



DAWA PASTORAL LIVELIHOOD ZONE BASELINE ASSESSMENT REPORT



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**Food Security and Nutrition
Analysis Unit - Somalia**

Information for Better Livelihood



Technical Partners



FSNAU Funding Agencies



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TABLE OF CONTENTS

| | | |
|------------|---|-----------|
| 1 | INTRODUCTION | 1 |
| 1.1 | Background Information | 1 |
| 1.2 | Methodology | 3 |
| 2. | LIVELIHOOD ZONE DESCRIPTION | 3 |
| 3. | HISTORICAL TIMELINE AND SEASONALITY | 4 |
| 3.1 | Historical Timeline and Reference Year | 4 |
| 3.2 | Seasonality | 5 |
| 4. | MARKET ANALYSIS | 5 |
| 4.1 | Livestock Prices | 6 |
| 4.2 | Milk Prices | 7 |
| 4.3 | Cereal Prices | 7 |
| 4.4 | Non-Staple Food | 8 |
| 4.5 | Terms of Trade | 8 |
| 5. | LIVELIHOOD ASSETS | 8 |
| 5.1 | Natural Capital | 8 |
| 5.2 | Human Capital | 9 |
| 5.3 | Social Capital | 10 |
| 5.4 | Physical Capital | 10 |
| 5.5 | Economic Capital | 10 |
| 6. | WEALTH BREAKDOWN | 11 |
| 6.1 | Wealth Characteristics | 11 |
| 6.2 | Herd Dynamics | 11 |
| 7. | LIVELIHOOD STRATEGIES | 12 |
| 7.1 | Sources of Food | 12 |
| 7.2 | Sources of Income | 13 |
| 7.3 | Expenditure Patterns | 14 |
| 8. | HAZARDS AND VULNERABILITY CONDITIONS | 14 |
| 8.1 | Persistent Drought | 14 |
| 8.2 | Civil Insecurity and Conflict | 14 |
| 8.3 | Market Disruptions and Border Closures | 15 |
| 8.4 | Human and Livestock Diseases | 15 |
| 8.5 | Environmental degradation | 15 |
| 9. | COPING STRATEGIES | 15 |
| 10. | CONCLUSION AND RECOMMENDATIONS | 16 |
| | REFERENCES | 16 |

LIST OF MAPS

| | | |
|--------|--|---|
| Map 1: | Location of Dawa Pastoral Livelihood Zone in Gedo Region, Somalia. | 1 |
| Map 2: | Somalia Livelihood Zones | 2 |
| Map 3: | Major Livestock Markets in Somalia Monitored | 6 |

LIST OF FIGURES

| | | |
|------------|--|----|
| Figure 1: | Seasonal Calendar of Critical Activities and Events in Dawa Pastoral Livelihood Zone | 5 |
| Figure 2: | Goat Export Quality Prices per Head | 6 |
| Figure 3: | Goat Local Quality Prices per Head | 6 |
| Figure 4: | Sheep Export Quality Prices per Head | 7 |
| Figure 5: | Camel Local Quality Prices per Head | 7 |
| Figure 6: | Camel Milk Prices per 1 Litre | 7 |
| Figure 7: | White Maize Prices per 1kg | 7 |
| Figure 8: | Sugar Prices per 1Kg | 7 |
| Figure 9: | Vegetable Oil Prices per 1 Litre | 8 |
| Figure 10: | Imported Red Rice Prices per 1kg | 8 |
| Figure 11: | Terms of Trade between Local Quality Goat and White Maize Prices per 1Kg | 11 |
| Figure 12: | Wealth Breakdown in Dawa | 11 |
| Figure 13: | Sources of Food | 12 |
| Figure 14: | Sources of Income by Wealth Group | 13 |
| Figure 16: | Trend Analysis of NDVI in Dawa Pastoral Livelihood Zone | 16 |

LIST OF TABLES

| | | |
|-----------|---|----|
| Table 1: | Baseline Livelihoods Analysis Framework (BLAF) | 3 |
| Table 2: | Historical Timeline | 4 |
| Table 3: | Nutrition Situation <i>Gu</i> 2007- <i>Deyr</i> 2009/10 | 9 |
| Table 4: | IPC Progression in Dawa Pastoral Livelihood Zone | 9 |
| Table 5: | Changes in Wealthgroup Characteristics during the Reference Year compared to old Baseline of 1999 | 11 |
| Table 6: | Shoat Herd Dynamic Performance during the Reference Year | 12 |
| Table 7: | Camel Herd Dynamics Performance during the Reference Year | 12 |
| Table 8: | Cattle Herd Dynamic Performances during the Reference Year | 12 |
| Table 9: | Coping Strategies used by Poor Households | 15 |
| Table 10: | Early & Crisis Warning Indicators | 16 |

1. INTRODUCTION

1.1 Background information

Livelihood baseline assessments are important in understanding household access to food and income as well as expenditure patterns (Chambers and Conway, 1992). Baseline assessments use participatory rapid survey techniques to gather data and generate useful information to help understand how the most vulnerable live. Such information is critical to profiling the status and changes in common (community or public) and household assets, shifts in livelihood strategies, shocks that increase vulnerability to livelihood and food insecurity, and coping mechanisms. In food security analysis, baseline information provides an analytical basis for identifying key indicators for livelihood and food security monitoring. Ultimately, baseline assessments inform and influence programming, policy and development processes that respond to shocks, reduce vulnerability and build resilience.

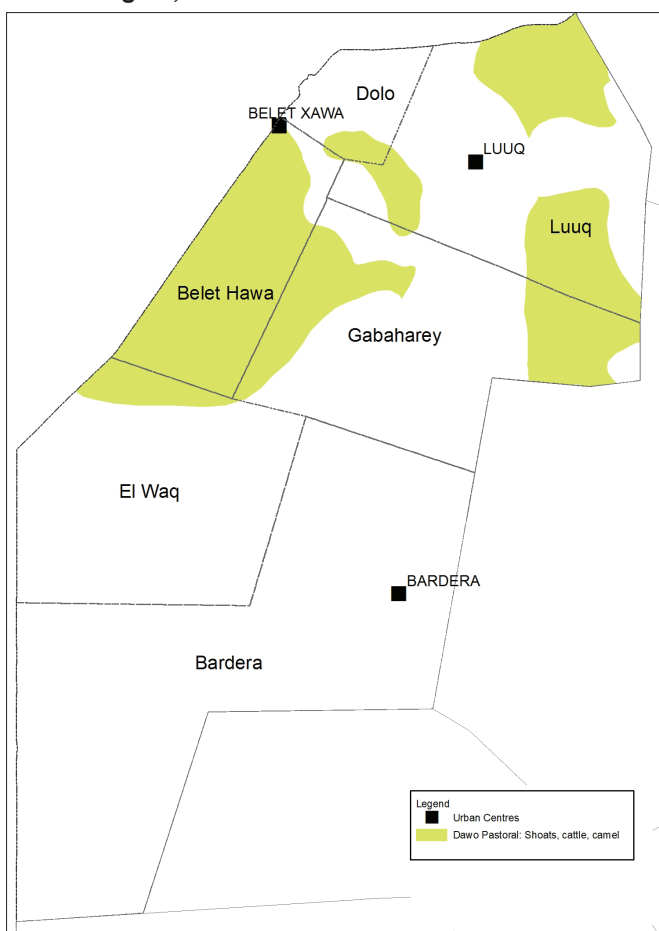
In Somalia, using field studies and field analyst expertise, Food Security Assessment 2nd Unit (FSNAU) initially identified and delineated 64 livelihood zones and baselines, using the Household Economy Approach (HEA), since 1997. FSNAU started to update livelihood baselines and reduced the existing zones into 33 livelihood zones (Map 1) in 2005, particularly in most parts of Northwest and Northeast Somalia, while most southern regions were inaccessible for this exercise. Due to continued increasing baseline assessments remain valid for about five years at which time there would be a need to update the baseline information through re-assessment.

The first Dawa Pastoral Livelihood Zone baseline assessment was conducted in 1999 and the information thus collected is now considered outdated. Therefore, in May 2012, FSNAU engaged a local partner, Active in Development Aid (ADA), a non-governmental organization operating in Gedo region, to assist in conducting a re-assessment of the baseline information for Dawa pastoral livelihood zone. This partnership was necessary because heightened insecurity made it impossible for FSNAU staff to conduct the actual field work. The purpose of the exercise was to update the outdated baseline, in order to understand livelihood changes that have occurred over time due to recurrent and persistent shocks. The specific objectives of the baseline re-assessment were:

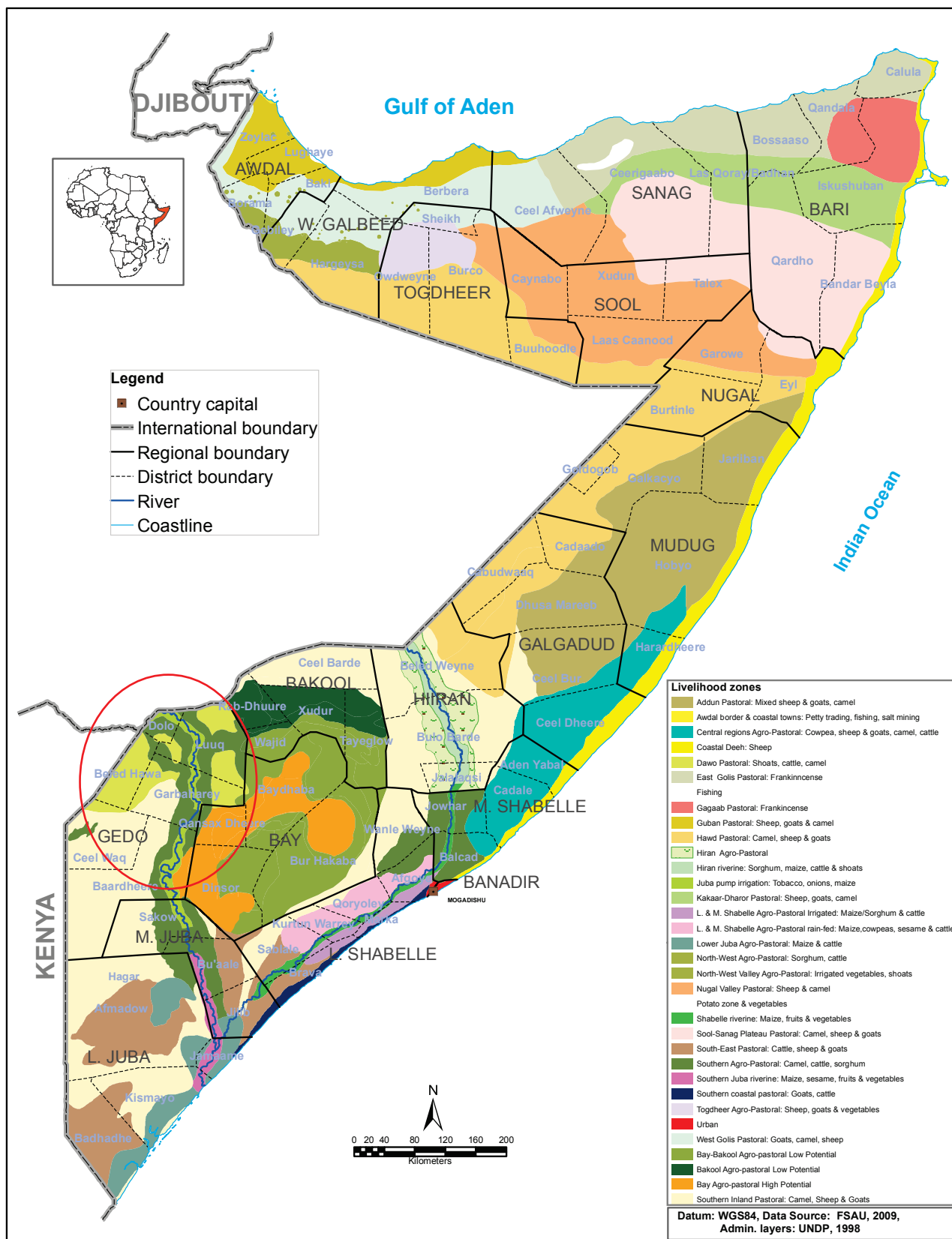
1. To profile the household socio-economic characteristics and livestock herd dynamics of different wealth groups in the livelihood zone
2. To assess the vulnerability factors (persistent shocks and hazards) and how these influence pastoral livelihood strategies and survival
3. To establish the coping strategies of different wealth groups as well as identify shifts in livelihood strategies and/or wealth groups in the pastoral livelihood system
4. To identify priority areas for programming, policy and development intervention as well as livelihood indicators for food security monitoring

This baseline report describes the Dawa pastoral livelihood zone (rainfall pattern, rangeland resources, water sources, and linkages to neighboring zones); and outlines the historical timeline, seasonality, market trends, shocks and hazards. The report also provides information on the livelihood assets and strategies of different wealth groups as well as coping/response strategies employed by Dawa pastoral households. The findings are useful to different actors in designing timely and appropriate interventions and long-term development and policy planning.

Map 1. Location of Dawa pastoral livelihood zone in Gedo Region, Somalia



Map 2: Somalia Livelihood Zones



1.2 Methodology

A combination of FSNAU's expanded baseline livelihoods analysis framework (BLAF) and household survey were used in the study. The BLAF approach integrates concepts of both the Household Economy Approach (HEA) (FEG, 2008) and the Sustainable Livelihoods Approach (SLA) (DFID, 2000), as can be seen in Table 1.

Table 1. Baseline Livelihoods Analysis Framework (BLAF)

| | HEA Baseline | | | | HEA Outcome Analysis | | |
|----------------|------------------------|--|--|---|--|--|---------------------|
| | Step 1 | Step 2 | Step 3 | | Step 4 | Step 5 | Step 6 |
| HEA Process | Livelihood Zoning | Wealth Breakdown | Food, Income Expenditure Quantification | + | Problem Specification | + Coping Capacity/ Response Strategies | = Scenario Outcome |
| | ↑ | ↑ | ↑ | | ↑ | ↑ | ↑ |
| SLF Core Areas | Vulnerability/ Context | Livelihood Assets & Policies, Institutions, Processes (PIPs) | Livelihood Strategies & Policies, Institutions, Processes (PIPs) | | Policies, Institutions, Processes (PIPs) & Shocks/Trends (under Vulnerability Context) | Livelihood Strategies & Livelihood Assets & Policies, Institutions, Processes (PIPs) | Livelihood Outcomes |

This approach focuses on how households in different wealth groups obtain their food, generate their income and organize their expenditure patterns, including asset holding. The household survey focuses on the social and economic characteristics of households in different wealth categories.

To implement the fieldwork, enumerators were recruited and trained to conduct group discussions (household representative from respective wealth groups) and key informant interviews and a separate household survey. Enumerators were split between two teams: the rapid assessment survey team and the household survey team. The rapid assessment survey team collected data at two levels: focus group discussions were conducted with community leaders and interviews were conducted with wealth group representatives.

Before conducting fieldwork, a consultative forum was held with representatives from the local government, ADA, FSNAU baseline team and pre-identified local enumerators. Ten villages in the Dawa pastoral livelihood zone were purposively selected to represent the diversity within the livelihood zone but subject to security and access considerations. The field work was conducted from 21st - 30th of May 2012. Focus group discussions were organized with village leaders in each village, focusing on historical timelines, livestock migration and seasonality. In addition, proportional piling was used to categorize households into wealth groups (Poor, Middle and Better-off) based on livestock asset holding. Three wealth group interviews (from Poor, Middle, and Better-off households) and one community leader focus group discussion were conducted in each village. Similarly, the household survey team randomly selected households from the same ten villages and administered a total of 358 household questionnaires.

2. LIVELIHOOD ZONE DESCRIPTION

The Dawa pastoral livelihood zone is comprised of Dolo, Belet Hawa, Garbaherey and Luuq districts in the Gedo region. The climate in Gedo is generally determined by the north and southward movement of the Inter-Tropical Convergence Zone (ITCZ), which results in two rainy seasons: *Gu* (the main rainy season, April-June) as the ITCZ passes northwards, and *Deyr* (the shorter rainy season, October-December) on its southward movement (Griffiths, 1972; Muchiri, 2007). Total annual rainfall ranges between 300-400 mm and mean annual average temperature is 26°C-28°C (FAO-SWALIM, 2010). Relative humidity is between 50-65 percent.

Most of Dawa pastoral livelihood zone is situated on land with a mix of *Calcisols* and *Gypsisols*, which have low moisture and nutrient availability, as well as *Leptosols* and *Regosols* which are characterized by stoniness, limited root depth and low moisture availability. These soils support the establishment of savannah, herbaceous (grasslands) and open shrubland with crown cover of 65-75 percent. These vegetation cover types provide suitable rangeland resources (browse and forage material) that sustain pastoral livelihood systems when rainfall conditions are favourable and trigger outmigration during the dry seasons.

The main livestock species kept in the livelihood zone are goats/sheep, cattle and camels. Milk and milk products form the backbone of daily household survival and are an important dietary component, particularly for children. Although Mandera in Kenya is the main regional livestock market serving both neighboring Somalia and Ethiopia, households in the livelihood zone also depend on village markets for trade in livestock and livestock products, including exchange and purchase of food and essential household items. Camels and cattle are sold both in Kenya and Somalia depending on prevailing market

prices. During severe drought, pastoralists drive their animals to distant water and grazing areas in Lower Juba, Kenya (through the Garissa Market) or Ethiopia.

Having adopted a nomadic lifestyle, Dawa pastoralists constantly move in search of water and pasture for their livestock. When conditions are normal, most households are considered less vulnerable to food insecurity, despite the hardships that characterize their way of life. This is because normal water and pasture availability guarantees improved livestock productivity, sustains good incomes and reduces risks to food and nutritional insecurity. Average livestock holding in the livelihood zone has been declining over the years due to persistent droughts, increasing environmental degradation, loss of rangeland resources for livestock production and civil insecurity.

Dawa pastoral livelihood zone is intimately linked to the neighbouring southern agro-pastoral and Juba riverine livelihood zones through shared water points and pasture resources, and Southern Inland pastoral livelihood zone through shared rangeland resources. Pastoral households interact more with the urban livelihoods as they rely on the urban markets for trade and employment opportunities. In bad years households may send their livestock far off, travelling long distances to Middle/Lower Juba, Ethiopia or Kenya in search of pasture and water resources or to benefit from cross-border livestock trade. During these times, family separations occur and household members left behind lose access to essential livestock products.

3. HISTORICAL TIMELINE AND SEASONALITY

3.1 Historical Timeline and Reference Year

The historical timeline covers major events in the *Gu* (April-June) and *Deyr* (October-December) seasons from 2009 to 2011. It provides a broader understanding of the past socio-political, climatic and economic events in Dawa pastoral livelihood zone and helps to identify a reference year to be used for comparison purposes during analysis. In the historical timeline below (Table 2), the overall performance of the main productive seasons from *Deyr* 2009 to *Gu* 2011 are outlined, focusing on the key events, the effects of these events and the response strategies adopted by pastoral households.

Following preliminary discussions with the FSNAU Baseline team, field analysts, and community representatives, a review of market prices of key staple and non-staple food items, the period from April 2010 to March 2011 was determined as the reference year for the baseline assessment. This period was chosen because it was slightly below normal receiving good *Gu* 2010 rainfall and experiencing an improved security situation. These good conditions led to normal pasture and water availability, which improved livestock body conditions and conception. This in turn increased livestock production (increased availability of milk), improved livestock prices and incomes which consequently improved the Terms of Trade (ToT), with one goat exchanged for 50kg of maize. Migration was limited to within the livelihood zone due to favourable climatic conditions while improved security conditions and reduced displacements in search of relief foods to IDP camps or towns.

Table 2: Historical Timeline

| Year | Season | seasonal performance | Event(s) | Effects | Responses |
|----------------------|-------------|----------------------|--|--|--|
| 2010/11 (Average) | <i>Deyr</i> | 2-3 (Near average) | <ul style="list-style-type: none"> Normal rainfall. Inflation. Tense security situation, with little impact on pastoralists. | <ul style="list-style-type: none"> Normal pasture and water availability. Normal livestock conception. Availability of milk normal. Normal livestock prices. Relatively stable food and livestock prices. Increased goat production. No movements to IDP or town because of stable security condition. TOT: 1 goat = 50kg of maize | <ul style="list-style-type: none"> Normal movement within the livelihood zone due to normal availability of food and water. Normal livestock sale & production. |
| 2010 (Good) | <i>Gu</i> | 4-5 (Above average) | <ul style="list-style-type: none"> Good rains. Good livestock production. Security relatively good. Availability of milk and meat. Normal to good livestock prices. | <ul style="list-style-type: none"> Good pasture and water availability. Increased goat, sheep, cow and camel production (good milk availability). Good livestock conception. Good livestock market sales. Good availability and stable food prices. Reduced milk prices. Stable TOT: 1-2 goats = 50-60kg of maize. | <ul style="list-style-type: none"> Internal migration within the livelihood zone due to good pasture and water availability and security. No internal displacement. |
| 2009/10 (Poor) | <i>Deyr</i> | 1 (Very poor) | <ul style="list-style-type: none"> Poor rainfall, insecurity and poor livestock production. | <ul style="list-style-type: none"> Poor pasture and water availability. Conflicts over control and use of rangeland resources. Poor livestock production. Increased prices of livestock products. | <ul style="list-style-type: none"> Out-migration to Juba and Ethiopia in search of pasture and water for livestock. Reduced transit between urban and rural towns within Dawa Pastoral region. |

**Seasonal performance rank categories are defined as follows:

1 = A very poor season for livestock production (e.g. due to drought, livestock disease, etc.)

2 = A poor season for livestock production

3 = An average season in terms of livestock production

4 = A good season or above average season for livestock production

5 = A very good season for livestock production (e.g. due to good rains, little disease, etc)

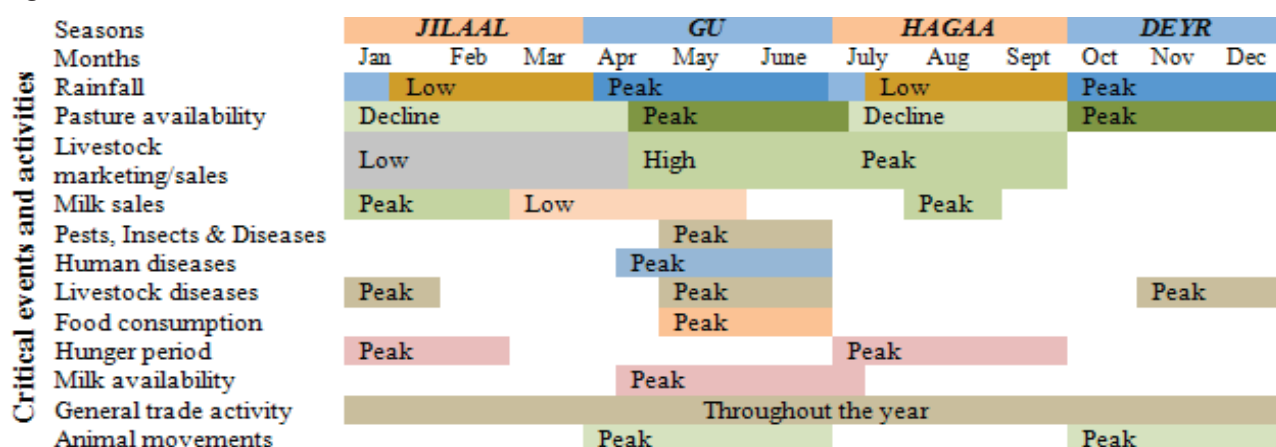
The poor performance of the *Deyr* 2009 season was due to poor rainfall, poor security and decreased livestock production. These conditions led to poor pasture and water availability, conflicts over the control and use of rangeland resources, poor livestock production and increased prices of livestock products. Consequently, most households in the livelihood zone out-migrated to Lower Juba and parts of Ethiopia in search of pasture and water for livestock. In addition, pastoralists reduced the amount of travel they did within the Dawa Pastoral region due to insecurity.

3.2 Seasonality

In the reference year, two peak rainfall seasons influenced pastoral activities in the livelihood zone. The *Gu* season started in April and ended in June, while the *Deyr* rains commenced in October and ended in December. The two seasons are characterized by increased availability of pasture and water resources, increased livestock production, improved livelihood and food security conditions and limited livelihood stresses. However, two dry spells, *Jilaal* (January-March) and *Hagaa* (July-September), are interspersed with the rainy seasons and are associated with low water and pasture availability and poor livestock production.

Water availability in the livelihood zone is influenced by seasonal rainfall, with corresponding peak surface water (*Ballis*) resources available in May and October (during peak *Gu/Deyr* rains). Normal water availability prevailed throughout the livelihood zone, except in late February to early March, when migration to permanent water points increased. Livestock migration patterns in the Dawa pastoral livelihood zone can be classified as normal or distress. Normal livestock migration occurs when average seasonal conditions prevail, that is near normal to normal rainfall conditions that translate into good pasture availability for livestock production. In the reference year, the *Gu*, *Hagaa* and *Jilaal* seasons were average, and this confined livestock migration within Dawa pastoral livelihood zone.

Figure 1: Seasonal Calendar of Critical Activities and Events in Dawa Pastoral Livelihood Zone



In the *Deyr* season, distress migration occurred with some livestock out-migrating to Juba and parts of Ethiopia in search of pasture and water, while other pastoralists opted to remain within the livelihood zone. The livestock that migrated in the average year were camels and cattle, mainly herded by men and boys. The main triggers of abnormal livestock migration include persistent drought, poor rainfall, lack of pasture for livestock and insecurity. Camels and cattle migrated towards Lower Juba, Bay region, Lower Shabelle and Ethiopia in poor years.

Milk sales peaked in January-February and July-August, during the *Jilaal* and *Hagaa* dry periods, respectively. This is because milk production declines in these two seasons, triggering an increase in milk prices. Livestock sales – decreased in the rainy seasons due to improved milk and livestock productivity. Sheep and goat sales were high in *Deyr* and in early *Jilaal* and peaked during *Ramadaan* (July-August) and *Hajj* (September-November). Outbreak of livestock and human disease occur almost at the same time, around the middle of the *Gu* season, although livestock diseases also occurred during *Deyr* and lasted till the middle of the *Jilaal* season. The hunger period peaked in *Jilaal* and *Hagaa*. These seasons are associated with declined milk yield and water scarcity. People solely rely on purchases from the market for their food consumption. The quantity purchased is proportional to household income and capabilities (abilities to obtain loans).

4. MARKET ANALYSIS

This section of the Dawa livelihoods baseline report analyses market information of the key livestock species that forms integral part of the livelihood income sources and prices of essential staple and non-staple commodities in order to analyse the concerned community's expenditure patterns. Both analyses help to define major livelihoods strategies and terms of trades during the reference year. The market information analyzed is mainly derived from FSNAU/FEWSNET monitored markets within the Dawa livelihoods for the period (April 2010 to March 2011) which was the baseline Referenced year compared to corresponding market information in the most recent years prior to the reference year (April 2005-March 2009). Trade in livestock and livestock products is an essential socio-economic activity for the survival of the population in Dawa

Pastoral livelihood zone. Goats, Sheep cattle and camel are the main livestock traded (both local and export quality) in the major markets of the livelihood. The main markets for local quality livestock trade as well as purchase of food and non-food essentials are **Dolo, Beled Hawo and Lugh** while export livestock especially cattle and camels are traded in Garissa (Kenya) and Mogadishu (Somalia) respectively. Livestock prices are influenced by increased demand due to Hajj, Islamic festivals (Iids) and other external factors such as deterioration in livestock body condition, due to severe shortages of pasture and water resulted from frequent droughts. Other factor that affects livestock prices are exchange rates of Somali currency against the US dollars. (devaluation or appreciation) against the dollars.

4.1 Livestock Prices

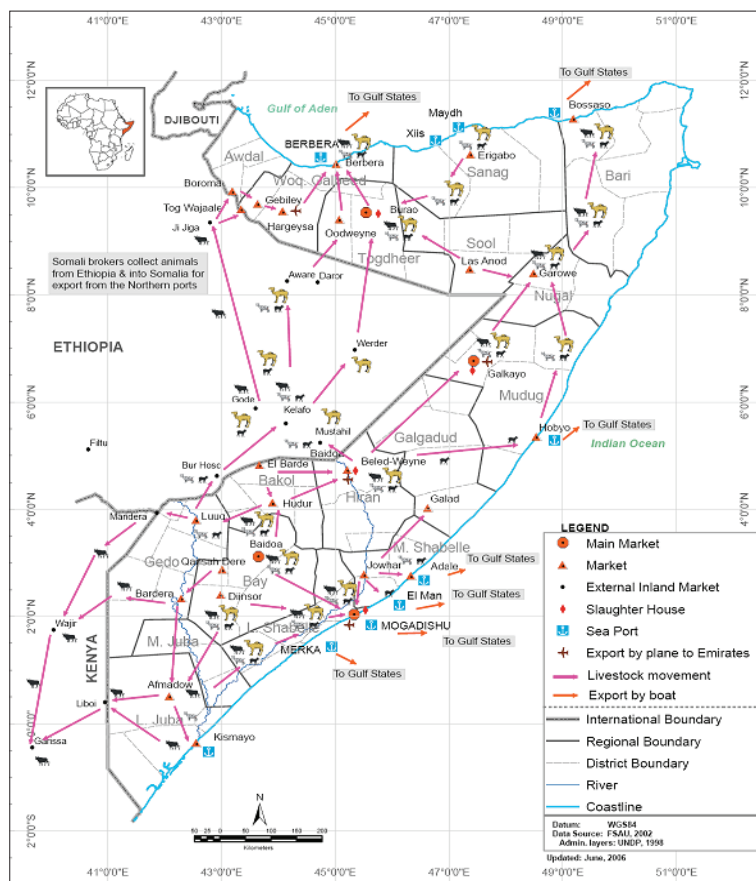
Goat (Local & Export) and Sheep prices Goats prices (*both local quality and export quality*) in the reference year were above the 5-year average and have been prone to limited fluctuations. The prices remained relatively stable throughout the reference year of the baseline study except in the months of December 2010 to March 2011 (lowest prices) when prices declined to levels close to the five year average. This Jan-march 2011 was the beginning of a severe drought in Gedo region and a famine in parts of Somalia while the highest price within the reference year was recorded in Sept to Nov 2010 (a while before the famine) is attributable to increased demand for *Hajj* festival. Average prices for the reference years for both quality (local & export) was SoSh 670,882 and SoSh 1,077,088 respectively which translate to 157 percent and 159 percent of the five year averages.

The increment of goat prices in the reference years compared to the 5 years average is related to the depreciation of the Somali Shillings against the US dollar. For examples in May 2006 exchange rate between US-Dollars to Somali shillings was Sosh 13,000, May 2007 was Sosh 15,400 while May 2010 was Sosh 30,666 for Dawa pastoral market (Dolow, Beled-hawo and Lugh). The economic significance of this is depicted in the terms of trade comparison between the five year average and reference year in the coming sections.

Export quality sheep (the only sheep quality relevant to the livelihood's income) average prices for the last 5 years before the reference year of Dawa baseline was Sosh 578,090 while the average prices for the reference year was Sosh 918,718. Reference year's sheep prices in Dawa pastoral are 159 percent of the five year average prices.

Local quality Camel

Map 3. Major Livestock Markets in Somalia Monitored



Fsnau/FewsNet

Figure 2: Goat Export Quality Prices per Head

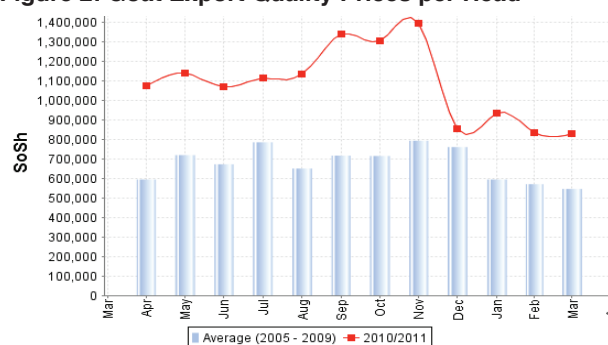
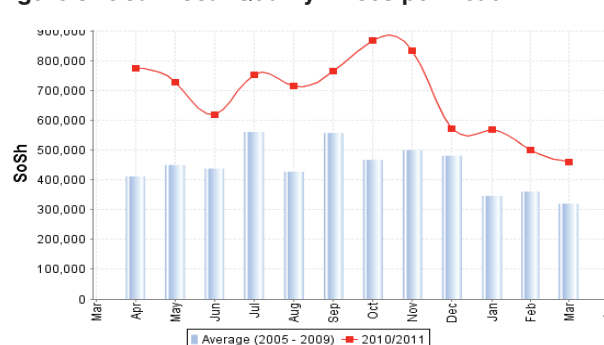


Figure 3: Goat Local Quality Prices per Head



Local quality camel prices in the reference year was higher than the five year average prices (April 2005-March 2010). The average monthly prices for camel in the reference years April 2010-March 2011 was Sosh 8,515,129 while the average monthly value for the 5 years was Sosh 5,515,129. This means that, Camel prices in the reference year are 157 percent of the five years averages.

4.2 Milk Prices

Livestock products (milk) are relatively important income sources in Dawa pastoral livelihood zone. Pastoralists supply goats and camel milk to the main towns of Dolow, Beled-hawa and Lugh. In the reference year, the average price of fresh camel milk was Sosh 15,551 while the average monthly value for the 5 years average is Sosh 13,421. These means that, reference year average monthly milk prices are 16 percent higher compared to 5 years monthly milk average prices. Camel milk prices in Dawa pastoral are mainly determined by the level of milk supply which is directly related to seasonal rainfall performances and related pastoral practices such as migrations patterns. For instance, in a bad season where Dawa camel pastoralist migrate to middle juba, camel milk prices will be high in Dawa pastoral livelihoods and very low in Middle Juba regions where the camel migrated to.

4.3 Cereal Prices

The most important staple food commodities purchased by Dawa pastoralist are white maize, imported red rice, wheat flour and red sorghum and non-staple foods (sugar, tea leaves, vegetable oil). The purchasing power of the pastoralist varies depending on wealth group status and level of income and is directly related to among other things, the number of saleable animals, their body conditions and existing market demands for livestock.

White maize

The price of white maize in Dawa pastoral livelihood zone is normally affected by fluctuations in the exchange rate, regional/national production which affects market supply and local demand or even the prices of substitute commodities like sorghum and rice. The average Maize prices for the reference year was Sosh 13,001 which was 19 percent higher compared to the five year average (SoSh 10,954). High prices in the reference year was particularly influenced by the months of January-March 2011 which coincided with the start of the sever 2011 drought in Somalia that was characterized by crop failure in Somalia leading to low supply of maize to the markets and consequent inflation.

Imported Red rice

The price of imported red rice Dawa pastoral livelihood zone is normally affected by fluctuations in the exchange rate, international prices variations, changes in fuel, transportation costs, market supply and local demand. The average rice price for the reference year was Sosh 25,194 which was 11 percent higher as compared to the value for the five year (SoSh 22,705) averages. High prices in the reference were particularly influenced by the months of January-March 2011 which coincided with the starting of the 2011 severe drought in Somalia that was characterized by crop failure leading to low supply of local cereal markets and consequent inflation.

Figure 4: Sheep Export Quality Prices per Head

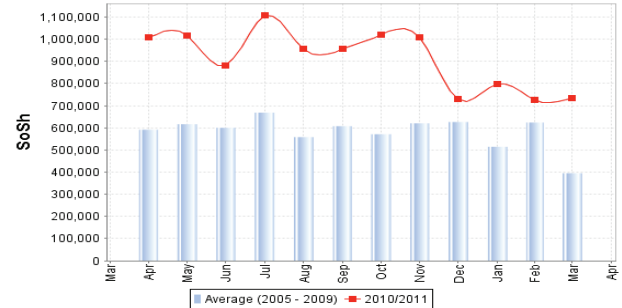


Figure 5: Camel Local Quality Prices per Head

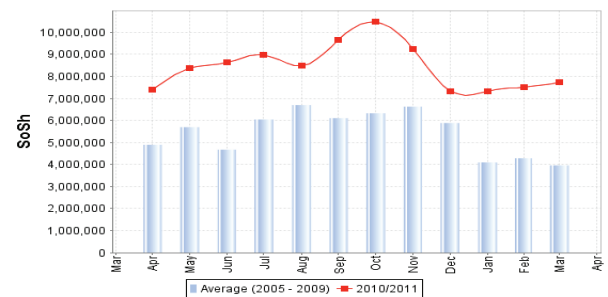


Figure 6: Camel Milk Prices per 1 Litre

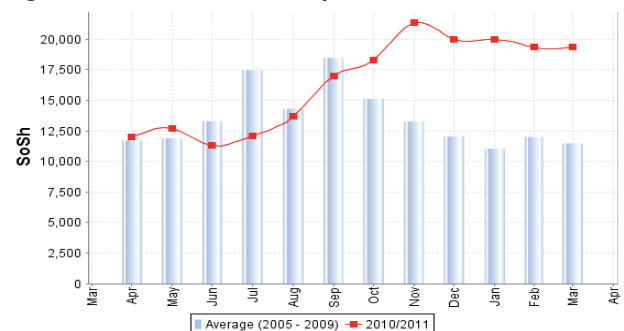


Figure 7: White Maize Prices per 1kg

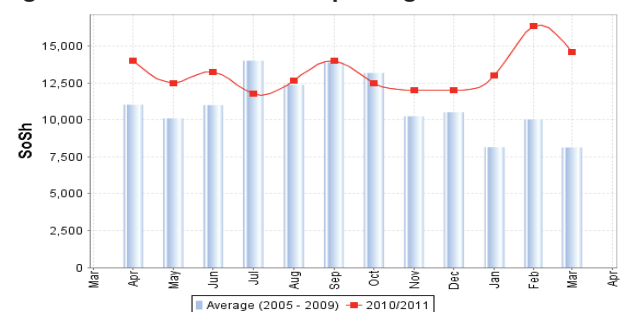
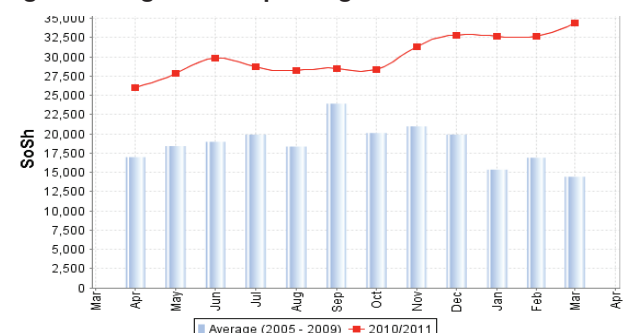


Figure 8: Sugar Prices per 1Kg



4.4 Non-Staple Food (Sugar, vegetable oil and Cowpea)

The price of Sugar and Vegetable oil in Dawa pastoral livelihood zone are, normally, like other commodities affected by fluctuations in the exchange rate, international prices variations, changes in fuel and transportation costs, market supply and local demand. The average sugar and vegetable oil for the reference year was SoSh 29,327 and 49,649 respectively. Sugar prices in the referenced year was 58 percent higher compared to the 5 years averages (SoSh 18,440). While average vegetable oil price in the reference year was 22 percent higher compared to the 5 years average (40,656). Sugar and oil are more important non staple food commodities for Dawa livelihoods and have exhibited similar price trends in the reference year.

4.5 Terms of trade

In the reference year, the Terms of trade (TOT) between local quality goats to 1kg of white maize remained stable from the beginning of the reference year but decline steadily during the third quarter of the referenced year. For example, in April 2010, (first Months of the reference year) one local quality goat could purchase 55 kg of imported maize compared to 32 kg in March 2011. in the referenced year, TOT between goat to maize was 55kg which is 11% decline compared to the 5 years average (52kg).

5. LIVELIHOOD ASSETS

This section presents the main livelihood assets that the households in different wealth groups in the Dawa pastoral livelihood zone have access to and utilize. The assets described include both communal (public) and individual (household/domestic) assets.

5.1 Natural Capital

Access to rangeland resources

All pastoral households, regardless of wealth group, in the Dawa pastoral livelihood zone have access to open grazing areas, which are mainly communal grazing lands. Most of the soils in these landscapes have low moisture and nutrient availability, and in some areas are characterized by stoniness and limited root depth. As such, the main vegetation types in the livelihood zone are open woodland and shrubs with isolated patches of grasslands and closed thickets. These rangeland resources support pastoral livelihood systems by providing good forage materials for livestock.

Access to water resources

Most of the surface water sources in the Dawa pastoral livelihood zone are perennial and most of the rainfall is lost through surface runoff, infiltration and evaporation. The majority of flash-flood events are localized in these types of streams. Sub-surface flows and groundwater are available from seasonal springs as well as from shallow and deep aquifers. These are important sources of water for people and livestock living in the livelihood zone. Shallow wells are the main sources of water, followed by the river and individually owned small size dams or catchments (*Wara*).

Livestock production and ownership

A majority of households in the livelihood zone derive their livelihood from livestock production, mainly goats, sheep, cattle and camels. Despite the variations in livestock ownership across the different wealth groups (see Section 5: Wealth Breakdown), the contribution of livestock to household income and food is significant across the livelihood zone. Livestock and livestock products (milk, meat, ghee) contribute significantly to household food security.

Figure 9: Vegetable Oil Prices per 1 Litre

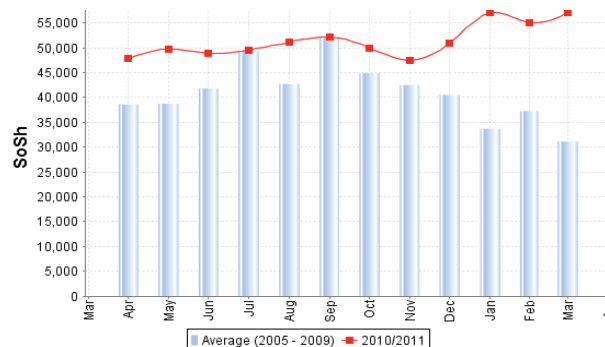


Figure 10: Imported Red Rice Prices per 1kg

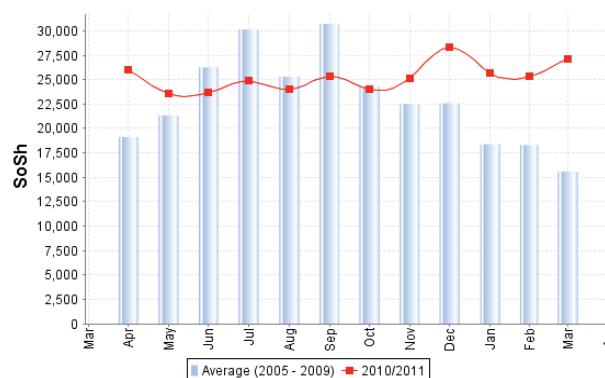
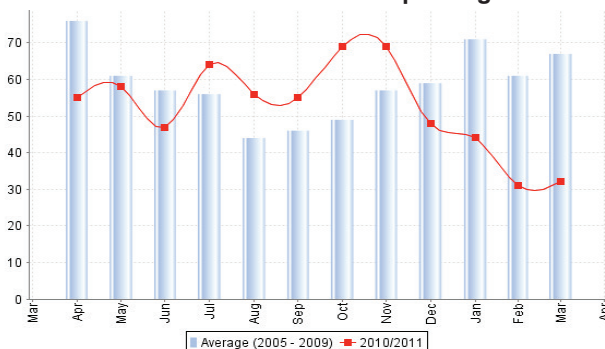


Figure 11: Terms of Trade between Local Quality Goat and White Maize Prices per 1Kg



5.2 Human Capital

Human capital is the productive wealth embodied in labour, skills and knowledge that directly influences livelihood choices and outcomes, including livelihood and food security. At the household level, demographic characteristics, such as household size, access to education, health and nutrition status are discussed.

Household size

Households in different wealth groups in the Dawa pastoral livelihood zone have varying family structures and sizes. The poor are monogamous, the middle wealth group tend to have 1-2 wives, while most of the better off households are polygamous (2 wives). In terms of household size, the better off have more household members (10 people), while the middle and poor comprise of 8 and 7 members, respectively. The difference in family sizes is due to the need by most better off families for more labour to herd their large livestock herds. Most of the households in the three wealth categories have 2-3 males and females above the age of 16 years and two males and two females each under the age of 16.

Access to education

Access to formal education in the Dawa pastoral livelihood zone is limited due to the lack of formal learning institutions. Most poor and lower middle households access and attend Koranic schools in the main and small villages as well as along the water points in rural areas, while the upper middle and better off households access formal schools in the main towns. Most poor households send one boy and one girl to Koranic schools and at least 1 boy to formal school. The middle wealth group sends between 2-3 boys and 1 or 2 girls to Koranic schools. About 2-3 boys and 1-2 girls in the better off wealth groups access Koranic education, with 2 boys and 1 girl accessing formal education. Although Koranic schools are generally accessible to all pastoral households in the livelihood zone, the pastoral nomadic lifestyle, high cost of formal schools, insecurity and the limited number schools hinder access to education in Dawa Livelihood zone. This observation shows that an increase in wealth provides greater access to education.

Food security, health and nutrition

The nutrition assessment among the pastoral (Dawa and Southern Inland) population of Gedo in post Gu 2010 estimates a Global Acute Malnutrition (GAM) rate exceeding 16.3 percent and a Sever Acute Malnutrition (SAM) rate as exceeding 3.7 indicating a Critical level of malnutrition. This was the beginning of the reference year of the baseline report while towards the end of the reference year (*Deyr* 2010/11) the nutritional situation for the same population deteriorated to a Very Critical nutritional situation. GAM rate of 26.4 percent and SAM rates of 4.4 percent. *Deyr* 2010/1 was the beginning of the famine in Somalia and particularly a devastating draughts in Gedo region. This was attributed to chronic factors (poor dietary quality, sub-optimal child care and feeding practices, and limited access to basic human services such as safe water and health and sanitation facilities), which predispose populations to high morbidity and high levels of acute malnutrition. These factors were further aggravated by the poor *Deyr* 2010 rains that led to poor livestock production that affected access to milk and income and reduced purchasing power among pastoralists due to sharp increases in food prices as a result of the severe drought.

Table 3: Nutrition Situation Gu 2007- Deyr 2009/10

| Period | GAM % (CI) | SAM % (CI) | Nutritional Phase |
|----------------|-----------------|----------------|-------------------|
| □ DEYR 2009/10 | >20 | 3.5(2.2-5.5) | Very critical |
| □ GU 2009 | 22.6(18.3-27.5) | 5.4 (3.9-7.5) | Very critical |
| □ DEYR 2008/9 | 27.4(23.7-31.6) | 10.8(8.3-14.0) | Very critical |
| □ GU 2008 | 22.8(18.2-27.4) | 5.1(3.4-7.5) | Very critical |
| □ DEYR 2007/8 | No survey | No survey | No survey |
| □ GU 2007 | 18.2(14.9-22.1) | 6.7(5.0-8.8) | Critical |

On the other hand, the acute food security phase classification of Dawa pastoral livelihood determined by the food security and nutrition outcomes in the period before the reference year and even afterwards are presented in Table 4.

Table 4: IPC progression in Dawa Pastoral Livelihood Zone

| Livelihood Zone | Estimated Population in Livelihood Zones | Acute Food and Livelihood Crisis (AFLC) | Humanitarian Emergency (HE) | Total in Crisis & Emergency as % of Rural population |
|-------------------|--|--|--|---|
| Post Gu 2011 | 81,654 | 23,000 | 13,000 | 44 |
| Post Deyr 2010/11 | 81,654 | 27,000 | - | 33 |
| Post Gu 2010 | 81,654 | 17,000 | - | 21 |
| Post Deyr 2009/10 | 81,654 | 16,000 | 13,000 | 36 |
| Post GU 2009 | 81,654 | Flagged as an area with high dependency to humanitarian assistance | Flagged as an area with high dependency to humanitarian assistance | Flagged as an area with high dependency to humanitarian assistance. |

5.3 Social Capital

Migration patterns

As discussed earlier, households in the pastoral livelihood zone practice nomadic lifestyles, with a few areas having pastoral settlements. In lean times, some pastoralists migrate to areas in Lower Juba and across the borders to either Kenya or Ethiopia in search of pasture and water. Others however, migrate to the riverine areas or neighbouring urban areas to seek labour opportunities

Institutional Support

Households in the Dawa pastoral livelihood zone have access to institutional support that they may draw on for resources and support. These include a range of local administrative and leadership structures, government and non-governmental organizations, UN agencies and religious groups that are located in the main towns. Pastoralists sometimes get support from these institutions in the form of relief interventions during times of shock.

Formal support (zakat) and informal support (gifts)

Households in the middle and better off wealth groups gave the obligatory *zakat* in the form of live animals to the poor households as part of their obligatory contribution based on the Islamic faith. *Zakat* in cash was received from more well-off relatives in urban areas and even those residing abroad. Additionally, the poor households receive *zakat* in the form of food and cash gifts given as *zakatul fitr* (a special form of *zakat* which becomes obligatory on each Muslim individual at the end of the fasting month of *Ramadan*).

Remittances

Most middle and better off households received social support in the form of remittances from relatives living in the main towns, as well as those residing across the border in Kenya, Ethiopia and from the Diaspora. Although the poor households did not directly receive remittances, they accessed some portions of the remittances their relatives in the main towns received, through sharing. Major remittances companies that operate in Gedo region like most parts of south central are: D ahabshil, Kaah, Amaana, Amal, Iftin Express among others.

5.4 Physical Capital

The physical capital discussed in this section include housing structures and access to water and sanitation, road networks, electricity and telecommunication services, credit and financial services.

Housing structures and settlements

For better off households and some households in the middle wealth group, the quality of materials used in a housing structure is a good proxy indicator of wealth. Most better off households live in structures made of formal/commercial material, across all livelihood clusters, while most middle and poor households live in traditional Somali huts made of natural and/or rudimentary materials (poles and ropes) and covered with grass thatch, reeds or polythene bags. Most of these houses are clustered in pastoral villages and reflect a lifestyle that includes seasonal/frequent migration.

Water infrastructure

Pastoral households rely on three main sources of water, namely shallow wells, small bore holes, of which there are few, and water catchments. The water drawn from these sources is mainly used for human and livestock consumption and domestic use. These sources of water are not well protected, which is a key predisposing factor increasing water borne ailments, especially among children.

Transport Infrastructure

In the pastoral livelihood zone, poor road access is common. The dirt roads are passable during the dry season, though in poor condition. The pastoral livelihood system practiced in the zone requires intense road transport for access to markets, and the poor transport infrastructure in the region is a key factor in determining pastoralists' vulnerability.

Telecommunication

Most of the villages have access to mobile phones, which they use mainly for communicating information on rainfall, pasture and water availability, migration, marketing of livestock and livestock products and security surveillance. Mobile phones are also used by many households to receive information on remittances and for seeking social support.

5.5 Economic Capital

The forms of economic capital presented in this section include access to loans and credit, wealth, seasonality and expenditure.

Access to loans and credit

Most middle and better off households have access to credit and even the poor to a lesser extent, which they use mainly during times of shock. The credit/loan is normally unconditional and is paid back when normal pasture and water availability

resumes following a good season, when livestock body conditions improve and livestock fetch better prices. This improves incomes and enhances the ability for debt repayment. Loans are mainly offered by better off households in the rural and urban areas, as well as shopkeepers in the main towns.

Wealth, seasonality and expenditure

In the Dawa pastoral livelihood zone, expenditure on food and other essential non-staple food items when wealth levels increases. Conversely, expenditure on non-food items increases with increased wealth. The percentage of household income spent on food is highest among the poor households compared to the better off and upper middle wealth groups. This is due to the economic ability of better off households to not only meet basic food needs but also to purchase non-essential items. The major periods of lowest expenditures are normally associated with the two rainy seasons (Gu'and Deyr), while the periods associated with highest expenditures are associated with dry seasons (Jilaal and Hagaa). In the pastoral livelihood zones, expenditures typically follow the livestock production (seasonal) calendar.

6. WEALTH BREAKDOWN

6.1 Wealth characteristics

This section presents the characteristics of the different wealth groups in the Dawa pastoral livelihood zone. In Household Economy analysis wealth is a relative term that can be defined as a group of households within the same community, living in a particular geographic area, who share similar capacities of access to the different food and income options. In the pastoral livelihood system, wealth is principally determined by the level and type of asset holding (mainly livestock), as well as other characteristics such as family structure and household size.

In the Dawa pastoral livelihood zone, households are divided in to poor, middle and better-off wealth groups. The poor represent approximately 40 percent of the total population, the middle wealth group are 45 percent and better-off are 15 percent. The poor are composed, on average, of 7 household members, while the middle and better-off are composed of 8 and 10 household members, respectively. The better off have larger livestock asset holdings than the middle and poor. On average, the poor own 10 sheep, 23 goats, 4 cattle and 3 camels, whereas the better off own 20 sheep, 60 goats, 23 cattle and 10 camels. In addition, the better off and middle own 3 and 2 pack animals (donkeys), respectively.

Figure 12. Wealth Breakdown in Dawa

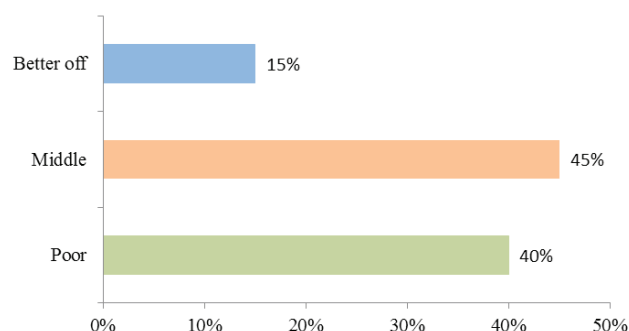


Table 5. Changes in Wealth Group Characteristics during the Reference Year compared to old Baseline of 1999

| Wealth characteristics | 1999 | | | April 2010-March 2011. | | | Change by wealth group | | |
|------------------------|------------|---------------|---------------|------------------------|------------|-------------|------------------------|--------------|---------------|
| | Poor | Middle | Better off | Poor | Middle | Better off | Poor | Middle | Better off |
| % households | 35% | 50% | 15% | 40% | 45% | 15% | 10% increase | 5% decrease | No change |
| HH size | 4-6 (5) | 7-8 (7) | 8-10 (9) | 6-8 (7) | 7-8 (7) | 9-10 (10) | increased:40% | Same | Increased:11% |
| Camel owned | 3-10 (6) | 15-20 (17) | 20-30 (25) | 3-5 (4) | 8-10 (9) | 20-30 (25) | decreased 34% | decrease 53% | No change. |
| Cattle owned | 3-15 (9) | 20-25 (22) | 30-40 (35) | 3-5 (4) | 10-15 (12) | 20-30 (25) | decrease 56% | decrease 46% | decrease 29% |
| Goats owned | 30-80 (55) | 100-150 (125) | 150-200 (175) | 20-50 (35) | 30-90 (60) | 40-150 (95) | decrease 36 % | decrease 52% | decrease 46% |
| Sheep owned | | | | | | | | | |
| Donkey owned | 1-3 (2) | 3-5 (4) | 5-10 (7) | 1-2 (1) | 2-3 (2) | 3-4 (3) | 50% decrease | 50% decrease | 57% decrease |

As is shown in the table above, noticeable changes have occurred in the livelihood zone since the first baseline in 1999. Camel holding among the poor and middle has reduced by 34 percent and 53 percent, respectively. Likewise, cattle holding for the poor, middle and better off has reduced by 56 percent, 46 percent and 29 percent, while goat holding has also reduced by 36 percent, 52 percent and 46 percent, respectively. This indicates significant reduction in asset holding among all wealth groups in the livelihood zone.

6.2 Herd dynamics

The tables below present livestock herd dynamics for different wealth groups in the reference year. This shows herd off-take against the number of livestock sold, deceased, slaughtered, lost or stolen. While variations are evident by wealth group and species, the total holding at the end of the reference year (April 2010-March 2011) for sheep, goats and camels indicated an increasing trend. This is attributed to increased birth rates of these species against off-take. Cattle herd dynamics, however, remained unchanged.

Table 6. Shoaat Herd Dynamic Performance during the Reference Year

| | Poor | | Middle | | Better off | | Average herd growths across the wealth groups | |
|-----------------------------------|------|-------|--------|-------|------------|-------|---|-------|
| | Goat | Sheep | Goat | Sheep | Goat | Sheep | Goat | Sheep |
| Number at start of reference year | 23 | 11 | 40 | 15 | 63 | 25 | 42 | 17 |
| Adult female | 13 | 6 | 21 | 8 | 34 | 13 | 23 | 9 |
| No. born during the year | 9 | 4 | 15 | 5 | 20 | 8 | 15 | 6 |
| No. sold | 4 | 3 | 7 | 4 | 9 | 6 | 7 | 4 |
| No. slaughtered | 2 | 1 | 2 | 2 | 4 | 2 | 3 | 2 |
| No. died | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 |
| No. given away | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 |
| No. bought | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. lost or stolen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. at end of reference year | 25 | 10 | 44 | 13 | 66 | 23 | 45 | 16 |

• Herd growth for goats: Herd growth in the reference year is 7% increase (*no at end of Ref / no at the beginning of the ref year.*), calving rate is 36% while off take (*no at the start of Reference year + no .born in the reference year/ No sold+slaughtered+died+given away + lost*) is 21%.

• Herd growths for sheep: Herd growth in the reference year is 6% decrease (*no at end of Ref / no at the beginning of the ref year.*), calving rate is 35% while off take (*no at the start of Reference year + no .born in the reference year/ No sold+slaughtered+died+given away + lost*) is 30%.

Table 7. Camel Herd Dynamics Performance during the Reference Year

| | Poor | Middle | Better off | Average for camel a cross the Wealth groups |
|---|------|--------|------------|---|
| Number owned at start of reference year | 3 | 9 | 25 | 12 |
| Adult female | 1 | 4 | 12 | 6 |
| No. born during the year | 1 | 2 | 6 | 3 |
| No. sold | 0 | 1 | 1 | 0.7 |
| No. slaughtered | 0 | 0 | 0 | 0 |
| No. died | 0 | 1 | 1 | 0.7 |
| No. given away | 0 | 0 | 1 | 0 |
| No. bought | 0 | 0 | 0 | 0 |
| No. lost or stolen | 0 | 0 | 0 | 0 |
| No. at end of reference year | 4 | 9 | 28 | 14 |

• Herd growths for goats: Herd growth in the reference year is increased by 17% (*no at end of Ref / no at the beginning of the ref year.*), calving rate is 25 % while off take (*no at the start of Reference year + no .born in the reference year/ No sold+slaughtered+died+given away + lost*) is 21%

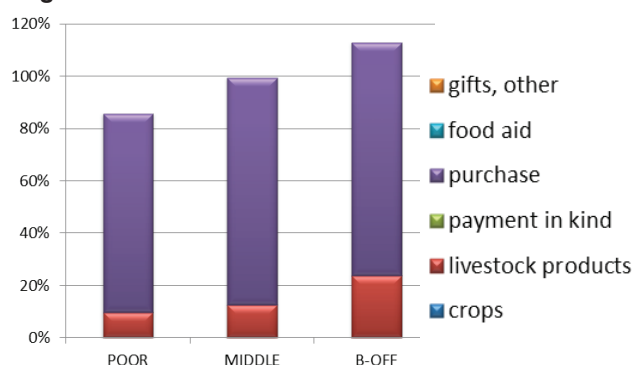
Table 8. Cattle Herd Dynamic Performances during the Reference Year

| | Poor | Middle | Better off | Average for camel a cross the Wealth groups |
|---|------|--------|------------|---|
| Number owned at start of reference year | 4 | 9 | 13 | 7 |
| Adult female | 2 | 4 | 6 | 4 |
| No. born during the year | 1 | 2 | 2 | 2 |
| No. sold | 1 | 2 | 2 | 2 |
| No. slaughtered | 0 | 0 | 0 | 0 |
| No. died | 0 | 1 | 0 | 0 |
| No. given away | 0 | 0 | 1 | 0 |
| No. bought | 0 | 0 | 0 | 0 |
| No. lost or stolen | 0 | 0 | 0 | 0 |
| No. at end of reference year | 4 | 8 | 12 | 7 |

• Herd growths for cattle: No change in herd growth in the reference year (*no at end of Ref / no at the beginning of the ref year.*), calving rate is 28% while off take (*no at the start of Reference year + no .born in the reference year/ No sold+slaughtered+died+given away + lost*) is 22%

7. LIVELIHOOD STRATEGIES

Livelihood strategies result from the combination of all the forms of capital available to individuals or households. Knowledge of livelihood strategies and how households access income is crucial in determining the sustainability of household livelihood and food security. This section discusses the livelihood strategies of different wealth groups in the Dawa pastoral livelihood zone.

Figure 13: Sources of Food

7.1 Sources of Food

The main sources of food in the Dawa pastoral livelihood zone, in order of importance, are market purchase, own livestock production (livestock and livestock products) and loans. Markets play an important role in food security. Through the well known classical functions of distribution and exchange, markets bring food to the livelihood zone from areas characterized by production surplus. All wealth groups obtain their food needs through market purchase. The main food commodities purchased include cereals (rice, wheat flour, maize) and non-staple foods (sugar, vegetable oil and cowpeas). The quantities consumed and frequencies of purchase vary from one wealth group to another, influenced by the household size. Poor households for instance, own 35-45 shoats; 3-5 cattle and 4-5 camels. Most therefore rely on one milking camel and one milking cow as well as 14 goats. From the milk produced, poor households consume about 28 percent while the middle and better off consume 29 percent and 32 percent of the milk produced, respectively.

In the reference year, poor households met 86 percent of their energy requirements for survival from 50 percent cereals (rice, wheat flour and maize) and 26 percent from non-staple foods like sugar, vegetable oil and cowpeas while Consumption of livestock products accounted for (10%) of the food needs. Daily caloric intake for the poor households only managed to reach 1 806 kcals below the required 2 100 kcal per person per day. This caloric deficit is linked to below average reference year, which was associated with drought, insecurity and livestock out-migration. This deficit had implications on nutritional status and dietary diversity of the poor households, though the magnitude of its effect was minimal.

The middle and better-off depend mainly on market purchase of cereals. These groups achieved 99 percent and 113 percent of their energy requirements, respectively. The annual cereal consumption for the middle wealth group was 910kg of cereals, comprised of maize (63%), rice (21%) and wheat flour (16%). The better off consumed 1,164Kg of cereals, representing maize (52%), rice (24%) and wheat flour (24%). Sugar is a non-staple food item that is considered a key dietary ingredient and consumed by all pastoral household members including children. The poor wealth groups consume 4 bags (50kg) of sugar, while middle and better-off used respectively 5.5 bags and 6.5 bags annually. The amounts consumed also varied by season due to relatively increased consumption of livestock products, which required the increased use of sugar in wet seasons and decreased amounts of food purchase. Other essential foods such as cowpeas and cooking oil contributed to household energy needs, though they were purchased in minimal quantities.

Livestock holding and livestock product use also increased across the wealth levels. The middle wealth group owned 55-60 shoat, 7-10 cattle and 9-10 camels, while the better-off had 80-100 shoats, 10-15 cattle and 25-30 camels. The total amount of milk obtained by the middle wealth group from the number of lactating animals in the reference year was 3120 liters, of which 61 percent sold (58% camel, 37% cattle and 5% goat). The better-off households benefit more from livestock products, consuming 63 percent of the total milk production (60% camel, 38% cattle and 2% goat). Poor households sell 65 percent of their total milk production mainly from camel.

7.2 Sources of Income

The most important sources of income in the Dawa pastoral livelihood zone are livestock and livestock products sales, self-employment (firewood, charcoal burning, etc), loans, cash gifts and remittances. All wealth groups generate their primary income from the sale of livestock and livestock products. The average annual incomes in the reference year, by wealth group, were: SoSh 32-35,500,000 for the poor, SoSh 50-65,000,000 for the middle and SoSh 85-100,000,000 for the better off wealth group. The average annual income for the poor are about 80 percent lower compared to the income of the middle wealth group and over 270 percent lower compared to the income of better off households.

Among the poor wealth group livestock product sales contributed 45%, livestock sales contributed 31%, self employment contributed 19%, and loans 5%. A similar trend was also observed among the middle and better-off wealth groups. This income trend among pastoral households in Dawa deviates from the income trends in other pastoral contexts in Somalia.

One reason the income trend in Dawa differs from that in other pastoral areas could be that poor livestock body conditions and decreased number of saleable animals forced all wealth groups to sell more milk than normal. Poor households earned significant income from self-employment such as firewood and charcoal burning, which contributed 19% of their annual income, followed by loans in cash from the better-off in both rural and urban towns. The bulk of the annual income for the middle and better off wealth groups was derived from the sale of livestock sale and livestock product sales, which contributed 79% and 95% of the total annual income, respectively. Both wealth groups also received remittances from abroad. The middle wealth group also obtained some income by collecting and selling bush products (firewood and charcoal production).

Figure 14: Sources of Income by Wealth Group

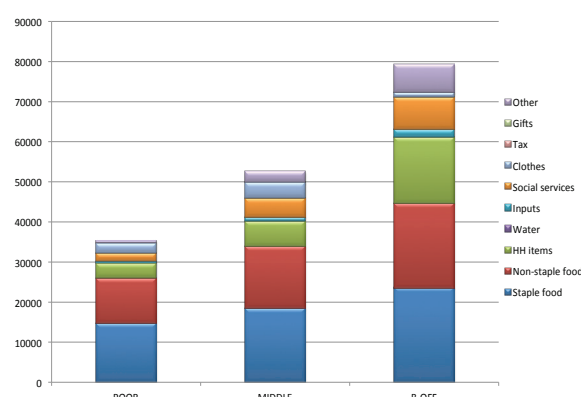


7.3 Expenditure patterns

All wealth groups in the Dawa pastoral livelihood zone spend their income in a similar way, as they all depend on food purchase from the markets. Thus, market exchange is essential for the pastoral livelihood, as it plays an important role in making available otherwise unavailable food items to the pastoralists. Staple and non-staple food purchases represent a major portion of household expenditure across all income groups. The main staple foods purchased by the pastoralists in the livelihood zone are maize, rice and wheat flour. All wealth groups also spend a significant proportion of their annual income on the purchase of non-staple foods such as sugar, vegetable oil and cowpeas.

The total amount of income spent on basic cereals varies across the three wealth groups. The poor wealth group spends 42 percent of their total annual income on staple foods, while middle and better off wealth groups used 35 percent and 30 percent on staple purchases, respectively. Non-staple food purchase accounted for 32 percent, 29 percent and 27 percent of the total expenditure. Expenditure on household items varies from the poor (10%), middle (12%) and better-off (21%). Expenditure patterns by different wealth groups are presented in Figure 15 above.

Figure 15: Expenditure Patterns by Wealth Group



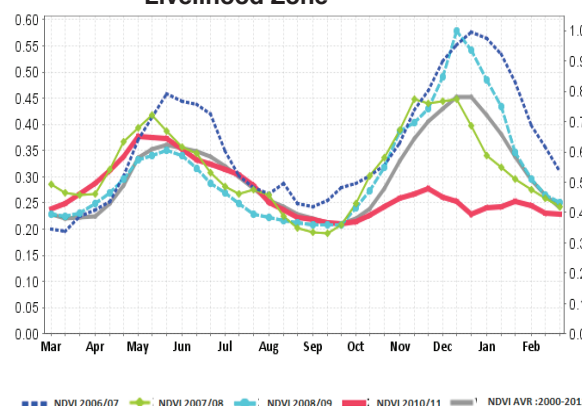
8. HAZARDS AND VULNERABILITY CONDITIONS

The main hazards affecting Dawa pastoral households are, in order of importance: persistent drought, civil insecurity and conflicts, market disruptions and border closures, livestock and human disease, and environmental degradation.

8.1 Persistent drought

Drought is the biggest risk or hazard increasing the vulnerability of Dawa pastoral households. Below normal rainfall conditions in the reference year and persistent droughts in previous years affected pasture and water availability for human and livestock use, leading to loss of livestock in extreme situations. In recent years, the frequency, duration and intensity of droughts has increased, and coupled with conflicts and insecurity, these have been associated with mass migrations and family separations. Normalized Different Vegetation Indices (NDVI) analysis (Figure 16) clearly show that vegetation productivity in the last three years has sustained a below average (0.5) trend, despite a spike in *Deyr* 2011. Persistent droughts deteriorate livestock body conditions, leading to low price for livestock, declining incomes from the sale of livestock and livestock products, low purchasing power, and increasing inability to meet minimum energy requirements, especially for the poor. This continues to exacerbate livelihood, food and nutritional insecurity. In the most extreme cases, complete loss of livestock assets in a severe drought pushes pastoralists to destitution, and subsequently to migration and the establishment of peri-urban settlements in urban areas in Gedo and across the border in Kenya and Ethiopia, where they can easily access casual employment opportunities and depend on humanitarian assistance as internally displaced persons (IDPs) or refugees.

Figure 16: Trend Analysis of NDVI in Dawa Pastoral Livelihood Zone



8.2 Civil insecurity and conflict

Civil insecurity is a chronic problem that continues to exacerbate livelihood and food insecurity in Southern and Central parts of Somalia. Persistent conflicts cause displacement of households, deaths of dependable household members, or even loss of assets. In the Dawa pastoral livelihood zone, civil insecurity and conflict affect pastoral livelihoods systems, disrupt trade flow and access to essential food and non-food items, and restrict movement of nomadic pastoralists to range land resources needed for livestock production. Civil insecurity continues to displace pastoralists to other parts of Gedo region or into neighbouring regions within Somalia or Kenya and Ethiopia. Sporadic fighting between Federal Government of Somalia forces supported by the African Union Mission in Somalia (AMISOM) forces on the one hand and anti-government insurgents on the other hand has at times restricted the flow of food and other basic items, which in turn has increased food prices and the cost of living. An adverse outcome of persistent conflict and civil insecurity is the disruption of trade linkages between key markets in the Dawa pastoral livelihood zone and the source markets in Kismayo and Mogadishu in Somalia, Garissa and Mandera in Kenya, or Dolow in Ethiopia. Moreover, tensions over control and access to rangeland resources is a common occurrence, which sometimes results in the loss of lives and livestock and disrupts population and livestock movements.

8.3 Market disruptions and border closures

All wealth groups in the Dawa pastoral livelihood zone obtain their staple and non-staple food items through market purchase. Any shocks to the supply or prices of the essential food and non-food commodities will inflate prices, making them unaffordable. In some cases, civil insecurity, conflicts and closure of Kenya-Somalia and Ethiopia-Somalia borders disrupt trade flows and migration to access pasture and water, which further increases the cost of accessing essential items. This predisposes pastoral households to food insecurity and affects household purchasing power, which in extreme situations can impair household survival threshold. Given the importance of markets both for livelihoods and as main sources of food, almost all households in the livelihood zone are vulnerable to any factors that disrupt market activities.

8.4 Human and livestock diseases

Since livestock is the main livelihood asset in the zone, livestock disease is the most significant hazard affecting livelihood assets. In the reference year, normal livestock and human diseases were reported. The livestock diseases included tick-borne diseases and Contagious Caprine Pleura Pneumonia (CCPP), which were responsible for the deterioration of livestock body conditions in the dry seasons and reducing livestock sales. Lack of grazing, combined with long trekking distance to water points and poor forage quality, predispose livestock to diseases such as internal parasites (*Gooriyan*), diarrhoea (*Shuban*), lumpy skin disease, and *diif* (a respiratory diseases affecting shoats).

8.5 Environmental degradation

A major cause of environmental degradation in the Dawa pastoral livelihood zone is the indiscriminate cutting of trees, clearing of tree branches and trunks, and intensified charcoal burning practices. The demand for charcoal as a source of energy is encouraging this unsustainable practice. Loss of trees leads to scarcity of water, lower rainfall, and high evaporation. Removal of vegetation cover through deforestation and overgrazing exposes the land surface to the agents of soil erosion, a key environmental concern in the livelihood zone that is causing land degradation. Moreover, as land is degraded, pastoralists intensify migration, thereby increasing environmental stress in the livelihood zone.

Other constraints that affect livestock production in the Dawa pastoral livelihood zone include:

- Lack of or very limited support from livestock extension services;
- High cost of livestock production inputs (water in dry months, drugs for treating disease);
- Unsafe water sources (unprotected shallow wells);
- Poor education facilities; and
- Poor health facilities.

9. COPING STRATEGIES

Food security is typically associated with cyclical and long term trends that affect availability and access to food. The impact of shocks on households depends on asset holding and the household's ability to cope. The better-off and middle households have more assets and diverse sources of income than the poor, which enable them to recover much faster from persistent shocks. Households normally employ coping strategies in times of stress. During times of shock, poor households in the Dawa pastoral livelihood zone intensify milk and livestock sales and seeking of social support, especially remittances from middle and better off relatives and friends living in urban areas or abroad. Others intensify collection of firewood, construction materials and charcoal making. Cash or in-kind support is intended to sustain them through the hard times until normal conditions resume. Livestock migrate to Jubba regions and Ethiopia, with some family members. Additionally, poor households migrate to neighboring urban towns in search of casual labour activities, such as portering for men and domestic work for women and young girls. The cash or food income earned is usually sent back to their families. This is summarised in the below table:

Table 9: Coping Strategies used by Poor Households

| Season | Gu 2010 | | | Hagaa 2010 | | | Deyr 2010 | | | Jilaal 2010 | | |
|---------------------------------|--|-----|------|--|-----|-----|--|-----|-----|--|-----|-------|
| Months | April | May | June | July | Aug | Sep | Oct | Nov | Dec | Jan | Feb | March |
| Social support | overall social support remained normal(livestock loa) | | | Remained normal | | | Declined social support due to poor Deyr rainfall performance | | | Increased social support seeking. | | |
| Charcoal/ Firewood | Firewood collection decrease during main rainy season | | | Medium collection of bush products | | | Firewood collection decrease | | | Peak charcoal burning and collection of construction poles and firewood | | |
| Labour migration | Minimum labour migration. | | | Minimum labour migration. | | | Increased labour migration | | | Peak labour migration to main towns | | |
| Livestock sales | Decrease in the main rainy season, due to increased milk consumption | | | Slightly increased sales | | | Decreased livestock sales | | | Increased livestock sales | | |
| Livestock migration | Normal migration within the region | | | Same as Gu's season | | | Abnormal migration to jubba , Bay, L/shabelle regions | | | Remained where they moved during the deyr season | | |
| Minimize non essential purchase | Normal pattern of food and non food purchase | | | Normal pattern of food and non food purchase | | | Increase staple purchase and minimized non staple and non food commodities | | | Increase staple purchase and minimized non staple and non food commodities | | |

Table 10: Early & Crisis Warning Indicators

| Key Indicators to Monitor | | |
|---|--------------------------------------|------------------------------|
| Climate Water and pasture availability | Livestock condition Cereal prices | Livestock prices Security |

| Key indicators to Monitor and Early Warning Signs in a Crisis Year | | |
|--|--|---|
| Month | Key Indicators to Monitor | Early Warning Signs |
| April | Gu rainfall start Pasture and water availability livestock conditions Livestock and cereal prices | Failure of rains in week 3 and 4 in the months of April Poor livestock body conditions Livestock movements Increasing cereal price and low terms of trade |
| May | Rainfall intensity and distribution | Poor water and pasture availability Low livestock milk production and high milk prices Abnormal livestock movements towards Jubba, Ethiopia and Bay regions. |
| June | Local Cereal and imported food commodity prices. Livestock prices livestock conditions Milk prices | Increased cereal prices Increased Livestock migration towards Bay, Shabelle, Jubba regions. Declined Terms of trades between Goat/cereals. Livestock concentration to favorable pockets. Conflicts on resource sharing |
| July | Cereal prices Livestock prices Water prices | Escalated cereal prices and low terms of trade Increase of seeking social support. Increase of indebtedness. |
| August | Cereal prices Livestock prices livestock conditions | High cereal prices and low livestock prices Increase of indebtedness Low term of trade Increased loan in kind. |
| September | Cereal prices Livestock prices Poor livestock conditions | High cereal prices and low livestock prices Low purchasing power Failure of crops |
| October | Deyr rainfall start | Failure of rains in the last 2 weeks of October |
| November | Continuation of Deyr rains and distribution. Water and pasture availability Milk prices/livestock prices | Failure of rains Poor livestock conditions and prices Low conception rate Abnormal livestock movements To Jubba, Ethiopia, Bay etc Livestock concentration to favorable pockets. Conflicts on resource sharing Decline of TOT |
| December | Cereal and livestock prices Pasture and water | Poor terms of trade High cereal prices and low livestock prices Livestock conditions |
| January | Cereals availability and prices. Livestock prices. Water availability. Milk availability. | Poor terms of trade. High cereal prices. |
| Feb | Cereals availability and prices. Livestock prices. Water availability and prices. | Onset of water scarcity and migrations to permanent water points mostly riverine |
| March | Cereals availability and prices Livestock prices Water availability and prices Milk availability | Onset of water scarcity and migrations to permanent water points mostly riverine. Reduced milk production/access. |

10. Conclusion and Recommendations

Based on the findings of this baseline study, a greater proportion (40%) of Dawa pastoral populations forms the Poor wealth group. This wealth group receives about 75 percent of their total households income from livestock and livestock product sales. Being Purchase dependents; more than 70 percent of the total annual incomes are spent on food and non-food item and yet is not enough to cover for the poor household's minimum energy requirement for survival due to slightly below normal reference year.

Therefore, it's evident from the study that livestock holding is the key factor that determines access to food and income for the Dawo pastoral communities. However, the repeated drought hazards tend to adversely affect this livelihood, due to its effects, on livestock price and subsequent decline of incomes from the sale of livestock and livestock products, low purchasing power, and increasing inability to meet minimum energy requirements, especially for the poor. This continues to exacerbate livelihood food and nutritional insecurity as was evident from the analysis of change in livestock holding, price trends, Terms of Trade magnitude and severity of food insecurity and malnutrition presented in the earlier sections. In the most extreme cases, the declining level of livestock assets has deepened poverty level of the population; and the establishment of peri-urban settlements in Gedo and across the border in Kenya and Ethiopia, and inevitably increases further exploitation (increasing charcoal burning) of natural resources unsustainably. This will lead to environmental instability and threat to the already fragile ecosystem.

In order to enhance livelihood security and sustainable development, appropriate development priorities and actions need to be focused on the following areas:

- In the wake of the recurrent droughts that devastates the rangeland resource, which in turn, negatively impacts on livestock body condition, reproduction and their market value, Dawa pastoral communities need to be mobilized and introduced to appropriate techniques of grass/fodder preservation to prepare the communities to respond effectively to the aftermaths of drought shocks. This will improve the livestock condition as well as prevent the livestock owners and herder from the agony of incurring high cost of out migration or even extreme scenario of losing livestock to drought.
- Veterinary services in pastoral areas should be improved in order to enhance livestock reproduction and production. Promotion of livestock disease control through sustained vaccination program and restriction of livestock movements during disease break out. These can be done through the training of community animal health workers and vet personnel, setting up of veterinary clinics and increasing pastoralist access to veterinary knowledge and responsible use of livestock drugs.
- Water availability in Dawa pastoral for both human and livestock in the dry season's grazing block, should be improved through the harvesting of runoff water involving construction of dams and drilling of boreholes at strategic points while considering the location of grazing areas. Poor households can be supported collectively or individually to dig water catchments through cash for work programs to improve their long term resilience to drought and short term access to food security.
- Charcoal and firewood contributes significantly to the income of the poor population of the livelihood. If this continues at the current pace however, considerable land degradation will be inevitable in the long run impacting negatively on the wellbeing of the livestock reared in Dawa pastoral livelihood which form the backbone of the economy not to mention the unaccounted damage to the general ecosystem. In that regard, indiscriminate cutting of trees should be prohibited. Stake holders (local partners, Governments and community leaders) need to mobilize local communities in identifying alternative options for livelihoods diversification other than charcoal and firewood.
- 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
- The rehabilitation of access roads is critical to improved livelihood and food security in the Dawa pastoral livelihood zone. Livestock marketing strategies that will enhance cross-border livestock trade will help to find both national level and international level markets for local livestock.

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

- Seasonal rainfall performance
- Livestock migration patterns
- High staple and non-staple food prices
- Effects of conflicts on livestock migration patterns
- Effects of closures of the borders such as Kenya and Ethiopia on livestock prices and supply of staple and non-staple food commodities.
- Causes of the critical nutrition situation among the pastoralist
- Prices of charcoal and firewood in Dawa pastoral livelihoods and the devastating impact on the environments mostly the rangeland resources.

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(Footnotes)

1 Rank: 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.

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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