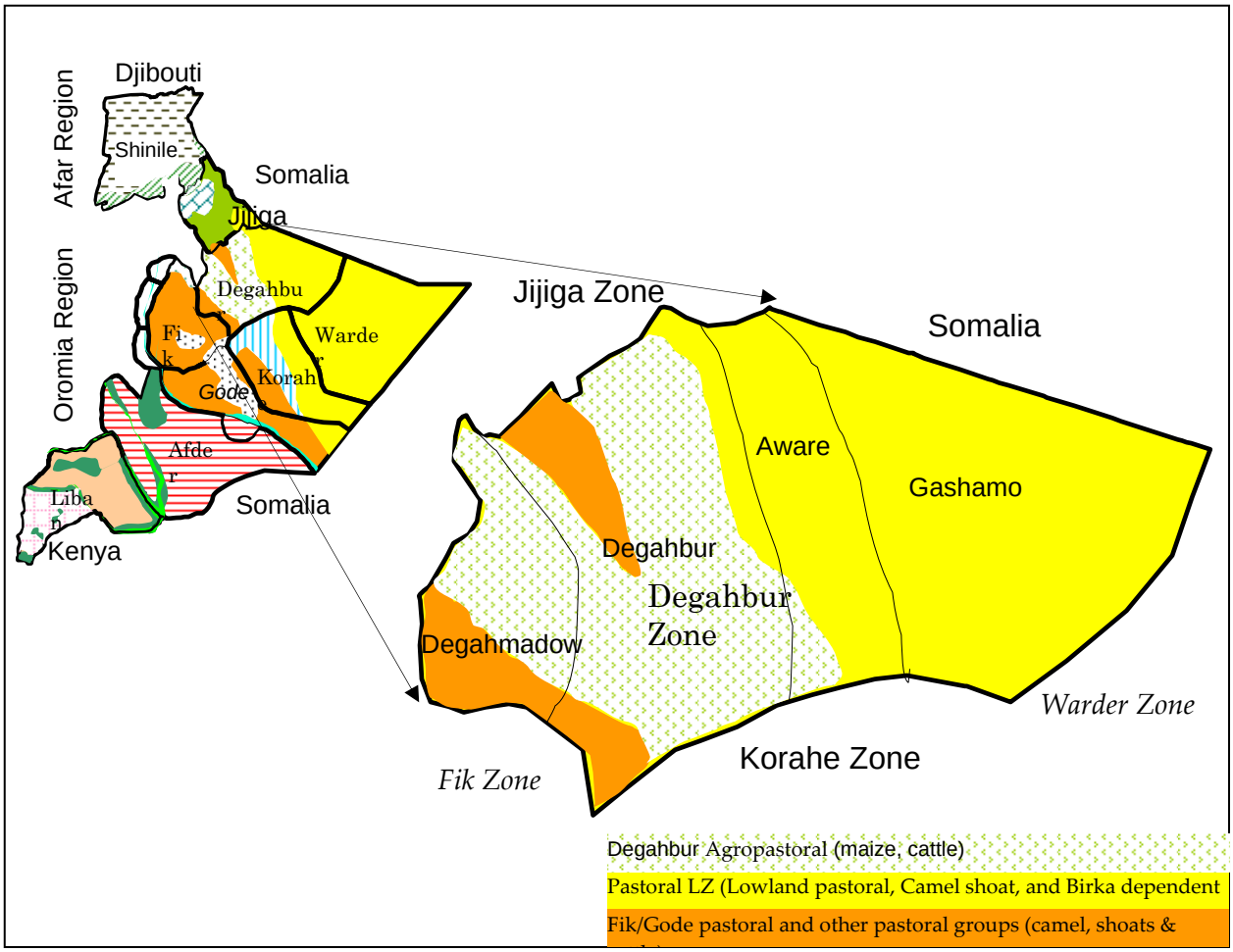
Degahbur Agropastoral Livelihood Zone

(Sorghum, Maize, Shoats, Camels and Cattle)

Degahbur Administrative Zone, Somali Region, Ethiopia



An HEA Baseline Study
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Terms and Acronyms

ACF	Action Contra la Faim
Berkad	Cemented man made water reservoirs (mostly private) designed to capture rainwater
Deyr	Rainy season between October and December
Diraa'	Rainy season from late March to late May
Doogaad	Wet seasons
DPPB/D	Disaster Prevention and Preparedness Bureau/Department
ECHO	European Commission Humanitarian Office
LZ	Livelihood Zone
FS/EW	Food Security Monitoring/Early Warning
Gu	Rainy season between early April and June
Hagaa	Dry season between July and September
HCS	Hararghe Catholic Secretariat
IDPs	Internally Displaced Persons
ishkin	Large ruminants – camels and cattle
Jilaal /Qoraxeed	Hot dry season between late December and March
Karan	Rainy season between late July and late September
Koombo	Unit of weight equivalent to 0.5Kg
OFDA	USAID Office for Foreign Disaster Assistance
OWDA	Ogaden Welfare and Development Association
OWS	Ogaden Welfare Society
PCAE	Pastoralist Concern Association Ethiopia
Qoodi	Land measurement approximately 0.2 hectares
Quintal	100-kg bag.
SC-UK	Save the Children-UK
SC-USA	Save the Children-USA
SNRS	Somali National Regional State
TOT	Terms of Trade
WFP	UN-World Food Programme
Zakat	Religious gift (Obligation) by rich to poor (e.g. 10% of rainfall harvest)

1. Executive Summary

Degahbur administrative Zone consists of 4 districts, namely Aware, Degahbur, Degahmadow and Gashamo. Degahbur Zone is bordered by Jijiga Zone to the northwest, Somalia to the north, Warder Zone to the east, Korahe Zone to the south and Fik Zone to the west.

Degahbur Zone has two main Livelihood Zones (LZ), namely Agropastoral and pastoral. There are also small Urban populations and some displaced groups commonly called IDPs. Based on local classifications, the pastoral LZ constitutes 65-75% of the population, the Agropastoralists 25-35% while the Urban groups are small – about 5% or less.

The Agropastoral Livelihood Zone (LZ) covers most of Degahmadow and Degahbur districts. Livestock rearing and land cultivation is the major engagement of the LZ. Sorghum is the major crop grown in the area although maize is also grown in some parts of the LZ. Animals reared are shoats, camel and cattle, in that order of importance and number. Main water sources are hand-dug wells (both deep and shallow) found within the valleys and *berkads* in the north.

The majority of agropastoral families (about 80%) are monogamous. Most of the polygamous households have two wives and are mainly from the better-off group. Household size is 7-9 members. Within households work is shared according to gender although there are overlaps.

The Agropastoral LZ has got links with other LZ for commercial and grazing purposes. These include pastoral groups within the Zone and in neighbouring Zones; main livestock markets like Hartasheikh, as well as neighbouring agropastoral groups in Korahe and Jijiga.

Livestock ownership (all species) and the size of cultivable land owned determine wealth in the LZ. The LZ can be divided into three main wealth groups (WG) – the Poor, the Middle and Better off, which form 25-35%, 45-55% and 15-25% respectively of the population.

All the wealth groups in this LZ have similar food sources - own crop, staple and non-staple purchases, and milk and ghee. Own crop production is the most important food sources for all WGs but in different proportions. In a normal year, the Poor purchase the highest amount of cereals, while the Better off does not purchase any. The poor receive a significant amount of gifts.

Income sources for the three WGs are also similar and only differ in proportion. Their main income sources are sale of livestock, livestock products and crop sales. Crop sales and livestock sales are more important for the poor wealth group than for the richer wealth groups, because the richer groups get relatively more income from sales of milk

and milk products (ghee). The poor sell crops because they need the cash but not because they produce surplus.

The expenditure pattern of all wealth groups is also similar except that better-off households do not purchase staple cereals in a normal year. The common items on which all the different wealth groups spend on include non-staple purchases (sugar, tealeaves, and salt), social services (education, clan taxes, *zakat*, and human medicines), household items (clothes, soap, etc) and vet drugs (inputs). The poor spend relatively more of their income on food than the other WGs.

The Agropastoralists are vulnerable to a number of risk factors, which reduce their ability to produce and be self-reliant. These include recurrent droughts, water shortages, livestock export restrictions and market failure, and poor social services – road, health, vet services, schools, etc.

The community employs a number of risk minimising and coping strategies in order to minimise the effects of these risk factors. They are mostly indigenous strategies that could be strengthened. The main recommendations for development include, strategies to help agropastoralists become self reliant, improve extension and social services, remove barriers to free trade (especially import/ export), rehabilitation of IDPs, encourage marketing cooperatives, and assist in grain storage.

2. Introduction

2.1 Purpose of the study

In the past there has been a chronic scarcity of socio-economic baseline information in Somali Region, which has made it very difficult for decision makers (Government, aid agencies and donors) to make decision on both short-term and long-term interventions. On occasions, such as the 1999/2000 drought, this inability to make quick decisions has had catastrophic consequences for the people of the Region. In an attempt to prevent such occurrences in the future, a project aimed at improving the Food Security Monitoring and Early Warning (FS/EW) capacity of the Region was established. This project is a joint effort by Save the Children–UK (SC-UK) and the Disaster Prevention and Preparedness Bureau (DPPB) of Somali National Regional State (SNRS), Ethiopia[1]. The objective of the pilot phase of the project was to collect baseline information on livelihoods and develop a workable model for food security monitoring that will be built into government structures throughout the Region in Phase II

This report is one of 13 other Household Economy baseline assessment reports that have been produced by the project, during the periods of September-October 2001 and January-March 2002. Participating organisations in these baseline assessments included: DPPB (together with all DPPD offices), SC-UK, WFP, SC-USA, ACF, HCS, PCAE, OWS, OWDA and Al-Najah Charity. The baseline exercise comprised of classroom training, three weeks of fieldwork and one week of analysis and write-up.

Based on a reference or typical year, baseline reports were compiled for households belonging to the specific Livelihood Zone (LZ). The reports provide both qualitative and quantitative information on the normal mode of survival and the vulnerabilities of the different livelihood groups found in the Region, as well as information on how they respond to crises. These reports supply decision makers with useful information to make informed decisions, which will facilitate timely and appropriate responses and prevent possible disasters. The information also sheds light on longer-term food security issues and can therefore help in the planning of development initiatives.

2.2 Methodology

The Household Economy Approach (HEA) has been used as the assessment and analysis tool for the baseline studies. This Approach provides a rapid food security assessment technique and has been used by SC-UK for a number of years in parts of Africa and Asia. For a brief introduction to the Household Economy Approach please refer to Appendix 9.1. For further details refer to "The Household Economy Approach: A resource manual for practitioners" by John Seaman, Paul Clarke, Tanya Boudreau, and Julius Holt

1 The Food Security Monitoring and Early Warning (FS/EW) Project, in Somali Region, Ethiopia, is a joint undertaking by Save the Children – UK and the Regional Disaster Prevention and Preparedness Bureau. USAID/OFDA and ECHO fund the pilot phase (Year 1) of the project. Additional financial support was received from SC-Canada and WFP. Partners in the baseline exercise included: WFP, ACF, SC-USA, HCS, PCAE, Al-Nejah Charity, OWDA, LVIA, and the Government Bureau of Livestock Environment and Crop Development.

3. Background

3.1 Degahbur Zone

Degahbur administrative Zone consists of 4 districts, namely Aware, Degahbur, Degahmadow and Gashamo. Jijiga Zone borders Degahbur Zone to the northwest, Somalia to the north, Warder Zone to the east, Korahe Zone to the south and Fik Zone to the west.

3.2 Agro Ecology, Geology, & Water

Agropastoralism in Degahbur Zone
The Degahbur agropastoral LZ (subject of this study) covers large parts of Degahbur and Degahmadow districts and a small pocket in the south of Aware district. This group practices both crop production (using rain-fed and flood recession) and livestock herding using extensive grazing in the rangeland. In the dry seasons crop residue is also used as fodder for livestock. The main crop is sorghum but some maize is also grown, while the livestock species reared include shoats, camels and cattle. Agro-ecologically, the LZ can be categorised into three areas – the higher northern flank (Ararso areas), the relatively less potential south-central areas (along Jerer valley) and the western flank (Degahmadow district, along the Faafan valley). The main water sources in the agropastoral areas are shallow wells dug in the dry riverbeds of Jerer, Faafan. There are also the perennial wells in Bulale and Degahbur town.

The northern flank is found in the northern part of Degahbur district and around the Ararso area and has a relatively higher altitude. Its location is important for crop farmers because it lies between the karan rain receiving areas of Jijiga Zone and the deyr receiving areas of Degahbur Zone. This area has a relatively longer history for farming. Maize is predominantly grown in this area due to a serious problem of quellea-quellea birds, which discourages sorghum growing (though sorghum has higher potential). These northern agropastoralists have close similarities with the neighbouring Kabribayah agropastoral groups in Jijiga Zone, who also grow maize.

The south-central areas (around Degahbur, Higlaley, Obole, Gosololey, Gunagado, southern Aware and areas around Birkot) grow only sorghum. They have a relatively more recent history of farming and a lower potential for farming. This south-central area shares similarities with the agropastoral pockets of Aware and also the agropastoralists in Sheygosh district of northwestern Korahe Zone.

The western flank, stretching between Faafan (east) and Daakhato (west) valleys is all found in Degahmadow district. This part is similar to the neighbouring agropastoral areas of Fik Zone. The western flank is punctuated by hilly terrain (which is good for grazing and browse) and plains, which are used for farming. The main crop in the western flank is also sorghum, although maize is also grown. Table 2 summarises the main features of the LZ.

	Northern Flank	South-Central Flank	Western Flank
PA's(villages)	Ararso area in the north of Degahbur district	Degahbur and surroundings, Higlaley, Obole, Gosololey, Gunagado, Birkot area and the southern part of Aware district.	Most villages in central, north and east of Degahmadow district (lying between Faafan and Daakhato valleys)
Crops grown	Maize & Sorghum	Sorghum	Sorghum
Livestock species *(in order of importance)*	Cattle, shoats and camel	Shoats, camel & cattle	Shoats, camel & cattle
Source of water	*Berkads*	Hand dug wells	Hand dug wells
Valleys passing through	Jerer	Jerer and Faafan	Faafan, Sulul & Daakhato

Table 1 - Main features of the Agropastoral LZ

3.3 Infrastructure & Social Services

Livestock and cereal markets

In the pre-livestock ban period[2], the most important market for all types of livestock species was the Degahbur town market, where many livestock traders would come to buy livestock for export. This market is more accessible than any other in the Zone and had a good supply of all livestock species. Degahbur town market used to be a marketing hub for livestock from all of Degahbur Zone as well as the neighbouring Zones of Fik, and parts of Gode and Korahe distircts. In recent times (post livestock ban periods), Babile market has taken over this 'hub' role, but only for cattle and camels. Nevertheless, pastoralists and agropastoralists in the Zone still market their livestock in Degahbur market, although demand is much below what it used to be in the pre-ban times.

Degahbur town market is also the most important market for cereals and other commodities, which supplies the agropastoral, pastoral and other population groups within the Zone. However in difficult times both the pastoral and the agropastoral communities mainly in Degahbur and Degahmadow districts turn to the neighbouring Jijiga Zone for cereal supply and people go to markets as far as Babile. In such times the southern part of the Degahbur Zone will resort to Korahe markets for supplies. In normal times Degahbur Zone would rely on Jijiga markets for vegetables like potatoes, onions, petroleum products, and chat.

[2] "The livestock ban" is the short for the livestock import embargo imposed by Gulf States on the Horn of Africa (HoA) countries. This ban is imposed from time to time in response to suspected outbreaks of livestock disease in one or more HoA countries. The last one was imposed in September 2000 and was not yet lifted at the time of this study.

In recent times (since the 1999/2000 drought) production has been very poor for both pastoralists and agropastoralists and therefore the population has been heavily dependent on relief food. This relief food has been helping to keep cereal prices down. The market has been useful in redistributing the benefits of relief food.

The Degahbur town market is also the most important market for selling livestock products like ghee and milk in normal times but at least for the nearby agropastoral and pastoral communities in surrounding areas.

Degahbur town market is linked to Hartasheikh and Hargaisa for all imported food and non-food items, however there are occasional injections of tealeaves and some non-food items from distant markets like Mogadishu.

Terms of trade (TT)

Normally livestock get good prices in the *doogaad* (wet seasons) since supply reduces in the rainy seasons[3] (as it is the fattening season) and because livestock body condition is good. On the other hand crops get good prices in the dry seasons (locally known as *diraa'*[4]) since demand is high and supply is less. The terms of trade for pastoral groups therefore decline in the dry season and improve in the wet season. For the agropastoralists, the terms of trade with regards to livestock improve in the wet season while with regards to crops, it improves in the dry season. However crop sales as a source of income is of little importance except for better off groups and therefore TT with respect to livestock is still more important for agropastoralists (as livestock sales is the most important determinant of purchasing power). TT in the normal year is such that one shoat can be exchanged for about 75-100kg of cereal.

Currency

Both the Somali shilling (Sosh) and the Ethiopian birr (ETB) are used in this LZ as mediums of exchange. However, in the periods before 2001 the Sosh was the most dominant currency and the only major supply of the ETB was normally through government employees. But because of the infiltration of the huge amounts of paper money (printed by businessmen in Somalia) into the local economy in 2001, the value of the Sosh with respect to the US dollar declined rapidly. This had inflationary effects and eroded purchasing power. Normally when the paper money is imported the Sosh quickly loses value with respect to the US dollar and imported commodities quickly adjust to the new higher Sosh rates. However, the prices of local commodities (milk, shoats, cereals, labour, bush products, etc) only increase with a lag but even then, eventually never increase enough to cover the lost value resulting from the devaluation of the Sosh. This therefore means that local producers will effectively lose income

[3] Normally livestock prices go up in the wet season in all pastoral/agropastoral areas mainly due to a reduced supply to the market. This reduced supply is due to a number of factors (1) This is the season for 'fattening' livestock and many pastoralists/agropastoralists do not like to sell animals, (2) Livestock move deep into the country to utilise wet season pasture and are far from markets, and (3) most importantly, since milk is normally abundant in the wet season, the need to sell livestock to get cash to buy cereals is reduced.

[4] *diraa'* in most of Degahbur Zone refers to the two dry seasons. In Jijiga and Shinile Zones, *diraa'* is used to refer to the *gu* rainy season (occurring between late March and late May)

although nominally their income may rise. Sometimes, the notes printed by some merchants are not accepted and this brings into circulation fake currency that is difficult to distinguish from the acceptable notes, resulting in huge loses for unsuspecting sellers. The overall effect of this is uncertainty and loss of confidence in the Sosh. As a result the ETB has been gaining currency in the last 2 years in Degahbur Zone with some trading centres (like Ararso, Obole, and Higlaley) starting to reject the Sosh. However, because of the high trade links with Somalia, the Sosh is unlikely to disappear. In the reference year (1996), the exchange rate was 1 ETB: 1000 Sosh.

3.4 Livelihood Zones in the Degahbur Administrative District

Defining Livelihood Zones

Central to the Household Economy Approach is the concept of Livelihood Zones (LZ). Different populations live by very different means depending on their ecological environment, their assets, culture, skills etc. Some may depend primarily on livestock or fishing, others on agricultural production. Because of rainfall, soil type or marketing possibilities, some areas will be suitable for cash crops (such as cotton or tobacco) and others will produce only cereal staples. As a result of these different circumstances different population groups will adopt different approaches for survival. A group or population that obtains its food and income sources form a broadly similar combination of means and that have similar response to shocks is known as a Livelihood Zone (LZ).

Most of the population in the Degahbur Administrative District are pastoralists and engage in seasonal movements for pasture and water, while the rest are agropastoralists, exploiting areas around dry river beds and flood recession plains in the Zone for crop production while still keeping livestock. There are also small groups that may be referred to as urban dwellers who rely on petty trading, livestock trade and provision of goods and services. There is also a small group of the internally displaced (IDPs). These LZs are discussed below and population proportions are given in the following tables (Tables 2 and 3).

Name of LZ	Districts covered in LZ	% of Administrative Zone's population	Number of people
Pastoral	Districts: Degahbur, Degahmadow, Aware, Gashamo	65 - 75	180,688 – 208,486
Agro-pastoral	Districts: Degahbur, Degahmadow, Aware	25 - 35	69,495 – 97,293
TOTAL		**100**	**277,981**

Source: Population figures from latest national census; proportions from this study, March 2002.

Table 2 - Livelihood Zones in Degahbur Administrative Zone

District/Zone	Rural Population	Agropastoral	Pastoral
Degahbur district	72366	60-70%	25-35%
Degahmadow district	38897	55-65%	35-45%
Aware district	90941	5-10%	85-95%
Gashamo district	75777	0%	90-100%
Degahbur Zone	**277981**	**25-35%**	**65-75%**

Source: Population figures from latest national census; proportions from this study, March 2002.

Table 3 - Distribution of Population by district and by LZ

In recent years, incidences of below normal rains and even droughts have become a common phenomenon. As a result livestock numbers have been declining, making pastoralism a difficult and unreliable occupation. Due to this, a large segment of the population has been transforming itself from pure pastoralists to agropastoralists and this is responsible for the current high proportion of agropastoralists in the Zone. These 'droughts' also displaced many households, creating what is commonly known as IDPs (Internally displaced persons), which are a common feature in the Zone. Current IDPs are mainly pastoral dropouts and may even be considered as a different LZ. IDPs are found in all the districts, but mainly in Aware and Degahbur districts.

Since the late 1980s, the north-eastern part of Degahbur Zone has also been a host to tens of thousands of refugees and returnees from Somalia and these have been accommodated in a number of refugee camps, collectively known as the Aware camps. At the time of this study, some of these camps were being closed and the refugees and returnees dispersed to their home areas, either in Somalia or Ethiopia. The refugees have had an impact on the environment, economy and social systems of the parts of the zone they have occupied for over a decade, but a discussion on this is beyond the scope of this study.

The Pastoral LZ

The Pastoral LZ is found mainly in Gashamo and Aware districts. There are also some pastoral groups in Degahbur and Degahmadow districts. The pastoralists in Gashamo, Aware and eastern Degahbur district are similar in terms of livelihood pattern to those of their eastern neighbour – The Lowland/Hawd pastoralists found in Warder and

northeastern Korahe Zone (see separate baseline study 2001). They are also similar to the Harshin pastoralists found in Jijiga Zone (separate Study by SC-UK in 1998). They keep mainly camels and shoats and are heavily reliant on *Berkads* for water.

The other pastoral groups are found in Degahmadow district and are mainly found on the western part of the Zone that neighbours Fik Zone. These are similar to the Fik_Gode Pastoral LZ (see separate study done among the Fik Pastoralists, 2002). Their main livestock species are camels, shoats and some cattle – they rely mainly on shallow wells for water. A small pastoral pocket in Degahbur district, which lies between Ararso and the Degahmadow agropastoral areas is thought to be similar to the Fik_Gode Pastoral LZ. However, this pocket is probably just used for seasonal grazing by both pastoral and agropastoral groups and may not be strictly a LZ.

The Agropastoral LZ

The Degahbur agropastoral LZ (subject of this study) covers large parts of Degahbur and Degahmadow districts and a small pocket in the south of Aware district. This group practices both crop production (using rain-fed and flood recession) and livestock herding using extensive grazing in the rangeland. The main crop is sorghum but some maize is also grown. All the livestock species - shoats, camels and cattle are reared. For details see the rest of the report.

Degahbur Zone is mainly occupied by the Ogaden, Issak and Abaskul Somali clans.

4. Food Economies

4.1 Degahbur Agropastoral Livelihood Zone

Population

Family Structure: Household Size

The overwhelming majority of families (about 80%) are monogamous. Most of the polygamous households have two wives and are mainly from the better-off group (for more on wealth groups see section 3.0 below). However, some poor and middle families may also have more than one wife.

Household size in this in the Agropastoral LZ is 7-9 persons, with variations among wealth groups. The better-off wealth group tend to have bigger household sizes because they are likely to have more children (although some grown up children may leave home), and because of the presence of hired labour and relatives staying with the households as dependants. Poorer households tend to be smaller because some members may leave home to seek paid labour activities or to stay with wealthier relatives as dependants.

In monogamous situations, the resources are in the hands of a single Household. However, when a second wife is married, the new wife (representing the new household) normally receives a smaller share of the livestock assets owned by the first household. However, land is not divided and the husband has to prepare new land for the new wife. Hence the first wife will normally have more assets than the new wife, usually well deserved, as her household would normally be much bigger than that of the second wife.

Intra-household responsibilities and duties

The father is responsible for all major decision making of the family and particularly the redistribution of family wealth in times of crisis. For example if one household faces shortages in assets, income or food, the father would instruct that resources be shifted from the better off household to the more unfortunate households. This can happen with or without the approval of the members of the donating Households.

The management and administration of the large ruminants (camel and cattle – *ishkin*) come directly under the control of the father while the immediate management of small ruminants (sheep and goats) come under the mother. The father will have to approve all livestock sales.

The nature of agropastoral production necessitates the division of tasks. Men usually carry out long-distance herding duties, usually for practical reasons. However, the organisation of the labour is flexible and women may even perform long distance herding especially when they are free from the burden of childbearing and child-care. Such flexibility does not apply to domestic tasks, which are always the responsibility of the women. In addition, women participate in farming activities of such as sowing, weeding, harvesting and threshing – which are primarily men's responsibilities. Women would therefore divide their efforts between domestic and other productive work.

Pasture surveying, watering livestock, livestock sales, building or repairing fences, and training the young pack camels are exclusive tasks for men. Men and women co-operate on specific livestock and crop production tasks but otherwise have distinct roles.

Men and women experience very different mobility patterns, as a result of the difficulty involved in livestock management (especially in moving them from place to place in search of pasture and water). Men would do most of the normal long distance livestock movement, they are responsible for visits to the towns or trading centres either to sell livestock and buy supplies for the households, or to gather information and participate in community meetings. The majority of women's labour takes place near the settlement - staying with the children and small ruminants and the milking in addition to routine farming tasks.

Children would assist the father or mother in their tasks depending on gender and will attend Koran school. Older children may substitute the mother or father in their routine tasks, depending on gender.

Variations within the LZ

Constraints That Limit Production Among Agropastoralists

There are certain constraints limiting the productivity of available resources (land, labour and livestock) of Degahbur agropastoral community. These constraints can be grouped under the following two headings:

A. Constraints to land productivity and crop and animal production:

1. *Rainfall failure*

   The local Agropastoral economy is characterised by its purely rain fed nature, in other words pasture and crop production, and water availability are all highly dependent on the amount of rainfall received in the two rainy seasons (*gu* and *deyr*). However the rainfall in the area has been unreliable and frequently insufficient for good production. Therefore both crop and livestock production is as uncertain and unpredictable as the rainfall. Since the 1997/98 el-nino year, the rainfall and therefore production has become even more unpredictable, making the agropastoral population more vulnerable to food insecurity.

2. *Lack of modern farm inputs and the use of poor traditional practices*

   There is no access to extension services and also modern inputs and technologies, both for crop and livestock production. For example people still use very rudimentary sowing and ploughing tools like pointed stick and they administer antibiotics (some for humans) to livestock using crude methods. This means that agropastoralists cannot expand their potential to produce more, which would have reduced the production uncertainty.

3. *Environmental degradation and shrinking range- land resources*

   Sedentarisation may be a natural process but there are some accelerating factors in this LZ. In the post-drought period a dramatic changes were observed as large segments of the population shifted from pastoralism to agropastoralism. As herd size of the different wealth groups reduced due to the effect of the drought, people resorted to looking for other alternative or complementary means of generating food and income. In their desperate attempts to establish themselves as crop farmers, the former pastoralists cleared large parcels of land in addition to expanding existing farms. As more farmland was

opened up pastureland shrank. Deforestation and environmental degradation, which seemed more pronounced in recent years, is an obvious side effect of this sedentarisation.

B. Constraints to labour productivity

Agricultural labour opportunities, which is an important source of income for poor wealth groups in a small area of the LZ (Birkot area) is unfortunately not available in most parts of the LZ. There are also no other labour opportunities except livestock herding and own farm labour. Hence, the income options of the agropastoral poor are extremely limited. Usually the poor would engage in wild product collection and sale, but the market for these items, particularly charcoal and firewood is limited to areas around Ararso and Degahbur towns.

Links with other LZ

Degahbur Agropastoral Livelihood Zone has got linkages with the following LZ and areas:

1. Lowland/Hawd Pastoral LZ (found in Warder, northeastern Korahe, and eastern Degahbur zones – This LZ provide seasonal grazing and migration option for the Agropastoral livestock, but is not a common resort as the LZ is largely *berkad*[5] dependent and has water problems. In return this LZ also provide market for cereal sales by the agropastoralists
2. Fik Zone – Fik Zone provides an important dry season grazing area for Degahbur Zone in general, and in bad years, the Agropastoral livestock may move to the western parts of Fik Zone. Also livestock from Fik Zone are supplied to Degahbur market for sale
3. Jijiga Zone – Jijiga Zone, particularly Babile and Jijiga districts, provide important dry season grazing for livestock from Degahbur. Jijiga Urban also provides most of the traded food and non-food commodities to the Agropastoral and pastoral populations of Degahbur.
4. Korahe Agropastoral – the link is mainly related to the sharing of the Faafan river and close ties between the farmers in the south of Degahbur and those in the northwest of Korahe Zone.
5. The livestock market of Harta Sheikh provides an important outlet for exported livestock. This market is in turn linked to Hargeisa and Berbera port in Somaliland. They are also the major source of imported commodities.

4.2 Historical Timeline

The Historical timeline follows the Somali traditional calendar, known as the *nairus* year as seasons and production are based on it.

Selection of the Reference Year

Household food economy analysis considers many different ways of recalling years. There are "traditional" years, "production" years and "consumption" years and the "reference" year.

In coming up with Historical timelines, the *deyr* season (which starts in October) is used as the start of the Somali traditional year. The traditional Somali year therefore spans across two Gregorian calendar years, starting with the *deyr* (October) and ending with the *hagaa* (September).

[5] *Berkad:* Cemented man-made water reservoirs (mostly private) that are designed to capture rainwater

Household food economy analysis ranks years using the traditional system of recall (the *deyr* season followed by the *gu* season for each traditional year) – since this is how people recall the past – but focuses on a "consumption year" for discussions with communities on how they lived during the year. This year is taken as the "reference year". It runs for 12 months from the time of major food production (the *gu* rains) through to just before the following *gu* rains (i.e. the end of the long, dry *jilaal*/*qorahxeed* or *jilaal* season). The "consumption" year therefore covers two Gregorian calendar years. Household economy interviews (with representatives from each wealth group) gather information about a specific year, and this provides a "benchmark" or set of reference values and behaviours against which to compare any other year.

The "reference" year chosen for review is one which is within recent memory (since production and prices will have to be remembered) and which was neither very good nor very bad (extremes can be misleading when we are trying to describe a livelihood system). For convenience we will call this year the "normal" year, but this should not be interpreted necessarily as being either "frequently-occurring" or "typical" as is often the case in agricultural societies. A "normal" year from a pastoral perspective might be a year where there is adequate rainfall in terms of intensity and distribution, livestock production is adequate in both seasons, animals and milk fetch good prices and grain is not too expensive. There is little migration or little insecurity. It could be argued that this description represents a "good" year than an "average" year. For this reason it is often more useful to talk of a "reference year" which allows us to describe typical households in a particular year.

For information on the Traditional Somali Calendar System please refer to Appendix 9.2.

As can be seen from the following table of events, this agropastoral LZ witnessed more or less below average rains in the last 10 years and mainly *deyr* rains performed worse than the *gu* rains except in a few cases (like el-nino year of 1997). Normally the *gu* rains are more important than the *deyr* rains in terms of pasture regeneration, water replenishment and crop performance.

Table 4 - Historical Timeline Degahbur Agropastoral LZ

Year	*Year name*	Deyr	Gu	*Comments*
2001/02		2	1	***Deyr**: poor rains but better than **gu** producing little pasture but no crop production; out migration of the remaining cattle to the same destinations. The suspension of food aid negatively affected the TT* ***Gu**: very poor rainfall and pasture no crop production out migration of livestock to Erer valley, Babile, Ceelo–obo and Burqaatirtiro; poor livestock market and poor terms of trade (TT) 1 shoat = 40kg of cereals; poor livestock condition.*
2000/01		1	3	***Deyr**: very poor rains, pasture and failure of crop production out migration of livestock to Faafan, Erer and Babile; TT 1 shoat = 50 kg .* ***Gu:** normal rains, crop production and pasture condition, livestock market was in a satisfactory condition particularly for dhaqaal (those for breeding); TT was good because of the food aid (1 shoat = 80 kg of cereals.*
1999/2000	*lo'jab* (cattle decimated) *dalaaq dheer* (plenty of (divorce) anaa kaa daran *(my situation is worse than yours)*	1	1	***Gu** and **Deyr:** Drought year. Failure of rains resulting in very scarce pasture, failure of crop production and out migration to the western areas of the Somali Region and to Oromia region. Very high mortality of livestock mostly cattle and sheep as well as humans (children and elderly); very high cereal prices matching by poor livestock market because of the over flooding of the market and poor physical condition TT 1 shoat = 10 kg of cereals*
1998/1999	booyad daba	1	2	***Deyr:** very poor rains, pasture and over all production. This was the beginning of the drought;*

Year	*Year name*	Deyr	Gu	*Comments*
	orad *(run after water tanker)*			*very high cereal prices and poor TT (1 shoat = 15kg of cereals), poor livestock market (high supply and poor quality animals).* ***Gu:*** *poor rains, but due to the previous el-nino which boosted production, food and pasture situation were near normal; no crop production; good livestock market and good TT (1shoat = 75kg of cereals)*
1997/1998	*deyr shuba* (*'Pouring deyr'*)	5	3	***Deyr:*** *plenty and very good rains, pasture and crop production, good livestock market and very cheap cereal prices; TT, 1 shoat = 150 kg of cereals.* ***Gu:*** *normal rains, pasture and crop production arm warm out break damaged the crop to same extent, good livestock market and good TT 1 shoat = 75 kg of cereals.*
1996/1997 Reference year	gororduuf *(nasal discharge)*	2	4	***Deyr :*** *poor rains and crop production but the condition was balanced by the left – over pasture and crop production of the preceding gu (deyri doog gu bixiyay bay ku faantaa "Deyr boasts with the pasture left over from the gu"* ***Gu:*** *good rains pasture and crop production. Good livestock market except camel. Camel mortality due to out break of gororduf; normal TT 1 shoat = 100kg of cereals.*
1995/1996		2	2	***Gu*** *and deyr: poor rains pasture and over all production. Insecurity due to clan conflict (malin guur and sheekhaash Somali clans). Very poor livestock market; out migration to Danan, Sibi and Garbo; poor TT 1 shoat = 20 kg*

Reference Year

The Agropastoral community identified 1996 (the year before the el-nino year) as the normal year. This year was characterised by above normal *gu* rains and below normal *Deyr* rains. The pasture and crop production was good. The livestock had good market (price) except camels that had a disease locally known as ', literally meaning 'nasal discharge' which is a symptom of the disease. As a result of this disease, the year was nicknamed *'Gororduf'*.

Local Units of Measurement and Summary of Reference Year Yields

All production information was collected using local units of measure and converted accordingly; Yield information was collected for the reference year. These data and measures are presented in Table 5 and 6 below:

S/N	Items	Local unit	Equivalent unit
1.	Cultivated land	*Qoodi*	0.2 ha.
2.	Cereals	*Koombo*	0.5kg
3.	Sugar	*Koombo*	0.5kg
4.	Salt	*Koombo*	0.5kg
5.	Tea leaves	*Koombo* or *Bakeeri*	

Table 5 - Local Units of measure

Seasonal production	**Yield in Average year**	**Duration**
Qoodi (*Gu*)	2.5 Quintals[6]	
Qoodi (*Deyr*)	1 Quintal	
Camel milk (wet season – *doogaad*)	4 litters/day	6 months
Camel milk (dry season – *diraa')*	1.5 litters/day	6 months
Cattle milk (wet season – *doogaad*)	2.25 litters/day	3 months
Cattle milk (dry season – *diraa'*)	0.75 litters/day	3 months
Goat milk (wet season - *doogaad*)	0.75 litters/day	2 months
Sheep milk (wet season – *diraa')*	0.25 litters/day	2 months

NB: Camel are milked for about 12 months in one lactation, cattle for 6 months and shoats for 2 months (normally only in the wet seasons)

Table 6 - Summary of Reference-Year information

Livestock Migration in normal and bad years:
Livestock migration in search of better resources (water and pasture), is very common in the pastoral and agropastoral livelihoods, both in normal and bad years.

The agropastoral community in Degahbur zone does not move far from their home areas in the normal years, and stay within the vicinity of their grazing lands, although this usually involves substantial movement and periods of staying away from the home.

In exceptionally poor years or seasons, long distance livestock migration occurs. Depending on the location and severity of the season, agropastoral livestock may move to the following destinations:

1. Northern agropastoralists (in the Degahbur-Ararso areas), may move to west and southwest of Jijiga;
2. South-central and western agropastoralists (Degahbur, Birkot, and Gunagado areas) may move to the eastern Degahbur, northwestern Korahe Zone, and to eastern part of Fik Zone.

[6] Quintal = 100kg

4.3 Seasonal Calendar

Figure 1 - Seasonal Calendar for Degahbur Agropastoral LZ

Activities	*Gu* April May June	*Hagaa* July Aug. Sept.	*Deyr* Oct. Nov. Dec.	*Jilaal* Jan. Feb. March.
Rainfall	Mid April-Early June		Mid Oct-Mid Nov	
Land preparation	====	====	==	====
Ploughing	====		====	
Sowing/Weeding	======		=====	
Harvesting		====		===
Camel milking	==========	==========	==========	==========
Cattle milking	==========	==========	===	
Shoat milking				
Milk selling	XXXXXXXX	xxxxxxxxxxxxxx	XXXXXXXX	xxxxxxxxxxxxxx
Moving to wet season grazing areas	==========		==========	
Pasture surveying				
Moving to dry season grazing areas		===		===
Cereal purchase	==		==	=====

4.4 Wealth Breakdown

The major determinants of wealth among Degahbur Agropastoral LZ are livestock assets, particularly cattle, shoat and camel ownership and cultivable land holding. Based on these criteria, the LZ can be divided into three wealth groups (WG) – the Poor, the Middle and Better off.

The Poor wealth group make up about 25-35% of the population, the Middle constitute 45-55% while the rich or Better off wealth group make up the 15-25%. There are also tiny groups that are outside these three groups – the very poor, the destitute and the very rich households. These are numerically insignificant and are not covered in this report.

The household size is generally the same across wealth groups and is 7-9 persons. The rich tend to have a slightly higher household size (within this range) while the poor tend to have a lower household size. This is because the rich may have one or more poorer relative staying with them, while the poor have one or more member staying away on casual labour or staying with a richer relative (explained in earlier section). Table 6 below, gives the proportion of the different wealth groups (WG) within the population and also provides the major wealth and family characteristics of the different WGs.

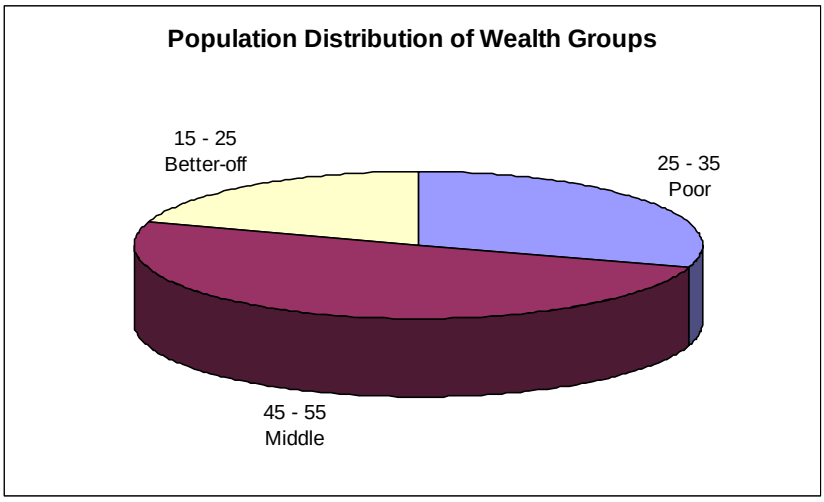

Figure 2 - Wealth Groups in Degahbur Agropastoral LZ

Table 7 - Wealth Characteristics

Wealth Group name & vernacular name	Poor	Middle	Better off
Characteristics			
number of wives	1	1	1-2
Household size	7	8	9
Number of members living away & where	1-2 live with middle & BO or away on casual labour		
Number of members from other family(ies)			1-2 – relatives

Wealth Group name & vernacular name	Poor	Middle	Better off
Characteristics			
Number of members earning income & who (in order of importance)			
LIVESTOCK			
Owned Shoats	20	50	80 - 100
Borrowed Shoats			
Female Shoats			
Male Shoats			
Lactating Shoats	5	14	22
Owned Cattle	5 – 8	20 – 30	40 - 60
Borrowed Cattle			
Female Cattle			
Male Cattle			
Ox(en)			
Lactating Cow(s)	2	6	8
Owned Camel(s)	0	15 – 20	30 - 40
Borrowed Camel(s)			
Female Camel(s)			
Male Camel(s)			
Lactating Camel(s)		4	7
Pack Camel(s)		1 - 2	2 - 3
Donkey(s)/Ass(s)	1 - 2	1 - 2	0 - 2
Mule(s)/Horse(s)			
LAND			
Land owned			
Land borrowed/rented for cultivation			
Total size of land cultivated[7]	2-3 Qoodi	4-5 Qoodi	6-8 Qoodi
Rainfed area			
Irrigated area			

4.5 Food Sources in the Reference Year

All the wealth groups in this LZ have identical food sources, namely own crop (sorghum), staple purchases, non-staple purchases (mainly sugar) and animal products (milk and milk products). Own crop production is the most important food source for all the three wealth groups too but in different magnitudes. Unlike the middle and poor WGs, the better-off households do not need to purchase staple cereals in a normal year because their own crops are sufficient; the Poor WG purchases the highest proportion of cereals. Food gifts among the poor WG are a significant source of food in normal years, but reduce in bad years as the situation of the donors deteriorates.

[7] For types of crops cultivated in area land need to describe this in section in section on land cropping patterns

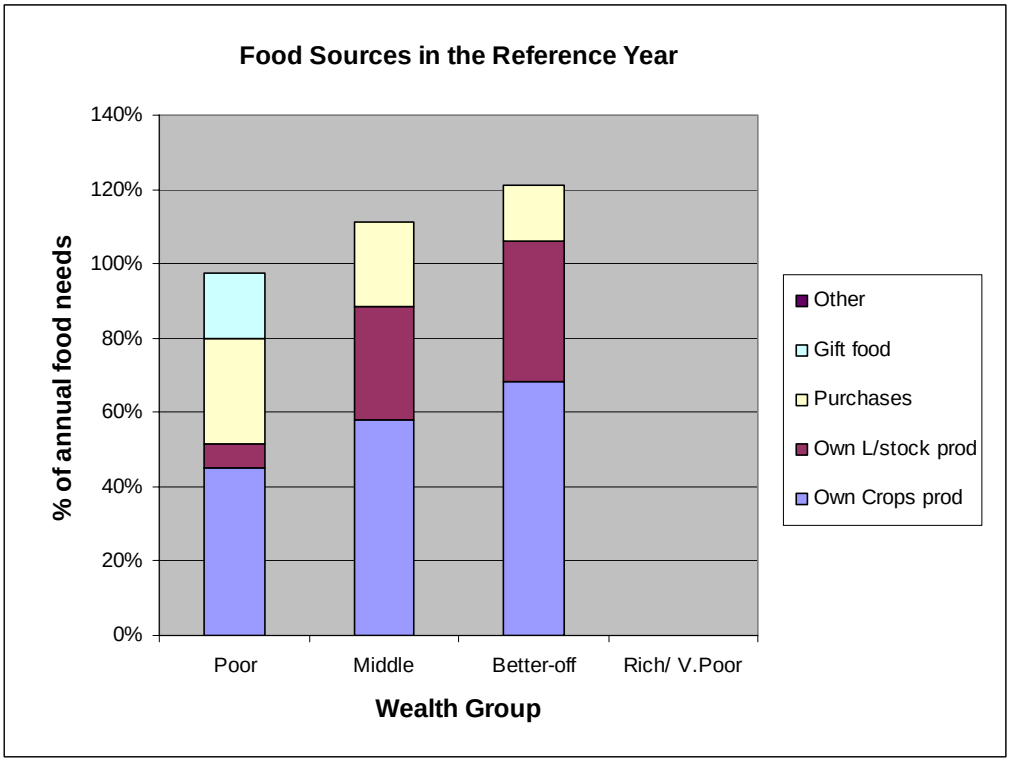

Figure 3 - Food Sources for all Wealth Groups in Degahbur Agropastoral LZ

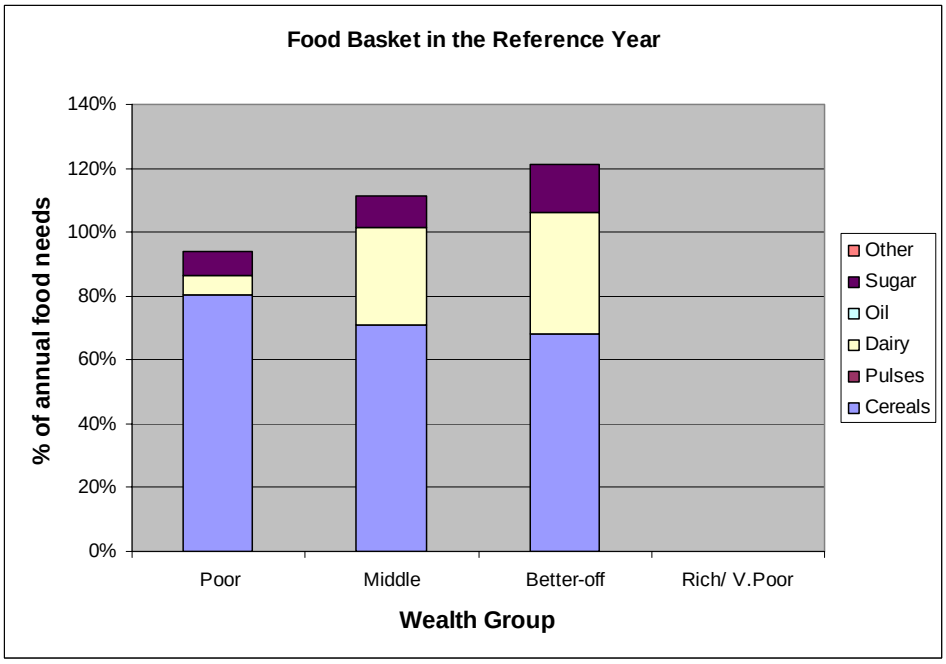

Figure 4 - Food Basket for all Wealth Groups in Degahbur Agropastoral LZ

Food Sources, Poor WG

As is true for all wealth groups, the own crop production remains the most import food source for the poor, which covers 40-50% of the annual food intake. A typical poor household consumes approximately 6 quintals out of the 8-8.5 quintals it produces annually (2 quintals are sold and 30kg is kept for seed). Cereal purchases constitute 20-25% of annual food needs, equivalent to 3 quintals of grain. Non-Staple purchases

(mainly sugar) provide 5-10% of the household annual energy. A poor household purchases about 90 Kg of sugar annually. Animal products (mainly milk and milk products; meat consumption is minimal) cover 5-15% of the total needs.

In addition poor households, unlike other wealth groups, receive gifts mainly in the form of grains and milk. A typical poor household receives approximately 2 quintals of cereal as gift in a normal year, mostly after harvests. 15-20% of the total annual household food needs is covered from the gifts (about 15% from cereal gifts and the other 2% from milk gifts – mainly camel milk). The poor obtain about 100-103% of 1900kcal[8] - i.e. they just manage to cover their food needs.

Food Sources Middle, WG

Own crop production (mainly sorghum) is the main food source covering 50-55% of annual food requirement of the middle household. About 8-9 quintals of their own harvest is consumed at household level in a normal year (their total harvest is about 15 quintals). Animal products (mainly milk and ghee) is the second most important source of food. This type of households also purchase staple cereals but to a less extent than the poor WG. Cereal purchases make up 10-15% of the middle WG's annual food consumption – i.e. about 2 quintals (200kg) of cereal is purchased. The least important food source is non-staple purchases (mainly sugar), which cover the remaining 8-10% of the food consumption in a normal year; a typical middle household purchases 135 Kg of sugar annually. Total energy obtained per person per day (pppd) from all food sources is 105-115% of 1900kcal.

Food Sources, Better-off WG

Own crop production is the most important food source, which covers about 50-60% of the annual kcal intake of the household, while own livestock products (milk and milk products) is the second largest food source (30-35%). As can be seen from the pie chart (Fig. 9), the better-off households, unlike other wealth groups, do not purchase cereals in a normal year since their own production is enough sufficient. A better-off household consumes about 11-12 quintals out of the 23 quintals produced (5-6 quintals are sold, and about 6 is for other purposes like gifts, seeds, and stocks). The relatively larger herd sizes allows these households more lactating animals and therefore livestock products as a food source is very significant, providing 30-35% of all food consumption. Since the better off households do not need to purchase staple cereals, they can afford to purchase substantial amounts of non-staple foods (mostly sugar and other complementary food items). The 220-240kg of sugar they purchase provides about 10-15% of all food consumed. The Better off obtain 115-120% of 1900kcal pppd from their food sources.

4.6 Income Sources in the Reference Year

Income sources for the three WGs are similar and only differ in proportion. Their main income sources are sale of livestock, livestock products and crop sales. Crop sales and livestock sales are more important for the poor wealth group than for the richer wealth groups, because the richer groups get relatively more income from sales of milk and milk

[8] 1900kcal is used for computing food needs in Somali Region, as the minimum average energy needs per person per day (pppd) for a typical household consisting of the young, elderly, active persons, etc.

products (ghee). The poor households, because of their smaller herd size, have fewer options for income so they tend to sell more from their stock to earn the necessary cash. For instance, the poor Households earn 10% of their annual income from crop sales while the middle and better off earn 5% and 9% respectively from the same source. This does not mean that the poor sell more than the two other wealth groups. In terms of quantity of crop sold, the poor sell less than other groups but the proportion of income from this source is higher with respect to total income (since the poor have smaller income). The poor sell crops because they need the cash but not because they produce surplus.

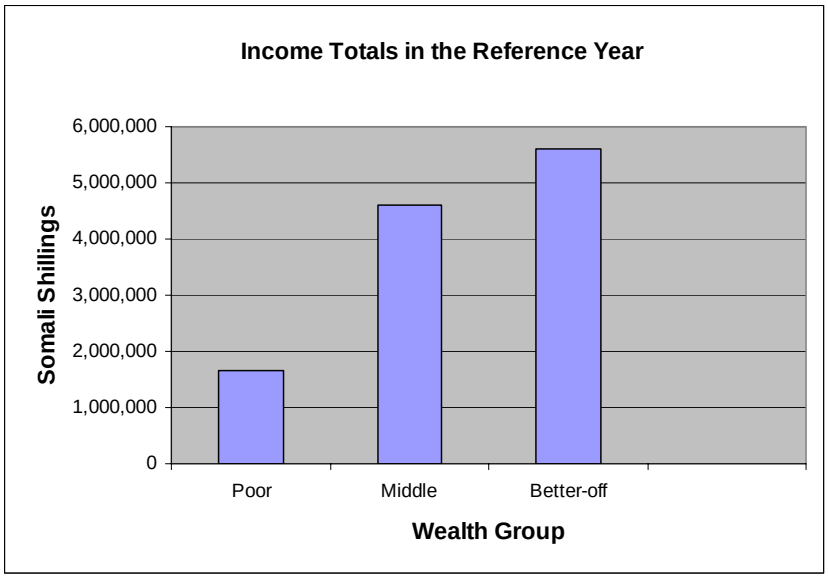

Figure 5 - Income Totals for all Wealth Groups in Degahbur Agropastoral LZ

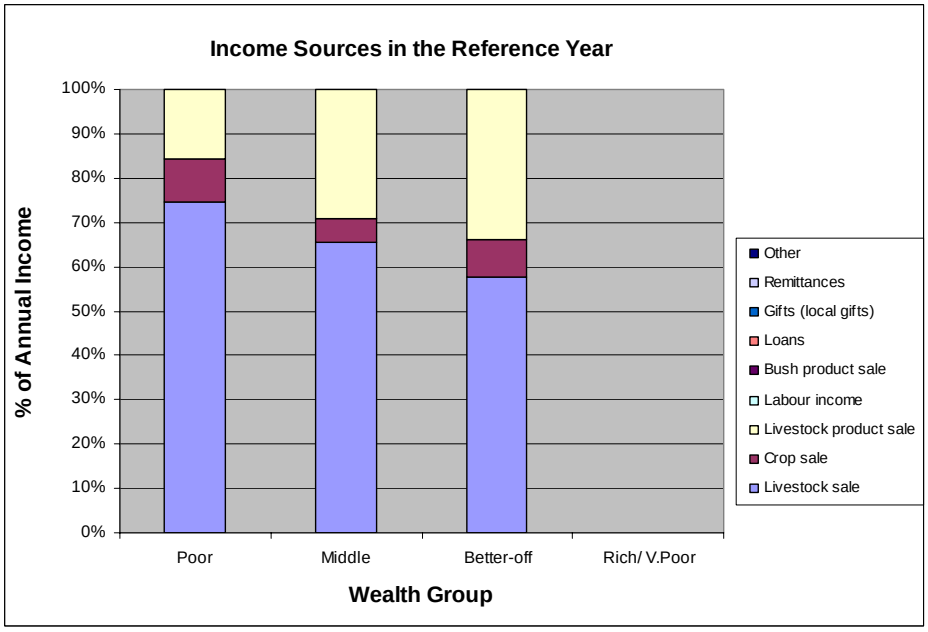

Figure 6 - Income Sources for all Wealth Groups in Degahbur Agropastoral LZ

Income Sources, Poor WG

Livestock sales are the most important income source for the middle households, and covers 60-70% of the annual income. A poor household sells about 4 shoats (2 goats at Sosh.100,000 and 2 sheep at Sosh 120,000) and one ox at Sosh 600,000. The sales normally take place towards the end of the dry season and the beginning of the rainy seasons when grain is scarce and labour demand for both livestock herding and farm work is high.

The sale of livestock products (mainly milk and ghee) constitutes the second important income source, providing 15-20% of annual income (total income from milk-cattle – is 153000 and from ghee is 108,000). Crop Sales (2 quintals sold annually at Sosh 80,000) constitute 10% of the annual cash of the household. *Zakat* received from wealthier groups makes up the remaining 8% of income. Total annual income for the poor households is Sosh.1.5-1.6 (About US$ 200-250).

Income Sources, Middle WG

Sale of livestock ranks first as an income source for the middle WG (64% of the annual household income) and sale of animal products (mainly milk and small amounts of ghee) is the second most important income source earning 25-35% of total income. The least important income source is crop sales (3-7%) and comes from the sale of 3-4 quintals of sorghum. Total annual income for the middle WG is Sosh.4383000 (US$ 600-650)

Income Source, Better-off WG

Livestock sales is the most important source of income from which Better off pastoral households get 50-55% of their total income in a normal year. A better-off household normally sells about 7 shoats (4 sheep and 3 goats) and one head of cattle (usually a bull), which is about a double of what a poor households sell. The sale of livestock products (milk and ghee) follows in importance and provides 35-40% of total income. The larger herd sizes provide the rich households with surplus milk, which they can then sell to earn income. A small amount of income is received from the sale of surplus crop (5-6 quintals are sold and provide – 5-15% of total income). Rich households meet all their cereal needs from own crops, so the sold crop is what is left over from consumption, gifts and stocks. Total income is about Sosh 5156000 (US$ 720-750)

4.7 Expenditure Patterns in the Reference Year

The three wealth groups have also similar expenditure patterns. They spend their annual income almost in the same manner except that better-off households don't purchase staple cereals in the normal year unlike the two other wealth groups since their harvest is sufficient for them. The poor spend relatively higher proportion of their money on food purchases. The common items on which all the different wealth groups spend on include non-staple purchases (sugar, tealeaves, and salt), social services (education, clan taxes, *zakat* and human medicines), household items (clothes, soap, etc) and vet drugs (inputs).

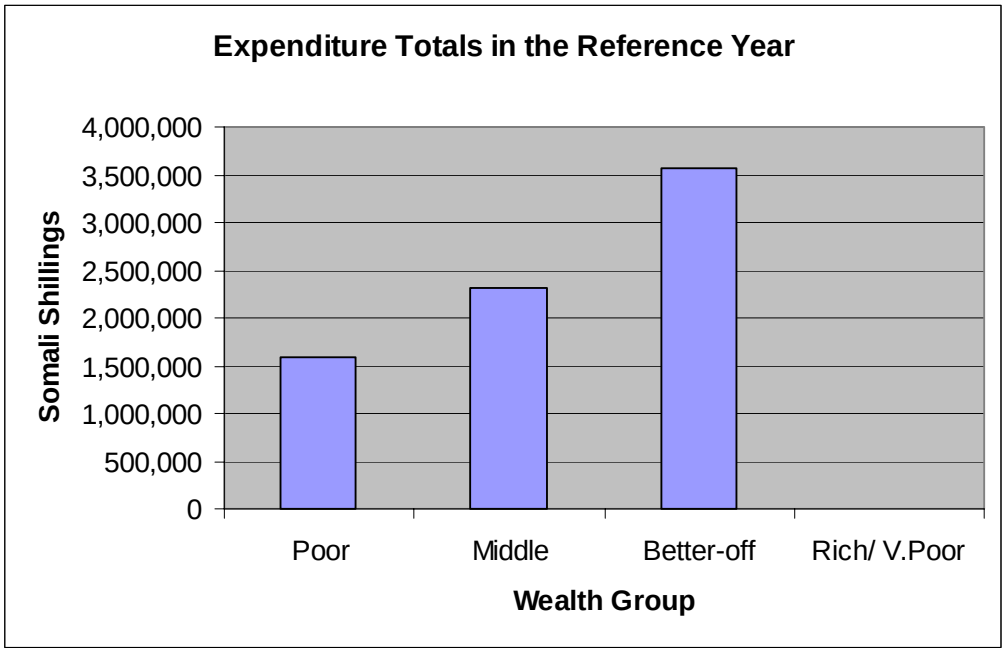

Figure 7 - Expenditure Totals for all Wealth Groups in Degahbur Agropastoral LZ

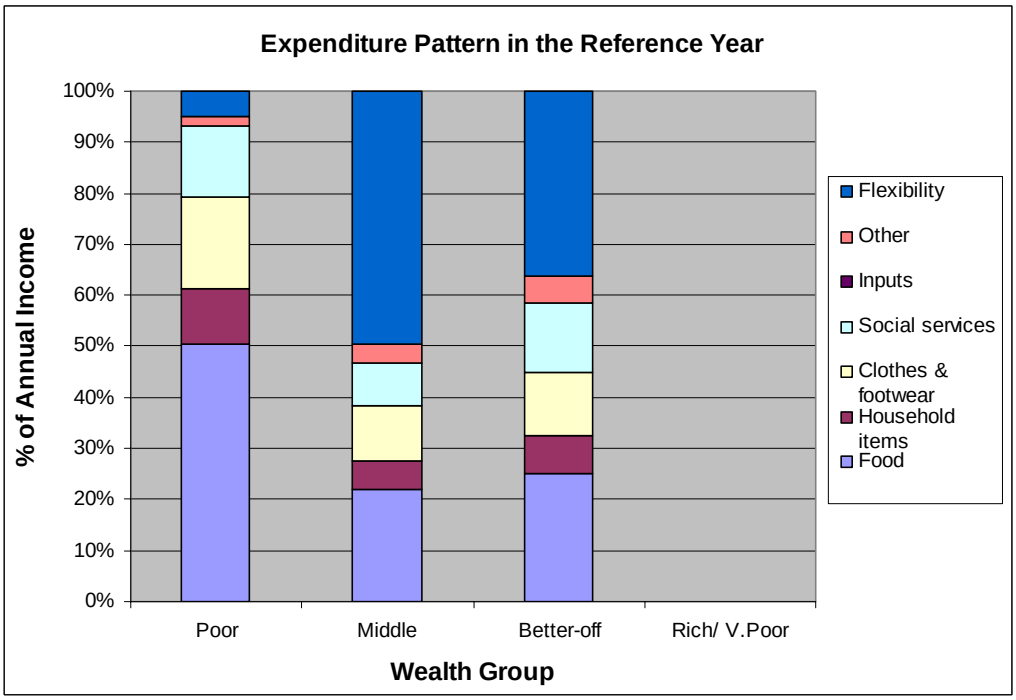

Figure 8 - Expenditure Pattern for all Wealth Groups in Degahbur Agropastoral LZ

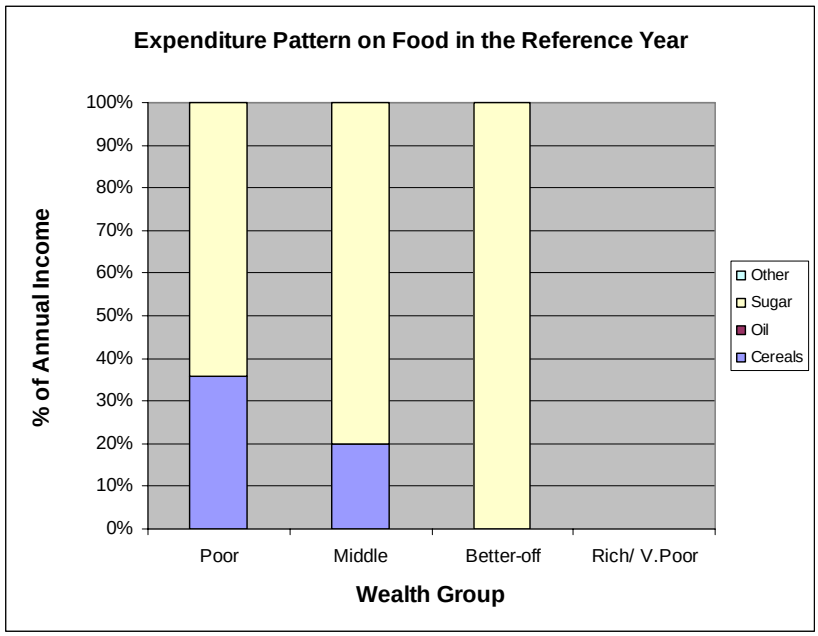

Figure 9 - Proportional Expenditure on Food for all Wealth Groups in Degahbur Agropastoral LZ

Expenditure Pattern, Poor WG

The expenditure of the Poor households equals their income; they do not have any 'flexibility'[9]. The poor households spend most of their income on non-staple purchases (sugar, tealeaves and salt – sugar being the most important), which take up 35-45% of all household expenditure. Household items (mainly clothes and soap) are the second largest absorber of the household income (making up 20-25% of total expenditure). Social services (education, and clan taxes) constitute 10-20%. Staple cereal purchases makes up 15-25% of the annual expenditure. The Quranic teacher is normally paid in kind (2 goats per year) but not in cash, however, for computing purposes the goats were converted to equivalent money to express it as an expense. The remaining 0-5%% are spent on inputs (mainly veterinary drugs).

The expenditure on staple cereals is rather a small proportion given that poor households are expected to spend most of their (small) incomes on necessities rather than 'luxuries'. Among the Degahbur agropastoralists, the low expenditure on staple cereals is made possible because of own cereal production – cereals are high calorie foods that can be stored and a few quintals would keep a family for several months, hence reducing the need for purchases. Pure pastoralists do not have this option; they may have plenty of milk but still spend most of their income on cereal purchase (milk is low-calorie and cannot be stored – a kg of cereal provides more than 5 times the calorie provide by a litre of milk). This fact may have also encouraged pastoralists to shift to agropastoralism (it allows them to keep their livestock while getting more benefits from crops).

[9] Flexibility - used here to imply surplus of income over expenditure. On the rare occasions when such surpluses do occur, pastoralists prefer to purchase livestock or other assets as there is no banking system.

Expenditure Patterns, Middle WG

The biggest expenditure item is non-staple purchase (40-45%) and consists mainly of sugar and some tealeaves and salt (which are complementary to other foods). This is followed by household items (clothes, soap, and other items) the household items (clothes, soap, human health etc) being the second cash absorber (25%). Social services (education, medicine, clan taxes, etc) absorb considerable proportion (20%) of the annual household income. 9% of the annual household income is spent on staple purchases (two quintals of cereals are purchased per normal year) while the remaining 4% are used to buy vet drugs. The middle households have got some 'flexibility' as income is greater than expenditure in normal years.

Expenditure, Better-off WG

Remarkably the Better off households do not purchase staple cereals in a normal year. They spend most of their incomes on non-staple foods, social services and household items which make up 45-50%, 20-30% and 20-25% of annual expenditure, respectively. Non-staple foods are mainly sugar with complementary tealeaves and salt. Household items include soap, human medicines, and clothes. Social services expenditure is mainly Quran school and some clan taxes, *zakat*, etc. There is also some expenditure on veterinary inputs (which take up 5-7% of total expenditure. The notable thing is that crop inputs are insignificant even for the better off groups. This only emphasises the fact that crop farming using traditional and largely inefficient systems. The better off have got a good 'flexibility' just like the middle and that income exceeds expenditure.

4.8 Current Situation

Effect of the 1999-2000 drought on the Wealth Groups

In the reference year situation, the middle constituted the largest proportion of the wealth groups and was followed by the poor. The better-off Households formed the least fraction of the total population. The basis of wealth group classification is solely livestock and land assets owned. Livestock rearing and farming as the major food and income generating activities remain complementary to each other in terms of their contribution to over-all livelihood in normal years but livestock rearing is the dominant income source while farming is the dominant food source.

Comparing the reference year situation with the post 1999/2000 drought situation in terms of population proportion of wealth groups, it is noted that the in the post-drought situation the poor make up the largest proportion. Asset holding had declined greatly during the drought and the normal year wealth breakdown does not hold for the current time. In all groups the assets have declined and therefore there is a negative shift in the pastoral livestock ownership, and the general wealth status has moved one step down. A number of the poor WG have lost assets and become destitute and are currently (in 2002) IDPs.

5. Vulnerabilities, Risks & Coping

Vulnerabilities and Risk Factors

The livelihood system of the majority of pastoral and agropastoral communities is normally uncertain and vulnerable to a number of risk factors. They frequently experience 'shocks' (events with adverse effects) that erode their ability to cope and this makes them more vulnerable to further shocks. Usually one rain failure is enough to cause a 'drought' situation and the poorer of such communities easily find themselves in situations in which they need external assistance. However if these shocks do not cause substantial mortality of livestock a few consecutive rains would normally help them recover quickly.

The Agropastoralists of Degahbur are no different. Despite the fact that the middle and Better off have some 'flexibility' with which to cushion themselves from the immediate effects of shocks, they are unable to do so for long. Livelihood in the area is entirely dependent on animal rearing and small-scale rain-fed farming, therefore agropastoralists are highly dependent on seasonal rains, which are frequently insufficient for successful farming. The identified vulnerabilities in this particular LZ are:

- Recurrent droughts that reduce livestock production or cause mortality, as well as cause crop failure. In such cases agropastoralists have to depend on the market to get all their food supplies and yet livestock prices in such times plummet due to their poor physical condition and oversupply to the market. Whereas severe droughts come only once in a while, drought-like conditions resulting from delayed rains and below-normal rains are the most common.
- Extreme water shortage whether for human, livestock or crop production. This is a major problem for humans and the less drought-resistant livestock species (sheep and cattle), particularly when the distance between pasture and water increases to extents that these species cannot manage to trek to. Water shortage is one of the major causes of migrations.
- Livestock export restriction and general market shocks: The Agropastoralists are heavily dependent on their livestock sales for most of their income and this comes from both livestock for export and those for local sale. Any restriction or disruptions on both local and export market has got adverse effects on the incomes of these group. High food and other commodity prices have also a serious effect on nutrition and general welfare.
- Animal and human diseases – this has got obvious effects. High morbidity will reduce production and productivity of both humans and livestock and drastically reduce the sale value of animals. These may also cause mortality and given the poor state of veterinary and health services, and the high mobility of livestock, particularly contagious diseases spread easily.
- Poor transport and communication infrastructure – This hampers marketing of livestock, foodstuffs and other commodities hence increasing prices. This also hinders fast and efficient information flow. Besides in times of emergency it becomes difficult to reach quickly those in need.

Risk minimizing and Coping strategies

Agropastoralists are not passive victims and have developed their own disaster preparedness and mitigation strategies based on their long experience of living with hardships, particularly recurrent droughts.

Some of these **risk minimising strategies (preparedness)** include:

- Economic diversification is by far the most important risk minimising strategy – Agropastoralists keep all livestock species (the poor do not have camels), and they also plant crops. This gives them options, particularly when rainfall is insufficient for crop production, it may still be useful for livestock, so they do not lose out on both, at least not completely.
- Water harvesting and conservation techniques have been developed but could be improved.
- Storage of food grains: the community has developed several forms of grain storage including underground pits to ensure food availability in times of scarcity. It is the wealthier groups that usually have surplus grain to store.
- Saving of money: In good years, particularly the richer groups may 'save' surplus money (after engaging in several income generating activities) to allow food purchase in bad years. There are no banking systems, so this 'saving' is done in various forms (mostly in asset form)
- Cultivating drought tolerant and early maturing varieties – Agropastoralists mostly use these varieties to reduce the risk of crop failure even when rainfall is little and soils are poor.

The main **Coping strategies** employed to mitigate the effects of shocks include:

- Livestock sales to enable food purchases. Usually small animals are sold first and then larger ruminants depending on the magnitude of the problem.
- Long distance migration with animals in search of water and pasture (the Somali saying related to migration states *col iyo abaarba cagahaaga looga cararaa* - run away (migrate) from war and drought. This is usually accompanied by household splitting, but in times of severe hardships entire families will move.
- Slaughter animals for household consumption – this is done to boost nutrition status of family
- Reducing food consumption and adjusting eating habits
- Wild food consumption (like *Garas - dobera Galarba*). The community reported that wild foods have been getting scarcer in recent years.
- Seeking support from the relatives and sub- clan members – either by sending some children to wealthier relatives or seeking other forms of assistance. Also seeking for remittances from relatives abroad or in Somalia or Djibouti, although this is rare.
- Seeking relief assistance by sending family members to relief distribution sites. This is a phenomenon that has gained currency since the latest droughts, but was rare in previous years.

Usually coping mechanisms can only fill small gaps in household needs. However they are more effective in normal to near-normal times, when times get worse, coping

mechanisms tend to be over-utilised and they quickly become ineffective. Families may survive by using coping mechanisms for a limited duration but there is a 'cost' associated with coping, such as asset depletion, malnutrition, accumulation of debts and other invisible negative effects. When carrying out needs assessment, it is therefore useful to assess needs while keeping in mind these costs of coping.

6. Indicators to monitor

Using baseline information as the reference, the food security situation should be monitored using several indicators regularly. This will also help to review the baseline studies. The main indicators to be monitored for this LZ are:

- Rainfall: seasonal follow-up of the rainfall distribution and amounts;
- Livestock Market, supply , prices, and condition; the status of international market;
- Crop Performance, crop situation, stand, diseases and pests, and crop stage;
- Food markets – supply and prices (particularly cereals) – seasonal prices compared to normal;
- Pasture and water situations for livestock – seasonal water and pasture in the important grazing points for livestock, what alternative pastures are available;
- Migration patterns – seasonal and unseasonal movements of livestock and humans; who/what is moving, from where, to where and why;
- Diseases: any outbreaks of human and livestock diseases
- Humanitarian interventions if any – which ones, why and potential effects;
- Security situation, particularly clans conflict – who, why and effect on food security;
- Coping mechanisms – which ones, the degree of resorting to and effectiveness
- Overall food security situation compared to normal
- The situation of the IDPs - food and water availability, shelter and any attempts to rehabilitate them; by who/what organisation of governmental body; possible impact on food security among host community(ies).

7. Recommendations

7.1 Recommendations

- Help agropastoralists to become more productive and self-reliant. This could be done by better extension services and improved input provision at affordable prices.
- Legalise and institutionalise cross-border trade for both livestock and other commodities.
- Make bilateral agreements with livestock importing countries (especially Gulf Arab States) in order to ensure export animals are healthy and to 'prevent livestock' bans in the future.
- Improve human health and veterinary services as well as extension services in order to improve husbandry practices for both crop and livestock production.
- Help improve marketing systems for livestock products like milk, meat, ghee, hides and skins by encouraging the formation of marketing co-operatives and encouraging entrepreneurship.
- Rehabilitation of internally displaced persons (IDPs) by assessing their needs first
- Improve transport and communication facilities in order to improve marketing and market information systems and to facilitate emergency interventions (when needed)
- Facilitating effective rural-based savings and credit systems. This will enhance agropastoralists to any surplus income and improve the financial capacities of the farmers. It will also encourage the notion of savings for "investment"
- Mobilise and raise awareness among farmers on improved production systems in order to boost production and protect the environment. This is best done by participatory bottom-up approaches.
- Help improve grain storage facilities to reduce post harvest crop loss
- Help institute measures to curb land degradation in order to improve agricultural production.
- Link food aid or humanitarian assistance with recovery, rehabilitation and development.

8. References

SC (SAVE THE CHILDREN) UK (2000) *The Household Economy Approach: a resource manual for practitioners.* Save the Children, London.

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9. Appendices

9.1 HEA Methodology

The Household Economy Approach[10]

The Household Economy Approach helps to provide a detailed picture of the many ways that households meet their food and income needs in a 'normal' year and the many strategies they employ to lessen the consequences of crises (selling or consuming assets, migration for employment, eating wild foods, etc.). It therefore provides a picture of the household economy and its relationship to markets and employment opportunities.

produce a coherent picture about how people live and the options open to them in a normal year
identify the types of risk which households are vulnerable to
give an estimate of the likely effect of a 'shock/hazard' on household income
explore the extent to which coping strategies can cover a household's deficit
identify which population groups are most at risk of not coping with change
predict the likely impact of a range of intervention options and identify the most effective in reducing short-term and long-term vulnerability

HEA is useful for answering the question "what constraints prevent households from prospering", or "what will be the effect of a "shock" or combination of shocks, on the economy of various types of households in different Livelihood Zones?" It provides analysis that can be used both for prediction and to make more informed interventions. The approach is reproducible and incorporates sufficient mechanisms to cross-check information internally for users to be confident of the validity of findings and subsequent recommendations. It can be used in a rapid or a comprehensive form, depending on the question of study, time and money available.

This approach is participatory in nature and does not follow conventional statistical sampling methodology. The method employs RRA tools such as seasonal calendar, time line, normal year, proportional piling, pair wise ranking and so on. Interviews focus on groups that represent specific Livelihood Zones. Within this zone interviews are held with representative key informants and wealth groups (socio-economic groups). The approach is based on the understanding that it is the quality of the information collected that is important rather than the number of interviews conducted. However, every attempt is made to ensure that the information collected is representative. Thus site selection is done in coordination with technical officials at Regional, Zonal and District levels.

A typical Household economy baseline assessment includes the following steps:

[10] For any additional questions please contact Suleiman Mohammed the Early Warning and technical coordinator for Save the Children's food security project in Jijiga, Ethiopia. Telephone +251 5 752775/6/7 or send an email to ewtc.jijiga@telecom.net.et. Alternatively visit the Save the Children (UK) website www.savethechildren.org.uk/foodsecurity .

Step 1: Identifying Livelihood Zones (LZ)s and populations

The first step therefore is to identify population groups within which most households obtain their food and cash by broadly similar combinations of means (known as a livelihood zone, food economy area, group or zone). A Livelihood Zone may be at one extreme a refugee camp and at the other a large part of a country.

Step 2: Identifying Wealth Groups and a 'reference' year.

As it is not possible to investigate and generalise across all households, we gain insights into the lives of representatives from the major wealth groups identified by key informants; usually the 'rich', 'middle', 'poor' and 'very poor'. A profile is developed of the distribution of wealth which will relate to land and/ or livestock holdings, household labour availability, income generating activities, asset ownership and so on. These characteristics are identified by the community themselves and thus vary per LZ.

This profile usually portrays the household economy in a 'reference' year. While in reality years vary. In order to allow for comparisons to be made when conditions are significantly different, a 'reference' year is chosen which is relatively 'normal' or 'typical'. This reference year is also referred to as the 'baseline' year[11].

Step 3: Describing Household access to food and cash income

Within each LZ we need to understand how typical households access their food and other income and how this varies for each wealth group. This information is obtained by interviewing groups of women or men from each wealth group who identify the various options households employ to secure access to food. These will explore all possible sources of food. In order to purchase food and other basic needs such as health & education, income is derived from various sources, and all are explored. Information is also gathered on all household expenditure.

For each of these three areas, food production, cash income & expenditure, the information is displayed in graphs which illustrate the current situation and show us the options available to each wealth group. Estimates are made of the extent to which a household can expand each option in times of stress. All these interviews are about the previously identified 'reference year'.

Multiple interviews are conducted and information is triangulated to ensure internal and external consistency. For instance, payment for labour reported by labourers should tally with payment rates given by employers.

Step 4: Understanding links to markets

Most households in most parts of the world depend in some way on the marketplace to obtain some of their food. The 'better-off' may increase the value of their crops by specialising production or selling when their value is highest, the poor may be obliged to sell crops directly after harvest and purchase later using income from employment.

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[11] The term "baseline" is used differently than how it is understood in monitoring longitudinal change. It is, rather, a set of reference information which can be compared with similar information gathered at a future time.

Without an understanding of 'normal' links between households and markets in procuring both food and cash income it is not possible to understand options open in times of crisis. The interviews clarify which markets are of greatest importance and therefore where observed price changes (e.g. staple food prices) or reduced access (e.g. due to hostility) will have greatest impact on households in a given LZ.

Step 5: Clarifying risk-minimising strategies and potential coping strategies
Poor households are constantly aware of the risks to their livelihoods and income and to a large degree anticipate and prepare for this. When broadly predictable, (such as in semi-arid areas where rainfall and crop production alter greatly from year to year) successful strategies will include storing crops and accumulating livestock in years of surplus production, and increasing use of wild foods and selling livestock and other assets in shortfall years. In years of extreme 'shock' other strategies may be available such as sending members of the household to fish, to find employment further a field, to increase the collection of firewood or claiming customary kinship support. As most of these are an extension of the usual coping mechanisms of the poor, interviewees are able to identify the options most likely to be pursued first.

Understanding these options is crucial to understanding how households will manage in a given change and what kind of support is necessary for them to access their food and cash income.

9.2 Note on Somali Traditional Calendar

Somali communities, mark their traditional years by giving them names that correspond to the days of the week; years are known as Monday year, followed by Tuesday year, etc, and after the seventh year (i.e. Sunday), the cycle begins again with Monday. Years with the same name would be differentiated by a nickname related to a major event (droughts, floods, war, regime change, epidemics, etc), that took place during particular year; for example *Arbaca Shuba* (meaning the "Pouring Wednesday") referred to the el-nino year of 1997/98, which was a Wednesday year. Whereas year names are the same across all Somali groups, nicknames may be different in the different agro-ecologies and geographic locations, as events affecting them will be different.

In coming up with Historical timelines, the *deyr* season (which starts in October) is used as the start of the Somali traditional year. The traditional Somali year therefore spans across two Gregorian calendar years, starting with the *deyr* (October) and ending with the *hagaa* (Septmber)

The Somalis use two types of calendar years (i.e. two ways of counting years). It is very important for researches studying production, seasonal related areas among the Somali, to distinguish these two calendar types because the Somali community uses them for different purposes[12].

1. The *nairus* or *naurus* calendar: This calendar is related to the movement of the sun and other celestial bodies and therefore is used to determine seasonal patterns. The calendar year is kept orally with incredible accuracy and followed closely by the rural communities, particularly pastoralists, as it determines when to expect rainfall, and whether or not to move livestock to different location. This type of year is exactly the same as the Gregorian year (i.e. has 365 days) but does not start with January. The beginning of the year is marked by 'the positioning of some star(s) into specific locations in the sky', known as *kalawereega nairuuska*. This usually coincides with start of the *deyr* rainy season for most Somali groups and is marked in a variety of ways by some rural communities. The *nairus* year is divided into four main seasons in the most Somali inhabited areas – *deyr*, *jilaal*, *gu*, and *hagaa*. *Deyr* and *gu* are rainy seasons while *hagaa* and *jilaal* are dry seasons.

   The number of days in each of the seasons in the *nairus* year are numbered, each about 90, although with some seasons (like the *hagaa*) being a few shorter and others slightly longer. The total number of days would then fit in exactly with the Gregorian calendar days. Therefore the start of the seasons is normally easily identified with a specific Gregorian date like *Gu* (the main rains) starts around 12-14 April in most of the Somali inhabited areas (except the *karan* belt). Similarly the other seasons start at specific dates (*hagaa* in July, *deyr* in October, and *Jilaal* in January).

[12] The order in which the season will appear in the assessment will depend on how a given community identifies their 'consumption' year. Therefore a reference year could start in the *jilaal* season followed by the *gu, hagaa & deyr* or in the *gu* followed by the *hagaa, deyr & jilaal* etc.

There are parts of the Somali inhabited areas that have slightly different seasonal patterns, but still use the *nairus* system to keep track of the seasons. These are the northern part of Somali Region (Jijiga and Shinile Zones), the northwestern part of Somalia (mainly Woqooyi Galbeed, Awdal and parts of Sanaag Regions) and Djibouti. These areas do not receive *deyr* rains but instead receive *gu* (or *diraa'*) and *karan* rains.

2. The Islamic Calendar (Lunar Calendar) – This calendar uses the moon's movements instead of the sun's movement. The number of months is 12 but the year is normally around 355 days. This calendar started with the migration of Prophet Mohamed and his followers from Mecca to Madina, which marked a turning point in the history of the Islamic faith, and is therefore known as *Hijriya* (Migration) calendar. The Somali have local names for each of the Islamic months 'or moons' (but this names differ slightly among the different geographic locations) and they use these months for all religious obligations, rites and worship – like fasting, *zakat*[13] payment, *Hajj*[14], etc.

[13] *Zakat* is the obligatory payment by wealthier Muslims to poorer ones, once their wealth (usually savings or assets) reaches a specific threshold known as *nisaab. Zakat* is 2.5% of savings; 10% or rainfed crop harvest; 5% of irrigated crop harvest; one shoat for every the first 5 camels owned, etc.

[14] *Hajj* is a compulsory pilgrimage to the *Ka'ba* (the first house of worship established by prophet Abraham), at least once in a lifetime for Muslim individuals who can afford the journey while still being able to maintain their families.

9.3 List of Kebeles in Degahbur Agropastoral Livelihood Zone

Dagahbur Zone districts

Important Note on Kabales

It is very difficulty to know the exact number of Kabales in certain district as the number of Kabales in a district has political and social importance in the region. To identify officially approved kabales in districts, rearrangement of smaller kebeles were once made by the regional government. But that is not functioning now as new kabales are emerging from time to time. Some times election centers are also considered as officially accepted kabales. In densely populated districts such as Jijiga, there is some thing called-Peasant Associations (PAs)-which is also one category of kabales. The lists of kabales indicated in this report simply represent small villages scattered in districts. Any of the above described categories of kabales were not consistently followed because the purpose of collecting the names of kaballes is only to enrich the baseline made in the beginning of EW/FS project.

All the shaded kabales are those which experience water problem during normal *Jilaal* Season.

Dhagahmadow District

Name of the Kabale	LZ	Distance from main town	Water Source
Dhagahmadow			
Mudulaha	P	7	D/Madow Wells
Galool Dhididle	P	7	D/Madow Wells
Dhibca	P	12	Dh/madow wells
Kalabaydhka	P	9	Dh/madow wells
Biyo Jiibsi	P	24	Xamudhley & Ceel jiir wells
Beeyo Guun	P	25	Ceel jiir Wells
Ceel Jiir	P	25	H.D Wells
Xamudhlay	P	15	H.D Wells
Xidh Barwaaqo	P	8	D/Madow Wells
Dhabar Sarmaan	P	11	D/Madow Wells
Haar Dacawo	P	7	D/Madow Wells
Faarso	P	55	Ponds
Tantoomi	P	42	Shallow wells
Kugta	P	16	Duuri wells
Garbo Dhuubo	P	18	D/Madow Wells
Gujufka	P	19	Duuri wells
Ceelgaab	P	27	Ceel-gaab wells
Biyo Khadhaadhe	P	42	Ceel-gaab wells
Kuus Cawl	P	45	Ceel-gaab wells
Hora Shirwac	P	45	H.D wells
Rigaate	P	78	Ponds
Galo Madoobe	P	50	D/Madow wells, ponds
Qurqura	P	42	D/Madow wells, ponds
Dhoqsa	P	55	D/Madow wells, ponds
Dhiijaan Galool	P	55	Ceel Gaab wells
San Xaskule	P	65	Ponds
Heedaan	P	44	Ceel Gaab wells
Caga Lalmis	P	43	Ceel Gaab wells
Habaas Dhawr	P	19	Xamudhlay wells
Moqor	P	23	D/Madow wells
Caleen Weyne	P	23	D/Madow wells
Gabooye Xoor	P	27	Ceeljiir Wells
Aloool Laduubay	P	22	Duuri wells
Cag-Gaal	P	9	Xumudhley and D/Madow wells
Cirweye	P	59	Ponds
Oon-Dheere	P	21	D/madow wells
Abaaxad	A/P	7	D/madow wells
Dhabana madow	A/P	4	D/madow wells
Tayaag	P	16	D/madow wells
Malablay	P	18	D/madow wells
Xamudhlay	P	33	Duuri-wells
Bilbilaha	P	16	Duuri-wells
Duud-libaax	A/P	10	Dh/madow wells
Gorayga	P	18	Dh/madow wells
Cobolay	P	39	Dh/madow wells
Dulashe	P	67	Springs
Ninqaate	P	18	Duuri wells
Hilin Gooraale	P	20	Dh/madow wells
Shabeelay	P	33	Dh/madow wells

Degahbour District

Name of the Kabale	LZ	Distance from main town	Water Source
Degahbour	town		Deep and HD wells
Ararso	A/P	75	Birkads
Derbiga	A/P	88	Birkads
Dhigriilay	A/P	68	Birkads
Magala cad	A/P	61	Birkads
Cobale	A/P	45	Birkads
Galiil	A/P	45	Birkads
Ciinlay	A/P	35	Birkads
Cawl ku dhal	A/P	32	Birkads
Higlalay	A/P	28	Birkads
Falfal	A/P	25	Borehole
Milmil	A/P	30	Springs
Bulxan	A/P	55	H.D wells
Bulaale	A/P	45	H.D wells
Meygaaga	A/P	40	H.D wells
Las galool	A/P	37	H.D wells
Qudhaclay	A/P	35	H.D wells
Birqod	A/P	84	Borehole
Xananlay	A/P	84	H.D Wells
Kaam Buraale	A/P	88	Birqot borehole
Baka	A/P	65	Borehole
Qable	A/P	76	Birqot borehole
Ceel xar	P	75	H.D Wells
San cade	A/P	70	H.D Well of Ceel xaar
Isdabadag	A/P	80	Pond, H.D Wells of Ceel xaar
Haad weyne	P	95	Pond, H.D Wells of Ceel xaar
Dhabiile	A/P	60	H.D Wells
Qobolay	A/P	45	Huurale Wells
Ajoolay	A/P	50	Sasabaneh Wells
Sasabaneh	A/P	50	H.D Wells
Qulunquul	A/P	55	Sasabaneh Wells
Huuraale	A/P	40	H.D Wells
Sandixiile	A/P	28	Bardaaxle Wells
Garawo	A/P	17	Bardaaxle Wells
Bardaaxle	A/P	20	H.D Wells
Labiga	A/P	28	Bardaaxle Wells
Koora celis	A/P	35	Bardaaxle Wells
Diyaar	A/P	45	Bardaaxle Wells
Gosololay	A/P	40	H.D Wells
Bilcil buur	P	50	Gosololay Wells
Towlane	A/P	12	H.D Wells
Gabro	P	35	Gosololay Wells
Qonbor	P	50	Springs, Cobale birkads
Quman	A/P	33	Springs, Cobale birkads
Caga sur	A/P	15	D/Bour wells
Laas labiilay	A/P	27	Falfal borehole
Dhari-qadhmuun	A/P	13	Falfal borehole