



Nugal Pastoral Livelihood Zone Baseline Report

Technical Series Report No VI. 40

September 28, 2011



Food Security and Nutrition
Analysis Unit - Somalia

Information for Better Livelihood



Funding Agencies





ACKNOWLEDGEMENT

The process of conducting this baseline study and writing the report would not have been possible without the support of various agencies and individuals. FSNAU would like to acknowledge the special contributions from representatives of the Government partners of Puntland and Somaliland, specifically Mohamed Shire from Humanitarian Affairs and Disaster Management Agency (HADMA), Puntland State of Somalia and A. Salaan (Government partners) as well as Suufi from Horn relief for the technical and logistical support they provided.

A sincere note of appreciation also goes FSNAU Senior Livelihood Analysts (Roble Abdi and Ahmed Jezira), Senior Livestock Analyst (Abdirizak Nur), and the FSNAU Livelihoods Baseline Team (Hussein Adan Adde, Salad Dahir, and Abdubari Abdukadir Sheikh) for the leadership, expertise and assistance in field data collection, analysis and delivery of quality outputs, working under very difficult conditions in Somalia. Special thanks to FSNAU Gender Analyst, Josephine Gichuhi, Field Analysts (Asser, Salad and Abdurahman) for their contributions in the training workshops, and particularly in provoking the discourse on engendering the baseline data collection and analysis.

Utmost gratitude goes to FSNAU Technical Support Team for the time and effort in preparing and editing this technical series. Special thanks to FSNAU Junior Baseline and livelihood Analyst, Charles Songok; Data Systems Team Manager, Kamau Wanjohi; Data Processor, Mary Peter; and GIS Specialist, Michael Arunga. The authors acknowledge nutrition information provided by Nutrition Officer, Abukar Nur and the editorial input provided by the publications team consisting of the Graphics Assistant, Catherine Kimani and Publications Officer, Barasa Sindani.

Finally, special thanks to Livelihoods and Policy Research Technical Manager, Zoltan Tiba for the technical review of the report and FSNAU Chief Technical Advisor, Grainne Moloney, for her overall supervision of the baseline assessment.

EXECUTIVE SUMMARY

In October 2010, FSNAU conducted baseline assessment of Nugaal pastoral livelihood zone. The aim of the exercise was to evaluate the changes that have occurred in the livelihood due to persistent droughts in northern Somalia in the past years. The baseline assessment integrated both the Household Economy Approach (HEA) and Sustainable Livelihoods Approach (SLA). These approaches are useful in determining the most likely outcome of shocks on livelihoods. Villages were identified purposively and surveyed through key informant interviews and focus group discussions.

The objectives of the baseline assessment were:

- To understand the livelihood strategies and coping mechanisms of households in Nugaal pastoral livelihood zone;
- To assess the effects of shocks/hazards on livelihood activities and establish shifts in wealth groups;
- To identify major risks influencing vulnerability in Nugaal pastoral livelihood zone;
- To assess wealth characteristics and wealth groups and herd dynamics in the reference year.

This baseline assessment report presents a comprehensive description of the livelihood zone; seasonality and market; livelihood strategies and assets; wealth group breakdown, livestock holding, persistent hazards/shocks and coping strategies. The report explains how the most vulnerable (poor) live, the status and changes in access to their common (public) and household assets, including shifts in livelihood strategies as well as coping mechanisms employed in bad and average years. The findings also provide important linkages to monitoring key food security indicators, aiding the process of making comparisons related to new threats and shocks on livelihood systems, as well as informing development and policy planning.

The main findings and conclusions

Livelihood zone: Nugaal is a shallow, long and broad valley with an extensive network of seasonal watercourses. It covers about 48913.47 km² and is a key pastoral area that cuts across Nugal, Sool, Sanag and Togdheer regions. The climate is arid, mean annual rainfall ranges between 100 - 150 mm and relative humidity is 60-70%. High mean annual temperatures (24°C-26°C) and potential evapotranspiration (2000-2500 mm) prevail. Nugaal is bound by gradually ascending plateaus that reach elevations of 500-1,000 m above sea level. The soils are mainly composed of loam to clay-loam. The main water sources are shallow wells, natural caves, springs and *berkads*.

Seasonality: In the reference year, the *Gu* season started in mid-April and ended in mid-June. This improved water and pasture conditions, leading to increased livestock production (peak milk yields). In *Hagaa* and *Jilaal* dry conditions prompted livestock migration, with men mainly engaged in livestock watering, camel herding, fencing, camel milking, livestock sales and food purchases, while women were involved in house building, child caring, fetching water and food preparation. Pastoral labour opportunities were lower in *Gu* than in the dry seasons. In *Hagaa* pastoralists increased livestock and livestock product (ghee) sales, with the poor households seeking more loans and social support. In mid-*Hagaa*, the supply of imported goods declined due to the closure of the port and low demand for livestock. This reduced incomes and marked the onset of the hunger period (*Hagaa madoobaad*). In preparation for the dry season, pastoralists de-stocked, migrated to good grazing areas, increased the use of anti-tupping apron to control sheep mating and de-wormed livestock.

Wealth breakdown: Poor households in the livelihood zone are 30% of the entire population, while the middle and better-off are 50% and 20%, respectively. Household composition is 5-7 family members for the poor, 7-8 for the middle and 10-12 for the better-off. Livestock holding increases with wealth group, with the poor having 3 camels, 60 shoats and 1 donkey, the middle own 10 camels, 110 shoats and 1 donkey while the better-off have 23 camel, 200 shoats and 1-2 donkeys. The poor derive 87% of their main food from purchases, 10% from own production and 1 % from gifts/loans; the middle obtain 82% from purchases and 23% from own production, and the better-off obtain 89% from purchases and 29% from own production.

Livestock herd dynamics: Camel herds indicated 33% and 10% increase for the poor and middle wealth groups, as the number of born exceeded the off-take. The better-off camel holding decreased by 4%, due to increased off-take. Shoaat herd size for the poor and middle did not change. The better-off realized an increase in shoaat herd sizes of 7% (sheep) and 15% (goats).

Livelihood assets

<i>Social capital</i>	<p><i>Formal (Zakat) and informal (other gifts):</i> Poor households accessed food in kind, food loans, <i>zakat</i> (livestock) and <i>zakatul fitri</i> (food) in the reference year. Some poor households received lactating animals from relatives in the middle and better-off wealth groups.</p> <p><i>Remittances:</i> Remittance inflows from the Diaspora and/or locally were low, with a few households in the better-off wealth group receiving remittances.</p>
<i>Human capital</i>	<p><i>Education:</i> Services in all villages surveyed in Nugaal valley are poor. Of the 10 sampled villages, only 3 had primary schools (Gawsawayne, Garadag and Xayira), with a total number of 245 pupils, of whom 30% were girls. Most villages have access to koranic schools (<i>madrassa</i>), which are located under trees or in poorly maintained buildings.</p> <p><i>Health and nutrition:</i> There are no health facilities in the 10 villages surveyed. Generally, access and delivery of health services is poor. This is due to poor health infrastructure, lack of trained health practitioners and inadequate medical supplies. Lack of safe water for domestic use and poor sanitation are key risks predisposing people to water and vector-borne diseases. <i>Post Deyr</i>'10/11 integrated analysis shows the nutrition situation in Nugaal valley as <i>serious</i>. High morbidity, low immunization, poor water sanitation and limited health facilities are chronic health challenges.</p>
<i>Physical capital</i>	<p><i>Transport infrastructure:</i> Road infrastructure is poorly developed in most parts of Nugaal due to low technical and equipment capacity. Only villages located near the tarmac road that links Burao and Garowe towns have good access to the markets. Most feeder roads in the rural villages are all-weather, poorly maintained and impassable during the wet seasons.</p> <p><i>Water resources:</i> The main water sources in Nugaal valley are shallow wells, boreholes and <i>berkads</i> (surface water catchments). Hand-dug wells are found in the dry river beds where the water table is shallow, although most of these assets are in poor condition and easily exposed to contamination from human faecal matter and animal waste. Potable water for domestic use is less available in most parts of the livelihood. During critical periods, water prices are very high.</p> <p><i>Telecommunication:</i> Rural areas do not have adequate access to mobile phone telecommunication services. Few villages have access to high frequency (HF) radios.</p>
<i>Financial capital</i>	<p><i>Livestock:</i> The main livestock species reared in Nugaal valley are sheep, goats and camel, although sheep is the most dominant species since it generates more income through market sales.</p> <p><i>Loans & Credit:</i> Access to food and cash loans/gifts by poor households was normal in the reference year, and this supplemented the food requirements. During the hunger periods which begin in August/September (<i>aamus</i>) and extend to <i>Jilaal</i>, the poor get their food and non-food items on credit from business people and make repayments when livestock prices increase (during <i>Hajj</i>) or in the wet seasons when livestock production improves.</p>
<i>Natural capital</i>	<p><i>Vegetation:</i> The main vegetation in Nugaal valley consists of open grasslands, shrubs (<i>commiphora spp</i>), acacia trees and dominant grasses (<i>indigofera spp</i>). Open grasslands are productive rangelands used for seasonal grazing.</p> <p><i>Water resources:</i> Nugaal and westerly Dheere seasonal rivers form the main surface drainage system in the livelihood zone. This enhances water availability and abundance during the wet season. Springs are mainly concentrated along the coastal communities.</p>

Livelihood strategies:

Sources of food: Market purchase and livestock products are the main sources of food for all wealth groups. The main staple foods consumed are rice/flour and pasta as well as sugar and vegetable oil. Beans and sorghum are either locally produced in other regions of Somalia, imported or as food aid. Poor households purchase fewer quantities of food items from the market due to low income levels as opposed to the middle and better-off households. The poor normally purchase 30kg of rice, 27kg of wheat flour, 25kg of sugar and 4kg of vegetable oil on a monthly basis. This covers to 98% of the kilocalorie intake, which is 2% less than the minimum standard of 2100Kcal ppp/day. Livestock products constitute 10% of the poor households' energy needs. Most middle households obtained 102% (24% livestock products) of the kilocalorie intake while the better-off households obtain 112% (29% livestock) of the kilocalorie intake. On a monthly basis, the middle households purchase 45kg of rice, 30kg of wheat flour, 30kg of sugar and 6 liters of vegetable oil, while better-off households purchase

50kg of rice, 44 kg of wheat flour, 50kg of sugar and 9 kg of vegetable oil.

Sources of cash: The main sources of cash income for all wealth groups are sale of livestock/livestock products and own production. Poor households receive cash gifts. The middle and better-off households access additional income from petty trade and remittances. Income levels are a function of livestock holding and market sales. The total annual income for the poor ranges from Sosh 30,000,000 to 38,000,000. This is derived mainly from the sale of livestock and livestock products; loans and cash gifts. The middle households generate Sosh 48,000,000 to 65,000,000 (mainly from sale of livestock and livestock product sales) while the better-off generate Sosh 90,000,000-100,000,000 annually from the sale of livestock and livestock products as well as from petty trade.

Expenditure Patterns: Expenditure patterns for wealth groups are highly influenced by the level of income. Poor households spent about Sosh 93,000 daily on rice, wheat flour, sugar, oil and small quantities on non-food items. The middle and better-off households spend more (twice and three-times, respectively) than the poor. About 45% of the poor's annual income is spent of staple foods, while the middle and better-off households spend 33% and 28% of their income, respectively, on staple foods. This is because these wealth categories can afford better quality food items which enhance household dietary diversity. These wealth groups also use significant portions of their income on non-food items such as livestock inputs, household items and social services.

Future monitoring:

- Rainfall performance (spatio-temporal distribution and amount)
- Pasture and water conditions
- Level of water trucking and water prices
- Abnormal migration incidences and means used in migration
- Livestock body conditions and livestock market (local and export) prices
- Level of indebtedness
- Terms of Trade for shoat/rice
- Herd composition (productive females versus kids/calves)
- Human and livestock diseases

Conclusion: The findings of the baseline assessment in Nugaal valley pastoral livelihood zone show that while poor households have access to village markets only, the middle and better-off wealth groups have access to both village and main markets in the big towns. In the reference year, the prices of all imported food items increased compared to the 5-year average. The prices of rice and wheat flour were 159% and 126% higher compared to the 5-year average, respectively, but declined by about 22% and 20% from the previous year. While the average price of local quality goat declined by 13% compared to the previous year, the price of export quality goat as well as both local and export quality camel increased, compared to the 5-year average and to the previous year, respectively (*see table 4 for details*). Livestock holding and marriage arrangements vary with wealth group, with more affluent household being more likely to be polygamous. Camel herd growth in the reference year increased by 33% and 10% for the poor and middle wealth groups, as births exceeded off-take. Camel holding for the better-off decreased by 4%, due to high off-take. Shoat herd size for the better-off realized an increase of 7% (sheep) and 15% (goats), while the off-take for poor and middle households increased equally by 20%, respectively, and by 15% for better-off. Poor households purchased fewer quantities of food items in the reference year from the market due to low incomes. This covered about 98% of the kilocalorie intake. However, most middle and better-off wealth groups obtained 102% and 112% of the minimum energy needs, respectively. Poor households obtained most of their cash income from the sale of livestock/livestock products, loans and gifts. The middle generated their income from the sale of livestock/livestock product while the better-off obtained income from the sale of livestock/livestock products and petty trade. Due to low livestock holding, poor households depended more on social support and on cash gifts to supplement income sources. The poor spent about 45% of their total income on staple foods, while the middle and better-off households spent 33% and 28% of their income, respectively. The latter also used significant portions of their income on non-food items such as livestock inputs, household items and social services.

Recommendations: In order to promote livelihood sustainability in Nugaal valley livelihood zone, the following development priorities are proposed:

- Construction of new and/or rehabilitation of existing surface water catchment facilities as well as boreholes in order to increase household access to water for enhanced livestock productivity. This could also involve the use of innovative techniques to rainwater harvesting through the establishment of community earth dams and water pans.
- Improve access and efficiency of existing basic social services. This could involve working with partners and stakeholders

in the respective sectors to construct new or expand existing schools, health facilities in addition to capacity building.

- Improvement of existing feeder roads through rehabilitation and regular maintenance in order to enhance linkages between villages and village markets.
- Support the decentralization of veterinary services through the establishment of mobile veterinary services as well as conduct training for Community Animal Health Workers (CAHWs) in order to improve pastoralist access to these essential services.
- Intensify soil and water conservation programmes in collaboration with local and international non-governmental organizations. This should aim at enhancing environmental/ecological resilience through programmes like afforestation, reforestation and building gabions to minimize run-off and erosion.
- Promote and initiate collaborative structures with local and international non-governmental organizations in order to aid capacity building and community-based approaches for integrated rangeland management.

TABLE OF CONTENTS	
ACKNOWLEDGEMENT	iii
EXECUTIVE SUMMARY	v
TABLE OF CONTENTS	ix
LIST OF ACRONYMS	xiii
1. INTRODUCTION	1
1.1 Background Information	1
1.2 Objectives of the baseline assessment	1
1.3 Methodology	1
1.4 Integrated phase classification analysis (IPC progression)	2
2. LIVELIHOOD ZONE DESCRIPTION	3
2.1 Location, size and population	3
2.2 Climate	3
2.3 Natural resources	3
2.4 Socio-economic activities	4
3. HISTORICAL TIMELINE	5
4. SEASONALITY	7
5. MARKETS	9
5.1 Livestock prices	9
5.2 Camel milk price	9
5.3 Imported food prices	10
5.4 Terms of Trade	11
6. LIVELIHOOD ASSETS	12
6.1 Human Capital	12
6.1.1 Education	12
6.1.2 Health and nutrition	12
6.2 Natural Capital	12
6.2.1 Vegetation	12
6.2.2 Water resources	12
6.3 Social Capital	12
6.3.1 Formal (Zakat) and informal (other gifts)	12
6.3.2 Remittances	12
6.4 Physical Capital	13
6.4.1 Transport infrastructure	13
6.4.2 Water resources	13
6.4.3 Telecommunication	13
6.5 Financial Capital	13
6.5.1 Livestock	13
6.5.2 Loans & Credit	13
7. WEALTH BREAKDOWN	14
8. LIVESTOCK HERD DYNAMICS	15
9. LIVELIHOOD STRATEGIES	16
9.1 Sources of Food	16
9.2 Sources of Cash income	16
9.3 Expenditure patterns	16

10. HAZARDS	17
10.1 Drought and recurrent climate shocks	17
10.2 Poor livestock production and marketability	17
10.3 Livestock diseases	17
10.4 High food price	17
10.5 Water-borne diseases	17
10.6 Environment Degradation	18
11. COPING STRATEGIES	19
11.1 Normal coping strategies	19
11.2 Distress Coping Strategies	19
11.3 Future monitoring indicators	19
12. MAIN CONCLUSION AND RECOMMENDATION	20
12.1 Conclusion	20
12.2. Recommendations	20
REFERENCES	21
Annex 1: Summary of livelihood strategies in Nugaal Paastoral livelihood zone	22
Annex 2: Rural Wealth Group Interview Form	22
Annex 3: Community Representatives Interview Form	27
LIST OF FIGURES	
Figure 1: IPC Progression for Nugaal valley pastoral livelihood zone	2
Figure 2: Seasonal calendar of critical activities and events in Nugaal	7
Figure 3: Trends in camel milk price	10
Figure 4: Trends in imported red rice prices	10
Figure 5: Trends in wheat flour prices	10
Figure 6: Trends in imported sugar prices	10
Figure 7: Trends in vegetable oil prices	10
Figure 8: Trends in ToT goat local quality to rice	10
Figure 9: Trends in ToT goat local quality to rice	11
Figure 10: Trends in cattle milk price	11
Figure 11: Trends in Exchange rate	11
Figure 13: Main Sources of Food	16
Figure 14: Sources of cash income	16
Figure 15: Expenditure patterns of households	16
LIST OF TABLES	
Table 1: IPC Progression for Nugaal valley pastoral livelihood zone	1
Table 2: Historical Timeline	6
Table 3: Average market prices of key commodities in Garowe (Sosh)	9
Table 4: Wealth breakdown	14
Table 5: Camel herd dynamics	15
Table 6: Sheep and goat herd dynamics	15
LIST OF MAPS	
Map 1: Map showing the location of Nugaal valley livelihood zone	3
Map 2: Migration pattern in <i>Deyr</i> and <i>Gu</i> seasons	7
Map 3: Main markets in Nugaal valley pastoral livelihood zone	9

LIST OF ACRONYMS

BLAF	Baseline Livelihood Analysis framework
FEWS NET	Famine Early Warning Systems Network
FSNAU	Food Security and Nutritional Analysis Unit
GAM	Global Acute Malnutrition
HEA	Household Economy Approach
IDPs	Internally Displaced Persons
LTA	Long term Average
MCH	Maternal Child Health Centers
MEB	Minimum Expenditure Basket
MUAC	Mid Upper Arm Circumference
NGO	Non-Governmental Organization
SAM	Severe Acute Malnutrition
SLA	Sustainable Livelihood Approach
SoSh	Somali Shilling
ToT	Terms of Trade
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children Fund
USD	United States Dollar
UAE	United Arab Emirates
WFP	World Food Program
WHO	World Health Organization
MOHL	Ministry of Health Somaliland
ITCZ	InterTropical Convergence Zone
SWIMS	Somalia Water sources Information Management Systems

GLOSSARY OF TERMS

<i>Gu</i>	The major wet season, April to June
<i>Hagaa</i>	The minor dry season, July to September
<i>Deyr</i>	The minor wet season, October to November
<i>Jilaal</i>	December to March major dry season in Somalia
<i>Kharif</i>	Strong winds experienced in July in most parts of northern Somalia.
<i>Monsoon</i>	Wind pattern that changes direction depending on the season. The term is applied to seasonal winds in which the wind blows from. E.g. southwest monsoon originates from southwest direction.
<i>Tropics</i>	This is the geographic region of the earth centred on the Equator and limited in latitude by the Tropic of Cancer in the northern hemisphere, at approximately 23°30' (23.5°) N latitude, and the Tropic of Capricorn in the southern hemisphere at 23°30' (23.5°) S latitude. This region is also referred to as the tropical and arid zone.

1. INTRODUCTION

1.1 Background Information

Baseline assessments are important in determining household livelihood status as well as changes in climatic and socio-economic conditions over time. Baseline assessments employ a mix of participatory research techniques to generate information that is useful in explaining how the most vulnerable (poor) live, the status and change in their common (public) and household assets, notable shifts in livelihood strategies and coping mechanisms in bad and average (normal) years. Baseline assessments also provide important linkages to monitoring key food security indicators, aiding the process of making comparisons related to new threats and shocks on livelihood systems, as well as informing development and policy planning.

In October 2010, FSNAU conducted a baseline assessment of Nugaal pastoral livelihood zone. This was motivated by changes in livelihood strategies in response to persistent droughts that had affected the livelihoods in northern Somalia in the past years.

1.2 Objectives of the baseline assessment

The purpose of the baseline assessment was to establish changes in livelihood assets due to persistent droughts. Specifically, the assessment was guided by the following objectives:

1. To determine the underlying causes and patterns of livelihood changes over time in Nugaal.
2. To assess the effects of persistent droughts on the livelihood strategies of wealth groups.
3. To identify major risks influencing the vulnerability of households in Nugaal valley pastoral livelihood zone.
4. To assess wealth characteristics and wealth groups herd dynamics in the reference year.

1.3 Methodology

FSNAU's expanded baseline livelihoods analysis framework, which integrates HEA and SLA approaches was used in the study. Prior to conducting fieldwork, a pre-fieldwork planning and training workshop was held in Garowe, Puntland. 10 purposively sampled villages were visited. These included: Xayira (Burco district), Berkeda Ali (Caynaba district), Garadag (Ceelafweyn district), Faraguul (Ceelafweyn district), Gawsawayne (Caynabo district), Saaxagabagebo and Garalagudhal (Lasanod district), Lo'Subko (Huddun district) and Dhubuqdhubuq and Habarkudhagooti (Taleex district). During fieldwork, key informant and community representative interviews and focus group discussions were held with wealth group representatives. Initial community representative interviews categorized households in the sampled villages into different wealth categories. Focus group discussions were then conducted with selected household representatives from each wealth category in order to obtain information on household-level livelihood strategies (income and cash sources, expenditure patterns, coping strategies and livelihood assets).



Household wealth group interview session

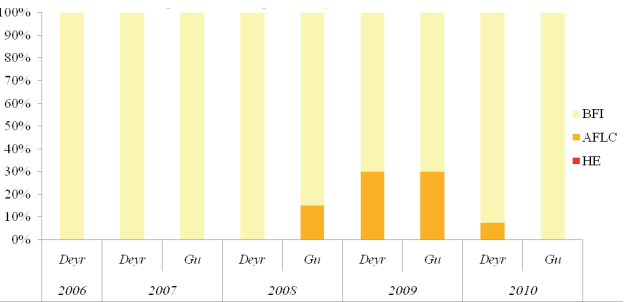
Table 1: IPC Progression for Nugaal valley pastoral livelihood zone

Year	Season	AFLC	HE	Total Vulnerability (AFLC+HE)	Total LZ Population	AFLC % of LZ population	HE % of LZ population	BFI % of LZ population
2006	Deyr	0	0	-	137,759	0%	0%	100%
2007	Deyr	0	0	-	137,759	0%	0%	100%
	Gu	0	0	-	137,759	0%	0%	100%
2008	Deyr	0	0	-	137,759	0%	0%	100%
	Gu	20,610	0	20,610	137,759	15%	0%	85%
2009	Deyr	41,219	0	41,219	137,759	30%	0%	70%
	Gu	41,219	0	41,219	137,759	30%	0%	70%
2010	Deyr	10,311	0	10,311	137,759	7%	0%	93%
	Gu	0	0	-	137,759	0%	0%	100%
Total Vulnerability (AFLC+HE)		113,359	0	113,359	137,759			

1.4 Integrated phase classification analysis (IPC progression)

The table and figure below show the Integrated Phase Classification (IPC) progression of vulnerability over time and the number of people affected in Nugaal valley pastoral livelihood zone between *Deyr* 2006 and *Deyr* 2010.

Figure 1: IPC Progression for Nugaal valley pastoral livelihood zone

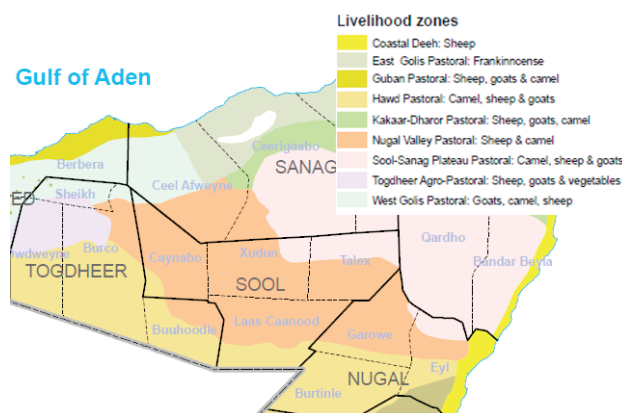


2. LIVELIHOOD ZONE DESCRIPTION

2.1 Location, size and population

Nugaal Valley (also called Nugaaleed Valley, Nogal Valley, *Dooxo Nugaaleed* or river valley) is a shallow, long and broad valley, with an extensive network of seasonal watercourses. Located in northern Somalia, Nugaal pastoral livelihood zone covers 48915km² and is bordered by Sool and Kakaar-Dharor to the northeast, west Golis pastoral to the northwest, Togdheer to the west, Hawd to the south and Coastal deeh to the east.

Nugaal Valley is a key pastoral area which covers four regions: 10% of Nugal (Eyl and Garowe districts), 75% of Sool (Talex, Xudun, Caynabo and Laas Caanood districts), 10% of Sanag (Ceel Afweyne and Ceerigaabo districts) and 5% of Togdheer (part of Burco and Buuhoodle districts). The population in the livelihood zone is estimated at 137,759 people (UNDP, 2005).



2.2 Climate

The climate in the livelihood is classified as arid (Muchiri, 2007) with mean annual rainfall ranging between 100 - 150 mm and relative humidity between 60% - 70%. Falling within the inter-tropical convergence zone¹ (ITCZ), the livelihood experiences 4 seasons: *Gu* (the main rainy season), *Hagaa* dry season, *Deyr* short rainy period and *Jillal* (long dry season). Nugal is a drought-prone zone where rainfall is the key determinant of livelihood and food security. The area is characterized by high mean annual temperatures of 24°C-26°C and high potential evapotranspiration of 2000-2500 mm per year (Muchiri, 2007).

2.3 Natural resources

Nugaal is almost entirely characterized by outcrops of the sedimentary basement rocks, which are made up of undifferentiated, unconsolidated sediments. The dominant outcrop was formed during Eococene karkar formation, covering more than 75% of the valley and consists of inter-bedded limestones and marls with some gypsum (SAWA, 1995). The gently undulating plateau which originates south of Hargeysa and Hawd plateau extends to south of Nugaal valley which has a micro-relief that slopes gently towards the coast of Indian Ocean. As a result, Nugaal Valley is bound by gradually ascending high plateaus that generally reach elevations of 500-1,000 m above sea level.

The soils are mainly loam to clay loam. The coastal area has a mixed soil texture, with a wide coastal dune system. The livelihood has a mixture of soil types including Fluvisols, Aerosols, Calcisols, Cambisols, Gypisols, Leptosols and Regosols. The composition of soil types and texture clearly indicates that the area is not suitable for land cultivation. The central part of Nugaal along the coast is dominated by sandy soils and moderately deep loamy soils with a high content of calcium carbonate and/or gypsum further inland.

Nugall valley is characterized by a low lying terrain that slopes gently (<5%). The vegetation is mainly composed of open grasslands, shrubs of *commiphora spp.*, acacia trees and dominant grasses (*indigofera spp.*) as well as other saline species (found along the coast). Acacia trees are only found in the seasonal streams (Muchiri, 2009). The livelihood zone is a potential productive rangeland with seasonal grazing plains located in Banadde and Karamaan. A major geographic feature of the livelihood is the valley's watercourses, the Nugaal and westerly Dheere seasonal rivers, which fill briefly during *Gu* and drain into the Indian Ocean.

The main water sources are shallow wells, natural caves, springs and *berkads*. The 2008 SWALIM point water sources survey identified 536 strategic point water sources in the Tug Der/Nugaal basin (Muchiri, 2009). Hand-dug wells and boreholes are common along the river beds where the water table is high, and springs are found along the coastal strip (Faillace and Faillace, 1987).

¹ A zone over which two airstreams, the north-easterly and south-easterly trade winds, meet. The zone of convergence can cover a large area over which the air is rising and the clouds forming and when conditions are favourable precipitation always results. The ITCZ affects the climate of Somalia by intensifying daily weather activities. Thus, where rainfall is normally expected and the ITCZ is present, the weather phenomena are assured and intensified. The ITCZ passes the Equator twice in the year- first, when it is overhead on its way to the south and second when moving from the southern hemisphere to the north. The two passages of the ITCZ coincide with the two distinct rainy seasons experienced in the area and which are locally referred to as *Gu* and *Deyr*.

2.4 Socio-economic activities

Pastoralism is the main socio-economic activity in the livelihood. The main livestock reared are sheep, goats and camel, with sheep being the dominant species. Apart from normal migration within the livelihood zone, pastoralists migrate to Hawd and Sool plateau zones in search of water and pasture. The main markets for trade are located in Burao, Lasanod and Bossaso towns, in addition to village markets. The key markets that sustain livestock export trade are Saudi Arabia, Yemen, UAE, through Berbera and Bossaso ports.

All-weather feeder roads that link the villages to the main towns are poorly maintained and limit market access, especially during the rainy seasons. Other basic social services like health and education are limited. Generally there are no major activities related, labour opportunities, although petty trade is practiced. Due to its potential as a prime grazing area, overgrazing is increasing in the valley. This may translate into increased erosion risk, gulley formation and land degradation.

3. HISTORICAL TIMELINE

In a pastoral context, a “normal” year may be a year where there is adequate amount and distribution rainfall, improved livestock production in both seasons, increased animal productivity and milk production which translates into good prices for both staple cereals and non-staple foods, market stability, limited migration and low levels of insecurity. It could be argued that the definition is more descriptive of a “good” year than an “average” year. For this reason it is often more useful to refer to a “reference year” which allows analysts to describe a typical household in a particular year.

Following consultations between FSNAU baseline resource team and partners during the workshop, October 2009-September 2010 was identified as the reference year for the baseline assesment. This perod was selected since it was the most recent consumption periods that the respondent could easily recall. The reference year was a normal year, characterised by average *Deyr* rainfall and good *Gu* rains, improved pasture, water and livestock body conditions, and icreased milk availability due to high goat birth rates and favourable terms of trade.

The historical timeline covers major seasonal events during *Gu* and *Deyr*, effects on livelihood and food security as well as response strategies. *Deyr* 2009 season perfomed better than *Gu* 2009, with the former characterised by normal rains in lower Nugaal while the latter was a drought season that led to pasture depletion, water scarcity, high death of shoats and poor terms of trade (TOT). In response, households resorted to animal hand feeding, increased water trucking and social support seeking.

Both *Gu* and *Deyr* 2008 received below normal rainfall, which led to poor pasture and water availability, poor livestock body conditions and water scarcity. This triggered poor TOT, increased inflation, exacerbated high food prices and increased deaths of new born livestock. In response communities migrated to Sool of Bari region, increased water trucking, family splitting, increased social support seeking and loan taking. Similarly, *Deyr* 2007 received below normal rains, which resulted in poor establishment of vegetation and poor water availability. This impoverished livestock body conditions, led to poor market performance, low TOT and reduced camel milk production. During the season, increased water trucking, migration within the livelihood and increased animals sales were the main coping strategies. However, in *Gu*, normal rains improved pasture conditions, increased camel milk production and enhanced livestock body conditions as well as TOT.

In 2006, both *Deyr* and *Gu* seasons were characterised by normal rains, which improved pasture and water conditions, enhanced livestock body conditions, improved conception and births, milk production and herd growth, despite the unknown disease that affected camel. There was, however, no response to the camel disease due to poor veterinary services available in the livelihood.

Table 2: Historical Timeline

Year	Season	Rank ¹	Events	Effects	Responses
2010 (average)	Deyr	2	• Below average rains	<ul style="list-style-type: none"> • Poor pasture • High goat birth rates • Low camel milk production • Normal TOT 	• Frequent movement within livelihood
	Gu	4	• Good rains	<ul style="list-style-type: none"> • Good pasture and water conditions • Good livestock body conditions • Medium conception for camel • High goat birth rates • Improved milk production 	<ul style="list-style-type: none"> • Opportunities for loan repayment • Migration within livelihood
2009 (below average)	Deyr	3	• Normal rains in lower Nugaal	<ul style="list-style-type: none"> • Average pasture and water availability • Improved body conditions • High shoat conception rates • Low birth of all livestock • Lift in livestock export ban 	• Migration from Upper Nugaal to lower Nugaal using motorized transport
	Gu	1	• Drought	<ul style="list-style-type: none"> • Pasture depletion • Water scarcity • High death of shoats • Poor TOT 	<ul style="list-style-type: none"> • No option for migration • Animal hand feeding • Increased water trucking • Increased social support seeking
2008 (below average)	Deyr	2	• Below normal rainfall	<ul style="list-style-type: none"> • Poor pasture and water availability • Poor livestock body conditions • Water scarcity • Poor TOT and inflation 	<ul style="list-style-type: none"> • Migration and frequent movement • Increased water trucking • Family splitting • Increased social support seeking and loan taking
	Gu	2	• Below normal rainfall	<ul style="list-style-type: none"> • Poor pasture and water availability • Poor livestock body conditions • Inflation • High food prices • Death of new borns 	<ul style="list-style-type: none"> • Water trucking • Out migration to Sool of Bari • Increased social support seeking • Family splitting
2007 (Slightly below average)	Deyr	2	• Below normal rainfall	<ul style="list-style-type: none"> • Poor pasture and water • Poor livestock body conditions • Poor market performance • Poor TOT • Average camel milk production 	<ul style="list-style-type: none"> • Increased water trucking • Migration within the livelihood • Increased animals sales
	Gu	3	• Normal rains	<ul style="list-style-type: none"> • Average pasture conditions • High camel milk production • Average livestock body conditions • Average TOT 	• In-migration
	Deyr	3	• Normal rains	<ul style="list-style-type: none"> • Good pasture and water conditions • Unknown camel disease • Livestock export ban 	• No response for camel diseases
2006 (average)	Gu	3	• Normal rains	<ul style="list-style-type: none"> • Good pasture and water availability • Good livestock body conditions • Improved herd size growth • Improved conception and births • Good milk production 	

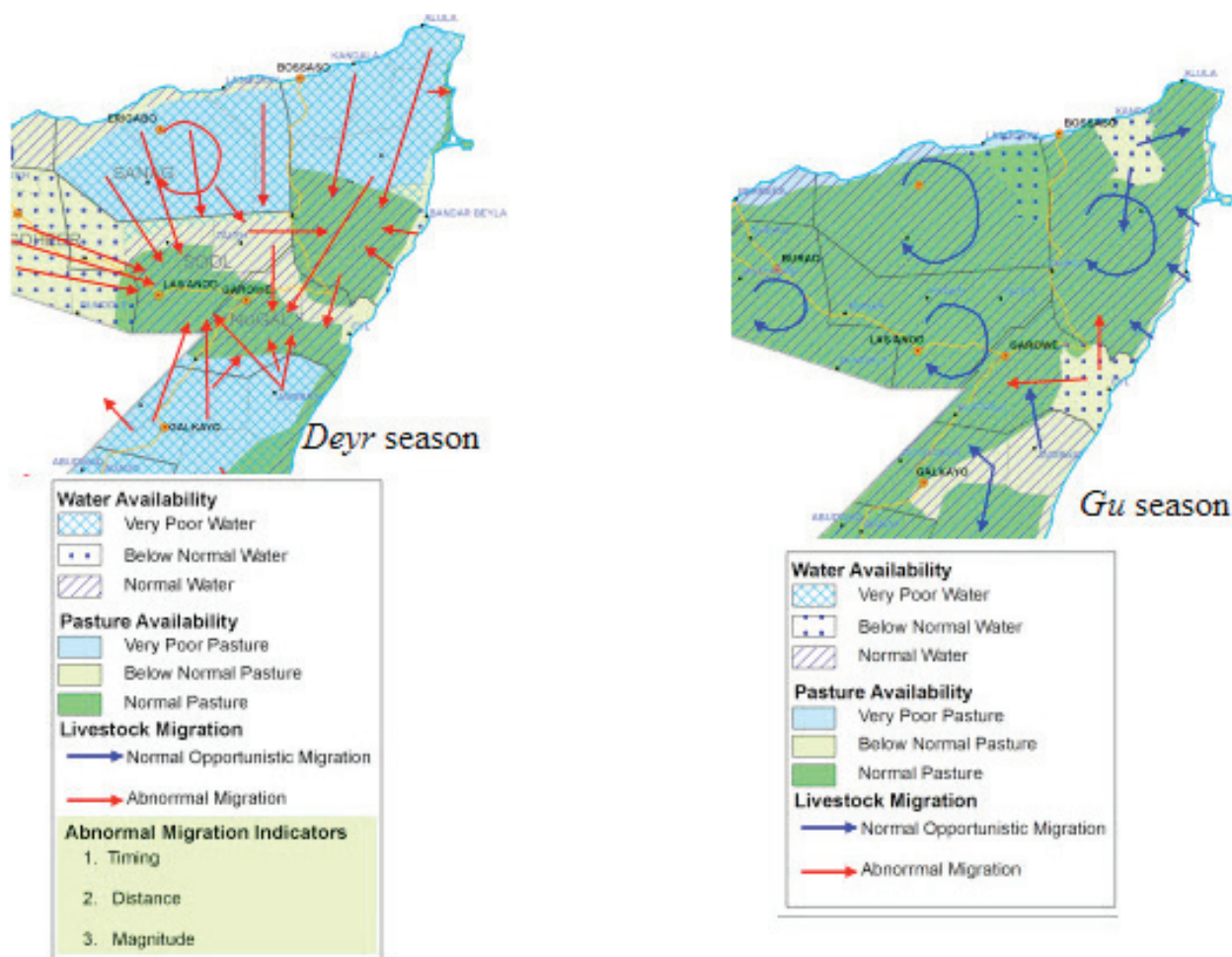
4. SEASONALITY

In the reference year, *Gu* season began in mid-April and ended in mid-June. The increased water and pasture availability translated into improved seasonal reproduction (peak milk yields) of sheep and camel. In *Hagaa* (August-September) and in *Jilaal* (February-March) poor rainfall distribution led to poor pasture and water conditions, prompting livestock migration. Being an average year, men mainly engaged in livestock watering, camel herding, livestock feeding, camel milking, livestock sales and food purchases, while women were more involved in house building, child caring, fetching water and preparing food.

Figure 2: Seasonal calendar of critical activities and events in Nugaal

Critical Events & Activities in Nugaal	Season	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Season	<i>Gu</i>					<i>Hagaa</i>				<i>Deyr</i>			<i>Jilaal</i>
Rainfall		Peak						Peak					
Water availability		Peak				Low			Peak			Low	
Pasture availability			Peak			Low			Peak			Low	
Livestock conception			Camel/goat					Camel/goat	sheep				
Goat kidding			Peak						Peak				
Sheep lambing			Peak										
Camel calving				Peak					Peak				
Livestock sale				Low				Peak				Low	
Livestock migration		Peak						Peak					
Livestock disease			Peak						Peak				Peak
Food prices				Peak								Peak	
Hunger period							Peak						Peak

Map 2: Migration pattern in *Deyr* and *Gu* seasons



In previous bad years, men were more involved in livestock out-migration, food purchases, social support/loan seeking and search for better pasture and water (*sahan*), while women engaged in child caring, caring for sick animals and domestic chores. An emerging phenomenon associated with migration since 2005 is the increased use of motorized transport due to lack of sufficient pack animals (camel). Normally, pastoralists avoid migrating outside their homes due to the fear of contacting tick-borne diseases and the high cost of water.

In *Gu*, minimum pastoral labour opportunities were available, thus more male herders sought labour opportunities in the urban centers, while elders were involved in social affairs such as *Diyo* paying and peacemaking. In *Hagaa* season, pastoralists increased the sale of livestock and livestock products (*ghee*) in order to generate income to purchase food and non-food items. Poor households sought loans and social support. In mid-*Hagaa*, supply of imported goods declined due to the closure of the port and low demand for livestock. This reduced sales, decreased milk production and set in the onset of the hunger period (*Hagaa madoobaad*).

The *Deyr* season was dominated by peaking goat kidding and high sheep conception. A rare occurrence in the reference year was high camel calving and sheep lambing.

In anticipation of the dry seasons, pastoralists de-stocked, migrated to good grazing areas, increased anti-tupping aprons to control sheep mating and lambing times de-wormed livestock.

Jiilaa season is the most critical time for Nugaal pastoralists because of increased need for food purchase due to declining pastoral products. Labour opportunities from herding, watering, marketing, frequent movements and herd division into sub-species increased. The number of livestock sales rises while deaths, arising from poor nutrition, lack of adequate food and water resources as well as disease outbreaks, peak in May (mid-*Gu*) and November (mid-*Deyr*).



Sheep body conditions and anti-tupping apron to control mating

5. MARKETS

The main foods consumed by all wealth groups are obtained from the markets located within and outside the livelihood zone. While the main income for all wealth groups is mainly derived from the sale of livestock and livestock products, most of it is spent on the purchase of staple and non-staple foods. The main markets that serve communities in Nugaal valley livelihood zone are located in Burao, Lasanod and Bossaso.

Poor households access the village markets due to the high transport costs incurred in accessing the main markets. The middle and better-off households access both village and main markets in the big towns. Generally market access is good, with exceptional constraints in the rainy season when truck transport is curtailed by impassable roads.

Map 3: Main markets in Nugaal valley pastoral livelihood zone

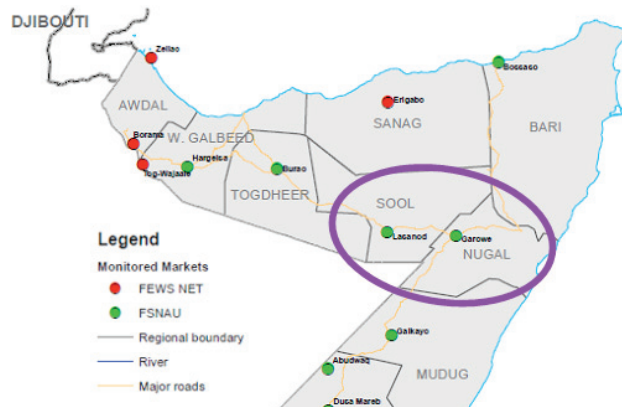


Table 3: Average market prices of key commodities in Garowe (Sosh)

Commodity	5-year average	Previous year (2009)	Reference year	% of 5-year average	% of previous year
Average of Rice	7,348	24,375	19,046	259	78
Average Wheat flour	7,773	21,958	17,586	226	80
Average of Sugar	9,165	21,875	25,154	274	115
Average of Vegetable oil	16,849	59,417	42,604	253	72
Average of Goat Export	501,392	1,428,056	1,566,750	312	110
Average of Goat Local	401,474	1,311,458	1,146,417	286	87
Average of Camel Local	3,547,830	9,623,688	9,785,625	276	102
TOT Goat (Local) to Rice	57	58	61	108	106
TOT Goat (Export) to Rice	71	12	58	82	477

5.1 Livestock prices

The price of export quality goat increased by 10% (from Sosh 1,428,056 to 1566,750) when compared to the previous year and by 212% from the 5-year average. This was due to increased demand for export quality and consumption of local quality goats. Local goat quality market price declined by 13% when compared to the previous year. Local camel prices increased slightly by 2% in the reference year, and were 176% higher than the 5-year average (2003-2007). Export quality sales peaked during *Hajj* period as demand for livestock increased. Local quality sales peaked during the dry seasons.

5.2 Camel milk price

Milk is an important livestock product for Somali pastoralists and regardless of the type and number of species owned, access to milk is critical in sustaining food and nutritional security. In the reference year, poor households owned more shoats (10 lactating goats) hence produced a limited amount of milk. However, the middle and better-off households produced more milk due to their larger herd sizes (15-20 lactating goats and 2-3 camel, respectively).

From their herd size, poor households obtained 600 litres of goat milk, of which 83% was sold and the cash earned was used to purchase essential food items. The middle and better-off households produced 700 liters and 2370 liters (65% from camel milk and 35% from goat milk), respectively. The middle households sold about 56% of the total milk production while the better-off sold about half of their production.



Camel body conditions

Figure 3: Trends in camel milk price

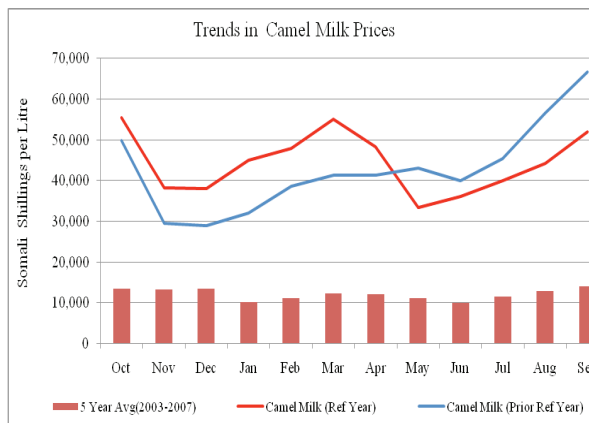
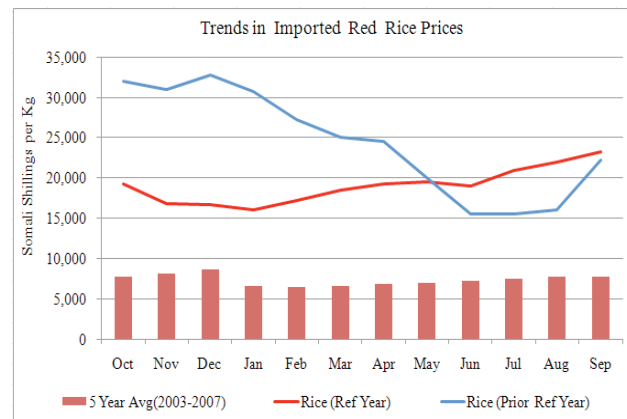


Figure 4: Trends in imported red rice prices



Overall milk prices show mixed trends that were influenced by seasonality. Normally, camel milk prices increased during *Hagaa* and remained steadily high throughout the short rainy season, due to limited supply of shoat milk in the markets. However, prices of milk declined in the dry period and during the *Gu* season due to livestock concentration in the watering points and improved milk production in the main rainy season. Fresh camel milk increased in *Jilaal*, slightly decreased in May and rose suddenly in *Hagaa*. This was due to the impacts of the previous drought occurrences, which reduced livestock conception rates in Nugaal. In the reference year, fresh camel milk slightly increased by 4% (from 42,778 Sosh/litre to 44,457 Sosh/litre) compared to the previous year and was three-times higher than the 5-year average. This is due to the effect of persistent droughts, which resulted in high off-take and reduced herd sizes.

Figure 5: Trends in wheat flour prices

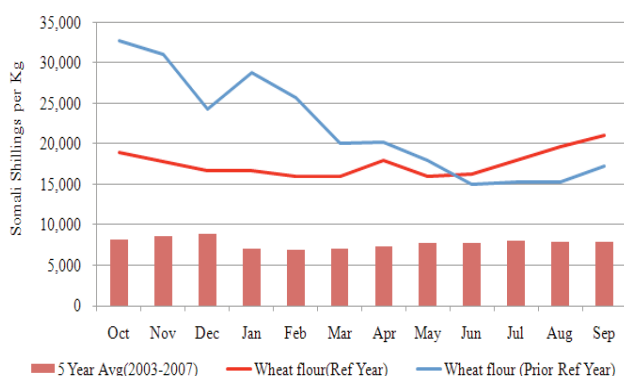


Figure 6: Trends in imported sugar prices

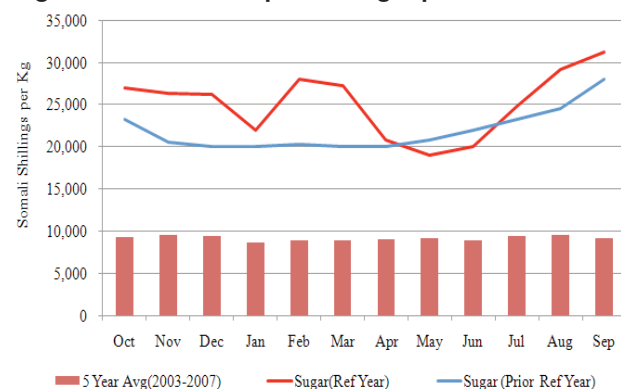


Figure 7: Trends in vegetable oil prices

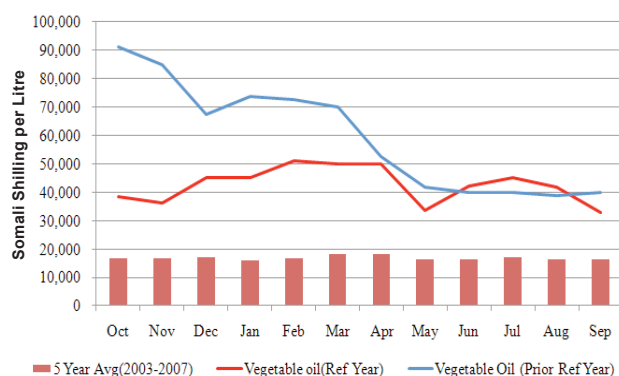
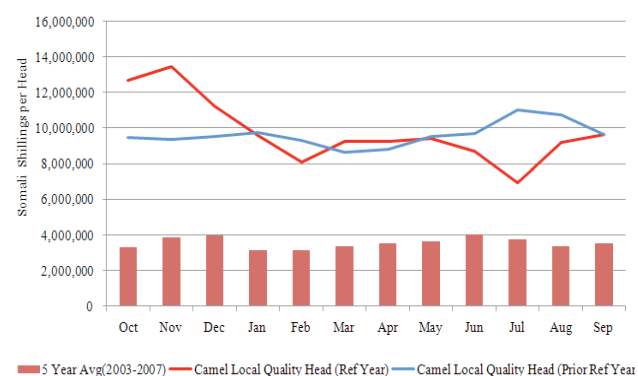


Figure 8: Trends in ToT goat local quality to rice



5.3 Imported food prices

Imported commodities (rice and wheat flour) were the main staple food items purchased by all households in the reference year. The prices of these items were influenced by monsoon tide from July to September, but remained stable in the rest of the year. In the reference year most of the imported food prices decreased due to a decline in global food prices and due to improved supply. In particular, the prices of rice and wheat flour increased compared to the 5-year average, but declined from the previous year. The average market price of rice increased by 159% from the 5-year average and declined by 22% from the previous year, while wheat flour increased by 126% from the 5-year average and declined by 20% from the previous year.

Figure 9: Trends in ToT goat local quality to rice

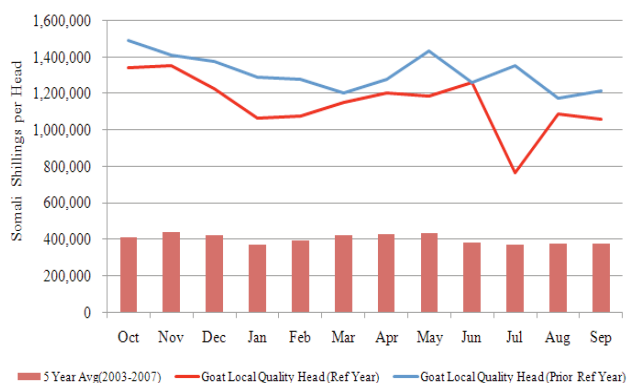
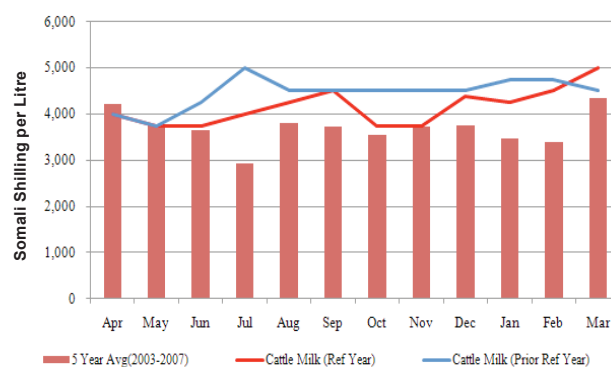


Figure 10: Trends in cattle milk price

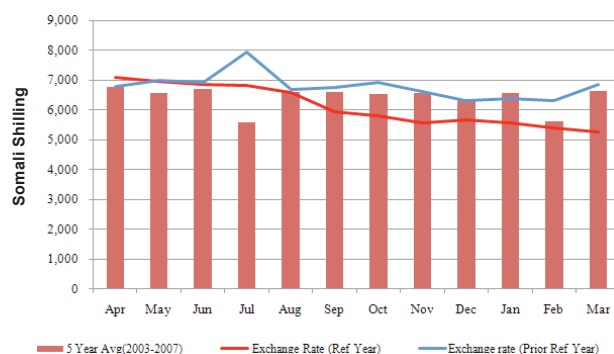


The price of sugar was 174% of the 5-year average and 15% of the prices in 2009. Vegetable oil prices appreciated by 153% from the 5-year average but declined by 28% when compared to the previous year. The increase in the average price of sugar is attributed to the increasing demand for sugarcane products in the manufacture of ethanol and other biofuel products. It is also linked to reduced production in key sugar producing countries of the world, like Brazil.

5.4 Terms of Trade

The purchasing power of many households is directly linked to the level of income and food prices. As livestock prices improve, goat/sheep sales translate into favorable terms of trade. In the reference year, local quality goat/rice ToT increased by 6% (from 58 kg/head to 61 kg/local goat) compared to the previous year (2009) and by 8% (from 57 kg/local goat to 61 kg/goat) when compared to the 5-year average. Export quality goat to rice ToT increased significantly by 377% from the previous year but declined by 18% when compared to the 5-year average.

Figure 11: Trends in Exchange rate



6. LIVELIHOOD ASSETS

6.1 Human Capital

6.1.1 Education

The education infrastructure and services in all villages surveyed in Nugaal valley are in a poor state. Of the 10 sampled villages, only 3 had primary schools (Gawsawayne, Garadag and Xayira), with a total number of 245 pupils, 30% of whom were girls. Despite the limited availability of formal schools, most villages have koranic schools (*madrassa*), which are located under trees or in poorly maintained buildings. In the few formal schools, poor teacher remuneration and teaching equipment contribute to the low quality of education. In addition, out-migration to lower Nugaal in bad years reduces attendance to as low as 60%.

6.1.2 Health and nutrition

There were no health facilities in the 10 villages assessed. Generally, health infrastructure and service delivery in Nugaal valley livelihood is poor as there are no trained health practitioners and medical supplies are inadequate. This forces most people to travel long distances to seek treatment in the main urban towns. Lack of safe water for domestic use and poor sanitation are key risk factors increasing the vulnerability of households to water and vector-borne diseases. The nutrition situation of Nugaal valley is *serious*, indicating deterioration from *Alert* in *Gu'10*. The deterioration is linked to reduced intake of milk and meat products following rain failure, poor income and increased cost of water and cereals in *Deyr' 10/11*. The results of a nutrition survey conducted by FSNAU and partners in November 2010, indicates GAM rates of 10.3% and SAM rates of 1.3% in Nugaal Valley livelihood zone.² High morbidity, low immunization and vitamin A supplements, poor water sanitation and limited health facilities still remain chronic health challenges in the community.

6.2 Natural Capital

6.2.1 Vegetation

The main vegetation in Nugaal valley are open savanna grasslands, shrubs of *commiphora spp.*, acacia trees (found in the seasonal streams), dominant grasses (*indigofera spp.*) and saline species along the coast. The open grasslands are productive rangelands used for seasonal grazing.



Dominant rangeland vegetation

6.2.2 Water resources

Nugaal and westerly Dheere seasonal rivers form the main surface drainage system in Nugaal valley livelihood zone. This enhances water availability and abundance in the valley during the wet seasons. Hand-dug wells are also common along the dry river beds where the water table is not very deep, although most of these assets are in poor conditions and easily exposed to contamination from human faecal matter and animal wastes. Springs are mainly concentrated along the coastal communities.



Water sources (shallow well)

6.3 Social Capital

6.3.1 Formal (*Zakat*) and informal (other gifts)

Access to food in kind and food loans by poor households is an important social asset in Nugaal. Provision of Islamic obligatory *zakat* to poor households (livestock *zakat* and *zakatul fitri* in food) was normal in the reference year. Some poor households accessed lactating animals for milk from their relatives of middle and better-off wealth groups.

6.3.2 Remittances

Remittances from the Diaspora or within Somalia were low in Nugaal valley in the reference year and only a few better-off households received remittances from relatives or friends in the Diaspora. In Addition, important socio-cultural capitals like the pre-historic sites exist in Taleex district.

² Refer to FSNAU post *Deyr' 09/10* Technical Series

6.4 Physical Capital

6.4.1 Transport infrastructure

Road infrastructure is poorly developed in most parts of Nugaal livelihood zone due to low technical and equipment capacity. Only villages located near the tarmac road that links Burao and Garowe towns have good access to the markets. Most feeder roads used in the rural villages are poorly maintained and are impassable during the wet seasons. This hinders the flow of food commodities and other supplies, resulting in increased transport costs and market prices of commodities. This affects the purchasing power of poor households.



Pre-historic site in Taleex district

6.4.2 Water resources

The main water sources in Nugaal valley are shallow wells and few boreholes and *berkads* (surface water catchments). The quality of water from shallow wells is brackish and is used for livestock production. Potable water for human consumption is limited in most parts of the livelihood. During critical periods, water prices are very high and are beyond the capacity of the poor households when water trucking activities are ongoing.

6.4.3 Telecommunication

The telecommunication system has been expanding to the rural areas in the recent years; however in Nugaal valley good telephone network is not well established. Charging hand cell phones is difficult due to lack of electricity in the rural areas. Few villages have access to high frequency (HF) radio communication.

6.5 Financial Capital

6.5.1 Livestock

The main livestock species reared in Nugaal valley are sheep, goats and camel. Sheep is the most dominant species raised by the pastoral community since it generates more income through market sales. Income from livestock sales improved in the reference year due to improved body conditions and due to the lift in the ban on livestock export trade by the Saudi government. As a result, the price of export quality goat reached USD 40 while goat local price was USD 30. These prices are higher than the previous year, which has improved the purchasing power of the pastoral communities.



Livestock assets in Nugaal valley livelihood zone

6.5.2 Loans & Credit

Access to food and cash loans and gift to poor household were normal in the reference year. This supplemented the food needs of the poor households. During the hunger period which begins in August/September (*aamus*) and extends to the *Jilaal* season, the poor in particular get food and non-food items on credit from business persons and make repayments when livestock prices increase (during *Hajj*) or in the wet season when livestock production improves and the proceeds from the sales of milk and ghee increase.

7. WEALTH BREAKDOWN

Households in Nugaal valley pastoral livelihood zone can be categorized into three broad wealth groups based on livestock holding; species types and other characteristics. From the proportional pilling, the poor are 30% of the entire population in the livelihood zone, while the middle and better-off are 50% and 20%, respectively. All wealth groups own shoats and camels, although the holding varies with wealth group. Similarly, household sizes and marriage arrangements vary across wealth groups. More affluent wealth groups have more household members and are more likely to be polygamous than the poor wealth groups.

Table 4: Wealth breakdown

Characteristics		Wealth group		
		Poor	Middle	Better off
% of Population		30%	50%	20%
Household size		5-7 (6)	7-8 (8)	10-12 (11)
Number of wives		1	1-2	1-2
Livestock assets	Camel	2-4 (3)	8-12 (10)	20-25 (23)
	Shoat	50-70 (60)	100-120 (110)	180-220 (200)
	Donkeys	1	1	1-2
Income range (in millions)		31000-38000	48000-65000	71000-100'000
Food sources	Purchases	88%	82%	89%
	Own production	10%	23%	29%
	Food gifts/loans	1%		
% Energy (kcal) requirements		99	105	118
Main sources of cash income		<ul style="list-style-type: none"> • Livestock sales • Agricultural labour • Social support (zakat, gifts and remittances) 	<ul style="list-style-type: none"> • Livestock sales • Agricultural labour • Social support (zakat, gifts and remittances) 	<ul style="list-style-type: none"> • Livestock sales • Agricultural labour • Social support (zakat, gifts and remittances) • Petty trade
Other sources of cash income		• Other casual labour from the construction sector for all wealth groups		
Livestock sales	Camel Export	0	0	2
	Camel local	0	1	0
	Goat Export	4	6	8
	Goat local	5	4	3
	Sheep Export	7	9	17
	Sheep local	6	4	4
Disparities in market access		• local village markets	• Access to village and main markets	

The main sources of cash income for all households are sale of livestock and livestock products, agricultural labour and social support (zakat, gifts and remittances). While the poor and middle obtain additional income from casual labour (construction), the better-off source more cash income from petty trade. Due to low livestock holding among poor households, there is high dependence on social support gifts to supplement own production, while other groups generate more income from livestock and livestock product sales. The poor have smaller livestock holdings and sell a few to the local and export markets.

The poor mainly access local village markets while the middle and better-off access the village and main markets.

In bad years, the poor seek more social support, engage in self employment and sell more livestock. The middle engage in increased livestock sales, seek food loans and migrate, while the better-off increase livestock sales, seek remittances, petty trade and livestock hand feeding.



Donkeys use for transport

8. LIVESTOCK HERD DYNAMICS

Camel off-take for the poor remained unchanged, while the middle and better-off wealth groups recorded off-takes of 8% and 12%, respectively. However, camel herd growths for the poor and middle households in the reference year were 33% and 10%, respectively, while the better-off recorded a decrease of 4 percent.

Sheep and goat herd size for the poor and middle did not change in the reference year. This is because the off-take and kidding rates offset each other. However, the better-off, realized an increase in shoat herd sizes of 7% (sheep) and 15% (goats). Sheep off-take was 31%, 30% and 23% for the poor, middle better-off wealth groups, respectively. Among the poor wealth group, goat herd size indicated zero growth, because of the high off-take of 41%. However, the middle and better-off goat herd sizes increased by 2% and by 15%, respectively.

Table 5: Camel herd dynamics

	Poor	Middle	Better off
Total camel owned at start of the reference year	3	10	23
Adult females	1	5	11
No. born during year	1	2	2
No. sold	0	1	2
No. slaughtered	0	0	0
No. died	0	0	1
No. given away	0	0	0
No. bought	0	0	0
No. lost or stolen	0	0	0
No. at end of reference year	4	11	22
% of herd growth	+33	+10	-4
% of Off-take	0	8	12

Table 6: Sheep and goat herd dynamics

	Sheep			Goat		
	Poor	Middle	Better off	Poor	Middle	Better off
Total shoats owned at start reface year	40	74	115	20	45	68
Adult females	20	37	55	13	25	36
No. born during year	18	30	45	14	20	35
No. sold	13	16	20	10	9	13
No. slaughtered	3	6	7	2	4	5
No. died	1	5	6	2	3	4
No. given away	1	4	4	0	3	3
No. bought	0	0	0	0	0	0
No. lost or stolen	0	0	0	0	0	0
No. at end of reference year	40	73	123	20	46	78
% of herd growth	0	-1	+7	0	+2	+15
% of Off-take	31	30	23	41	29	24

9. LIVELIHOOD STRATEGIES

9.1 Sources of Food

Market purchase is the major food source for all wealth groups in the livelihood. This is in addition to the contribution from livestock products, which vary across wealth groups. The main foods consumed are cereals (rice/flour and pasta) as well as imported sugar and vegetable oil. Beans and sorghum are either locally produced in other regions within Somalia or imported and obtained through food aid. Poor households access fewer quantities of food items from the market due to lower income as opposed to the middle and better-off. The poor normally purchase 30kg of rice, 27kg of wheat flour, 25kg of sugar and 4kg of vegetable oil on a monthly basis. This translates to 98% of the kilocalorie intake, which is 2% less than the minimum standard of 2100Kcal ppp/day. Livestock products contribute 10% of this energy requirement.

However, most middle and better-off wealth groups consumed well above the minimum energy needs, that is 102% (24% livestock products) and 112% (29% livestock), respectively. The middle households purchased 45kg of rice, 30kg of wheat flour, 30kg of sugar and 6 liters of vegetable oil on a monthly basis, while better-off households purchased 50kg of rice, 44 kg of wheat flour, 50kg of sugar and 9 kg of vegetable oil in the same period. There was no food aid distribution or other humanitarian intervention in the reference year.

9.2 Sources of Cash income

The main sources of income for all wealth groups are sale of livestock, livestock products and own production as well as cash gifts. The middle and better-off households access additional income generating activities such as petty trade and remittances. Income levels are dependent on livestock holding and sales in the markets. The income of the poor ranges from Soshs 30,000,000 to 38,000,000 annually. This income is derived mainly from the sale of livestock and livestock products, loans and gifts. The middle households generate Soshs 48,000,000 to 65,000,000 (mainly from sale of livestock and livestock products) while the better-off generate Soshs 90,000,000-100,000,000 annually from the sale of livestock and livestock products as well as from petty trade. Poor households earn the lowest income from livestock sales due to limited number of export quality livestock.

9.3 Expenditure patterns

As indicated in the figure below, expenditure patterns for the wealth groups in Nugaal livelihood is highly dependent on the level of income. Poor households spent an average of Sosh 93,000 per day mainly on rice, wheat flour, sugar, oil and small quantities on non-food items. However, the middle and better-off wealth groups spend about twice and three-times, respectively, the amount spent by the poor households. This means that the amount of income spent on staple food decreases across wealth groups. About 45% of the poor's annual income is spent on staple foods, while the middle and better-off households spend 33% and 28% of their income, respectively, on staple foods. This is because these wealth categories can afford food items that are of better quality. Therefore they have higher levels of dietary diversity than the poor. These wealth groups spend significant portions of their income to non-food items such as livestock inputs, household items and social services.

Figure 13: Main Sources of Food

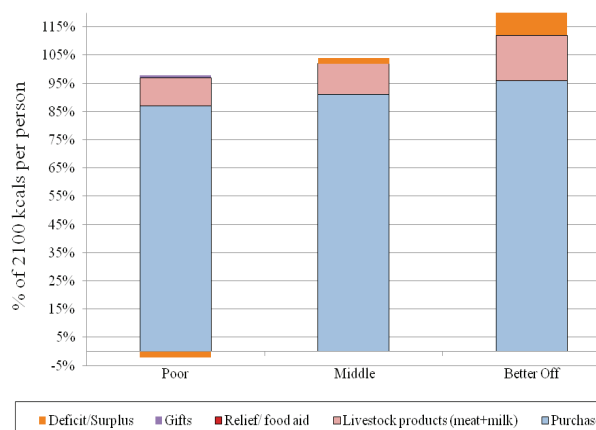


Figure 14: Sources of cash income

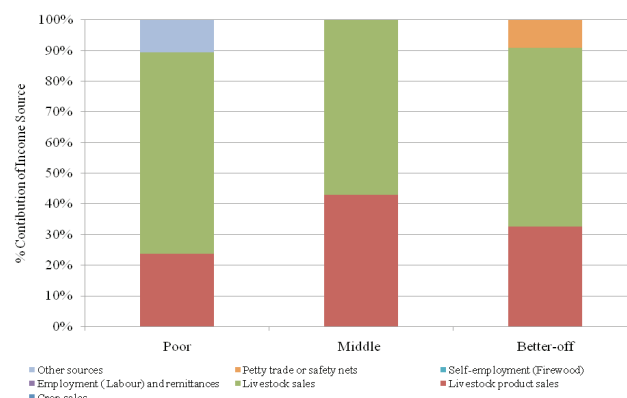
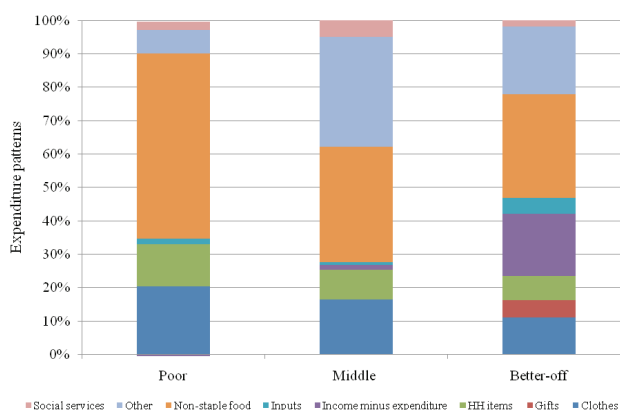


Figure 15: Expenditure patterns of households



10. HAZARDS

The main chronic hazards affecting the pastoral livelihood system in Nugaal valley are: droughts, poor livestock marketing, livestock diseases and environmental degradation. These shocks are discussed in the following sections.

10.1 Drought and recurrent climate shocks

Recurrent climate shocks have a significant influence on the pastoral livelihood system in Nugaal valley. For instance before the reference year, successive rain failure in the northern Somalia resulted in poor pasture establishment and water scarcity. This affected livestock body conditions and production (reduced milk production and number of saleable animals). However, the situation improved from *Deyr* 2009 to *Gu* 2010 leading to average pasture and water availability. *Deyr* 2010 rains were below normal resulting in poor water and pasture conditions.

Drought is one of the causes of resource-based conflicts. Under normal circumstances, Nugaal valley pastoral livelihood zone has scarce forage resources and is under substantial ecological pressure. When droughts occur or poor rains persist, as was the case before the reference year, the pastoral livelihood, which is primarily dependant on environmental resources, is severely affected. This is because the land yields limited biomass and water to sustain livestock production and domestic use.

Typically, in Nugaal valley, pastoral communities depend on livestock (sheep, goats and camels) and move from place to place in search of pasture land and water. During drought, movement increases; sometimes different pastoral groups move to the same place and want to use the same scarce resources. This is a potential source of conflicts. In extreme cases, livestock holding reduces partly due to increased livestock deaths from drought impacts. This has adverse implications on livelihood assets.

10.2 Poor livestock production and marketability

Rainfall performance in the reference year in Nugaal valley was average, resulting in average pasture and water conditions. However, poor *Gu* 2009 rains combined with several successive seasons of below normal rainfall perpetuated poor pasture establishments that led to decreased livestock productivity and value. As a consequence, pastoralists in Upper Nugaal were forced to move to Lower Nugaal. Periodic movements over long distances, coupled with poor pasture water conditions deteriorated livestock body conditions. This reduced livestock productivity and the market price of saleable animals, leading to low income earning, low purchasing power and engagement in unsustainable asset stripping practices.

10.3 Livestock diseases

Large-scale livestock disease outbreaks were less frequent in the reference year due to preventative intervention measures by NGOs (VSF, PULPA and NAHA). Endemic diseases such as CCPP, sheep/goat pox and endo-parasites are the most common hazards that pose a serious threat to the livelihood system of pastoralists in Nugaal. Livestock diseases negatively affect livestock production (reduced milk production) and market prices, and are sometimes the cause of quarantines and trade bans, which have wider economic consequences.

10.4 High food price

The market prices of basic food commodities are influenced by seasonality as well as market forces of demand and supply. During times of persistent droughts, supplies from neighbouring regions decline leading to a shortage of food commodities in markets. When the demand for these basic food items increase, so do the prices. In particular, before the reference year, when drought persisted for several seasons, the poor were the most affected. Most poor households lost their livestock, which decreased their purchasing power and increased dependence on food aid. Seasonal patterns of monsoon winds reduce imports of essential cereals causing shock in the local markets that triggers high prices. In severe situations where drought and high food prices persist, the poor, who are more vulnerable, become increasingly food insecure, while some middle shift to less preferred food items which are affordable and of low nutritional value.

10.5 Water-borne diseases

In Lasanood, in the middle of Nugal valley, there are abundant water resources. The water table is shallow and most of the wells in the town (about 17 of them) are only 8m deep. This shallow depth has become a health hazard as water is easily contaminated by waste from shallow pit latrines through seepage. This is manifested by high levels of water-borne diseases and diarrheal cases among children, particularly in the poorer households, who cannot afford clean water for consumption.

10.6 Environmental Degradation

The main forms of environmental degradation in Nugaal valley pastoral livelihood zone are in the form of land degradation which results from the combination of unsustainable activities such as overgrazing and vegetal depletion through indiscriminate tree cutting. Removal of vegetation cover destroys the structure and composition of the natural fabric of the landscape, a phenomenon that exposes the land to agents (water and wind) of erosion. Due to the erratic nature of rainfall in Somalia, coupled with bare landscapes, water erosion causes formation of gullies on potential grazing areas. If left unchecked, the long-term environmental impacts of these practices (vegetal removal and overgrazing) in combination with harsh climatic regimes may potentially cause destruction of decreaser species (palatable species of mostly grasses), and replacement of low palatable grasses with unpalatable ruderals and shrubs. Resultantly, this may exceed the lands (ecological) carrying capacity, reduce regenerative capacity of the landscape, denude environmental services (and ecological functions) and eventually result in desertification.

11. COPING STRATEGIES

The main coping strategies employed by pastoralists in Nugaal pastoral livelihood zone can be classified in two categories: Normal and distress coping strategies:

11.1 Normal coping strategies

In an average year, households in the livelihood employ the following coping strategies:

- Migration with livestock (sometimes use of trucks to transport weak animals) to areas with better pasture and water conditions within the livelihood zone.
- Sharing of pack camel for transport during migration.
- Increased purchase of water (water trucking).
- Slaughtering of new born animals to save lactating females for future herd regeneration, especially for sheep and goats.
- Increased sale of milk to enhance income generation.
- Migration of family members to villages and urban centers in search of alternative income opportunities.
- Increased seeking of gifts and *sadaqa* from relatives.
- Skipping meals and reducing the portions of food intake.

11.2 Distress Coping Strategies

In bad years households in different wealth groups employed the following coping strategies:

Poor	Middle	Better-off
<ul style="list-style-type: none"> • Increased seeking of social support • Distress sale of livestock at low prices • Increase engagement in self-employment. • Increased family splitting 	<ul style="list-style-type: none"> • Distress sale of livestock at low prices • Increased seeking food loan • Increased out-migration of households to villages/urban centers 	<ul style="list-style-type: none"> • Distress sale of livestock at low prices • Increased seeking of remittances • Increase involvement in petty trade • Increased livestock hand feeding

It is important to note that in Nugaal valley and in Somalia in general, new born and weak animals are normally left behind in the home-ranges, as the mature and healthy animals migrate in search of water and pasture. Women would normally stay at home to care for the children and weak animals as well as for kids and calves.

11.3 Future monitoring indicators

- Rainfall performance (spatio-temporal distribution and amount)
- Pasture and water conditions
- Level of water trucking and water prices
- Abnormal migration incidences and means used in migration
- Livestock body conditions and livestock market (local and export) prices
- Level of indebtedness
- Terms of Trade for shoa/rice
- Herd composition (productive females versus kids/calves)



Normal and distress coping strategies employed by women

12. MAIN CONCLUSION AND RECOMMENDATION

12.1 Conclusion

The findings of the baseline assessment in Nugaal valley pastoral livelihood zone show that while the poor households have access to village markets only, the middle and better-off wealth groups have access to both village and main markets in the big towns. In the reference year, the prices of all imported food items increased compared to the 5-year average. In particular, the prices of rice and wheat flour were 259% and 226% higher compared to the 5-year average, respectively, but declined by about 22% and 20% from the previous year. The average price of local quality goat declined by 13% compared to the previous year, the price of export quality goat as well as both local and export quality camel increased, compared to the 5-year average and previous years, respectively (*see table 4 for details*).

Poor households represent 30% of the entire population in Nugaal valley pastoral livelihood zone, while the middle and better-off are 50% and 20%, respectively. Livestock holding and marriage arrangements vary with wealth group. More affluent wealth groups have more household members and a higher tendency for polygamous marriage arrangements. Camel herd growth in the reference year increased by 33% and by 10% for the poor and middle wealth groups, as births exceeded off-take. Camel holding for the better-off wealth group decreased by 4% due to high off-take. Shoa herd size for the better-off only increased by 7% (sheep) and by 15% (goats), whereas off-take of the shoats for the poor and middle increased by 20%, respectively.

Poor households purchase fewer quantities of food items from the market due to low incomes. The poor bought 30kg of rice, 27kg of wheat flour, 25kg of sugar and 4kg of vegetable oil on a monthly basis in the reference year. This translates to 98% of the kilocalorie intake, even as livestock products contribute 10% of the total energy requirements. Most middle and better-off wealth groups obtained 102% and 112% of the minimum energy needs, respectively. The income of the poor ranges from Sosh 30,000,000 to SoSh 38,000,000 (from sale of livestock/livestock products, loans and gifts) annually. The middle generate Sosh 48,000,000-65,000,000 (from sale of livestock/livestock product sales) while the better-off generate Sosh 90,000,000-100,000,000 annually from the sale of livestock/livestock products and petty trade. Due to low livestock holding, poor households depend more on social support and gifts to supplement own production. About 45% of the poor's annual income is spent on staple foods, while the middle and better-off households spend 33% and 28% of their income, respectively. The latter also use significant portions of their income on non-food items such as livestock inputs, household items and social services.

12.2. Recommendations

In order to promote livelihood sustainability in Nugaal valley livelihood zone, the following development priorities are proposed:

- Construction of new and/or rehabilitation of existing surface water catchment facilities as well as boreholes in order to increase household water access to enhance livestock productivity. This could also involve the use of innovative techniques of rainwater harvesting through for instance the establishment of community earth dams and water pans.
- Improve access to and efficiency of existing basic social services. This could involve working with partners and stakeholders in the respective sectors to construct new or expand existing schools and health facilities, in addition to capacity building.
- Improvement of existing feeder roads through rehabilitation and regular maintenance in order to enhance linkages between villages and village markets.
- Support the decentralization of veterinary services through the establishment of mobile veterinary services as well as conducting training for Community Animal Health Workers (CAHWs) in order to improve pastoralist access to these essential services.
- Intensify and extend soil and water conservation programmes in collaboration with local and international non-governmental organizations. This should aim at enhancing environmental/ecological resilience through programmes like afforestation, reforestation and building gabions to minimize run-off and erosion.
- Promote and initiate collaborative structures with local and international non-governmental organizations in order to aid capacity building and community-based approaches for integrated rangeland management.

REFERENCES

- Mohamed I. F. (1994), Politics and Society in Somalia's North-Eastern Region. *Life & Peace Review* 8 (4). Retrieved 2011-04-19.
- Muchiri P.W. (2007), Climate of Somalia. Technical Report No W-01, FAO-SWALIM, Nairobi, Kenya.
- FAO – SWALIM, (2009), Atlas of Somali Water and Land Resources. 1st edition, Nairobi, Kenya.
- Awale, A.I. (2007). Climate Change Stole our Mist. Candlelight Hargeisa
- Barry, R.G., and Richard J.C. (1992). Atmosphere, weather, and climate. London: Routledge. ISBN: 9780415077606.
- Bushell, H. (2009). Pastoralism and Climate Change in East Africa: Enabling Adaptive Capacity, Oxfam Great Britain. Paper prepared for presentation at the World Conference of Humanitarian Studies Groningen, The Netherlands, 4- 7 February 2009.
- Chambers, R., and Conway, G.R. (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, Institute of Development Studies Discussion Papers, 296. Cambridge.
- Devereux, S. (2001). Livelihood Insecurity and Social Protection: A Re-emerging Issue in Rural Development. *Development Policy Review*, 19(4): 507-519.
- DFID (2000). Sustainable Livelihoods Guidance Sheets. Department for International Development. www.livelihood.org/info/info_guidancesheets.htm
- Faillace, C and Faillace, E. R. 1987. Water Quality Data Book of Somalia. General Report. GTZ Project No. 80.2193.3-09.112. GTZ and Water Development Agency (WDA), Somalia.
- FAO-SWALIM Technical Report L-10: Vargas, R. R., Omuto, C.T., Alim, M.S., Ismail, A., Njeru, L. (2009). Land degradation assessment and recommendation for a monitoring framework in Somaliland. Nairobi, Kenya.
- Food Economy Group (FEG) Consulting and Save the Children (2008). The Practitioners' Guide to the Household Economy Approach, Regional Hunger and Vulnerability Programme, Johannesburg
- Gomes, N. Oduori, S.M., and Musse, S.A. 2006. Environmental study of degradation in the Sool plateau and Gebi valley: Sanaag Region of Northern Somalia, Final Report, February 2006, Nairobi: Horn Relief
- Griffiths, J.F. (ed.) (1972). Climates of Africa. Amsterdam, London, New York; Elsevier Publishing Company,. Pp. xvi+ 604
- Hemming, C.F. (1966): The vegetation of the northern region of the Somali Republic. *Proceedings of the Linnean Society of London*. Vol. 177, No. 2, Pg. 173 – 250.
- Hutchinson, P. & Polishchouk, O. (1989). The Agroclimatology of Somalia. Somali Democratic Republic, Ministry of Agriculture, Food Early Warning Department, Mogadishu, 186 pp
- Muchiri, P.W. (2007). Climate of Somalia. Technical Report No.W-01,FAO-SWALIM, Nairobi, Kenya.
- Muchiri, P. W. (2009), Inventory of Northern Somalia Drainage Basins. Technical Report No W-18, FAO-SWALIM, Nairobi, Kenya
- Soumare, B., Tempia, S., Cagnolati, V. Mohamoud, A. Van Huylenbroeck, G., and Berkvens, D. (2007). Screening for Rift Valley fever infection in northern Somalia: A GIS based survey method to overcome the lack of sampling frame. *Veterinary Microbiology*, 121, 249–256.
- SwissGroup (2006). An Ex-Post Assessment for Planning Purposes: *Rural Water Supply and Community Management in Hargeisa, North West Somalia*. Som – 11FC 289
- UNICEF (2007). Children and The Millennium Development goals. Division of Communication, United Nations Children's Fund (UNICEF), New York, NY 10017, USA. ISBN: 978-92-806-4164-6
- United Nations (UN) 2003. Inter-Agency Assessment of Sool Plateau and Gebi Valley Sool & Sanaag regions, October 2003, Nairobi

Annex 1: Summary of livelihood strategies in Nugaal Paastoral livelihood zone

Sources of food	Poor	Middle	Better-off
Livestock products	10%	11%	16%
Purchase	87%	91%	96%
Gifts and other sources	1%	0%	0%
Deficit/Surplus	-2%	2%	12%
Total	98	102	112
Sources of cash income			
Livestock product sales	8120	25240	32390
Livestock sales	22450	33400	57700
Petty trade or safety nets	0	0	9000
Other sources	3600	0	0
Totals	34170	58640	99090
Expenditure patterns			
Clothes	4000	6500	8000
Gifts	0	0	3600
HH items	2490	3530	5280
Income minus expenditure	-81	560	13328
Inputs	300	360	3400
Non-staple food	10860	13680	22152
Other	1400	13000	14500
Social services	477	1930	1300
Staple food	14724	19080	27530
Staple/total income	43%	33%	28%
Total	34251	58080	85762

Annex 2: Rural Wealth Group Interview Form

District	Livelihood Zone	Village
Wealth group	Reference year	Type of year
Interviewers	Date	Number of interviewees Men _____ Women _____

Procedures

1. **Introduce** team and explain objectives of the focus group interview.
2. Check that the focus group is made up of people from the **wealth group** you requested – ask them individually to briefly describe their land, livestock, and/or sources of income.
3. Explain **reference year** and ensure interviewees refer to reference year throughout rest of interview.
4. Gather information about the **typical household** in this wealth group (e.g. nuclear, extended, polygynous etc.), its size and composition (a), and prepare an **asset profile** for the reference year (b) and (c).

a) Household/Family size and composition

Number of people in HH living/eating at home daily (include number of wives, children if polygynous + extra dependents)	No. of children		No. in formal school		No. in Quranic school	
	Male	Female	Boys	Girls	Boys	Girls

b) Livestock assets

Livestock type	No. at the start of reference year	No. owned by wealth group (exclude loaned and kept by others)
Camel		
Cattle		
Shoats		
Donkeys		

C) Livestock profile (remember to include loaned animals)

Livestock Type:	Camels	Cattle	Sheep	Goats
No. owned at start of reference year				
No. mature females				
No. born during year				
Effectively milking				
No. sold during year				
No. given/received (zakat, etc)				
No given/received (herding)				
No. exchanged during year				
No. slaughtered				
No. died during the year				
No. bought during year				
No. at end of reference year				

D) Other comments on the household and asset profile

Are there any other productive assets (include number of donkeys, horses, mules, poultry, bee hives, trees, ploughs, shop, Barket and any other assets)?

N.B: Please note that all born animals are not lactating, some animals genetically produce less milk enough for the sucking of their kids, others the kid die after the born and soon after mother stop lactating or sometimes continue lactating without kid. Therefore in the herd growth from the calving/kidding to add all in the growth and milk production should be considered. Calculation of the milk production can include only lactating animals, and herd growth is included only the survived/alive kids.

Effectively lactating	Camel		Cattle	
	With calve	Without calve	With calve	Without calve
Effectively lactating	Sheep		Goat	
	With kid	Without kid	With kid	Without kid

5. Livestock Production (milk, butter, meat)

Production, consumption & sale of milk, milk products	# of milking animals (a)	Season	Length of lactation (in days) (b)	Average milk production per animal per day (c)	CALCULATE	Quantity sold or exchanged (note skim or whole)	Price per unit sold	CALCULATE	Other use (e.g. gifts)	CALCULATE	% of annual kcal needs
					Total production per season = (a) x (b) x (c)			Cash income		Balance consumed (note skim or whole)	
Camel milk		Wet									
Camel butter/ghee*		Dry									
Cow milk		Wet									
Cow butter/ghee ²		Dry									
Sheep milk		Wet									
Sheep butter/ghee*		Dry									
Goat milk		Wet									
Goat butter/ghee*		Dry									

Consumption and sale of meat (from own livestock) and of honey	Total number of animals slaughtered	Total meat (kg)	Quantity sold or exchanged	When sold?	Price per unit sold	Cash income	Other use (e.g. gifts)	Balance consumed	% of kcal needs
Camels									
Cattle									
Goats									
Sheep									
Honey									

QUESTIONS ON MILK, MILK PRODUCTS AND MEAT SALES:

Who normally decides on sale of milk, milk products, meat? Men, women or both? -----

Does it make a difference whether the animals belong to the woman or the man? -----

Other income from livestock:

Sale of livestock (e.g. camels, cows, goats, sheep -remember To Separate Local And Export Sales), livestock rental, etc	Total Sold	Seasons sold?	Price per head sold	Cash income
Camels – export				
Camels – local				
Cows – export				
Cows – local				
Goats – export				
Goats – local				
Sheep – export				
Sheep – local				
Chickens				
Donkey				
Other income from livestock: e.g.				
Livestock rental				
Hide sale				
Egg				
TOTAL Livestock Income =				

QUESTIONS ON LIVESTOCK SALES:

Who normally decides on sale of livestock? Men, women or both? -----

Does it vary by livestock type (camels, cattle, shoats)? -----

Does it make a difference whether the animals belong to the woman or the man? -----

6. PURCHASE of staple and non-staple FOOD for consumption (not for trade)

List Commodity (e.g. cereals, pulses, oil, sugar, meat)	Quantity purchased [a]	Frequency purchased [b]	Duration (no. mo. pa) [c]	When?	CALCULATE Total kilos purchased [a]x[b]x[c]	Price per unit	CALCULATE Total cost	CALCULATE % of HH food needs
Cereal								
Cereal								
Cereal								
Pulse								
Pulse								
Sugar								
Vegetable oil								
Meat								
Other								
Other								
Total expenditure and food								

7. FOOD RELIEF / FOOD ZAKAA / FOOD GIFTS / FOOD LOANS / TARGETED FEEDING

Description	Quantity (unit of measure)	Frequency (per wk/ mnth)	Duration (wk/ mnths)	When (months?)	Total received	Who receives?	Quantity sold	Price per unit sold	Cash income	Income to men/ women?	Other use (e.g. gifts)	Balance consumed	% of HH food needs
Total													

QUESTIONS ON FOOD RELIEF AND GIFTS:

Who normally decides on sale of food relief and gifts? Men, women or both? -----

Does it make a difference whether the relief / gifts were received by the woman or the man? -----

8. WILD FOODS/FISH/GAME

Description	Who in HH? Men? Women? Children?	Quantity (and unit of measure)	Frequency (per week or month)	Duration (weeks or months)	When (which months?)	Total collected	Quantity sold	Price per unit sold	Cash income	Other use (e.g. gifts)	Balance consumed	% of HH food needs
Total												

QUESTIONS ON WILD FOOD, FISH AND GAME:

Who normally decides on sale of wild foods/fish/game? Men, women or both? _____

Does it make a difference whether the wild foods/fish/game were gathered by the woman or the man? _____

10. OTHER FOOD SOURCES (e.g. stocks carried over from previous year)

Commodity	Quantity	Other use	Other use	Balance consumed	% of HH food needs

12. CASUAL LABOUR/EMPLOYMENT

Activity / income source ³	Unit of work (e.g. day, acre)	Number of people doing this activity	Frequency (per week or month)	Duration (no. of weeks or months)	When (which months?)	Payment per unit of work	Receives cooked meal?	Total cash income per year	Who decides on use of income? Men? Women? Both? Children?
Total									

14. SELF-EMPLOYMENT/SMALL BUSINESS/TRADE

Activity / income source ⁴	Unit of measure (e.g. bundle, sack, period of time)	Number of people doing this activity	Frequency (per week or month)	Duration (no. of weeks or months)	When (which months?)	Price or Profit per unit sold	Total cash income per year	Who decides on use of income? Men? Women? Both? Children?
Total								

15. OTHER CASH INCOME SOURCES – GIFTS / LOANS / REMITTANCES IN CASH

Activity / income source	Unit of measure (e.g. period of time)	Number of people doing this activity	Frequency (per week or month)	Duration (no. of weeks or months)	When (which months?)	Price per unit sold	Total cash income per year	Who decides on use of income? Men? Women? Both? Children?
Total								

15. SUMMARY OF REFERENCE YEAR SOURCES OF FOOD AND CASH INCOME

SOURCES OF FOOD

	Crop production	Livestock production (milk/meat)	Purchase	Labour exchange	Relief	Gifts/Zakat /Loan/ Borrowing	Wild foods/Fish/ Game	Other	TOTAL
Calculated (%)									

SOURCES OF CASH INCOME

	Sale of crop production	Sale of livestock and livestock products	Labour, employment and remittances	Self-employment, small business, trade	Gifts/Zakat	Other income (loan)	TOTAL
Calculated (cash)							

NOTE: REMEMBER TO CROSS CHECK AGAINST TOTAL EXPENDITURE

16. EXPENDITURE PATTERNS: Obtain quantified information on the main expenditure items for a typical household in this wealth group in the reference year (remind participants of the specific year you are interested in). Some categories are suggested below. Remember to ask about **seasonal variations** in expenditure.

Main Expenditure Categories		Quantity purchased [a]	Frequency purchased [b]	Duration (no.mo. pa) [c]	Price per unit [d]	Total cost = [a]x[b]x [c]x[d]
Food Sub Total (copy from section 7)						
Household items						
Soap – bathing						
Soap – laundry						
Washing powder (Omo)						
Kerosene						
Firewood						
Water						
Milling						
Utensils /pots						
Other:						
Sub Total						
Health and Education						
Medical costs						
Quranic school fees						
School fees						
Books / stationery						
Uniform						
Footwear						
Sub Total						
Transport						
Transport	Male					
	Female					
Sub Total						
Clothes						
Clothes/shoes (children)						
Clothes/shoes (women)						
Clothes/shoes for men						
Sub Total						
Inputs						
Seeds, tools						
Fertilisers, pesticides						
Land rental						
Irrigation, pump fuel						
Livestock drugs						
Livestock feed						
Livestock investment						
Water for livestock						
Fishing boat repair						
Fishing net repair						
Other:						
Sub Total						
Other						
Qat						
Tobacco/cigarettes						
Cash gifts						
Asset purchase:						
Other:						
Sub Total						
GRAND TOTAL						

Expenditure on which of these items can be reduced in a bad year? By how much (quantify)?

17. THE SITUATION IN A BAD YEAR (INCLUDING COPING STRATEGIES): How does the situation in a bad year compare to the reference year? Consider differences in each source of food and income (quantified changes in amounts) from the reference year and summarize below. Compare quantities from the same period in the reference year and in the bad year (e.g. compare wet season with wet season or dry with dry). Specify which year in the past is being referred to in order to quantify coping strategies.

Source of Food or Income	Reference Year Quantity	Who normally does this work?	Bad Year Quantity	Who does this work in bad year?	Use of food or cash income decided by men or women or children?
Example: firewood sales					
Firewood or charcoal sales					
Grass sales					
Agricultural labour					
Labour migration					
Labour exchange (payment in food)					
Petty trade					
Camel sales					
Cattle sales					
Shoat sales					
Milk and butter sales					
Wild foods					
Stocks					
Gifts					
Zakat					
Remittances					
Other					
Other					
Other					
Other					

INTERVIEWER COMMENT ON QUALITY OF INTERVIEW (confidence of informants, knowledge of area, consistency of information, etc):

Annex 3: Community Representatives Interview Form

Livelihood Zone: _____			Population: _____	
Districts: _____		Villages: _____		Interviewers: _____
Date: _____	Number of interviewees in respective forms			Men _____ Women _____

Procedures:

1. **Introduce** team and explain **objectives** of the assessment.
2. Ask the community leaders or representatives to give you an **overview** of the situation in the community.
3. Explain the reference year that for which we are collecting data.

HAZARDS

TIMELINE: Include positive events as well as periodic or intermittent hazards

A periodic or intermittent hazard is one that affects crop or livestock production in some but not all years:				
Drought	Insecurity	Wild animals	Epidemic crop disease	Border closure
Flood	Wind/Hail	Crop pests	Epidemic livestock disease	Market events

Year	Season	Rank 1-5 (see note below *)	Event(s)	Effects (different effect caused by the events)	Responses: What did people do themselves to cope with the problem	
					Male HH	Female HH
2010	DEYR					

2010	GU					
2009	DEYR					
	GU					
2008	DEYR					
	GU					
2007	DEYR					
	GU					
2006	DEYR					
	GU					

*check how preceded events impact on followed seasons

***Classify** each season as follows: 5 = an excellent season for household food security (e.g. due to good rains, good prices, good crop yields, etc) ,4 = a good season or above average season for household food security, 3 = an average season in terms of household food security, 2 = a below average season for household food security, 1 = a poor season (e.g. due to drought, flooding, livestock disease, pest attack) for household food security

Please rank the three main **chronic hazards** affecting households in this area (chronic hazard is one that significantly affects crop or livestock production almost every year.), e.g Drought, Lack of permanent water sources and Livestock diseases.

LIVESTOCK MIGRATION

Pattern of Migration in the Reference Year

Reference Year - October 2009-September 2010			
Were there livestock migrations in the reference year?			Yes: _____
No: _____			
If No, move on to the next table			
What were the species and composition of the migrating herd (e.g. dry camels and dry shoats)			
All species except some lactating herds left behind.			
Gu:			
Hagaa:			
Deyr:			
Jilaal:			
Who in the household moves with the migrating animals			
	Men	Women	Whole HH
Camels	Men		
Cattle			
Sheep and Goats	Whole family		
Draw a map illustrating the pattern of migration in this type of year (use the back of this page)			

Pattern of Migration in a recent Bad Year

Year: October2008- September 2009
Why was the pattern of migration abnormal?
What were the species and composition of the migrating herd (e.g. all animals)?
Where did animals move to in different seasons?
Gu:
Hagaa:
Deyr:

Jilaal:			
Who in the household moved with the migrating animals			
	Men	Women	Whole HH
Camels	Men		
Cattle			
Sheep and Goats	Women/Whole family		

WEALTH GROUP DESCRIPTIONS AND BREAKDOWN

Wealth groups: local definitions and names (local language)					
Wealth group name (English)		Very poor	Poor	Middle	Better off
Livestock:	(Range) -mid point				
Camels owned	Prod. Females				
Cattle owned	(range) -mid point				
	Prod. Females				
	Plough oxen				
Goats owned	(range) -mid point				
	Prod. Females				
Sheep owned	(range) -mid point				
	Prod. Females				
Livestock loaned (Type of arrangement?)					
Other livestock:					
Land :					
Rained land owned					
Irrigated land owned					
Land cultivated	Rain fed				
	Irrigated				
Main crops grown for sale					
Main crops grown for food					
Other characteristics/differences in production among wealth groups (e.g. quality of land, access to irrigation, labor, e.g. inputs etc)					
Other productive household assets (e.g. ploughs, irrigation, trees, bee hives, fishing equipment, shops/kiosks)					
No. wives per husband (if polygynous society)					
Average household size (Minus those living away + Plus those from other households)					
Main sources of cash income, ranked					
Checklist of income sources:					
1) Livestock sales 2) Agricultural labour 3) Other casual labour (e.g. construction) 4) Paid domestic work	5) Social support (remittances/gifts/zakat) 6) Firewood collection or charcoal burning 7) Collection and sale of wild foods 9) Mining	10) Crop sales 11) Vegetable sales 12) Petty trade (small-scale trade)	13) Trade (large scale) 14) Small business 15)_ Fishing 16) Transport (e.g. taxi, pick-up)		
Months of consumption from own harvest (if applicable)					
Are there any differences accesses to the market by wealth group? If any what are they?					
Bad year response strategies for respective wealth groups					
Schooling levels attained by children, indicate by gender					
% of households in each wealth group (proportional piling)					

Wealth groups: local definitions and names (local language)				
Main constraints and development priorities à	Constraints:			
	Development priorities:			

SEASONAL CALENDAR – using the following checklist as a guide, complete three calendars for the reference year: GENERAL, MEN and WOMEN

Rainfall Crops – planting (P), weeding (W), harvesting (H) • Main crops grown for consumption • Main crops grown for sale Livestock • Milk production • Milk and ghee sales • Livestock sales • Livestock prices by type (highest, medium, lowest) • Livestock migration	Employment • Herding • Labour migration Self-employment • Collection of bush products and other options, by type • Trade Livestock reproduction - Conception period /species - Kidding and calving	Food Purchase • Timing by type (cereals, sugar, oil, meat, etc) • Prices (highest/lowest) Wild food (wild vegetable & fruits, game, etc.) • Collection & consumption period Hunger period Health Malaria, diarrhoea, etc. Water availability Festivals
Indicate variations in access with arrows: to indicate peak access and – to indicate minimal access		

Season	Gu			Hagaa			Deyr			Jilaal		
Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Activity/Critical Event												
Rainfall												
Pasture/ Water												
L/Stock migration												
L/S Conception												
Calving/ Kidding												
Milk availability												
L/s prices												
Hunger period												
L/s diseases												
Food prices												
Human diseases												
Loan seeking period												

Last step: Selection of participants for interview from the different wealth groups. Ask the community leaders to organize 3-5 people from each wealth group. At least half of the participants should be women. Explain that you will be interviewing each group separately. Arrange meeting times and a location for each group.

(Footnotes)

1. 5 = an excellent season for household food security (e.g. due to good rains, good prices, good crop yields, etc) ,4 = a good season or above average season for household food security, 3 = an average season in terms of household food security, 2 = a below average season for household food security, 1 = a poor season (e.g. due to drought, flooding, livestock disease, pest attack) for household food security
2. Formulas: Camels and goats: kg butter/ghee = litres milk x 0.049; Cows: kg butter/ghee = litres milk x 0.04; Sheep: kg butter/ghee = litres milk x 0.098
3. Checklist: agricultural labour (clearing fields, preparing land, planting seeds, weeding, harvesting, threshing), digging pit latrines/wells, construction, brick making, skilled casual labour (e.g. carpentry), domestic work, livestock herding.
4. Checklist for self-employment: collection and sale of water, firewood, charcoal, grass, handicrafts, sand collection, gum/resins, thatch/poles; fish processing. Checklist for small business/trade: petty trade, trade, rental/hire, kiosks and shops.

The Information Management Process

Gathering & processing

- FSNAU has a unique network of 32 specialists all over Somalia, who assess the food security and nutrition situation regularly and 120 enumerators throughout the country, who provide a rich source of information to ensure a good coverage of data.
- Food security information is gathered through rapid assessments as well as monthly monitoring of market prices, climate, crop and livestock situations.
- Baseline livelihood analysis is conducted using an expanded Household Economy Approach (HEA).
- The Integrated Database System (IDS), an online repository on FSNAU's official website www.fsnau.org, provides a web-based user interface for data query, data import and export facilities from and into MS Excel, graphing, spreadsheet management and edit functions.
- Nutrition data is processed and analyzed using the Statistical Package for Social Sciences (SPSS), EPIInfo/ENA and STATA software for meta-analysis.
- FSNAU developed the Integrated Phase Classification (IPC), a set of protocols for consolidating and summarizing situational analysis. The mapping tool provides a common classification system for food security that draws from the strengths of existing classification systems and integrates them with supporting tools for analysis and communication of food insecurity.

Validation of Analysis

- Quality control of nutrition data is done using the automated plausibility checks function in ENA software. The parameters tested include; missing/flagged data, age distribution, kurtosis, digit preference, skewness and overall sex ratio.
- Quality control of food security data is done through exploratory and trend analysis of the different variables including checks for completeness/missing data, market price consistency, seasonal and pattern trends, ground truthing and triangulation of data with staff and other partner agencies, and secondary data such as satellite imagery, international market prices, FSNAU baseline data, etc.
- Before the launch of the biannual seasonal assessment results (Gu and Deyr), two separate day-long vetting meetings are held comprising of major technical organizations and agencies in Somalia's Food Security and Nutrition clusters. The team critically reviews the analysis presented by FSNAU and challenges the overall analysis where necessary. This is an opportunity to share the detailed analysis, which is often not possible during shorter presentations or in the briefs.

Products and Dissemination

- A broad range of FSNAU information products include, monthly, quarterly and biannual reports on food and livelihood insecurity, markets, climate and nutrition, which are distributed both in print and digital formats including PowerPoint presentations and downloadable file available on the FSNAU site.
- Feedback meetings with key audiences enable us to evaluate the effectiveness of our information products. We constantly refine our information to make sure it is easily understandable to our different audiences.
- FSNAU has also developed a three year integrated communication strategy to ensure that its information products are made available in ways appropriate to different audiences including, donors, aid and development agencies, the media, Somalia authorities and the general public.

United Nations Somalia, Ngecha Road Campus

Box 1230, Village Market, Nairobi, Kenya

Tel: +254-(0)20-4000000/500, Cell: +254-(0)722202146 / (0)733-616881

Fax: +254-20-4000555

Email: info@fsnau.org

Website: www.fsnau.org