within the second period of each visit on devising potential programmatic interventions and strategies for sustainable livelihoods and other needs.

Research questions:

1. What is the evidence for climate change altering livelihoods?	Secondary research collation Primary data collection through PRA and participatory techniques in communities
2. What are the underlying trends in livelihoods within these communities?	Secondary research collation Primary data collection through PRA and participatory techniques in communities
3. Assessing the impact of climate change on host communities of refugees/IDPs	<ul style="list-style-type: none"> • Kenyan and Ethiopian Govt ministries and climate change networks • Secondary research collation • Primary data collection through PRA and participatory techniques in communities
4. What are the strategies of the governments in these two regions and the other main development agencies	<ul style="list-style-type: none"> • Kenyan and Ethiopian Govt ministries and climate change networks • Secondary research collation
5. What are the gaps in our understanding that require greater research	<ul style="list-style-type: none"> • Kenyan and Ethiopian Govt ministries and climate change networks • Secondary research collation • Field based research
6. What opportunities exist for supporting resilience and risk reduction?	<ul style="list-style-type: none"> • Kenyan and Ethiopian Govt ministries and climate change networks • Secondary research collation • Field based research

7. How would a livelihoods response be strategised and planned (Give logframe analysis)?	Programme team meeting – Wajir & Nairobi
8. What would be the advised activity costs budget?	Liaison with programme team
9. What other critical sectors need to be addressed in conjunction with livelihoods for sustainable change (ie water catchment infrastructure, health etc)	<ul style="list-style-type: none"> • Kenyan and Ethiopian Govt ministries and climate change networks • Secondary research collation • Field based research

Methodology

1. Climate change data collection (primary & secondary)

Dr Shahid Zia will work with the consultant to ensure evidence base is produced from these sources. Metereological data and farmer/local surveys will be used using PRA methodology for the latter. Secondary sources from government, UN and NGO research will also be analysed. Already a large body of material and analysis has been collected on the region by the IR Policy & Research Department

2. Consultations with IRW programme staff: Work with IRW staff to gain their understanding of short term needs and long term requirements.

3. Key informant interviews: Interview Government and UN (FAO etc) and NGO network staff, displaced families, pastoralists and farmers to collect and document promising practices and lessons learned.

Phase One: Collation and reading of existing secondary material.

Phase Two: Field based research (7-10 days in each region)

Phase Three: Consultation with local programme teams in the development of basic logframes on sustainable livelihoods development

Draft report: Use collected information to develop draft report and proposal. Much of the detailed research data may be compiled later in January by the Research team. We would expect however for it to support the conclusions reached during the field visit. Risk analysis should be carried out as to whether the proposals are heavily reliant on unknown quantities emerging from the research.

Consultant's Tasks and schedule	
Tasks	Days of work
Travel to Kenya	10/11 th Dec
Meeting with programme team in Kenya and relevant FAO, UN and Government Depts	12 th Dec
Food Security Workshop Nairobi	13 Dec.
Food Security Workshop - Nairobi	14 th Dec
Travel to Wajir and commencing study	14 th Dec
PRA in Wajir, Dadab and Mandera	15 th -21 st Dec
Return to Nairobi and debrief	22 nd Dec
Travel to Addis Ababa	23 rd Dec
Meeting with programme team in Ethiopia and relevant FAO, UN and	24/25 th Dec

Government Depts	
Travel to S.Ethiopia and Hargale	26 th Dec
PRA and data collection/situation Analysis in four districts	27 th Dec-3 rd Jan
Return and debrief/	4 th Jan
programme planning meeting in Addis	5 th Jan
Travel to Nairobi	6/7 th Jan
Travel to UK	7 th Jan

1. Consultant's Deliverables

- A research analysis report emerging from the secondary and primary research (the detailed report can be compiled later by IR staff) which can be used to justify the integrated sustainable livelihoods programme strategy
- Two logframes detailing the structure of programmes.
- An approximate and draft suggested budget for the intervention.

2. Consultant's Required Skills and Experience

A number of years experience managing or providing technical support to rural development programmes in developing countries or humanitarian contexts.

Expertise in rural and agricultural development in marginal dry areas.

Experience working in fragile states and Islamic contexts.

Excellent English communication skills.

Excellent research skills

Excellent interpersonal skills.

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