



Livelihood Baseline Analysis Hawd Pastoral

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EXECUTIVE SUMMARY

Hawd pastoral livelihood is the largest pastoral livelihood zone in Somalia, stretching from Hiran, through Central, Nugaal, Sool up to up Galbeed and Toghdheer regions in the Northwest. In August 2002, FSNAU conducted a baseline assessment of Hawd pastoral livelihood zone and updated it in March 2005. However, the updated baseline was not published as the baseline reference year was a bad year¹ for all food security indicators (very poor rains, abnormal migration, poor pasture and water availability, poor livestock production, high food prices, asset reduction/stripping and reduced purchasing power).

In April-May 2010, FSNAU, with support from WFP-Somalia and the Governments of Puntland and Somaliland, conducted a baseline update of Hawd pastoral livelihood zone. The aim of the baseline was to determine the changes that have resulted from persistent droughts (2007-2009) in the north and central regions such as asset reduction, destitution, disruption of the pastoral economy and shift in the livelihood system. The main objectives of the baseline study were:

- to update livelihood baseline and establish a new reference year for monitoring changes in pastoralist households' food security
- to understand the dynamics of the pastoral economy and responses to recurring shocks and stresses;
- to identify the major hazards and/or risk factors that pastoralists face and their coping strategies to shocks.

The FSNAU's expanded Baseline Livelihood Analysis framework (BLAF), which integrates the Household Economy Approach (HEA) and the Sustainable Livelihood Approach (SLA), was used in the assessment. This approach not only enables the understanding of household economy, markets and livelihoods but also aids in contextualizing and crosschecking livelihood information. Interviews with community leaders and focus group discussions with household representatives generated information on seasonality, historical timeline, livestock migration, household size and composition, wealth breakdown, livelihood strategies, assets, hazards and coping strategies.

Main findings

Seasonality: The amount and spatial distribution of rains in *Gu* and *Deyr* were below the long-term average, were localized and lasted for short periods. Livestock diseases increased, pasture and water availability as well as livestock productivity in *Jilaal* declined, forcing most pastoralists to migrate to Zone 5 of Ethiopia, coastal areas and Sool Plateau.

Hunger and water trucking persisted for 5 to 8 months, milk production dropped (generating one-third of household income) and imported food prices increased, leading to increased expenditure patterns. Calving and kidding rates for camels and goats fell by 5-15%, compared to East African Standard Herd Dynamics². Livestock products (milk, meat and ghee) contributed 15-25% of annual household food needs, and livestock sales contributed about 65-70%.

Market: Livestock prices in the reference year were significantly higher than the 5-year average (2003-2007). Camel prices increased in April-May, then declined in June due to migration at the start of *Gu* rains and to the low supply of saleable livestock. In the second part of the reference year, high demand for livestock during the *Hajj* season (December-January) increased livestock prices. Goat export price in April-2010, was 6% higher than the previous year (April 2009 to March 2010) and 289% more than the 5-year average (2003-2007). Milk prices in the reference year were higher than the 5-year average, due to reduced milk supply and high demand in urban towns. The average price of fresh camel milk was So.Sh 72,235, 284% higher than the 5-year average (2003-2007). This is due to low milk production and abnormal out-migration. In June 2009, localized *Gu* rains, for instance, caused a decline in milk prices. This coincided with the time when pastoralists returned back to pasture and water points within the livelihood. Milk prices increased and attained a peak in August, then gradually declined, though steadily, with high prices compared to 2008 and long term trends. In the reference year, the exchange rate (Somaliland/Somali Shilling and USD) greatly influenced food price levels. Rice and wheat flour prices were 199% and 148% higher than the 5-year average, respectively. This is due to a 67% devaluation of the Somali Shilling to the USD, from USD 16,525 to 27,705. Similarly, sorghum price in the reference year was 170% higher than the 5-year average. Construction wage rates in the reference year remained steady. The earning wages were 144% above the 5-year average.

Wealth breakdown: In Hawd livelihood, wealth is determined mainly by camels and shoat holding. The size of livestock

¹ The livelihood suffered from the drought, which had a negative impact on household food security

² Standardized East African Herd Dynamics or Livestock Herd Growth show that, in a typical year where livestock growth rate is at zero, calving/kidding rates offset the off-take, hence the annual camel herd growth rate is estimated at 3.4% (Dahl and Hjort, 1976)

holding increases with wealth. Households in Hawd pastoral livelihood fall into Poor (25-35%), Middle (45-55%) and Better-off (15-25%). Due to persistent droughts, asset losses and lack of pack camels, the very poor pastoralists lost mobility (loss of pack camel) and settled in the periphery of the main towns, villages and water points. In the baseline study, this was not examined since they comprise less than 5% of the total population in the livelihood.

Livelihood strategies:

Livelihood Assets

Social capital	Remittances: Most remittances flows mostly benefit middle and better-off, but in harsh periods pastoralists receive limited remittance from relatives. Social support: Social support in times of stress are numerous and include: restocking (xoolo goin), loan of milking animals (irmaansi), credit on food purchase (ammah), local and international remittances, cash gifts (shaxaad), gifts of food in kind (kaalmo) and <i>zakat</i>.
Human capital	Household composition: Poor (25-35%, 6-7 persons), Middle (45-55%, 7-8 persons), Better off (15-25%, 9-10 persons) Education: Few primary schools and limited access to formal education in rural villages. Koranic education is affordable and most common form of schooling in the Hawd pastoral livelihood. Health: About 40.3% children aged 6-24 months are breastfed. Although there were no disease outbreaks reported, overall morbidity was high (48.4% of the children assessed had fallen ill 2 weeks prior to the nutrition survey), diarrhoea (27.7%), suspected measles (21.5%) and ARI (13.5%). Diarrhoea is the most common form of illness among children. Nutrition situation was <i>serious</i>, due to recurrent drought and widespread insecurity.
Physical capital	Water sources: Most of the Hawd Pastoral has no permanent water sources and relies on man-made water sources, <i>berkads</i> (cemented rain water catchments) <i>muqsids</i> (deep shallow wells rainwater harvesting) <i>ballis</i> and wells. Market: Main markets (Hargeis, Burao, Las-anod, Garowe, Galkayo, Dhusa Mareb and Belet Weyne) are used mainly for sale of livestock, purchase of food and non food items. Transport and telecommunication: the tarmac road connecting Hiran, Hargeisa, Garoowe, Las Canood, Bosasso and Mogadishu is the main transport artery for trade and movement. All weather rural roads are in poor condition and impassable in rainy days. High Frequency (HF) radio communication is the main telecommunication facility for trade and pastoral communication.
Financial capital	Livestock: Livestock is the main financial asset for the Hawd pastoralists. As the key productive assets, camel and shoats are the main types of livestock kept and are key determinants of wealth. Credit and loans: Access to credit and loan services is available from traders (in form of staple/non-staple foods/non-food goods) & depends on repayment ability. Households access loans during crisis times, mostly in the form of food commodities.
Natural capital	Vegetation cover is composed of a mix of numerous trees, shrubs, acacia forest (<i>Geed qodaxeed</i>) and comiphora (<i>Geed hagar</i>), grazing plains (<i>banka</i>), dominated by goats and camel. <i>Soils</i> are reddish loamy with sand particles. Commercial charcoal burning and the expansion of private enclosures are constraining the area available for grazing. Commercial charcoal production is using <i>Acacia bussei</i> and <i>A. nilotica</i> practiced in south Mudug, northwest Owdweyne and east of Salaxley.

Sources of Food: All wealth groups access their food needs through market purchase, own livestock production and some gifts (poor). Poor, middle and better-off households met 91%, 100% and 115% of their energy requirements, respectively. 71% of the poor, 87% of the middle and 98% of the better-off obtained their main staple cereals and other non-food items through market purchase. Food energy contribution from purchase for the middle wealth group was 23% higher than for the poor group but 13% less than better off. The main food items purchased include cereal (rice, wheat flour, sorghum). Livestock products (milk, meat and ghee) comprise the second main food source for pastoralists. Annual energy from livestock production was 15%, 13% and 18% for poor, middle and better-off, respectively. In the reference year, households relied on milking 2 lactating camels and 11 goats, which together produced 1,255 liters of milk. Of this 40% was sold in exchange for food and other non-food items and the rest consumed. The third food source for pastoralists, and especially important for the poor is food gifts from food aid agencies, friends or relatives.

Sources of Income: The main sources of income in Hawd pastoral livelihood are: sale of livestock and livestock products, self-employment (petty trade), remittances, loans and cash gifts. Average annual income in the reference year was 44,000,000 So.Sh (poor), 67,000,000 So.Sh (middle) and 100,000,000 So.Sh (better-off). From these, sale of livestock contributed 64% (poor), 74% (middle) and 70% (better off) of the total income. Poor households sold fewer live animals, as their holding is smaller. The middle sold more animals than the better-off because the latter have access to alternative income opportunities such as remittances and petty trade. Sale of livestock products (milk) contributed 25% (poor), 15% (middle) and 10% (better off) of the total income. Loans and cash gifts contributed 11% of annual income for the poor, while loans alone generated 1,500,000 Sosh and 2,500,000 Sosh for the middle and better off, respectively.

Expenditure patterns: On average, energy contribution of staple and non staple food from the market exchange for all wealth groups was over 85%. About 62% of poor households' annual income was spent on food (38% on staple and 24% on non-staple food), representing 640-750 Kg of cereal (sorghum, maize, rice and wheat flour) 220-260 kg of sugar and 46-50 litres of vegetable oil. About 13% was also spent on water for human and livestock use for over 8-10 months and an additional 11% on clothing and social services (health and education), while the remaining 14% was almost equally spent on household items (tea, salt and soap), inputs (animal drugs, fodder, livestock transportation, tools and soil for livestock) and other items such as Qat and tobacco. The middle and better-off spent a smaller portion of their income, 55% and 53%, on food respectively. These wealth groups also spent 5% of their income on livestock drugs, and 8% on salt, due to their higher livestock holdings, and also 14% on water for both human and livestock use, respectively.

Conclusion

The findings of the baseline assessment show that the amount and spatial distribution of both *Gu* and *Deyr* rains in the reference year was below the long-term mean, prompting households to engage in water trucking for 5 to 8 months. Livestock products (milk, meat and ghee) only contributed 15-25% of total annual household food needs, with sale of livestock product sales contributing 10-25% of annual cash income, and livestock sales contributing about 65-70%. Overall, livestock prices were significantly higher than the 5-year average. The main staple foods (rice, wheat flour, sorghum) were obtained through market purchase (71% for poor, 87% for middle and 98% for better-off), livestock production and gifts (poor). Sale of livestock contributed 64% (poor), 74% (middle) and 70% (better off), while sale of livestock products (milk) contributed 25% (poor), 15% (middle) and 10% (better off) of the total annual income. Loans and cash gifts contributed 11% of annual income. About 62% of poor annual income was spent on food (38% on staple and 24% on non-staple food). Additionally, 11% of the income was spent on clothing and social services (health and education), and 14% on household items (tea, salt and soap), inputs (animal drugs, fodder, livestock transportation, tools and soil for livestock), Qat and tobacco.

Future monitoring

The main livelihood food security-related parameters that are useful for monitoring are:

- Seasonal rainfall and vegetation performance
- Access to water resources
- Livestock market prices and trade (demand/supply)
- Staple and non-staple food prices
- Livestock production trends
- Livestock migration patterns
- Livestock and human disease outbreaks
- Conflict and civil insecurity
- Coping strategies

Terms of Trade

□ Terms of Trade

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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
HH	Households
IDPs	Internally Displaced Persons
LTA	Long term Average
MEB	Minimum Expenditure Basket
MSF	Holland Médecins Sans Frontières - Holland
NGO	Non-Governmental Organization
SLA	Sustainable Livelihood Approach
SoSh	Somali Shilling
SRCS	Somali Red Crescent Society
ToT	Terms of Trade
UAE	United Arab Emirates
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children Fund
USD	United States Dollar
WFP	World Food Program
WHO	World Health Organization
Livelihood	Livelihood Zone
MOH	Ministry of Health
ITCZ	Inter-Tropical Convergence Zone

1. INTRODUCTION

1.1 Background information

Hawd pastoral livelihood zone is the largest pastoral system in Somalia, stretching from Hiran region, through central Somalia, Nugaal, Sool up to Galbeed and Togdheer regions in the Northwest. In August 2002, the first baseline assessment of Hawd pastoral livelihood zone was conducted and updated in March 2005. The updated baseline was not published as the reference year was a bad year for all food security indicators (low food supply and access, poor climatic conditions, low agricultural production, poor market performance, increased conflict risks and insecurity, high cost coping strategies, poor household consumption and nutrition).

Before the baseline reference year, Hawd pastoralists experienced 2-4 successive drought years, resulting in asset reduction, shifts in wealth group and general decline in the pastoral economy. Although livestock productivity and rainfall performance from April'09 to March'10 were below average, this period was selected as a reference year because it was the consumption year³ when pastoralists started rebuilding livestock assets. This was facilitated by good livestock prices, improved livestock/cereal ToT and relative political stability.

1.2 Purpose and objectives

In April-May 2010, FSNAU, with support from the WFP-Somalia, Puntland and Somaliland government partners, updated the baseline of Hawd pastoral livelihood. The objectives of the baseline update were:

- To assess changes in household livelihood and food security in Hawd.
- To identify the socio-economic changes and determine their main asset determinants in each wealth group.
- To determine the effects of recurrent droughts on different livelihood activities and establish the level of shift in livelihood strategies/wealth groups in the livelihood.
- To identify the major risks influencing Hawd pastoralists and the different coping strategies employed in times of crises.
- To influence decision makers to implement interventions appropriate to the community based on findings on livelihood assets, strategies and capacity to respond to hazards.

1.3 Integrated phase classification analysis (IPC progression)

Situational analysis from seasonal assessments shows that Hawd pastoralists are vulnerable to drought, civil insecurity, inflation, water shortage, high cereal price and displacement. Increased dependence on social support, petty trade activities, reduction in consumption, income maximization, family separation, increased mobility and livestock migration were the most preferred coping strategies. Drought and erratic rainfall negatively affect the availability of water for livestock, human consumption and browse leading to decreased productivity, health and marketability of livestock. In some cases, people do not have the capacity to cope with the effects of drought and fall into a humanitarian emergency.

Table 1: Assessed and contingency population in AFLC and HE

Season	UNDP 2005 Rural Population	Assessed and Contingency Population in AFLC and HE			
		Acute Food and Livelihood Crisis (AFLC)	Humanitarian Emergency (HE)	Total AFLC+HE	AFLC % of Urban population
Deyr 06/07	529,085	0	0	0	0
Gu 2007	529,085	0	0	0	0
Deyr 07/08	529,085	10,000	25,000	35,000	2
Gu 2008	529,085	105,000	55,000	160,000	20
Deyr 08/09	529,085	55,000	65,000	120,000	10
Gu 2009	529,085	140,000	110,000	250,000	26
Deyr 09/10	529,085	145,000	120,000	265,000	27

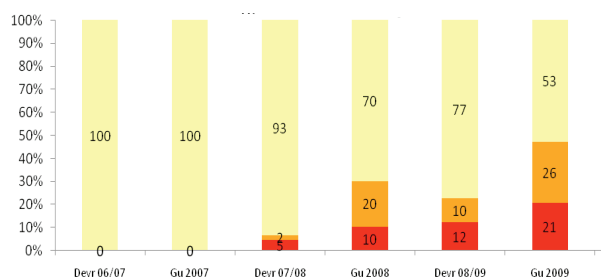
In *Gu* 2008 and *Deyr* 2009/10, the humanitarian situation worsened due to drought that led to households struggling to meet their food needs and in some cases destitution. The crisis mainly hit central regions. In *Gu* 2008 the Hawd pastoral population in *AFLC* and *HE*⁴ were 20% and 10%, respectively, which slightly improved in *Deyr* 2008/09 due to better *Deyr* rains. The population in *AFLC*⁵ decreased by 50% and *HE* slightly increased by 2%. In *Gu* 2009 and *Deyr* 2009/10, the humanitarian situation worsened with half of the Hawd population in a *Humanitarian Crisis*, 20% in *HE* and about 30% in *AFLC*. The baseline report provides information on seasonality and markets, livelihood assets and strategies, wealth categorization, coping strategies, risk factors in times of crisis and indicators for monitoring.

³ In the pastoral context, the consumption year refers to the period after the start of the main season rains, when an increase in milk production brings an end to the previous year's hungry season. In this study, this refers to the period immediately after the *Gu* (April to June) rainy season

⁴ Humanitarian emergency

⁵ Acute food and livelihood crisis

Figure 1: Hawd Pastoral IPC Progression



2. LIVELIHOOD ZONE DESCRIPTION

2.1 Location and size

Hawd Pastoral ('forest land') is the largest livelihood zone in Somalia, covering approximately 75,000km². The livelihood zone extends from West Galbeed, to the highlands of Togdheer and Galbeed in the Northwest, traversing the foothills of Golis mountains in the Northeast and stretching up to Central and Hiran regions. In the south, it merges with the wider Hawd Plateau in zone 5 of Ethiopia. The main linkages with these regions relate to trade and migration (pasture and water). Hawd pastoral livelihood covers thirteen districts: Hargeisa, Owdweyne, Burco, Buuhoodle, Lasanod, Garowe, Eyl, Galkayo, Galdogob, Adaado, Abud-waaq, Dhusamareb and Matabaan.

2.2 Topography and climate

The climate in Hawd is semi-arid and the altitude ranges from 800m to 1200m above sea level. The zone experiences bi-modal rainfall. *Gu* season starts in April to June, while the short *Deyr* rains last from October to December. *Gu* is the main rainy season and its failure can have devastating effects on livestock productivity. Two dry seasons *Hagaa* (July-August) and *Jilaal* (January-March) inter-phase the rainy seasons. High temperatures in *Jilaal*, and increased soil moisture loss lead to vegetation wilting (moisture deficiency), reduced quantity of surface water and forage. This forces pastoralists to migrate, separate herds, increase livestock sales or increase the use of boreholes, with potential for conflicts. Some parts of west Togdheer and South Galbeed regions experience short *Karan* rains (mid-August to September).

Generally in Somalia, seasonal monsoon winds influence the onset and cessation of rainfall/dry seasons. The north-easterly winds, emanating from Asia and Saudi Arabia, produce little rain (Muchiri, 2007). Rainfall is the most important meteorological element affecting Hawd pastoral livelihood systems. Temperatures correlate with altitude, with average monthly temperatures ranging from 30 to 41°C in March. Hutchinson and Polishchouk (1989) attribute the greater contrasts between daily maximum and minimum temperatures in the inland areas to relatively high humidity.

2.3 Population and settlements

The population of Hawd pastoral livelihood is estimated at 765,107 persons and the population density varies from 1 to 14 persons per square kilometer. As a pastoral zone, population density varies with seasonal migration. Settlements in the Hawd pastoral zone, characteristic of a rural setting, are generally sparsely populated with temporary units, established by very poor, poor and middle wealth groups. However, the better-off households have semi-permanent/permanent settlements and employ the lower wealth groups to herd their livestock.

2.4 Socio-economic activities

Livestock is the key identity of Hawd pastoralists and important in maintaining social networks. Camel and goat holding is higher in central and northern parts of Hiran and northeast Hawd, due to the presence of good browsing and grazing land. Sheep are predominant in the northwest. Camel and donkeys play a key role as pack animals, supporting trade, transport and migration. Sale of livestock and livestock products (milk, ghee and meat) constitute the main economic activity for cash income generation. Pastoralists depend on market purchase to access imported staple (rice and wheat flour) and non-staple (sugar and oil) foods. Changes in ToT directly affect purchasing power and food access. The main constraints in accessing food and income are recurrent droughts and erratic rainfall (which affect livestock production), price disruptions of cereal (rice, sorghum, wheat flour) and non-cereal (sugar, oil, cowpea) items, livestock diseases, insecurity threats, resource-based/political conflicts, and incidences of livestock export ban, which affect exports and income.

Map 1: Hawd Pastoral Livelihood Zone

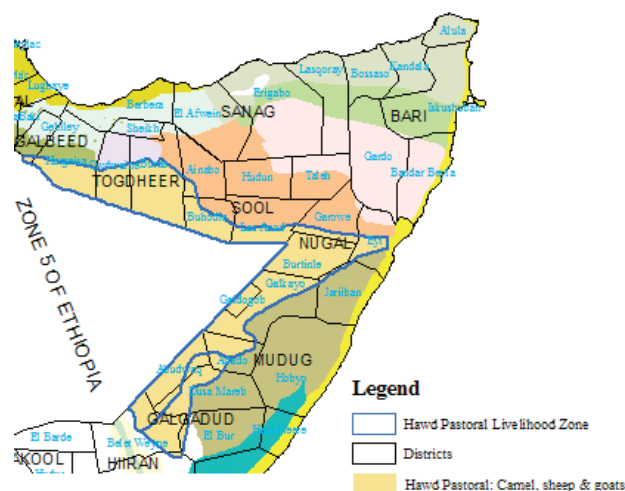


Table 2: Population distribution in Hawd Livelihood Zone by region and district

Region	UNDP population	% of population	Hawd livelihood population	% Hawd livelihood population I region
W/Galbeed	1,008,750	13	324,285	32
Togdheer	278,893	4	223,347	80
Sool	111,143	1	30,108	27
Nugaal	75,860	1	43,178	57
Mudug	255,694	3	77,399	30
Gal-Gadud	271,080	4	41,030	15
Hiraan	260,698	3	25,760	10
Total	2,262,118	30	765,107	34

Source: Rural population estimates by region/district (UNDP Somalia, 2005)

3. HISTORICAL TIMELINE

3.1 Historical timeline and reference year

The historical timeline describes the major events in Hawd pastoral livelihood zone, the effects of the events in livelihood strategies and assets as well as strategies used to cope with, respond to and recover from the impacts of the events. The timeline provides a broader understanding of the socio-economic and climatic situation in the past 5 years. The timeline takes into consideration the historical events that are of significance to pastoralists such as rainfall, recurrence of drought, livestock conditions, access to pasture and water, civil insecurity, market performance (Terms of Trade and inflation), and livestock migration patterns.

Following preliminary discussions within FSNAU's baseline team, FEWS-NET and government partners, April 2009-March 2010 was selected as the reference year for the baseline assessment. The period was a bad year due to previous droughts and below average rains in *Gu* and *Deyr*. Despite this, it was chosen as a reference year because of favorable food security indicators like decline in global and local food prices, relative political stability, limited livestock deaths, high livestock prices, improved terms of trade, slow-down in inflation and strengthened Somali Shilling against the US Dollar.

The 2005/06 period was an average year (average *Deyr* and *Gu* rains), and was characterized by normal to good rains except in the Central regions. This resulted in medium conception for all livestock species, good pasture and water availability, and good livestock body conditions. Most households relied on a number of coping strategies to cope with shocks during this period, including: praying (*Quran recital*), normal migration and increased seeking of veterinary services. The 2006/07 period was a good year with normal to good rains, which resulted in normal pasture and water availability, good conception, camel deaths (from disease), good pasture and water availability, as well as good livestock body conditions.

Unlike the previous period, 2007/08 season was slightly below average, with severe drought in Central regions and high inflation in the livelihood. The impacts included increased livestock deaths, high livestock abortion rates (camel), medium camel calving (from high conception rate from previous good season), destitution in Central areas. 2008/09 period was equally a bad year, characterized by increased water shortage, poor livestock body conditions, poor terms of trade (TOT) and high camel conception in areas that received enhanced rains. In response to these stresses, most households out-migrated to areas with better pasture and water availability, sought increased self-employment opportunities mainly in the urban areas, increased water trucking, sought social support, and increased labour migration as well as hand feeding of livestock.

Table 3: Historical Timeline for Hawd Pastoral Livelihood Zone (2009-2010)

Year	Season	Rank	Events	Effects	Responses
2009/2010 (Bad year)	<i>Deyr</i>	2	• Drought	• Water shortage • Poor pasture • Poor livestock conditions • No conception (sheep) • Increased sheep/goat death	• Abnormal outmigration (trucked) • Charcoal production • Water trucking • Increased food aid
	<i>Gu</i>	2	• Drought	• Below normal pasture • Poor livestock body conditions • Water shortage • Increased livestock death	• Outmigration • Hand feeding • Increase food aid
2008/09 (Bad year)	<i>Deyr</i>	2-3	• Drought • Localized rains • High grain prices	• Water shortage • Poor livestock body conditions • Poor pasture • Poor terms of trade • High camel conception in areas that received rains	• Outmigration (of both livestock and labor), increased self-employment, water trucking, seeking social support
	<i>Gu</i>	1	• Drought • Localized rains • High inflation • High food prices	• Water shortage • Poor livestock body conditions (livestock death) • Poor pasture • Low livestock prices, some destitution (central areas)	• Outmigration (due to widespread drought) • Labour migration • Hand feeding • Increased social support • Water trucking
2007/08 (Slightly below average year)	<i>Deyr</i>	2	• Drought (severe in Central with rains from Nugal to Toghdheer) • High inflation	• Increased livestock death • Increased livestock abortion rate (camel) • Medium camel calving (from high conception rate from previous good season) • Destitution in Central, in areas with normal rain – normal conditions	• Livestock death • Livestock abortion (camel) • Good camel calving (from previous good season) • Pastoral destitution cases in Central, in areas with normal rain – normal conditions
	<i>Gu</i>	3	• Normal rains (localized poor rains in Hawd of Sool and, Galkayo)	• Normal pasture • Normal to good conception for all species • Normal water	• Normal pasture • Normal to good conception for all species • Normal water
2006/07 (Good year)	<i>Deyr</i>	4	• Normal to good rains; Camel disease	• Good conception for all species • Camel death (from disease) • Good pasture and water availability • Good livestock body conditions	• Prayed (Quran recital) • Normal migration • Increased seeking of veterinary services
	<i>Gu</i>	3	• Normal rains	• Normal pasture • Normal water • Normal livestock conditions	• Normal migration
2005/06 (Average year)	<i>Deyr</i>	3	• Normal to good rains with exception of Central regions	• Medium conception for all species • Good pasture and water availability • Good livestock body conditions	• Prayed (Quran recital) • Normal migration • Increased seeking of veterinary services
	<i>Gu</i>	3	• Normal rains	• Normal pasture and water availability • Normal livestock conditions	• Normal migration

3.2 Methodology

FSNAU's expanded baseline livelihood assessment framework (BLAF), which integrates household economy approach (HEA) and sustainable livelihoods approach (SLA) was used to conduct the baseline assessment. A pre-field assessment training workshop was held in Garowe. Semi-structured interviews⁶ were conducted with 171 (142 men and 29 women) purposively sampled respondents from different wealth groups to establish asset holding, livelihood strategies (food and cash income, and expenditure patterns) as well as coping strategies. Additionally, focus group discussions⁷ were organized with 35 community representatives from 12 sampled villages. Field data was triangulated with other published and unpublished secondary sources.

⁶ Rural Wealth Group Interview Form

⁷ Community Representatives Interview Form

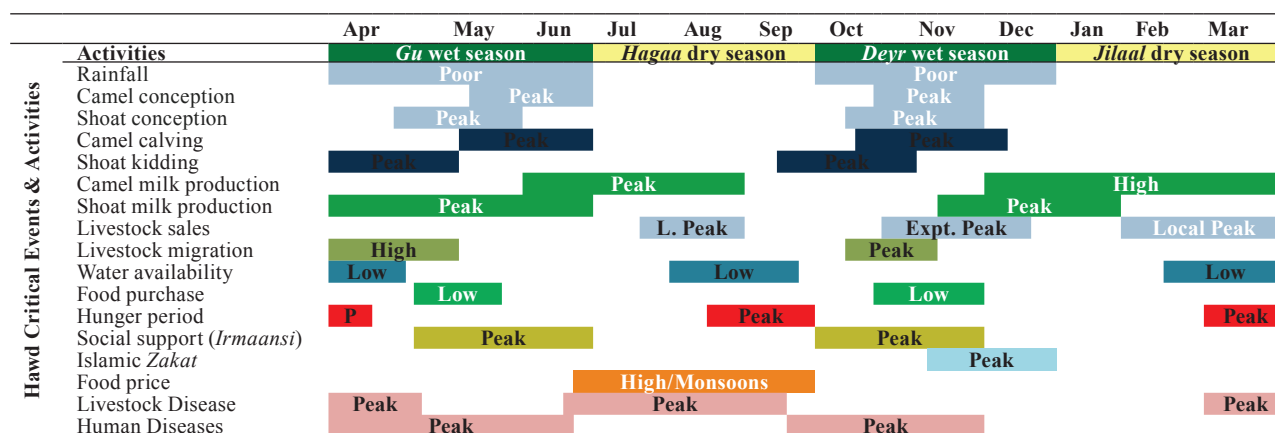
Table 4: Sampled villages by district

Region	District	Sampled villages
Nugaal	Eyl	Hasbahale
	Burtinle	Jalam
		Kala-bayr
		Awr-culus
Mudug	Gaalkacyo	Qansaxle
		Ban-gelle
		Beer-dhagax
		Dumaye
Togdheer	Burco	Boodhlay
Woqooyi Galbeed	Hargeysa	M. Ahmed
		Gumburaha
		Gumbur-Libax

4. SEASONALITY

The seasonal calendar describes the critical activities and events in Hawd pastoral livelihood. The calendar captures variations in food, income and market prices, rainfall, water availability, and hunger period, livestock/human diseases.

Figure 2: Hawd Pastoral seasonal calendar and critical livelihood activities



4.1 Rainfall and water availability

The amount and spatial distribution of rains in *Gu* and *Deyr* seasons in the reference year were below normal. Rains received in *Gu* and *Deyr* were localized in areas of Hawd (Sool, Nugal and northwest), ended early. At the onset of *Gu* (April-June) and *Deyr* (October-December) rains, most pastoralists migrated to the neighboring areas of zone 5 in Ethiopia, coastal areas and Sool Plateau. This reduced potential asset losses, relatively improved livestock conception, reproduction and milk production.

Water was available for 5-7 months. The rains partially replenished surface water sources (*berkads* and *balleys*). This improved water availability in some parts of Hawd. While pastoralists in the northwest part of Hawd did not spend on water, those in the northeast and parts of Central resorted to purchasing water in the dry season or moved closer to permanent settlements in towns and villages. In Hawd of Galgadud, Mudug and parts of Nugal, prolonged water scarcity forced households to truck water for 5 to 8 month. In central Galgadud and Mudug, water trucking lasted for 4 to 5 months.

The hunger period peaked in *Jilaal* and *Hagaa*. During the monsoon season, milk production dropped while imported food prices rose at the seaports. At the onset of *Gu* rains and *Hagaa* dry period, livestock disease prevalence increased due to low livestock immunity that resulted from poor livestock conditions in *Jilaal*. In the wet season, acute diarrhoea and respiratory diseases increased.

4.2 Migration patterns

Migration patterns in Hawd pastoral livelihood are greatly influenced by seasonality. In the reference year, migration in search of good pasture and water was confined within the livelihood zone, with significant population concentrations in areas with good pasture and water points (wells, *berkads*). However in abnormal periods, pastoralists moved outside the livelihood to as far as Somali region in Ethiopia.

4.3 Livestock Production

Camels, sheep and goats are the main sources of food and income. Milk, meat and ghee from camels and goats are for domestic use and sale. Proceeds from livestock sales constitute the primary source of household income. When confronted with major expenditure, like purchase of bulk food, payment of dowry, wedding expenses, payment of *diya* (blood compensations) and social taxes, pastoralists sell their livestock.

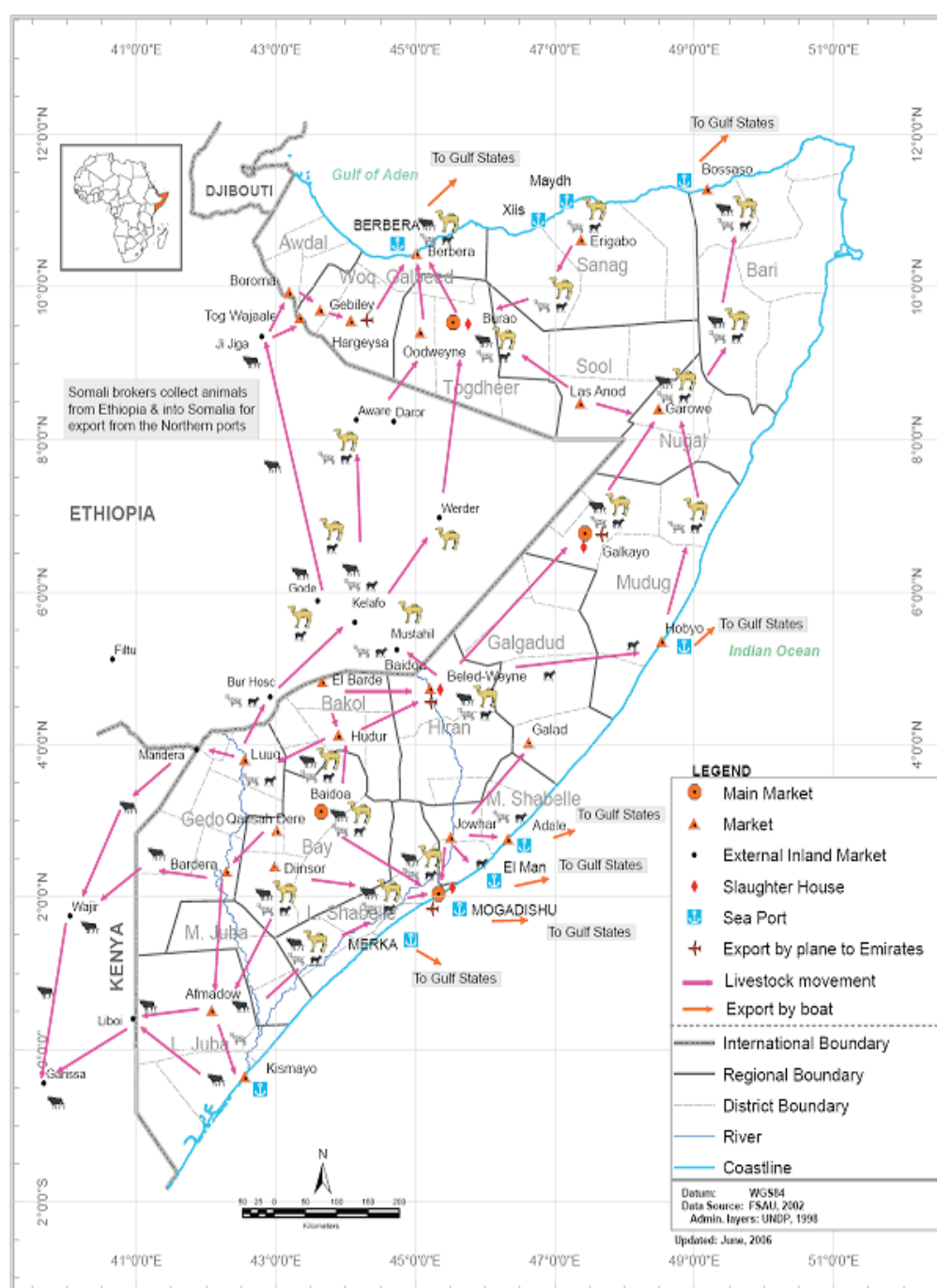
Although the income share earned from sale of livestock and livestock products is not high, livestock keepers obtain indirect benefits, such as the capacity of livestock to buffer against socio-economic and weather-induced shocks from cyclical droughts. Among pastoralists, large herd sizes prior to a drought ensures viable herd sizes after a drought despite mortality and low conception. The spillover effects of persistent drought, prior to the reference year, increased scarcity of pasture and water. This resulted in low livestock conception rates, which decreased livestock herds.

Calving and kidding rates for camels and goats fell by 5-15%, compared to East African Standard Herd Dynamics⁸. Due to the prolonged droughts in the previous year, households in different wealth groups out-migrated, leading to a decline in camel milk production. In total, livestock products (milk, meat and ghee) contributed 15-25% of annual household food needs and accounted for 10-25% of the annual cash income, while livestock sales contributed about 65-70%.

Herd sizes among the poor households are comparatively less than those of the middle and better-off wealth groups. However, due to persistent droughts, conception and calving/kidding rates of camels reduced to between low and none in the central regions and Hiran, while high abortion rates increased in Hawd of northern regions during *Hagaa* 2009. Normally, milk production significantly contribute to the pastoralists' overall household income. In bad years, when milk production drops, pastoralists use milk predominantly for domestic consumption. In the reference year, milk production declined and generated only one-third of household income, with the remaining two thirds consumed. In the reference year, average milk production was 1250, 1280 and 1980 litres for poor, middle and better-off households, respectively.

⁸ Standardized East African Herd Dynamics or Livestock Herd Growth data collection at zero growth, whereby livestock calving/kidding rate offset the off take in a typical year. The annual rate of herd growth is estimated at 3.4% for the camel herd (Dahl and Hjort, 1976)

Map 2: Somalia Major Livestock Markets



5. MARKETS

5.1 Market Access

The main markets for livestock trade as well as purchase of food and non-food essentials are Beletweyne, Dusamareb, Galkayo, Lasanod, Hargeisa, Burao and Buhodle. These markets also act as transit points through which livestock from Sool and Sanaag regions and parts in Ethiopia are routed towards Berbera and Bossaso port (Fig. 3.3). Within Hawd there are urban centres such as Garowe, Burtinle, Galkacyo, Goldogob, Burco, Hargeisa, Dusa Mareb, Lasanod and Abudwaq, which enable pastoralists to sell their livestock and livestock products easily. Livestock is also exported through the ports of Bossaso and Berbera to the Arab States. Somali pastoralists and traders normally thrive on the large livestock demand from Saudi Arabia, United Arab Emirates (UAE) and Oman. A significant number of livestock, predominantly goat and sheep and smaller numbers of cattle and camel are exported to these countries through Bossaso and Berbera ports.

The 2000, 2002 and 2006 livestock ban, imposed by Gulf States over suspected Rift valley fever, severely disrupted livestock trade. This resulted in a huge fall in the volume of exports affecting both traders and pastoralists. The average livestock number exported through Berbera port in the five years after the ban 2001-2005 (663,365) significantly decreased by 68%, compared to the average of the five years before the ban in 2000 (2,066,910). Since 2006 export of carcasses of sheep and goat towards some of the Gulf countries started in Burao, Galkayo and Beletweyne towns though its continuity is adversely hampered by insecurity. Due to the limited access to other cash income in the reference year, pastoralists sold more livestock than in a normal or average year because of favorable prices.

5.2 Livestock Prices

Due to the improved livestock body condition and increased export demand, livestock prices in the reference year were significantly higher than the 5-year average (2003-2007). Camel prices were high in the first phase of the reference year (April-May), then suddenly declined in June due to pastoralists' migration at the beginning of the *Gu* rains in search of better pasture, browse and water.

In the reference period livestock supply in the market declined and prices increased. From late May, camel prices declined as most pastoralists returned to the settlements and water points. In the second part of the reference year, improved livestock conditions and high demand during *Hajj*, led to increase livestock prices.

The price of camel declined in the last three months of the reference year, during *Jilaal*. Goat prices increased gradually in the reference year, reaching the peak at the onset of *Deyr* rains (October). This trend was attributable to the effect of *Hagaa* season and the preceding poor *Gu* rains, which resulted in a decline in the number of saleable animals due to deteriorating body conditions caused by scarcity of rainfall and pasture. Overall, livestock prices in the reference year were higher than the 5-year average.

Export quality goat price in the first month of the reference year (April), was 214% higher than the average price over the past five years, 289% more than the 5-year monthly average (2003-2007) and 6% of the previous year (April 2009). On average, the monthly number of animals exported in the first part of the reference year was 1,076,705 heads (93% for shoats, 5% for cattle and 2% camel). In the second part of the year, the number rose to 1,956,970 heads for all species. This is demonstrated by increased exports through Berbera and Bossaso.

Figure 3: Major livestock markets in Somalia

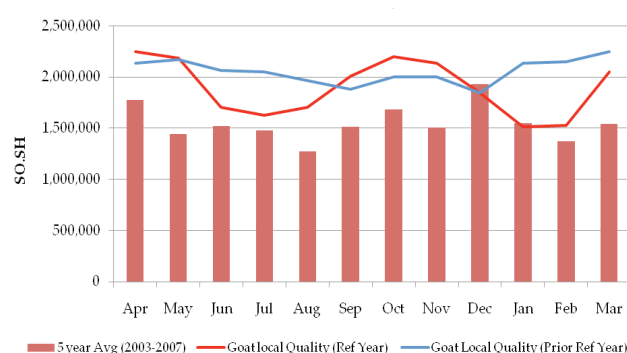
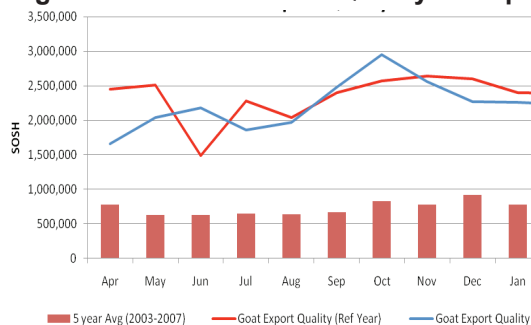


Figure 4: Trends in Local Quality Goat prices



5.3 Milk Prices

Pastoralists supply camel and goat milk to the main towns of Beletweyne, Dusa mareb, Galkayo, Garowe, Lasanod, Burao, Hargeisa, Berbera and Odweyne as well as neighbouring villages, using trucks and mini-buses. Five-year (2003-2007) data shows that camel milk prices peaked at the onset of *Gu* and *Deyr* seasons. Prices increased in the dry seasons when production decreased. The overall milk prices in the reference year were higher than the 5-year average. This is due to reduction in milk supply and high demand in urban towns. In the reference year, the average monthly price of fresh camel milk in Hawd was SoSh 72,235, about 284% higher than the 5-year average (18795 SoSh), but 10% above the previous year (2008). This was due to low milk production and abnormal out-migration of livestock, which resulted from successive droughts that lead to milk price fluctuations and instability. In June 2009, localized *Gu* rains caused a decline in milk prices. This coincided with the time when pastoralists returned to the pasture and water points in the livelihood.

5.4 Cereal Prices

Pastoralists purchase the main staple cereals (rice, wheat flour, sorghum) and non-staple foods (sugar, vegetable oil etc). The purchasing power of pastoralists is influenced by the number of saleable herds, demand and prices of livestock. Rice and wheat flour are equally important for poor households, with rice constituting two thirds of the staple food purchased by middle and better-off households, while wheat flour represents the remaining one-third. Prices of imported food commodities are affected by fluctuations in the exchange rate, variations in international prices and in market supply.

Due to these factors, the hunger period begins in *Hagaa* and lasts until the end of *Jilaal* when livestock prices are low. The price of rice and wheat flour in the reference year were 199% and 148% higher than 5-year average; representing an increase from Sosh 12,190 and 12,140 to SoSh 36,460 and 30,040, respectively. This is due to the devaluation of the Somali Shilling to the USD by 67%, from USD 16,525 to 27,705. Nevertheless, the prices of rice and wheat flour decreased by 34% and 46%, compared to 2008, due to global food price decreases.

The poor, middle and better-off groups consume almost 4, 5 and 6 bags of sorghum annually per year, respectively. In the reference year the middle and better-off groups consumed about 25% and 40% more sorghum than poor, respectively. Similarly, the sorghum price in the reference year was 170% higher than the 5-year monthly average (SoSh 8,390 to 22,650), because of global inflation and devaluation of the Somali shillings. The prices of all commodities in the reference year decreased in June 2009, following the decline in global food prices and increased supply in May-early June.

5.5 Labor availability and wage rates

Very poor households in Hawd pastoral system experienced high asset losses due to persistent droughts, forcing most to abandon traditional patterns of migration. Drop-out

Figure 5: Trends in camel milk prices

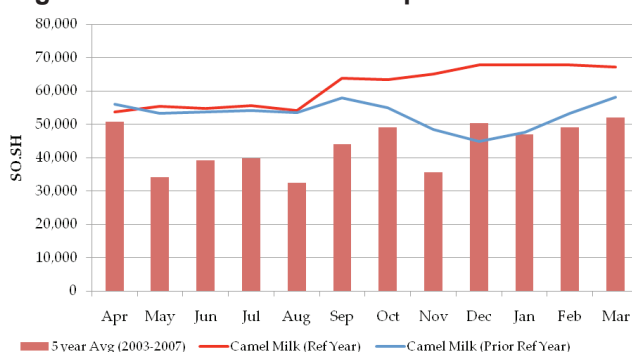


Figure 6: Price trend of imported Red Rice

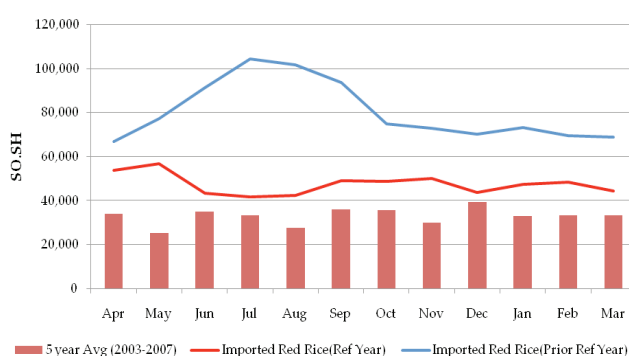


Figure 7: Trends in Red Sorghum price

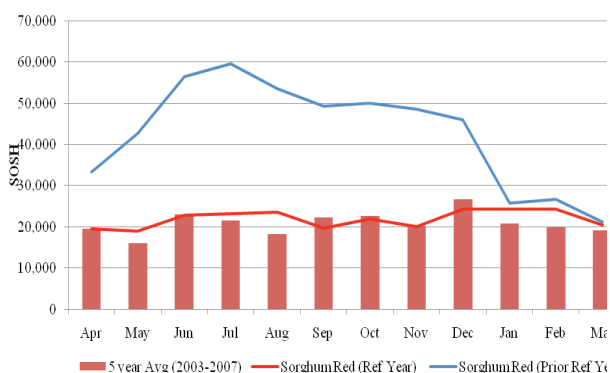
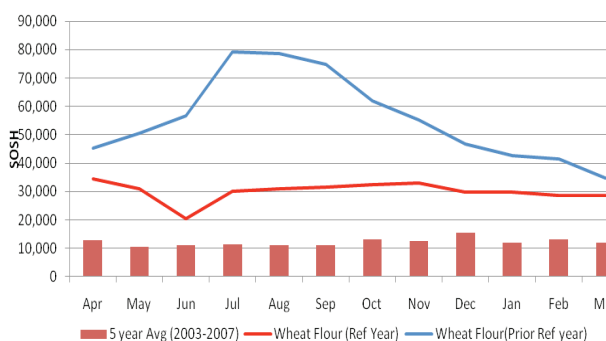
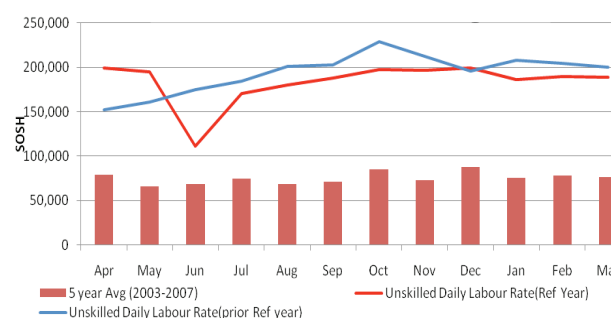


Figure 8: Price trend of wheat flour



pastoralists relocated to main villages and urban centers with limited chances to return to pastoral system. The remaining active pastoralists remained in the villages and at water points with low sheep and goat holdings. As a result, both categories resorted to seeking social support, humanitarian aid, employment/self employment (collection of the fire wood and charcoal burning). Very poor households own very low livestock herds and relies mainly on seeks labor opportunities in the main towns. Average wage rates from construction activities were higher in *Jilaal* and low in the *Gu/Karan and Deyr* seasons. However, the construction wage rates in the reference year remained high from June. The earning wages were 144% above the 5-year monthly average, ranging from SoSh 75,168 to 183,480, and 5%, lower than the same period in the previous year.

Figure 9: Trends in unskilled labour wage rates



6. LIVELIHOOD ASSETS

6.1 Human Capital

Household composition

Among the wealth groups, poor households are the smallest in Hawd pastoral livelihood zone, ranging from six to seven persons. Poor households practice monogamy because of minimal asset endowment, which acts as a disincentive to take on additional family members. Poor households represent approximately 25-35% (30%) of the livelihood zone population. The middle wealth group comprises the largest portion of the population 45-55% (50%), which consists of between seven to eight family members.

The better-off wealth group only represents approximately 15-25% (20%) of the population, although its household size is the largest, consisting of approximately 9-10 people. Polygamy is common for all wealthier groups (middle and better off). Men are mostly entrusted with household management, social affairs, camel herding, livestock sales, pasture exploration, animal watering, fencing and decision regarding sending children to school. Women undertake domestic chores (cooking, washing, hand crafts, etc), shoat herding, milking and child caring. Children on the other hand perform different tasks according to their age, with older ones helping their parents, while the younger either go to formal/informal schools or look after the lambs/kids.

Education

Access to formal education for all wealth groups in the rural villages is limited. Although there are few primary schools, the existing formal educational infrastructure cannot support the present number of school-going aged children. Koranic education is widespread and affordable and is therefore the most common form of schooling in Hawd pastoral livelihood. Typically, children attend Koranic school daily (except Fridays). In the main towns, Koranic schooling is held in a Mosque or in an outdoor location.

Koranic teachers migrate alongside pastoral households and are paid in the form of live animals on an annual basis. Generally, school attendance ratio of boys to girls is 2:1. Koranic schooling is also held during times of migration, although young girls are left behind in the village. In Hawd of Northwest school infrastructure is available. However, in half of the surveyed villages schools were closed since the past year due to lack of teachers. The remaining primary schools function on account of the WFP's School feeding program and incentive payments for teachers. Schools in Hawd of Central zone closed as most of the children had migrated with the livestock to Sool region.

Health & Nutrition

Lack of safe water for human consumption, inadequate medical services, reliance on traditional healers and herbal treatments as well as poor health infrastructure predispose households to opportunistic health hazards such as seasonal diarrhoea, malaria and pneumonia. In addition, the limited level of education limits pastoral household access to food security and nutritional health information, thus exacerbating overall household health.

6.2 Social Capital

Social support networks in Hawd provide opportunities through which the community or society support each other, both in normal and bad times. In the rural/pastoral context, strong social networks enhance remittance inflow through informal (annual *Zakat* payments) and formal gifts (in kind and cash support). Cash support however, depends on the ability of the loanees to pay back. These mechanisms are based on the relative vulnerability within the community, the availability of support, and the asset differences between better-off and poor groups, or within and between communities. In this section the main types of relevant pastoral social support are analyzed.

Social infrastructure

Almost all pastoral livelihoods have limited access to health facilities and services, due to lack of health infrastructure, limited health staffs and adequate supply of human drugs. Most of the livelihood has no well established health infrastructure or permanent natural water sources and rely on man-made sources (*berkads*, *muqsids* and *balleys*) as well as other external sources such as purchase and water tank supplies for its water supply. In some parts of Togdheer and Nugaal, water infrastructure (wells, dug wells, dams,

Table 5: Zakat and the levy system

Asset level	Levy	Payment due
5 Camels	1 Goats	Once per year
10 Camels	2 Goats	Once per year
15 Camels	1 Male camel	Once per year
100 Goats	1 Female goat	Once per year
200 Goats	2 Female goats	Once per year

berkads) have been developed to enhance access to water resources. The main road that traverses Hawd livelihood links Mogadishu, Garowe, Bossaso and Hargeisa.

Remittances

All households in the livelihood did not have equal access to remittances. The middle wealth group and better off located in the main cities in the central and northern regions benefit the most from remittance inflows. Most of the remittances are sought from the Diaspora. Households in the rural areas benefitted from remittance inflows from the urban areas through:

- Rural landholders residing in urban areas but who invest remittances in seasonal crop cultivation in the rural areas
- Urban residents invest in livestock in rural areas
- Urban residents spend remittances on buying rural products (charcoal, firewood, milk, crops and livestock) for urban consumption, and
- Extended families may consist of both urban and rural dwellers and distribute remittances among them.

In the reference year, due to prolonged drought and the global recession access to remittances declined. The increase in remittances is indicated in the income pattern of better-off households.

Formal gifts (Zakaat) and Informal Gifts

The social obligations of Islam are embodied in *zakat*, a form of 'poor tax'. The religious significance of *zakat* contrasts with the voluntary donations known (*sadaqa*) which target the poor and needy. In the reference year, since livestock herd size declined by 10-20% from the start of the reference year, the amount of *zakat* livestock received by the poor, very poor and destitute households decreased. Formal and informal gifts include: restocking (*xoolo goin*), loans of milking animals (*irmaansi*), food purchase on credit (*ammah*), local and international remittances, cash gifts (*shaxaad*) and gifts of food in kind (*kaalmo*). Although previous years have been challenging for Hawd pastoralists, social support has remained strong among the middle and better-off. Dry food contribution and cash loans provide food and income access to the poor.

6.3 Physical Capital

Transport infrastructure

One tarmac road connecting Hiran, Hargeisa, Garoowe, Las Canood, Bosasso and Mogadishu forms the main transport artery in the livelihood. The road is important for trade and movement. In the rural parts, all weather roads are poorly maintained and are impassable in the rainy seasons.

Housing and Settlements

Permanent settlements are the reference nodes for pastoralists to purchase foodstuffs, sell livestock products, access water and schooling. Hawd livelihood, a purely nomadic pastoral system, is characterized by frequent migration. The types of dwellings commonly used are called *aqal*, the traditional pastoral hut made of wood (*udub*) and covered with woven fibre mats (*kibit*). These houses are semi-permanent and made of mud (*cariish*). Recurrent droughts lead to huge influxes of very poor and destitute pastoralists into main towns and villages, increasing the number of permanent settlements.

Telecommunication

High Frequency (HF) radio communication facilitates market transactions between pastoralists and traders. The radio system links pastoralists with their relatives and other communities and facilitate regular inflow of remittances from within the country and the Diaspora. In recent years, cell phones have enhanced information exchange on weather, remittances and pasture availability.

Water supply

Most of Hawd has no permanent water sources and relies on *berkads* (cemented rain water catchments); *muqsids* (deep shallow wells used for water harvesting and reserved seasonal water runoff with better water retention soil); *ballis* (uncemented rain water catchments) and shallow wells, including water purchase from vendors. However, the main water source is the *berkads* and are available in most settlements. Main villages and towns rely on boreholes, but the better-off and some middle households own *berkads*, used to harvest rainwater for sale during times of stress.

In the dry seasons, pastoralists depend on water delivered by trucks as shown by the expenditure pattern in the livelihood zone, although the reliance on water trucking in the reference year is not similar across all the wealth groups. *Muqsids* are found in settlements with clay soils, such as Dhoqoshay and Harada Gobato (Burco district) and Harosheikh (Owdweyne district). *Ballis* can be found in all areas. Water from *ballis*, *muqsids* and dams is free.

6.4 Financial capital

Credit or loans

Credit and loan services are available from traders (staple and non-staple foods and non-food goods) but access to these financial facilities depends on the ability to repay the debts, which is assessed and decided by the trader. Households access loans during crisis periods in the form of food commodities. Loans are paid back later and payments may be made in cash or kind (livestock). Those with few or low livestock holdings are unlikely to have access to credit, unless they have family support in the urban centers. In the reference year, poor and middle wealth groups received loans worth 1,500,000 SoSh and 2,500,000 SoSh for poor and middle, respectively. However, poor households have reduced access to loans in kind (food and water) due to significant decline in the chances of debt repayment.

6.5 Natural Capital

Natural resources

Hawd livelihood is characteristic of a plateau and forms the prime grazing and browsing area, with patches of flat lowland covered with extensive bush and shrubs. Vegetation cover in the Livelihood is composed of acacia forest, which extends over a large area, and grazing plains (*banka*) which are a distinctive feature in the livelihood. These plains are suitable grazing grounds for goats and camels. However, in the grazing plains, sheep are the predominant livestock. Previous records indicate that cattle were an important asset, but due to recurrent droughts, the cattle size has significantly declined. The soil type in the Hawd is reddish loamy sands that are widely distributed in the Somali peninsula and found in the northeast and northwest regions throughout the Ethiopian Ogaden and the adjoining part of Mudug in the central regions.

The vegetation of the area is characterised by a mix of numerous trees and the shrubs. Acacia (*Geed qodaxeed*) and comiphora (*Geed hagar*) are the predominant species found in the area. Vegetation density varies from place to place. In the plains of the northwest region open grasslands are more dominant and suitable for sheep. However, when overgrazed, the finer soil particles are loosened and washed or blown away by the agents of erosion (flash floods and wind) leaving the superficial layer of the coarse sand, which partially protects the underlying soil from further erosion. Recently, observations show that both the area and the intensity of the pastoral livelihoods are shrinking. Currently, pastoralists are shifting from pure nomadic to semi-nomadic pastoralism, thus reducing their movements in the rangelands.

7. WEALTH BREAKDOWN

In the Hawd pastoral livelihood, wealth is determined by camel and shoat livestock holding, with herd size increasing with wealth group. The population of the pastoral livelihood is categorized into poor (25-35%), middle (45-55%), and better-off (15-25%) wealth groups.

Table 6: Wealth group characterization in the Hawd (2010)

Wealth group	Household size	% of population	Livestock holding	Community interview summary	Main source of income	Family structure
Poor	7	30	Camel: 7-8 (8) Goat: 35-45 (40) Sheep: 10-15 (12) Donkey: 0-1	Camel: 5-15 (10) Goat: 40-50 (45) Sheep: 8-10 (9) Donkey: 0-1	Livestock/livestock product, Social support, Employment (casual labor), and self employment (charcoal, firewood)	1 wife (monogamy)
Middle	8	50	Camel: 12-25 (19) Goat: 65-90 (78) Sheep: 25-40 (32) Donkey : 0-1	Camel: 20-30 (25) Goat: 60-100 (80) Sheep: 10-20 (15) Donkey : 0-1	Livestock/livestock product, Petty trade and Social support	1 or 2 wives
Better off	10	20	Camel: 47-50 (49) Goat: 105-150 (128) Sheep: 10-15 (13) Donkey: 0-1	Camel: 45-55 (50) Goat: 100-200 (150) Sheep: 25-35 (30) Donkey: 0-1	Livestock/livestock product, Petty trade and Social support	2 or 3 wives

About 30% of the population in the Hawd falls within the poor wealth group. Being the most vulnerable, this wealth group has limited coping strategies due to low asset base. As a result, households seek alternative sources of income in towns, villages or resettle in IDP camps. The poor households have a small herd size, mostly of 50-65 shoats (more goats) and 8-10 camels, and average household sizes of 6-7 members. Generally, there is no major difference in the family size among wealth groups, although the better-off have more members. In most cases the elder children of the poorer households go to main towns in search of employment or are employed as livestock herders by relatives in the better-off households.

The middle wealth group represents 50% of the population in Hawd livelihood and have an average of 8 members. Households in this wealth group own 22 camels, 78 goats, 24 sheep and 1 donkey. The main sources of income for this wealth group are sale of livestock/livestock product, petty trade and social support. Most households in the middle and better off wealth groups have 1 or 2 wives. The better off wealth group have larger household sizes of about 10 members and represent 20% of the population in the livelihood. Livestock holding is also higher with 49 camels owned, alongside 132 goats, 21 sheep and at least 1 donkey. This predominantly polygamous wealth group (2-3 wives) derives its main income from sale of livestock/livestock products, petty trade and social support (remittances).

Livestock holding

Although the overall pastoral economic system lost mobility, the very poor pastoralists were most affected. Since the on-set of recurrent droughts in 2004, pastoralists lost their livestock and livestock holdings. This phenomenon seriously affected the poorer wealth groups, hence most were forced to settle in the periphery of main towns, villages and water points since rural resources were inadequate for survival.

All species showed a small decline, in terms of herd growth, animal reproduction and production, ranging from 5 to 15% according to the species. In the last 8-10 years (particularly 2005-2010) reduction of livestock holding has led to a shift of wealth group. Between 2002-2005, 5% of middle wealth group fell into the poor group. Very poor pastoralists lost their mobility, resorting to settle in the periphery of the main towns, villages and water points. Settling in the peri-urban areas assures the poor a source of income from unskilled employment, self-employment (fire wood and charcoal collection) and benefiting from the social and relief support from the urban community and relief agencies. Generally less than 5% of Hawd households are very poor and as a result were not examined in this study.

The pastoral seasonal assessment indicates that 5% of poor wealth groups became destitute in each drought season after they lost their livestock and were considered as drought IDPs. Therefore, as drought persisted for six seasons (2007-2009), about 30% of the poor wealth groups fell into destitution in the Central and Hiran pastoral areas.

However, in the reference year most of the livestock species recorded a slight decrease in herd size, due to possibility to migrate to the neighboring areas.

Cattle have almost disappeared from the Hawd pastoral livelihood due to successive and prolonged droughts. Shoats belonging to the better-off wealth group are progressively dwindling because of increased animal sales to meet household food and non-food requirements, disease attacks, livestock input costs and for support destitute groups.

Table 7: Livestock holding trends per wealth group (2002-2010)

Wealth group	Livestock type	Livestock holding		
		2002	2005	2009/2010
Poor	Camel	7	6	9
	Cattle	0	0	0
	Sheep/goat	5	53	57
Middle	Camel	27	20	18
	Cattle	12	0	50
	Sheep/goat	90	80	100
Better off	Camel	27	45	48
	Cattle	35	0	
	Sheep/goat	225	175	160

8. HERD DYNAMICS

The dominant livestock in order of preference are goats, sheep and camel. Cattle have declined due to harsh environmental conditions. Due to recurrent droughts over the last two to three years, herd sizes have declined by about 5% to 15%. By the end of reference year the average goat and sheep herd size had declined by 6% and 16%, respectively. This was the result of high off-take, death and low calving rates during the prolonged drought period. Similarly, average camel herd size shows a significant decline (15 %) compared to the beginning of the reference year (from 29 to 25 heads). This was due to drought persistence in successive bad years prior to the reference year that led to low conception rates and consequently low calving rates of 9-10%, representing a calving rate of 56% lower than the East African standard of zero herd growth⁹.

Camel out-migration from the Hawd pastoral zone to better grazing areas in Ethiopia, Sool and Nugaal regions mitigated the expected magnitude of asset loss and herd reduction. High camel off-take in the reference year, coupled with low calving rates and significant deaths reduced camel herd size. Small ruminants (shoats) are commonly used as an asset to exchange for food and non-food requirements. Camels are high-value assets and are not sold or slaughtered as often small ruminants. The average sheep and goat herd owned by the different wealth groups at the start of the reference year was 112 animals. However, this number declined, by about 10%, at end of the reference year, due to low calving rates of 31%, associated with recurrent droughts prior to the reference year. This decline represents 52% less than the East African standard of zero herd growth.

Table 8: Shoat herd dynamics of different wealth groups in Hawd Livelihood Zone

Shoat herd dynamics	Poor		Middle		B/off		Average		% of normal	
	Goat	Sheep	Goat	Sheep	Goat	Sheep	Goat	Sheep	Goat	Sheep
Total owned at the start of the reference year by wealth group	47	18	80	16	135	42	87	25	100	100
Adult female	25	9	35	8	65	20	42	12	48	48
No. born during the year	16	6	25	4	40	13	27	8	31	32
No. sold	12	3	13	2	20	8	15	4	17	16
No. slaughtered	3	1	4	1	6	3	4	2	4	8
No. died	7	3	9	3	15	10	10	5	10	20
No. given away	1	0	2	1	0	2	3	1	3	4
No. bought	0	0	0	0	0	0	0	0	0	0
No. lost or stolen	0	0	0	0	0	0	0	0	0	0
No. at end of reference year	40	17	77	13	128	32	82	21	97	84

NB: Herd change about 8% decline, off take 39 %, calving rate 31%, * East African typical standard herd change at zero growth, both off take and calving rate are 66 % and offsetting each other.

The average camel herd size in Hawd pastoral at the end of the reference year shows a decline of 15% compared to the start of the reference year (from 29 to 25 heads). This was the result of successive bad years before the reference year that led to low conception and calving rates, which declined by 9%. The reference year calving rate was 47% lower than east African standard of zero herd growth. However, camel off take in was double the calving rate due to distress sales, deaths and low calving.

Table 9: Camel herd dynamics of different wealth groups in Hawd Livelihood Zone

Hawd pastoral camel Herd dynamics	Poor	Middle	B/off	Average	100%
Total owned at the start of the reference year by wealth group	9	22	55	29	100
Adult female	5	11	25	14	48
No. born during the year	2	2	4	3	10
no. sold	2	3	5	3	10
no. slaughtered	0	0	0	0	0
no. died	2	3	4	3	10
no. given away	0	0	2	1	3
no. bought	0	0	0	0	0
no. lost or stolen	0	0	0	0	0
no. at end of reference year	7	18	48	25	87

NB: herd change 15% decline, off take 12%, calving rate 10%, * East African typical standard herd change at zero growth, both off take and calving rate are 23% and offsetting each other.

⁹ The East African standard of zero herd growth recommends calving rate of 22-23%

9. LIVELIHOOD STRATEGIES

9.1 Sources of Food

All wealth groups access their food through market purchase, livestock production and gifts (poor). Poor households met 91% of their annual food needs, the middle 100% and the better-off 115%. The main source of staple cereals and other non-food items is through market purchase (71% for poor, 87% for middle and 98% for better-off). Food energy contribution from purchase for the middle wealth group is 23% higher than for the poor group. Similarly, the annual food energy contribution from purchase among better-off is 13% and 38% higher than both the middle and poor, respectively. With the exception of the middle and better-off wealth groups, the poor wealth group cannot meet their annual food requirements of 2,100 kcal per person per day. The 9% deficit, though slightly below the standard 2,100 kcal requirement, has implications on the nutritional and dietary diversity of poor households.

The main food items purchased include cereal (rice, wheat flour, sorghum), though the quantity, frequency and food diversity varies depending on the wealth level of each group, household size and seasonal consumption patterns. In all wealth groups, sugar is regarded a basic commodity alongside cooking oil and pulses. In the reference year, poor wealth groups could not afford to buy and consume cowpeas because of high market prices. Livestock products (milk, meat and ghee) comprise the second main food source for pastoralists. The annual energy from livestock production is 15%, 13% and 18% for poor, middle and better-off, respectively.

Although in the reference year, poor and middle wealth groups, owned the same number of milking animals and sold or consumed about the same amount of milk, the energy contribution from own production in the middle group was slightly lower than for the poor group because of high demand from their larger household sizes. During the reference year the typical poor household relied on milking two lactating camels and 11 goats, which together produced 1,255 liters of milk. Of this 40% was sold in exchange for food and other non-food items and the rest consumed. The third food source for pastoralists (though only for the poor wealth group and which contributes about 5% of annual energy requirements) is food gifts from food aid agencies, friends or relatives.

9.2 Sources of Income

The main sources of income in the Hawd pastoral livelihood are: sale of livestock and livestock products, self-employment (petty trade), remittances, loans and cash gifts. The number of opportunities for generating income and frequency of accessing each income source varies across all wealth groups. While all wealth groups benefit from the sale of livestock and livestock products, availability and access to other income sources varies. As a result, the average annual income in the reference year was 44,000,000 SoSh for the poor, 67,000,000 SoSh for the middle and 100,000,000 SoSh for better-off wealth groups.

From these, sale of livestock contributes 64% (poor), 74% (middle) and 70% (better off) to the total income. Poor households sell fewer live animals as their holding is smaller than other wealth groups. In contrast, better-off households sell fewer animals than the middle because of alternative income opportunities that they exploit such as remittances and small petty trade. The sale of livestock products (milk) contributes 25% (poor), 15% (middle) and 10% (better off) of the total income among all the wealth groups.

Due to the below average livestock production in the reference year, poor households were forced to sell more milk than normal in order to buy cheap cereals. Conversely, the wealthier groups consumed more milk than poor

Figure 10: Sources of Food

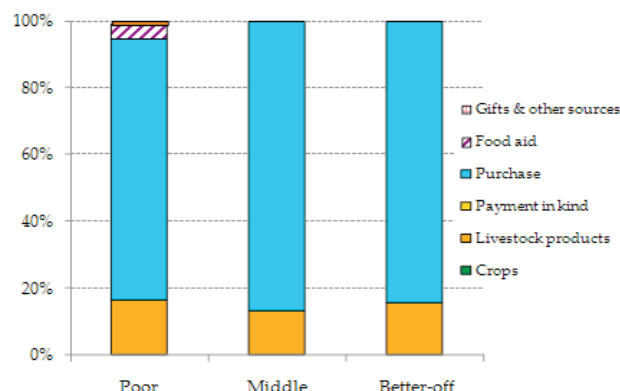
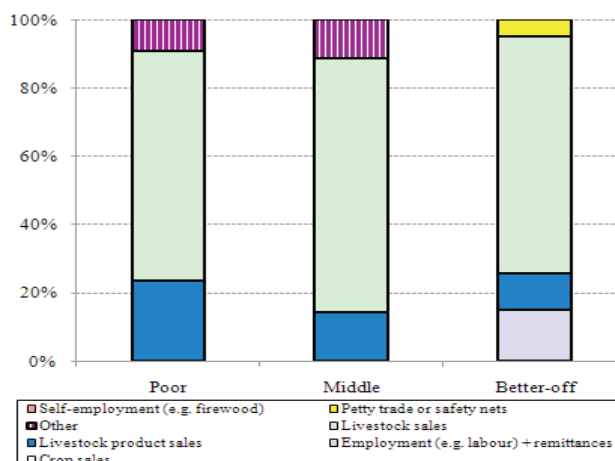


Figure 11: Sources of Income



groups. While remittances benefited all wealth groups, the better-off received double the amount of remittances than middle households. The poor wealth groups do not have flexible income earning options as middle and better-off groups. Therefore, the third category of income sources for poor groups (loans and cash gifts) contribute 11% of annual income in the reference year. Cash gifts provide income only to poor groups. In the reference year, poor and middle groups took on a number of loans, amounting to 1,500,000 So.sh and 2,500,000 Sosh respectively. The middle wealth groups obtained loans that were 65% higher than poor groups because of better trust based on asset holding (security) and repayment capacity.

9.3 Expenditure patterns

On average, all wealth groups depend on food purchases. Energy contribution of staple and non staple food from the market exchange is above 85%. In the reference year all wealth groups spent a significant part of their annual income on food. About 62% of poor households' annual income was spent on food (38% on staple and 24% on non-staple food). This represents 640-750 Kg of cereal (sorghum, maize, rice and wheat flour) and 220-260 kg of sugar and 46-50 litres of vegetable oil. Among the poor households, 13% of the income was spent on water for human and livestock use for over 8-10 months in the reference year.

An additional 11% of their income was spent on clothing and social services (health and education), while the remaining 14% was almost equally spent on household items (tea, salt and soap), inputs (animal drugs, fodder, livestock transportation, tools and soil for livestock) and other items such as Qat and tobacco. While the poor households did not meet the 2,100 kcal per person per day food energy requirements in the reference year, the small portion of income earned was used to purchase non-food items (such as clothing, health services, tools and utensils) that they could not afford prior to the reference year due to the recurrent droughts.

The middle and better-off spent a smaller portion of their income, 55% and 53% respectively, on food. These wealth groups also spent 5% (on livestock drugs) and 8% (on salt), due to their higher livestock holdings. Another important expenditure category for middle and better-off households is water for both human and livestock use, which amounted to 14% and 9% of total income, respectively. The water expense for the better-off wealth group in the reference year was lower than poor and middle groups because of own or easy access to free water from *Berkads* in some months of the reference year.

Figure 12: Average HH Income in SoSH

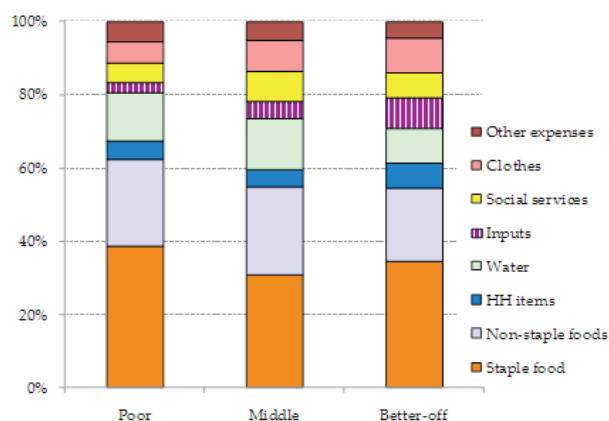
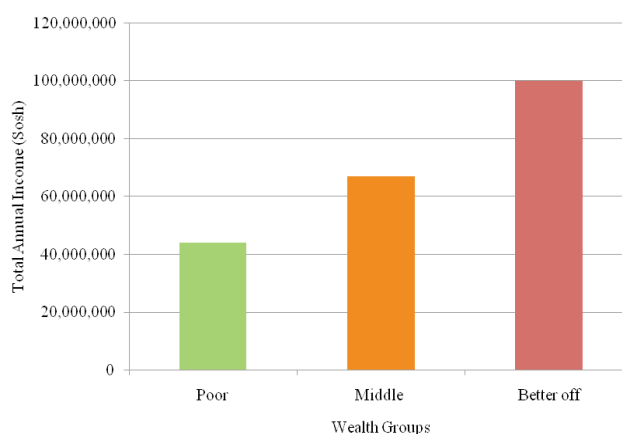


Figure 13: Expenditure patterns of Wealth Group



10. HAZARDS

The hazards and shocks to which the Hawd pastoral livelihood is most vulnerable to are: droughts, market disruptions, diseases (human and livestock) and conflicts.

Drought

Drought is a major hazard affecting livestock production and reproduction. The effects of severe drought years are loss of livelihood assets and destruction of the pastoral economy. Drought and erratic rainfall negatively impacts on the availability of water for livestock and human consumption as well as availability of pasture for browsing and grazing. This affects the productivity, health and marketability of livestock and subsequently livestock products. This reduces household ability to generate income and produce food. Localised rainfall increases the livestock concentration in certain areas. This increases pressure on limited vegetation and water resources, presenting conducive conditions for potential resource over-use, degradation and conflicts. As the common resource dwindles, increased competition ignites tensions over access, leading to resource-based conflicts.

Diseases

Livestock diseases normally peak during droughts when pasture and water are depleted, livestock travel is long and livestock conditions (health) surge low. As animals become weaker and become more susceptible to diseases, incidental outbreaks of contagious diseases significantly impact the overall body condition, rendering the animal unhealthy and reducing its marketability. This occasionally leads to livestock trade bans, which in turn affect food and cash income access and availability, thus depriving pastoralists an important livelihood assets. The prevalence and distribution of a number of transboundary diseases of major international concern such as Rinderpest, Foot-and-mouth disease and Rift Valley fever (RVF) are not yet fully established in Somalia, but Soumare *et al.* (2007) suspects the country to be infected through the repeated trade restrictions imposed on livestock originating from Somaliland, with devastating socio-economic effects. Human diseases on the other hand are influenced by seasonality, with water and vector related diseases more prevalent during the *Gu* and *Deyr* seasons. In *Hagaa* and *Jilaal*, reduction in dietary diversity and increased malnutrition levels (among the very young) led to general decline in human health. This predisposed most poor households to diseases, with cases of communicable diseases higher among IDPs due to crowding.

Market Disruptions

Given the importance of purchase as a source of food, any increase in imported food prices (for example, due to USD to SSh or SoSh exchange rate fluctuation) will have a significant effect on food access. Similarly, a decrease in the prices for livestock and/or livestock products (or a decrease in marketing opportunities) will have a marked impact on households' income proportions and ability to purchase food and non-food items.

Insecurity and conflict

The recurrent resource-based conflicts, normally occurring in tandem with persistent drought cycles is a major potential hazard. Depending on the scale, intensity and duration of droughts and related conflicts, access to water points, suitable grazing areas, markets and migration routes may be disrupted. Even low-intensity conflicts can have a significantly negative impact on food and livelihood security. Insecurity can also lead to destruction of livelihood assets (livestock losses or holding) and sources of income.

Environmental degradation

Commercial charcoal production in south Mudug, south and northwest of Owdweyne district and east of Salaxley is prompted by two-prong factors: one is the declining livelihood sources from traditional pastoral activities, and the second is demand in the local markets (urban centres of Belet-weyne, Dhusa-mareeb, Galkayo, Garoowe, Las-anood, Burco, Hargeisa and Berbera). This unsustainable practice deprive browsing biomass and reduces the composition and diversity of vegetation, leaving the land bare and exposed to the agents of wind and water soil erosion. In addition, the number of private enclosures, ranging in size from 0-5 (2.5) to 25-30 (27.5) hectares are increasing especially in Owdweyne, Sallaxley and Balligubadle districts. These enclosures are used for fodder production, targeting the livestock markets of Berbera and Bosasso. Consequently, the combined effects of both charcoal burning and an increase in private enclosures are affecting pastoral livelihood activities. The availability of 'open' grazing areas has declined leading to over-concentration of livestock in non-enclosed areas.

11. COPING STRATEGIES

Pastoralists in Hawd livelihood use the following strategies to cope with shocks.

Table 10: Coping Strategies

Coping Strategy	Description
Livestock migration	Abnormal livestock movements to neighbouring regions or across the border to Ethiopia are common when there is low rainfall. Pastoralists observe rainfall patterns within and outside their livelihood. In central regions livestock moved to the watershed areas of Hawd livelihood in the Northwest and Northeast regions and to the Somali Region of Ethiopia. Camels move out of the valleys and clay soil areas in search of rainfall since they can survive without water for almost two weeks. Sheep and goats follow, either by truck (depending on affordability) or on foot. The risks of livestock deaths due to long distances covered are high for poor households. However sometimes better-off groups support the poor in livestock trucking through kinship support.
Livestock sales	Households increase sales of livestock & livestock products in exchange for food and other basic services by all wealth groups. This coping response is very common for most middle and better-off wealth groups, due to their larger herd size. The poor wealth groups tend to increase the sale of livestock and livestock products to unsustainable levels as they have limited options for income. Unsustainable asset depletion among poor limits their ability to recover after the shock.
Livestock slaughter	In extremely bad years, camels are slaughtered in order to offset calorie loss caused by reduced quantities of milk, since the camels cannot be as productive in drought conditions as in normal seasons. Although this coping strategy improves access to food in the short term, it results in asset reduction.
Self-employment	During times of hardship, family members engage in other activities such as charcoal production, collection of stones and processing of sisal for rope making. The number of days spent on these activities increase with the magnitude and scale of the shock.
Credit & Social support	Households borrow and purchase food on credit from either livestock traders or shopkeepers. The frequency of repaying debts strengthens the level of trust between households and traders. Clan members, close kin, or neighbors will sometimes give loans in kind (milking animals, cereals) and cash to poor households, particularly when the distance between water and pasture widens or when people migrate long distances out of their livelihood.
Household consumption	Alterations in household consumption patterns are used by all wealth groups by: dietary changes, such as shifting to less-expensive cereals (preferring rice over sorghum or maize), reducing meal portions, reducing the number of meals eaten in a day, prioritizing feeding to children, the sick and very old household members, male household members migrating to urban areas in search for wage employment opportunities or sending family members to middle and better-off wealth groups. In extreme situations, family separation or migration of family members with the herds (women and children often left behind with a small number of weak animals) are used as a coping strategy.

12. CONCLUSION AND RECOMMENDATIONS

12.1 Conclusion

The findings of the baseline assessment show that the amount and spatial distribution of both *Gu* and *Deyr* rains in the reference year was below the long-term mean. In particular, water was available for 5-7 months, prompting households to engage in water trucking for 5 to 8 months. Livestock products (milk, meat and ghee) only contributed 15-25% of total annual household food needs, with sale of livestock product sales contributing 10-25% of annual cash income, and livestock sales contributing about 65-70%.

An average of 663,365 livestock were exported through Berbera port, indicating a 68% decreased compared to 5-year average. Improved livestock body conditions and increased export demand during *Hajj* enhanced livestock prices. Camel prices peaked in April-May but declined in June due to migration. Overall, livestock prices in the reference year were significantly higher than the 5-year average. Goat export price in April was 214% higher than the 5-year average. Average number of animals exported (April) was 1,076,705 heads (93% for shoats, 5% for cattle and 2% camel). The monthly average price of fresh camel milk was SoSh 72,235, three times (284%) higher than the average price (18795 SoSh) in five years (2003-2007). Rice (SoSh 12,190 to 36,460) and wheat flour (SoSh 12,140 to 30,040) prices were 199% and 148% higher than 5-year average, respectively. Sorghum price was 170% higher than the 5-year monthly average (SoSh 8,390 to 22,650), because of global inflation and devaluation of the Somali shilling against the USD. Wages earned were (144%) higher than 5-year monthly average (SoSh 75,168 to 183,480).

A key finding of the assessment is the change in livestock holding between 2002-2010 (see table 8). Herd dynamics show that the average sheep and goat herd owned by the different wealth groups at the start of the reference year was 112. This declined, by less than 10%, at end of the reference year, due to low calving rates of 31% and recurrent droughts, representing a 52% decline from the East African standard of zero herd growth.

The main staple foods were obtained through market purchase (71% for poor, 87% for middle and 98% for better-off), livestock production and gifts (poor). Through these sources, the poor households were able to meet 91% of their annual food needs, the middle 100% and the better-off 115%. The main food items purchased include rice, wheat flour, sorghum. Sale of livestock and livestock products, self-employment (petty trade), remittances, loans and cash gifts were the main sources of cash income. Total annual income earned was SoSh 44,000,000 (poor), 67,000,000 (middle) and 100,000,000 (better-off). Sale of livestock contributed 64% (poor), 74% (middle) and 70% (better off), while sale of livestock products (milk) contributed 25% (poor), 15% (middle) and 10% (better off) to the total annual income. Loans and cash gifts contributed 11% of annual income with the poor and middle groups taking between SoShs 1,500,000 and 2,500,000 respectively.

Significant portions of annual income were used to purchase food. About 62% of poor households' annual income was spent on food (38% on staple and 24% on non-staple food), representing 640-750 kg of cereal (sorghum, maize, rice and wheat flour) and 220-260 kg of sugar and 46-50 litres of vegetable oil. An additional 11% of their income was spent on clothing and social services (health and education), while the remaining 14% was almost equally spent on household items (tea, salt and soap), inputs (animal drugs, fodder, livestock transportation, tools and soil for livestock) and other items such as Qat and tobacco.

In view of the above, the following food security indicators are proposed for future monitoring:

- Rainfall: amount and distribution
- Pasture and water access and availability
- Livestock production, conditions & prices
- Livestock migration patterns
- Security situation
- Disease outbreak: livestock and human
- Market prices of essential food/non-food items and TOT

12.2 Recommendations

Due to the complexity of hazards that can impact households simultaneously, it is critical to focus interventions on activities that enhance livelihood resilience and sustainability. The need to protect and manage rangelands requires the collaboration of agro-pastoral communities, government agencies and other stakeholders. Regulations need to be formulated and

enforced to enhance sustainable use and protection of rangeland resources. Indiscriminate tree cutting and charcoal burning should be prohibited. Stakeholders need to mobilise the local community in identifying and establishing alternative options for livelihood diversification. Moreover, community capacity building on appropriate techniques of fodder/grass preservation and production should be enhanced to increase income opportunities. Adoption of mechanised farming, alongside draught animals should be encouraged to increase food crop production and horticulture cultivation. Existing health facilities (both human and veterinary services) should be improved and extended to poor households, most of who live in remote rural areas.

12.3 Development Opportunities

The following development interventions are suggested for prioritization:

1. *Veterinary services* need to be expanded to pastoral areas to safeguarding livestock health (manage endo- and ecto-parasites), as well as food and livelihood security. These services, centralized in main towns, should be decentralized. Control of Rift Valley Fever through sustained programmes of vaccination and restricting movement of livestock (during outbreaks) should be prioritised to minimize.
2. Puntland and Somaliland Government authorities should establish internationally recognized livestock health certification centres to certify the health of animals before export, in order to enhance marketing and incomes.
3. Increase investment in education and skills-based training in order to enhance pastoralists' competitive edge in urban employment markets, enhance *access to employment* and increase opportunities for income diversification.
4. Alternative forms of energy production should be identified and promoted to reduce pressure on the fragile environment caused by charcoal burning practice. Strategic policy formulation, effective resource mobilization and allocation should be enhanced, accompanied with strict enforcement. Land management regime should be established to guide and control the establishment of private enclosures.
5. A clear long-term policy should be formulated to facilitate improvement of water quantity and quality (wells and ponds), while minimizing adverse impacts on pastoralists.
6. Improving livestock markets at national level and seeking alternative international markets for export to support livestock demand.
7. Rehabilitation of livelihoods of drop-out pastoralists (destitute) should be pursued through various innovative ways. A survey of the IDPs should be carried out to determine the needs of IDPs, explore possibilities for return to pastoralism or engagement in alternative livelihood activities. The IDPs should be encouraged and supported to take on these activities. Rehabilitation programmes should focus on enhancing self-employment (like petty trade), restocking (sufficient number of animals) and other support for better livestock marketing, alongside other long-term development programmes.
8. Mechanisms for conflict prevention and mitigation should be identified and explored by community elders and government officials' committees, responsible for disaster management, peace-building and conflict resolution.
9. Social infrastructure such as health facilities, roads, water supply services and education infrastructure need to be improved to enhance accessibility to health, markets, water services and formal education. Improved health services should entail provision of medical staff, training of community health workers and enhancing supply of drugs and promoting the prevention and treatment of common ailments.
10. Technical support from development and government partners should be pursued with an aim of promoting livestock extension services in pastoral livelihoods in order to improve livestock production. This could be done by training community livestock health workers and veterinary officers, setting up veterinary clinics and increasing pastoralists' access to new technologies.

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ANNEX

Annex 1: Rural Wealth Group Interview Form

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

Procedures

- Introduce team and explain objectives of the focus group interview.
- 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.
- Explain reference year and ensure interviewees refer to reference year throughout rest of interview.
- 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)	Total:	Total number of children		No. in formal school		Number at Quranic school	
		Male	Female	Boys	Girls	Boys	Girls

b) Livestock assets

Livestock type	Total number at the start of the reference year	Owned by this 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

1. 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	
					Total production per season = (a) x (b) x (c)			Cash income		Balance consumed (note skim or whole)	% of annual kcal needs
Camel milk		Wet									
		Dry									
Camel butter/ghee*											
Cow milk		Wet									
		Dry									
Cow butter/ghee ¹											
Sheep milk		Wet									
		Dry									
Sheep butter/ghee*											
Goat milk		Wet									
		Dry									
Goat butter/ghee*											

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, hides, eggs				
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? -----

2. 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	Price per unit	CALCULATE	CALCULATE
					Total kilos purchased [a]x[b]x[c]		Total cost	% of HH food needs
Cereal								
Cereal								
Cereal								
Pulse								
Pulse								
Sugar								
Vegetable oil								
Meat								
Other								
Other								
Other								
Total expenditure and food à								

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

Description	Quantity (and unit of measure)	Frequency (per week or month)	Duration (weeks or months)	When (which 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 à													

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 AND 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 à												

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? _____

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

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

10. **CASUAL LABOUR / EMPLOYMENT**

1.1.1.2. Activity / income source ²	Unit of work (e.g. day, acre)	Number of people doing this activity	1.2. Frequency (per week or month)	Duration (no. of weeks or months)	1.2. 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 à									

11. **SELF-EMPLOYMENT / SMALL BUSINESS / TRADE**

1.3.1.1. Activity / income source ³	Unit of measure (e.g. bundle, sack, period of time)	Number of people doing this activity	1.2. Frequency (per week or month)	Duration (no. of weeks or months)	1.3. 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 à								

12. **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 à								

13.

13. **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) à						
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						
MAIN EXPENDITURE CATEGORIES						
Transport						
Transport	Male Female					
Sub Total						
Clothes						
Clothes/shoes for children						
Clothes/shoes for 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 **copied 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	1 bundle/wk	Women	2 bundle/wk	Women/men	
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 2: Community Representatives Interview Form

Livelihood Zone: _____		Population: _____	
Districts:		Villages:	
1. Galkayo		1. Xingod	8. Dhiganlle
2. Hobyo		2. Docol	9. sallaxille
3. Jarriiban		3. Galbarwaaqo	10. Boda-cade
4. Eyl		4. Ceeldibir	
		5. Semade	
		6. Lebilamaane	
		7. Godob jiran	
Interviewers:			
Date: _____	Number of interviewees in respective forms		

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

***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: October 2008- 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)		V. poor	Poor	Middle	Better off
Livestock: Camels owned	(Range) -mid point				
	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		5) Social support (remittances/gifts/ zakat)	10) Crop sales	13) Trade (large scale)	
2) Agricultural labour		6) Firewood collection or charcoal burning	11) Vegetable sales	14) Small business	
3) Other casual labour (e.g. construction)		7) Collection and sale of wild foods	12) Petty trade (small-scale trade)	15) Fishing	
4) Paid domestic work		9) Mining		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)					
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												

AVERAGE YEAR**Which tasks are performed only by men?**

Pasture/water, migration surveillance.

Sending children to Kuranic school, camel herding, l/s watering, Camel sale, milking camel, seeking loans from Traders. Making fences for animals, purchasing, boys, slaughtering animals, digging graves

Which tasks are performed only by women?

Waving mates and making Id items, Ghee processing, herding and milking shoats, child caring, Milk sales, cooking food, Planning and managing food stocks, caring week and sick animals, water fetching, run after small ruminants and pack camel, Training girls.

Which tasks are performed by both?

Child caring, animal rearing, food purchases, livestock sales, seeking support from relatives, decision making on l/s sales, minimizing non food purchases, managing marriages.

BAD YEAR (situations of stress)**Which tasks are performed only by men?**

Water fetching and watering livestock, Survey and gather information, livestock migration to favorable areas. Food purchase and credit in quest, decides livestock sales, caring and management of livestock.

Which tasks are performed only by women?

Sale of small ruminants, seeking social support from relatives, selling milk, caring children and weak animals, food aching out, seeking food in credit, planning dry ration. Short term food loan from neighbors (Qardo)

Which tasks are performed by both?

Livestock sales, food purchases, seeking social support, household managements, loan taking, migration with shoats, watering shoats and household water needs, decision for livestock sales.

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 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

2 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.

3 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.

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