The research team was led by Food Economy Group (FEG) and Food and Agriculture Organization of the United Nations (FAO) and had participants from SCiUG, USAID - FEWS NET, ACTED and ACF
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Overview of Baseline Household Economy Assessment of Karamoja

FEG Consulting was hired by FAO Uganda to conduct a Baseline Household Economy Assessment in three livelihood zones in Karamoja:

1. Central and Southern Karamoja Pastoral Livelihood Zone (UG25), referred to as the pastoral livelihood zone in this report;
2. Karamoja Livestock Sorghum Bulrush Millet Livelihood Zone (UG23), referred to as the agro-pastoral livelihood zone in this report;
3. South Kitgum Pader Abim Simsim Groundnuts Sorghum Livestock Livelihood Zone (UG21), referred to as the agricultural livelihood zone in this report.

The tasks outlined in the TOR were to:

1. run a training in HEA research and analysis in Karamoja for up to 10 participants
2. lead the field research for an HEA baseline in three livelihood zones in Karamoja, with particular attention to the maximum coping ability of households, ensuring the quality of the data collected
3. ensure that all the data collected are entered into spreadsheets correctly
4. direct and supervise the analysis of all the data with the research teams and any other participants
5. produce livelihood profiles for each zone with an accompanying baseline spreadsheet
6. make technical recommendations on alternative possibilities for livelihood protection assistance (this would not cover implementation modalities)
7. make recommendations on the future monitoring of food security for the purposes of early warning and for decision making on the provision of humanitarian assistance
8. conduct training in the use of the LIAS for scenario analysis for up to 15 persons

This report is structured around these tasks and concludes with some constraints and recommendations.

Training

The first task in the TOR was to run a training in HEA research and analysis in Karamoja for up to 10 participants. A separate report has been produced on this training, which took place from 28 April to 4 May 2010.

HEA Baseline Field Research

Fieldwork took place in the period 5-25 May 2010. The participants are listed below and were split into two teams. One team covered the southern part of the agro-pastoral
livelihood zone plus the whole of the pastoral livelihood zone. The other team covered the northern part of the agro-pastoral livelihood zone plus the whole of the agricultural livelihood zone.

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
<th>Role</th>
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</thead>
<tbody>
<tr>
<td>Ondoga Jackson</td>
<td>FEG / independent consultant</td>
<td>Team leader northern team</td>
</tr>
<tr>
<td>Prisca Kathuku</td>
<td>FEG / independent consultant</td>
<td>Team leader southern team</td>
</tr>
<tr>
<td>Abdi Fatah Ahmed Ismail</td>
<td>SCUK / independent consultant</td>
<td>Participant</td>
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<tr>
<td>Paul Opio</td>
<td>FAO</td>
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<td>Benard Onzima</td>
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<tr>
<td>Agnes Atyang</td>
<td>FEWS NET</td>
<td>Participant (first week)</td>
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<td>William Lochodo</td>
<td>SCiUG</td>
<td>Participant</td>
</tr>
<tr>
<td>Christine Akech</td>
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<td>Participant</td>
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<tr>
<td>Emmanuel Mbidde</td>
<td>ACTED</td>
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</tr>
<tr>
<td>James Egimu</td>
<td>ACF-AAH</td>
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</tr>
<tr>
<td>Hellen Asekenye</td>
<td>Initially hired as translator</td>
<td>Participant</td>
</tr>
<tr>
<td>Francis Xavier Owiny</td>
<td>Initially hired as translator</td>
<td>Participant</td>
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The first step in an HEA baseline assessment is livelihood zoning, the objective of which is to group together people who share similar livelihood patterns and market access. Livelihood zoning for the whole of Uganda had already been conducted in October 2009 by FEWS NET and its partners, so the task of the teams in this regard was one of verification. The northern team discovered that Kacheri sub-county, listed as part of the agricultural livelihood zone (UG 21), had characteristics of both the agricultural and agro-pastoral (UG 23) livelihood zones. The team decided that this sub-county should be moved from UG 21 to UG 23. The other livelihood zone boundaries did not change.

In the field there are three levels at which inquiry takes place. All HEA baseline assessments include interviews at the community or village level, and then a further set of interviews at
the household level. Most assessments also include district-level interviews. The core process involved at all stages is one of grouping, selecting and moving on to the next level.

- At the district level, representative villages are grouped by livelihood zone and typical villages are selected for visit.
- At the community or village level, households are grouped according to common wealth determinants and representative households are selected for further interview.
- It is at the household level that details of food, income and expenditure patterns are explored in focus group interviews.

The diagram below summarises how these three levels of enquiry relate to the HEA framework steps.

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<tr>
<th>Level of Enquiry</th>
<th>Interview</th>
<th>Goal</th>
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<tr>
<td>District Level</td>
<td>Zoning/Timeline (Format 1)</td>
<td>Obtain clearance for work in field</td>
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<td>Trader/Market (Format 2)</td>
<td>Verify livelihood zone boundaries</td>
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<td>Select villages for field work</td>
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<td>Gather timeline &amp; reference data</td>
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<td>Community Level</td>
<td>Wealth Breakdown (Format 3)</td>
<td>Determine wealth group criteria</td>
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<td>Establish percentages for groups</td>
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<td>Arrange for household interviews</td>
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<tr>
<td>Household Level</td>
<td>Wealth Group (Format 4)</td>
<td>Quantify food, cash and expenditure</td>
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<td>Quantify expendability</td>
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</table>

The teams conducted district-level interviews in Moroto, Abim, Nakapiripirit, Kaabong and Kotido Districts. Community and household-level wealth group interviews were conducted in every village visited.

The teams encountered a few constraints during the fieldwork:

- The timing of the assessment during the main cultivation season was not ideal. Due to the good rains in May, men and women were reluctant to spend lengthy periods of time away from their fields being interviewed.
- It was impossible to conduct interviews in villages where food distributions were being carried out. To the extent possible, the teams obtained distribution schedules from the relevant NGOs and tried to work around these.
- The President of Uganda visited the region during the fieldwork. This also required some rescheduling on the part of the teams.
The long distances to some communities, combined with the restricted hours of permitted travel and the requirement to travel with a security escort, meant that interviews often had to be rushed.

The ability of the team members varied considerably and this posed problems in terms of gathering reliable information. Please see the HEA training report for more details on this.

Other organisations pay people to sit in interviews and this has led to community expectations in this regard.

Data Entry

The teams entered the interviews into the HEA baseline storage spreadsheet, which is a simple Excel spreadsheet that is used to document and cross-check each interview and to facilitate post-field work analysis. It enables field teams to enter, check and analyse individual interview data during preliminary data analysis and it is also the basic tool that field teams use to analyse and summarise field data during the final data analysis session. It is designed to record the results from two levels of interview: those undertaken with community representatives, and those undertaken with household representatives of different wealth groups.

The spreadsheet performs a number of calculations that form the basis of key household economy cross-checks: calculation of total food access, calculation and comparison of total cash income and expenditure, calculation of rates of off-take for each type of livestock, cross-check on labour payments, and cross-check on agricultural productivity.

Baseline Analysis

Analysis of the information gathered in the field was conducted from 26-31 May 2010. Since both teams worked on the agro-pastoral livelihood zone, the analysis of this zone was conducted first and jointly by both teams. Afterwards, the two teams split to analyse the agricultural and pastoral livelihood zones.

The final analysis involves compiling the findings from the various interviews (district, market, community and wealth group), summarising the results and completing a series of cross-checks. The most time-consuming parts of the final analysis are the compilation of the wealth breakdown and the analysis of food, income and expenditure for each of the wealth groups. Other tasks include finalisation of the seasonal calendar and the preparation of bullet points for the livelihood zone profile.

The process of summarising the data from a rapid assessment is more than just a process of automatic calculation. Rather, it is one of critically reviewing each set of data to decide how much ‘weight’ to give each result. This can mean excluding more than the highest and lowest values (or could mean excluding fewer than two values, depending upon
circumstances). There are many reasons for assigning different weights to different results, including:

- Location-specific factors (e.g. atypical village close to road, with irrigated land, etc., in an area where these attributes are relatively uncommon)
- Differences in wealth group being described (e.g. upper verses lower end of the ‘middle’ group)
- Variations in reliability – some interviews are simply better than others, and greater weight should be attached to information derived from these.

Cross checks are extremely important to ensure that the information gathered in the field is internally consistent and consistent with secondary information.

Livelihood Profiles

The livelihood profiles offer an analysis of livelihoods and food security on a geographical basis. The profile for each livelihood zone is divided into a number of sections:

**Zone description** offers a general description of local livelihood patterns (livestock rearing, crop production, off-farm income generation etc.).

**Markets** contains basic information on the marketing of local production and on any importation of staple food into the zone.

**Seasonal Calendar** sets out the timing of key activities during the year. This is useful in a variety of ways, e.g. to judge the likely impact of a hazard according to its timing during the year, or to assess whether a particular activity is being undertaken at the normal time in the current year.

This is followed by four sections that provide the core information on the ‘Household Economy’ of the zone.

The **Wealth Breakdown** section describes four main wealth groups (‘very poor’, ‘poor’, ‘middle’ and ‘better-off’), explaining the differences between these groups and how this affects potential access to food and cash income.

The **Sources of Food** and **Sources of Cash** sections examine patterns of food and income access at each level of wealth, relating these to the characteristics of each group. An annual picture is presented, with food expressed as a percentage of 2100 kcals per person per day. The sources of cash income are presented in two different ways: as a percentage of annual cash income and in absolute Ugandan shillings earned per year.

The **Expenditure Patterns** section is of interest in showing what proportion of their annual cash budget households at the different wealth levels spend on food, on household items, on production inputs, etc.

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2This section has been adapted from the SNNPR Livelihood Profiles Introduction and Regional Overview, prepared by FEG for the USAID FEWS NET project and the Ethiopian Government’s DPPC.
The sections on **Hazards** provide information on the different types of hazard that affect the zone, differentiated by wealth group where this is appropriate.

**Response Strategies** describe the various strategies available to different types of household in the zone, together with a judgement of the likely effectiveness of the strategies. Early warning involves identifying and interpreting key events that indicate that a crisis may be developing. The section **Key Parameters for Monitoring** suggests the key indicators to monitor in each livelihood zone, based upon an understanding of local livelihood patterns.

The final section, **Programme Implications**, outlines some ideas for longer-term programming.

Draft profiles were produced by the team leaders and commented upon by team members. Final profile editing was done by Tanya Boudreau of FEG Consulting.

**Recommendations on Interventions and Monitoring**

As noted above, early warning involves identifying and interpreting key events that indicate that a crisis may be developing. The profile section **Key Parameters for Monitoring** suggests the key indicators to monitor in each livelihood zone, based upon an understanding of local livelihood patterns. The profile section **Implications for Programming** provides some initial intervention ideas.

**Livelihood Impact Analysis Spreadsheet Training for Scenario Analysis**

This task has a later deadline (15 August 2010) than this report (7 July 2010) and will be reported on separately. The current plan is to follow the LIAS training with a seasonal assessment in September, the results of which will be used to run scenarios for the 2010-2011 consumption year.

**Recommendations**

The information that emerges from a baseline assessment is of use on its own for a wide range of applications, including poverty analyses and development planning. However, in order to be of use in early warning work, scenario planning, emergency response planning, and other areas that require predictive estimates, baseline information needs to be combined with an analysis of hazards and households’ coping capacity.

Information on hazards such as crop and pasture failure or market dislocation are usually obtained from existing crop or market price monitoring systems. Hazard information needs to be broken down into its effect on households’ sources of food and income, expressed as a percentage of the baseline. This is called the problem specification. The monitoring systems in Karamoja are weak, which means that the information required to develop current year problem specifications is lacking.
In this situation, it is recommended that current year monitoring information is obtained through fieldwork during a seasonal assessment. The information gathering tools for the seasonal assessment should be designed using the HEA baseline livelihoods information and the key parameters that were identified.
Pastoral Livelihood Zone Profile
Karamoja Region, Uganda
Central and Southern Karamoja Pastoral Livelihood Zone
May 2010

Zone Description

The Central and Southern Karamoja Pastoral Livelihood Zone is located in Karamoja Region and comprises parts of Moroto and Amudat districts. The livelihood zone’s population is estimated at 108,100⁴. Resident tribes include the Matheniko and Tepeth in Moroto District and the Pokot in Amudat District. The zone is bordered along the east by the Republic of Kenya (adjacent to the Turkana and the Pokot of Kenya); to the west lie Moroto and Nakapiripirit districts in Uganda; to the south one finds an agricultural zone in Karita sub-county; and to the north is the Northeastern Karamoja Pastoral Livelihood Zone in Kotido and Kaabong districts. Amudat is the major town in this zone. Other trading centres within the livelihood zone are Loro in Amudat District and Tupac, Kothiroyi and Nakilor in Moroto District. The main roads include: Rupa-Nakiloro leading to Turkana in Kenya; Moroto-Amudat-Kitale; Amudat-Nakapiripirit; and Moroto-Nakilor. The main seasonal rivers are Kanyangara in the south, Musuba in the north and Lopei, which passes through the livelihood zone.

This is a semi-arid zone characterised by prolonged dry seasons and erratic rainfall. There is one rainy season which normally runs from April to September, leaving October to March dry.

The northern and southern parts of the zone are dominated by flat plains and covered with scanty shrubs, thorns, Balanites; aloe vera and other hardy plants. To the east, towards the border with Kenya, patches of savannah grassland are found with limited diversity in species (for example star grass and Napia grass). The central parts are mountainous with thick vegetation and many seasonal rivers which run across the zone towards the west. Along the zone’s seasonal rivers, big trees and forests are found. The southern parts are covered with shrubs (Acacia Melifera is dominant, providing good browse for camels). Gold deposits are found in the north, specifically at

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³The field work took place in May 2010. The information presented refers to April 2008 – March 2009, an average year for livestock, and a below average for crops. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2015).

⁴ Data from Uganda Bureau of Statistics 2002 Census projected to 2010.
the base of the mountainous areas of Rupa sub-county in Moroto District. Marble mining occurs in Rupa and Katikekile sub-counties at Kothiroyi. Aloe vera, which has a broad spectrum of medicinal uses, and a wild sisal-like plant used for making ropes for tethering animals and building houses, are common in the zone. The gum arabic plant is also found, mainly in the northern part of the zone.

Livestock production is the main economic activity, based on cattle, goats, sheep, poultry and a few camels; this is supplemented by charcoal burning, firewood collection, some honey production, limited mining and opportunistic farming. Animals are raised using a free range system on communal grazing areas, with grass, browse and very limited crop residues. There is no history of households in this zone purchasing livestock feed. Flowing rivers, ponds, dams, borehole pumps, natural water and man-made reservoirs are the main sources of water for livestock in the wet season. Dry season water is obtained from shallow wells dug by herders in the river beds and some limited deep wells free of charge. Younger boys look after the small stock, while the larger stock is looked after by strong men because of the constant risk of raiding. During the dry season, strong men migrate with the main herds of livestock, leaving lactating and sick animals behind in the care of the women, young boys, and in some instances girls (in homes without boys).

Herd replacement occurs through natural reproduction within the herd and through cattle raiding. Better off households also purchase new livestock, something that the poor and middle cannot afford. Gifting animals is not a common practice. Sick and unproductive small ruminants are slaughtered for meat during the hunger season (December to April). It is common to share the meat with neighbours and relatives rather than selling it.

There is very limited crop production in this zone, despite high potential fertile soils - sandy clay in the north and loamy clay in the south. Rain-fed agriculture is the norm, with no irrigation, which means that this potential is severely limited by low and erratic rainfall patterns. Sorghum is the main crop, but maize and pulses are also grown for household consumption. Crop inputs are not typically used. There is no cash crop production. Land is cultivated manually, by both men and women, using hand tools like hoes, machetes, and axes. Weeding is generally done by women. Crop production is more common in the northern and central parts of the livelihood zone; in the southern parts it is restricted to areas along the river. Generally oxen are not used for cultivation although limited use of oxen was reported and observed in the northern part of the zone.

Other economic activities in the livelihood zone include honey production, charcoal burning, firewood collection and the sale of aloe vera (to markets in Kenya), especially by communities in the southern parts of the livelihood zone. Bee keeping is a common practice, with local traditional hives used for the most part, and wild honey also harvested from trees and inactive ant hills. This activity is mainly done by men. Honey is harvested towards the end of the dry season and the beginning of wet season (March-April) with a smaller harvest in September and October. Honey is sold locally in the villages and occasionally in the main markets.

Small scale charcoal production occurs in areas close to main markets and busy roads that lead to areas outside the livelihood zone. Men cut down the trees and burn the charcoal; women take care of transportation and sales. Charcoal is mostly produced and sold during the hunger period (December to April) by poor and middle households. Households from all wealth groups sell firewood, with younger women normally responsible for this activity. Very few people are involved
in gold or marble mining, and those who are tend to be pastoral drop outs devastated by raids, livestock diseases, and/or drought.

Water sources include rivers, wells, springs, ponds, dams and boreholes. These are shared by humans and animals during both the wet and dry seasons. People do not pay for water.

The zone is known as a food deficit zone, with food security particularly problematic in the last two years (2008 and 2009). In most years the population relies on a combination of milk and meat, livestock sales and minimal crop production to get enough to survive, with a pronounced hunger season between December and March.

No general food distributions took place in the zone in the reference year (April 2008 – March 2009), with the exception of a few villages that reported getting a single distribution of relief food from the Office of the Prime Minister.

### Markets

Livestock and livestock products are mainly sold in areas close to towns. Geographical barriers and bad road conditions limit marketing opportunities in the wet season. The rural Pokot, and Tepeth who live in the mountains, have difficulties selling their livestock and purchasing cereals due to bad roads during the wet season, lack of transport and market information, and long distances to the market. Most of the animals sold are exported from the livelihood zone and the buyers are mainly from Mbale, Soroti, and Katakwi. Imported food items such as maize, sorghum, beans and other non-food items also enter the zone via the same routes from December to May. The livestock buyers act as brokers for both livestock and food, bringing staple and non staple foods into the zone, and taking out livestock on their return.

Amudat town, Loro, Kothiroyi, Nakiloro and Tapac trading centres are the main markets found in the zone. The main market routes are: Nakapiripirit-Sirongo-Mbale; Amudat-Konayao (Kenya); Rupa-Nakiloro-Kenya; Rupa-Naitakwae-Moroto town; and Moroto-Amudat.

Cattle are mainly sold in the hunger period from December to April. Mature male animals, and on rare occasions mature old and sick females, are offered for sale on the market. The middle and better off households can afford to wait to sell their cattle until they are around four to five years old, when they are worth more. Poorer households usually have to sell their animals when they are younger, up to the age of two years.

Shoats act as an immediate cash source for pastoralists and are sold any time of the year that households need to purchase goods or services, with a peak in sales during the hunger season when more grain is needed. Shoats are typically sold between the ages of seventeen months to two years across all wealth groups.

Camels are rarely sold because they are expensive to replace and not plentiful compared to the other livestock.

There is a limited local labour market, with some people in the zone undertaking agricultural labour locally for better off households and different types of casual labour in the main trading centres. Some people go outside the zone during bad years or hunger periods to Kenya and
Moroto town. No people migrate into the livelihood zone for labour.

### Seasonal Calendar

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<th>Rainy Seasons</th>
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<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
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<td>Food purchase</td>
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Although there are sporadic showers in March, the wet season (akiporo) proper begins in April and lasts through September; the dry season (akamu) begins in October and lasts through March. The main conception period for livestock is from August to October and the main calving period is from April to June/July, during the rains. Milk production is highest as the rains replenish pastures in early April and peaks from May to July, diminishing from August to October.

In typical years livestock migrate to dry season grazing areas in December, remaining there until March. From Amudat, livestock are taken to Karita, which is an agricultural area south of the zone. From Loro, Katikekile and Rupa sub-counties they are taken to Nakonyen, which is in the agropastoral part of Nakipiripirit District. Rupa-based livestock are also moved to Niaitai and Apule in the neighbouring agro-pastoral zones during the dry season. In bad years this same pattern is followed, but the migration begins a month earlier, in November, and livestock do not come back until at least April. In some years, migration is disrupted by insecurity as was the case in the reference year.

Land preparation begins in mid-March. Cowpeas and vegetables (including kale, okra and tomatoes) are planted between April and June and eaten green after one month. Sorghum and maize are planted in April and harvested in August and September. Wild foods are collected and eaten throughout the year when available and are a normal part of the diet.

Livestock, firewood and charcoal sales are highest during the hunger period (December to early April). Demand for purchased food peaks at this time for all wealth groups, and livestock and bush product sales provide the cash to cover these requirements. Livestock and human diseases are
Livestock ownership is the main determinant of wealth in this livelihood zone. Livestock holdings in Karamoja have generally diminished over the years for all wealth groups because of inter-ethnic conflicts (which resulted in raiding and limited access to grazing lands), livestock diseases and recurrent drought. Rebuilding herds is a challenge for poorer households, who do not have the means to pay for veterinary services, and who must sell more livestock than they can afford every year to make it through the hunger season. The better off have the means to purchase animal drugs; they redistribute herds to friends and relatives to share the burden of labour involved in livestock rearing. However, loans of animals from better off to poor, and sharing of animal products now (with the smaller herds) is relatively limited.

All three wealth groups grow the same types of crops. Poor household crop production is limited by inadequate labour within the household and insufficient cash to hire labour and to purchase inputs. Better off households are able to mobilise large labour parties to help them carry out agricultural labour in exchange for beer; some middle and better off households in the northern areas of the zone use oxen. But all households are equally constrained by poor rainfall and lack of crop extension services.
Households in this livelihood zone rely on four main sources of food: own crops, milk/meat, purchase, and wild foods. The graph to the right shows the relative importance of each of these sources in the reference year, a bad year for crop production by local standards.

Crop production was negligible in the reference year and households only consumed what they could obtain from their green harvest, which covered less than a month of annual food needs.

In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 calories per person.

Milk is produced and consumed throughout the year. Poor households milk an average of four cows and seven goats or sheep; middle households have around five milk cows and fifteen milking goats or sheep. The better off rely on around seven milking cows and twenty-seven goats or sheep; some of the better off also have one to two camels that they milk. All the milk produced is consumed except for small amounts sold by better off households living near the trading centres.

Meat is not regularly consumed by any wealth group, although animals that are sick or die from natural causes are eaten. In the reference year, with higher livestock deaths than in a good year, this translated into around one cow and two shoats for poor households, two cattle and seven shoats for middle households and three cattle and ten shoats for better off households. Consumption of blood was not reported during the reference year, because taking blood in a below average year puts too much stress on the animals. However there are reports of blood consumption during good years and sometimes during festivals.

There is some hunting of small animals, and wild foods and honey are also collected, although these do not contribute too heavily to the annual diet. Wild foods are consumed as a normal part of diet and not just as a coping strategy. School feeding only took place in a few schools which were functioning in the reference year and its contribution was negligible.
The graph provides a breakdown of annual cash income by wealth group.

Livestock sales are the most important source of cash income for all households. Better off households also sell some milk to town centres. Poor households end up selling their livestock at lower prices, in part because they are forced to sell before their livestock reach the age at which they would garner the most money, and in part because they do not have the means to keep their livestock in top condition.

Formal employment is not common.

<table>
<thead>
<tr>
<th>Annual income (USH)</th>
<th>454,500 – 580,000</th>
<th>702,000 – 790,000</th>
<th>940,000 – 1,300,000</th>
</tr>
</thead>
</table>

Poorer households are actively engaged in charcoal making, firewood sales, and other forms of self employment, such as honey and aloe vera sales. There is mining in limited areas. Casual labour such as fetching water and housekeeping is done in Moroto and Amudat towns by members of poor and middle households who live near the trading centres.

**Expenditure Patterns - a bad year (2008 – 2009)**

Staple food purchase comprises a large proportion of all wealth groups’ total expenditure. Sorghum and maize are the main staples bought. Poor households spend almost seventy percent of their annual income on food (staple and non-staple), which is a higher proportion than the other wealth groups.

All wealth groups purchase the same types of household items (salt, soap, utensils, etc.). Better off households spend three times more than poor households on inputs, largely in the form of livestock drugs. Primary education (under ‘social serv.’ in the graph) is free, but those who had children in school still had to pay for uniforms and other scholastic materials.

Some middle and better off households send one or more child to a secondary day school.
Although health services (also under ‘social serv.’) are free, households across all wealth groups spent cash on drugs that were not available in the health centres. It was only the better off who purchased animals to replace those that died. A large portion of cash income for middle and better off households was spent on local beer and tobacco (under ‘other’). Expenditures on festivals and transport were not common in the reference year as it was a below average year.

### Hazards

The hazards affecting livelihoods in the zone include inter-ethnic conflicts, livestock diseases, drought, human diseases, crop pests and wild animals.

Since successful livestock production in arid areas is highly dependent on mobility, conflict can be a damaging hazard.

**Livestock diseases** are another common hazard, negatively affecting herd numbers and the productivity of all livestock types. Specifically, tick born disease, worm infestation and foot rot affect all livestock; *contagious bovine pleuropneumonia* (CBPP) afflicts cattle; *contagious caprine pleuropneumonia* (CCPP) and *peste des petits ruminants* (PPR) are the main threats for shoa, along with mange, which also affects camels. The main methods used to treat these diseases are spraying, drugs such as *acaricides* for external parasites, de-wormers for internal parasites, antibacterial for bacterial disease and vaccinations for viral diseases. These are provided by NGOs and the government free of charge and are purchased from the local markets for cash.

**Drought** is another common hazard, with obvious negative consequences for both livestock and crop production. It is reportedly becoming increasingly frequent, which reduces the ability of the population to recover in between bad years.

**Human diseases** can have a damaging effect on labour availability at household level. Malaria is particularly problematic in this part of the country.

Sorghum ergot (honeydew) disease, *Striga* weed and birds are the main *crop diseases and pests* affecting sorghum and maize crops. There are no reported methods of treatment and prevention; however birds are scared off by small children in years when the harvests are good.

### Coping Strategies

Common household response strategies to deal with hazards include the following. Most of these strategies are not new and are already being exploited to some extent.

**Switching of expenditure** – Reduced expenditure on non-essential items and on more expensive food items is a strategy pursued by all wealth groups in bad years, so that they can purchase cheaper staple foods like maize and sorghum.

**Increased bush product collection and sale** – The sale of firewood and charcoal is intensified in bad years. The environmental implications of this strategy are likely to be damaging.

**Labour migration** – Members of poor and, to some extent, middle households travel to the main urban centres to look for casual work in very bad years. From the southern half of the livelihood zone (where the population is Pokot), household members move to Konyao (in Kenya), Mbale and
Tororo. From the northern half of the zone, individuals move to the agricultural areas of Nakapiripirit and Napak Districts and to major towns like Mbale, Tororo, Soroti and even Kampala.

**Increased livestock sales** – Households from all wealth groups sell additional livestock to cover food and other essential purchases in bad years. Livestock sales serve the dual purpose of increasing income to cover basic food and non-food expenses and of destocking to reduce the pressure on pasture and browse and to reduce the expenses required to maintain the herd (in terms of livestock drugs). However, the extent to which this strategy of increased livestock sales can be pursued without damaging future livelihoods is quite limited. Middle and better off households are in a better position to exploit this strategy.

**Increased reliance on crops and farming** – The diversification of livelihoods into agriculture has been a mid- to long-term strategy in some livelihood zones to cope with the damage that successive years of drought and livestock disease have inflicted on livestock herds.

**Increased consumption of wild foods** – Most households collect and consume wild foods in normal years. In bad years, households increase the amounts collected and consume them over a longer period of time. A large number of wild nuts and fruits and at least one wild root are available in the livelihood zone.

**Key Parameters**

The following are the key parameters – or significant aspects of the local household economy – that need to be monitored every year:

<table>
<thead>
<tr>
<th>Item</th>
<th>Key Parameter - Quantity</th>
<th>Key Parameter – Price</th>
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<tbody>
<tr>
<td>Crops</td>
<td>• Sorghum</td>
<td></td>
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<tr>
<td></td>
<td>• Maize</td>
<td></td>
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<td>• Cowpeas</td>
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<tr>
<td>Livestock</td>
<td>• Cattle (changes in herd size)</td>
<td>• Cattle</td>
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<tr>
<td>production</td>
<td>• Shoats (changes in herd size)</td>
<td>• Shoats</td>
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<td>• Milk (changes in yield)</td>
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<tr>
<td>Other food and</td>
<td>• Agricultural labour</td>
<td>• Labour rates</td>
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<tr>
<td>cash income</td>
<td>• Charcoal</td>
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<td>• Firewood</td>
<td>• Firewood</td>
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<td></td>
<td>• Aloe Vera</td>
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<tr>
<td>Expenditure</td>
<td></td>
<td>• Staple food (cheapest)</td>
</tr>
</tbody>
</table>

5 These include ebeei, engoma, ngimago, epodo, ekaliye and edapal in Karamajong and sitil, amodo, makow and kinyat in Pokot.

6 Called sipi in Pokot.

7 Key parameters are food or income options that make up at least 5% of any two wealth groups’ annual sources of food or income; or 10% of any one wealth group’s annual food/cash income.
Agropastoral Zone Livelihood Profile
Karamoja Region, Uganda

Karamoja Livestock Sorghum Bulrush Millet Livelihood Zone
May 2010

Zone Description

The Karamoja Livestock Sorghum Bulrush Millet Livelihood Zone is the agropastoral area that stretches through the central part of Karamoja Region from the border of southern Sudan into the northern part of Nakapiripirit; it includes parts of Nakapiripirit, Moroto, Kotido and Kaabong districts in Karamoja Region. The Karimojong, Matheniko, Pian, Bokora, Dodoth, Tepeth and Jie all occupy the zone, with an estimated population of 613,300.  

Grasslands with scattered shrubs and acacia trees cover the landscape. Soils are predominantly sandy loams (*ekitela*), with some black clay (*aroo*) soils. Sandy clay alluvial soils are found in the valleys and plains. Undulating plains with seasonal rivers and gullies are typical in the southern areas of the zone; northern parts in Kaabong are hillier. Seasonal rivers include Nabilatuk and Lolachat in Nakapiripirit; the Omaniman River in Moroto and Nakapiripirit; Lopei and Nadunget rivers in Moroto; and Dopeth and Komuria in Kaabong and Kotido districts.

The rainy season is from March to September and is less reliable than in western parts of Karamoja Region, with an annual average of 500-800 mm. Areas of higher elevation receive more rainfall than in the plains. It is typical for a short period of dryness to occur during the rainy season, especially in the months of June and July.

The zone is highly dependent on livestock and is renowned for its livestock production. Cattle, goats, and sheep predominate, with some poultry. Donkeys are used to provide transportation in rural areas, especially to take goods to and from markets. According to the livestock census carried out in 2008 and published in 2009, Nakapiripirit District was recorded as having the highest number of goats in the country, followed by Kotido and Kaabong districts. Karamoja sub-region as a whole registered 19.8% of the total national cattle population, and Kotido recorded the largest number of sheep in the country. Cattle are milked by the men and youth; sheep and goats are milked by children under the age of 18. Women raise the poultry and care for the sick and milking animals that are left behind during the dry season livestock migration. Free range grazing is practiced for all livestock types. The government established the protected kraal system in 2005/2006 as a response to insecurity emanating from cattle.

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8 In the FEWS NET livelihood zoning workshop of 2009, this was recorded as UG23.
9 Field work for the current profile was undertaken in May 2010. The information presented refers to August 2008 – July 2009, a relatively bad year by local standards (i.e. a year of poor crop production and rural food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2015).
10 (Kaabong District: 173,700; Kotido District: 183,100; Mororto District: 181,700; and Nakapiripirit: 74,800) Uganda Bureau of Statistics (UBOS) 2002 Census, projected to 2010.
11 A summary report of the 2008 national livestock census – May 2009 – Ministry of Agriculture Animal Industry And Fisheries (MAAFS) and UBOS.

Agropastoral Livelihood Zone Profile
raids by different groups. The system entailed keeping livestock in kraals protected by government forces during the day while grazing and at night in the kraals. As of 2009 the program was disbanded because of numerous problems related to restricted grazing hours, distances to grazing areas, and concentrations of livestock leading to increased disease outbreaks and deaths. Now herders generally only take their animals for protection at UPDF detachments at night.

Rain-fed crop production is practiced throughout the zone, although the environment and climate are more conducive to livestock rearing than crop production. Crops grown include sorghum, maize, millet, groundnuts, sunflower, cowpeas and beans. Small amounts of tobacco are grown for local sale and home use. Households use hand hoes and oxen for ploughing. Tractor cultivation has been introduced in some areas by the government and supported by a number of organisations to open large fields for the multiplication of planting materials (especially for cassava). The most common planting practice is to broadcast and intercrop sorghum with sunflower, beans, cowpeas and some cucurbits. Groundnuts are planted as a single stand and millet is intercropped with maize. Fertilisers and manures are not typically applied, despite the abundance of livestock residue.

This is a food deficit livelihood zone in two out of every three years (on average). The majority of households depend on food purchases from the market, supplemented by food from their own crop production, and milk, meat and sometimes blood from their own livestock. In good years, own crops can cover a large portion of annual household food needs. Wild foods (roots, vegetables, fruits and wild game) are a normal part of the diet in both good and bad years; their consumption should not be seen as an indicator of stress on its own.

**Markets**

The road network linking large towns and leading outside the country to neighbouring Sudan and Kenya is fairly well-developed, allowing for a steady flow of goods to enter and leave the zone. However, poorly maintained roads sometimes limit access to markets during the wet season. Another factor that limits access to markets is the long distances to trading centres. Sometimes insecurity prevents communities from accessing the markets because road ambushes are planned at times to coincide with market days. Nonetheless the zone is served by well structured weekly markets for livestock and other commodities, especially when compared to the neighbouring pastoral zone.

The main markets in this zone are located in district headquarters. For Moroto District there are markets in Moroto town, Matany, Kangole and Iriri. Kotido District has markets in Kotido town, Lokitelaebu, Losakucha (in Kacheri) and Kanawat (the biggest in Kotido). In Nakapiripirit District there are markets located in Nakapiripirit town, Namalu, Lolachat and Nabilatuk. Kaabong District has Kaabong town market and Kapado. The larger markets are supplemented by smaller trading centres and shops. The mobile telephone network is reasonable compared to similar areas in other parts of the Horn of Africa, providing access to information on market prices to traders operating within the zone.

The zone is a net importer of crops and a net exporter of livestock. Cattle, sheep and goats are the main livestock sold. Livestock sales are continuous throughout the year, but sales peak in the hunger season, from March to June, when household food reserves are low. Livestock traders make arrangements with their local focal points and are able to purchase and transport livestock out of the zone to places like Kitgum, Gulu, Mbale, Soroti, southern Sudan and Kampala. The same traders usually bring various food
crops and non-food goods for sale to households within the zone. Most food crops are imported from Mbale, Soroti, Kitgum, Pader and Lira.

**Seasonal Calendar**

The zone has one long rainy period, usually from March through September, with a short interruption in June/July. The dry season lasts from October to February. Land preparation for most crops begins in March after the onset of rains. Planting and land cultivation are sometimes carried out at the same time. Harvesting takes place from July/August to September/October. Prior to 2006, livestock migrated seasonally to dry season grazing lands, leaving home areas in October and returning in February/March. Since 2006, livestock have stopped migrating far from home because of insecurity and the introduction of the government's protected kraal system.

The hunger season generally runs from March to July, coinciding with peak livestock sales (especially by poorer households) and a heightened search for agricultural labour. Firewood and charcoal sales occur throughout the year, but peak from December to April. Cutting poles and brick making are mostly carried out from November to February. Grass sales (by women and girls) take place from September to January. Wild foods consumption occurs mostly from October through February, although some wild vegetables are also consumed from March to July.

Although there is some green consumption in June/July, the main consumption year runs from August to the following July. The reference or baseline year chosen for this study was August 2008 – July 2009 (the most recent full consumption year at the time of the assessment in May 2010).

![Seasonal Calendar Diagram](image-url)

**Note:** The seasonal calendar is for a typical year. The last three years in the zone were characterised by below normal rainfall and prolonged dry spells that led to failure of most crops.
**Wealth Breakdown**

The number of livestock – and especially cattle – a household owns determines its wealth in this zone. Livestock ownership is a male domain but all wives have a share in the milk, meat, and cash from livestock sales, and they have access to ox ploughing (if the man owns oxen). Sheep and goats are commonly kept, with more sheep in northern areas and more goats in southern areas. In some areas poultry is kept for eggs and meat, but their contribution to income and food needs is relatively low compared to cattle, sheep and goats. In addition, chickens are highly vulnerable to Newcastle disease, which can wipe out entire holdings. The number of donkeys increases with wealth, with very poor households having none, and better off having 2-4. The poor and middle fall in between these extremes.

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<tr>
<th>Wealth Group Information</th>
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<td>HH size</td>
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<td>Very Poor</td>
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<tr>
<td>Poor</td>
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<tr>
<td>Middle</td>
</tr>
<tr>
<td>Better-off</td>
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Note: Figures for percent of households in the above table represent midpoints not absolute figures. All figures refer to a household headed by a woman.

Herd sizes are constrained by endemic diseases, raids and the need to sell off livestock in bad years in order to purchase food. The last three years have been difficult for households in this livelihood zone. Abnormally high livestock deaths were registered in the reference year due to the spread of disease associated with concentrations of animals in protected kraals. Since access to animal health services is directly related to purchasing power, better off households are more successful at responding to limiting deaths among their herds. A new disease called PPR\(^{12}\), which affects sheep and goats, was particularly devastating in the reference year.

Another factor limiting the size of any one man’s herd is the practice of taking on a new wife once his herd has increased to a certain size. He is required to pay for her dowry in livestock, thereby redistributing some of his livestock to another household. Very poor and poor men usually have one wife, middle men have 2-3 wives and the better off have 3-4 wives. Some of the wives are considered ‘not official’ or ‘informal’ because their marriage procedures (mainly payment of dowry) have not been finalised, but they share the man’s resources with official wives.

The amount of land cultivated by a household is determined in part by its access to oxen and ploughs; these are mostly owned by better off households. Poorer households tend to have less labour and limited

\(^{12}\) Peste des petits ruminants.
access to oxen; the better off plough larger fields and hire labour for farming activities. Households often cultivate more than one plot in different locations. Some tobacco is grown near the homestead for home consumption or for selling to neighbours. Very poor households in southern parts of the zone cultivated slightly more land than the same wealth group in northern parts of the zone.

Social support is high and comes in the form of better-off households hosting children from poor households. In fact, poorer households tend to have fewer people living at home because they have members staying with better off relatives; better off households tend to be larger as a result. Other social support is in the form of gifts of meat and milk from the better off to the poor.

Sources of Food – A bad year (2008-09)

Milk and meat, purchased food, own crops and wild foods are typically the main sources of food in this zone. In the reference year, own crops were minimal and food aid contributed significantly. All groups covered 100% of their minimum annual food needs (based on 2100 calories per person per day) except the very poor who fell very slightly below this level.

Purchased grains include sorghum (more in the north than south, where it is found in Acholi market), maize (more in the south than north, from Elgon sub-region). Beans are also commonly purchased. In a better year, the proportion of food coming from own crops would be larger, and the proportion from purchase would have been smaller. Poorer households rely more heavily on purchased grains than better off households, who can draw more successfully on their own production.

In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 calories per person per day.

Milk and meat\(^\text{13}\) combined contribute substantially to household food income, up to about half of annual household food needs for better off households. The better off have more livestock than the poor, allowing them to take advantage of this productive resource.

\(^{13}\) It is normal for households to consume meat from animals that have died from natural causes.
Relief food was an important source of food for all households in the reference year and included both school feeding for children and general food distributions. Food assistance was targeted to drought and flood affected households in 2008 but extended to all households in 2009.

Wild foods - including wild fruits (e.g. tamarind), mushrooms, tubers, white ants, game meat and wild vegetables - are consumed by all wealth groups; the poor and the very poor consume more than other groups. Hunting increases in the dry season and tapers off in the wet season.

Labour in direct exchange for food was not common in the reference year because better off households, who normally hire poorer households, did not have enough surplus to use for payment.

**Sources of Cash – A bad year (2008-09)**

Livestock sales are the main source of income for all wealth groups, followed by milk sales for middle and better-off households. More milk is sold in areas close to trading centres than in remote areas.

All wealth groups sell natural products (especially firewood and charcoal) every year, increasing the quantities sold in bad years. In bad years, charcoal is also exported out of the region to other parts of Uganda. With increasing supplies of firewood and charcoal in bad years, prices decrease, leaving people with less of a return on their time investments. Charcoal and firewood sales are an important income source for women from all wealth groups, who may not have easy access to the cash from livestock sales (a transaction generally controlled by men).

Self-employment is especially important for poorer wealth groups, comprising mainly firewood, charcoal, grass and pole sales. Agricultural labour and some milk sales also contribute to poorer group cash income. In bad years the poor are forced to sell more livestock than they can afford, undermining their ability to maintain a viable herd.

Better off households earn most of their cash selling sheep and goats, local beer, grains and, as a last resort, cattle. Brewing was a minor income source (included in ‘self employment’) for better off households in the reference year, but is practised more extensively in average and good years, when more
Crops are available to make the beer. In bad years, beer is imported into rural areas from small trading centres, towns and market centres.

In good years, crop sales provide income for all wealth groups. Sorghum, sesame and groundnuts are sold, usually from September to December.

**Expenditure Patterns – A bad year (2008-09)**

Food purchases - mainly of sorghum, maize, beans and sesame - make up a significant proportion of expenditure for all wealth groups in the reference year. Very poor households devoted almost 80% of their available cash to food, and even better off households spent over 40% of their cash on food, making up for the poor own crop production. For poorer households, very little income remains for other basic items like health and education. Food prices tend to be higher in northern parts of the zone compared to southern parts.

‘Inputs’ in the graphic below includes expenditure on seeds and simple tools like hoes and machetes (pangas) for poorer groups and ox ploughs and young breeding stock for better off households.

Money spent on social services (education and health) is minimal across all groups, increasing from poor to better off.

**Hazards**

Insecurity - in the form of cattle raids, road ambushes and indiscriminate killings - is a major hazard in the zone. Livestock and crop diseases, crop pests and drought add to the factors undermining livelihoods for local households.

Common diseases affecting livestock include tick borne diseases, worm infections, *contagious bovine pleuropneumonia* (CBPP or loukuoi), *contagious caprine pleuroneumonia* (CCPP), bacterial infections and *peste des petit ruminants* (PPR), an emerging disease that has affected goats in the last two years. Poultry are often wiped out by Newcastle Disease (local people refer to the disease as cholera of poultry).

Common crop pests include birds and weevils. Birds are mostly scared away manually using labour. Sorghum is affected by honey dew disease (*ergot*), black smut (*esinai*) and shoot fry (*eremonu*); maize stalk borer and maize streak (*emurom ekidikidi*) reduce maize yields. The *striga* weed has been affecting cereal yields in last few years. There were no serious measures to combat these diseases in the reference year.
Coping Strategies

Common household response strategies to deal with hazards include the following.

Switching of expenditure – Reduced expenditure on non-essential items and on more expensive food items is a strategy pursued by all wealth groups in bad years, so that they can purchase cheaper staple foods like maize and sorghum.

Increased bush product collection and sale – The sale of firewood and charcoal is intensified in bad years. Charcoal is exported out of Karamoja to other regions within the country. The environmental implications of this strategy are likely to be damaging.

Labour migration – Members of poorer and, to some extent, middle households travel to Soroti, Mbale, Lira and Pader in search of labour opportunities in both rural and urban areas.

Increased livestock sales – Households from the better off wealth group sell additional livestock to cover food and other essential purchases in bad years. Even for the better off, however, the extent to which this strategy of increased livestock sales can be pursued without damaging future livelihoods is quite limited.

Treatment of livestock diseases – Better off households sometimes purchase livestock drugs to treat their herds. The government and its development partners have been providing free vaccinations.

Increased consumption of wild foods – Most households collect and consume wild foods in normal years. In bad years, households increase the amounts collected and consume them over a longer period of time.

Key Parameters

The following are the key parameters – or significant aspects of the local household economy – that need to be monitored every year:

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<tr>
<td></td>
<td>• Maize</td>
<td>• Sesame</td>
</tr>
<tr>
<td></td>
<td>• Millet</td>
<td>• Groundnuts</td>
</tr>
<tr>
<td></td>
<td>• Sunflower</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Groundnuts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Cowpeas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Beans</td>
<td></td>
</tr>
<tr>
<td>Livestock production</td>
<td>• Cattle</td>
<td>• Cattle</td>
</tr>
<tr>
<td></td>
<td>• Shoats</td>
<td>• Shoats</td>
</tr>
<tr>
<td></td>
<td>• Milk</td>
<td>• Milk</td>
</tr>
<tr>
<td>Other food and cash income</td>
<td>• Agricultural labour</td>
<td>• Labour rates</td>
</tr>
<tr>
<td></td>
<td>• Charcoal</td>
<td>• Charcoal</td>
</tr>
<tr>
<td></td>
<td>• Firewood</td>
<td>• Firewood</td>
</tr>
</tbody>
</table>

14 Key parameters are food or income options that make up at least 5% of any two wealth groups’ annual sources of food or income; or 10% of any one wealth group’s annual food/cash income.
Agricultural Livelihood Zone Profile
Karamoja Region, Uganda
Abim Simsim Groundnuts Sorghum Livestock Livelihood Zone, May 2010

Zone Description

The Abim Simsim Groundnuts Sorghum Livestock Livelihood Zone is an agriculturally-based zone that extends across all of Abim District and a small part of Moroto District. The main ethnic group in the area is the Labwor. The projected 2010 population for the livelihood zone is 61,100.

The zone is hilly, with mountains that drain water into lowlands, where crops are produced. The zone has sandy and black clay loam soils in the plains and alluvial soils along river courses that support a wide variety of crops. Average annual rainfall is between 700 - 1000 mm. There is one long rainy season lasting from March/April to September/ October, with a drier spell typically occurring during June/July. Compared to the rest of Karamoja Region, the zone is a high potential area for crop production due to good soils and higher rainfall amounts.

In typical years the main food sources are households’ own crop production, supplemented by purchased food, payment in kind (in exchange for labour), and wild foods. Rainfed crop production is the norm, leaving households vulnerable to years when rains are poor. The vegetation in the highlands and lowlands

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15 This is the Karamoja part of a larger livelihood zone that is shown on the map and was identified in a national zoning workshop in 2009 (organised by FEWS NET): South Kitgum Pader Abim Simsim Groundnuts Sorghum Livestock Livelihood Zone (UG21).
16 Field work for the current profile was undertaken in May 2010. The information presented refers to August 2008 – July 2009, a relatively bad year by local standards (i.e. a year of below average production and rural food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2015).
17 According to the Uganda livelihoods zoning map completed by FEWS NET in 2009, this zone includes Kacheri sub-county, Kotido District. However, this assessment concluded that Kacheri should actually be included in the neighbouring agro-pastoral zone (Karamoja Livestock Sorghum Bulrush Millet Livelihood Zone).
18 Uganda Bureau of Statistics estimates put the projected 2010 population of Abim at 55,300; and Apeitolim Parish, Lokopo Sub-county, Moroto District at 5,800.
is host to a number of wild foods that local households depend on, particularly wild yams, shea nut fruit and oil from the nuts.

The main crops are sorghum, millet, beans, cowpeas, pigeon peas, groundnuts, sweet potatoes, sesame and sunflower. Maize and a variety of cucurbits (cucumber, watermelon and pumpkins) are grown on a small scale. Cassava, a recent introduction in the area, is gaining importance as farmers grow to appreciate its tolerance to drought. Sorghum, beans, cowpeas and sunflower are often intercropped in the same field. Groundnuts, sweet potatoes and cassava are planted as pure stands; cassava can be intercropped with beans in the early stages. Some fruit trees, especially mangoes, are owned by households. Cultivation is mainly done by oxen and hand hoes, with poorer households generally using hand hoes and better-off households using oxen. It is not typical for households to apply manure or fertilisers.

For the most part, crops are grown for consumption, although some (sorghum, groundnuts, sesame, sunflower and cassava) may be sold at harvest time to generate the cash needed to pay for school fees or medical expenses. Seasonal food shortages occur from May through July. During this time, most households depend on purchased food while waiting for crops to mature in August.

Cattle, goats, a few sheep and pigs are the main livestock reared in this zone. Some poultry is also kept, but in very small numbers. The livestock sector was severely undermined by raiding, but has slowly started recovering since 2006. Before herds were decimated, households used cattle for milk and oxen for ploughing. Households with sufficient means have tried to re-stock, first by acquiring oxen/bulls from neighbouring Kotido, followed by purchases of milking cattle. Re-stocking efforts have occasionally been boosted by the government and some agencies that have provided breeding stock. Sheep and goats are tethered near the homes during the wet season to prevent them from damaging crops. They are let free in the dry season from September/October to March/April; this freedom results in high conception rates, leading to the majority of births occurring in March and April. Water for livestock is from the seasonal rivers and a few boreholes. Unlike in the agro-pastoral and pastoral zones, goats and sheep in this part of the region are not milked.

Crop sales and livestock sales (mostly goats, sheep and to a lesser extent poultry) are the main income sources. In typical years before the raids, cattle were also sold. In addition, households depend on local agricultural labour and migrating to neighbouring districts to find work (especially in bad years), charcoal and firewood sales, and brick making.

Drought is the main threat to food security in this livelihood zone. Households experienced poor rainfall during the last three years, resulting in food aid deliveries. Food aid was targeted to ‘extremely vulnerable individuals’ (EVIs) in 2008 and extended to the general population in 2009. Children in primary and secondary schools received relief food through school feeding programs.

Key informants reported that access to health services is inadequate, with a lack of health facilities, drugs and trained staff. There were also concerns voiced about inadequate school facilities, especially at the secondary level.
Markets

Markets play an important role in the livelihoods of this zone, providing opportunities for households to exchange livestock and crops for needed cash. Sub-county markets located within the zone operate as often as twice a week. Major crops sold in the markets include sorghum, maize, groundnuts, sweet potatoes, cassava, sesame, beans, imported vegetables and fruits. Dried small fish, clothes, utensils, and hygiene products are also found in weekly markets. Households time their purchases of most items with market days. In times of crop shortages, the large traders supply local markets with food commodities originating from Lira, Kitgum, Acholi, Lango, Pader, Soroti and Mbale. Specialised livestock markets are organised weekly at the sub-county level; unlike other areas of Karamoja that export livestock beyond the region’s boundaries, local goats, sheep, pigs and poultry are mainly sold within the zone.

The local population travels to markets mostly on foot, along a fair network of earth roads. Roads become impassable in the wet season and access can also be hindered by occasional insecurity. The government has put in place several army units along the trading paths to mitigate insecurity. Mobile telephone networks have provided an opportunity for traders to access information about local demand and prevailing prices, making it possible for traders from supply areas like Mbale, Soroti, Acholi, Kitgum, Lira, and Pader to know beforehand the commodities in demand on market days.

Seasonal Calendar

The zone has one long rainfall season starting in March/April and ending in September/October, with intermittent dry spells in June/July. Land preparation for sorghum and maize can commence as early as February. Land preparation for sesame, groundnuts, sunflower, sweet potatoes, cow peas and millet takes place in March. Land preparation for beans and cassava is carried out mostly in May. Most crops are planted in March/April followed by weeding. The hunger season is from May to July; this is when food stocks run out and households depend more heavily on purchased food until August, when the main harvests start to come in. It is during this period that poorer households increase their reliance on casual labour and self-employment to earn the much needed cash to purchase food.
July marks the start of the harvest for short maturing crops like sunflower; long maturing crops, like sorghum, are harvested through December. Most maize is consumed green. Cassava is usually harvested in February to May of the year after planting. Crop sales typically take place immediately after harvesting. Sorghum, maize, millet and groundnuts are stored in granaries without threshing/shelling.

Poultry are sold throughout the year; goats, sheep and cattle are sold mostly during the hunger season and at the start of school terms in March, May and September. Charcoal sales occur from March to September, during the wet season, when there is increased demand for charcoal by town residents. Households typically make more charcoal than necessary in the dry season to stock so they can sell it during the wet season when prices are highest. Peak firewood sales take place in the dry season. Brick making operations are possible during the dry season only.
The amount of land *cultivated* – as opposed to the amount of land *owned* – is the key determinant of wealth in this zone; and this, in turn, is determined by the number of oxen and ploughs a household owns. Only better off households, with oxen and ploughs and the means to hire extra labour, are able to take advantage of the available land. Poorer households are limited to the amount of land they can cultivate using hand hoes. An additional constraint - insecurity - kept some households in the reference year from cultivating fertile land located far from their homes. The effect of insecurity was, however, limited mainly to the peripheral areas (bordering the other districts of Karamoja) and did not affect the interior parts of the zone or those bordering Acholi and Lango sub-regions.

As previously mentioned, raiding has decimated the livestock population, and so households in this zone have very low numbers of livestock compared to the rest of Karamoja Region. As a result, better-off households only invest in purchasing oxen for ploughing, as opposed to purchasing cattle for breeding, as was the case before. There has also been an increase in the rearing of pigs, which are not targets for raiders. Goats and pigs are important sources of cash, especially in bad years and when cash is required at a short notice.

<table>
<thead>
<tr>
<th>Wealth Group Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH size</td>
</tr>
<tr>
<td>Very Poor</td>
</tr>
<tr>
<td>Poor</td>
</tr>
<tr>
<td>Middle</td>
</tr>
<tr>
<td>Better-off</td>
</tr>
</tbody>
</table>

Note: The % households’ figure represents the mid-point of a range.
Sources of Food: a bad year (2008 - 2009)

As shown in the graph to the right, households in this zone relied on five sources of food in the reference year, a relatively bad year: own crops, payment in kind, purchased food, food aid, and wild foods. The consumption year runs from August to July. Although green consumption of some crops may begin as early as June/July, August usually marks the beginning of the consumption year because harvesting of crops like sorghum, maize, millet, sesame, groundnuts, beans, and sweet potatoes starts during this month. In the reference year purchases and own crops (mainly sorghum, millet, sweet potatoes, cowpeas, beans and sunflower) were the main sources of food for all wealth groups.

Most of the food crops produced were consumed, unlike in good years when a portion of the crops are sold. The total contribution of own crops to annual food needs ranged from about 20% for the very poor to about 60% for the better off.

Purchases contributed 20 – 40% of annual food income, with better off households needing to buy less than poorer households since they managed to produce more of their own crops. All groups purchased sorghum, beans, groundnuts, sesame, dried small fish, oil and vegetables. In addition, the poorer and middle groups supplemented their calorie intake by purchasing cheaper maize and cassava. Neighbouring areas of Acholi and Lango supplied the food purchased from the markets. Meat was purchased only by middle and better off groups.

Poorer and middle households relied on payment in food in exchange for labour (‘payment in kind’) to make up about 10 - 15% of annual food needs. Usually this is payment in exchange for agricultural work, but it can also be for brick-laying and construction work. Some households reportedly migrated for short periods of time to neighbouring districts (Lira and Pader) to work in exchange for sorghum, maize, and sometimes cassava.

Relief food aid was received by all wealth groups and included school feeding during school terms. Relief food covered approximately 20% of households’ annual food needs and included cereals, pulses, oil, corn soya blend (CSB) and salt.

Wild foods, including wild vegetables, yams, and shea nut fruits and shea nut oil, also contributed.
Sources of Cash: a bad year (2008 - 2009)

Because of the small amount of crop production in the reference year, crop sales were extremely limited. The main sources of cash income for poorer households and middle households in the reference year were casual labour and self-employment. Better-off households relied on livestock sales, renting out oxen, remittances and income from small businesses.

‘Casual labour’ refers mostly to agricultural labour (sometimes in the neighbouring districts of Pader and Lira), domestic labour - like fetching water - and house construction.

‘Self employment’ includes firewood and charcoal sales, sales of building materials (poles, ropes, bamboo) and handicrafts. The better-off participated in mixed businesses that included brick-making, quarrying, charcoal sales, brewing and petty trade. Remittances were a significant source of income for the better-off. This was largely used to meet school fees.

The graph shows a breakdown of annual cash income by wealth group in USh.

<table>
<thead>
<tr>
<th>Annual income (USh)</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Middle</th>
<th>Better off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop sales</td>
<td>0 - 200</td>
<td>400</td>
<td>600</td>
<td>500</td>
</tr>
<tr>
<td>Livestock sales</td>
<td>200 - 400</td>
<td>500</td>
<td>700</td>
<td>600</td>
</tr>
<tr>
<td>Oxen rental</td>
<td>400 - 600</td>
<td>700</td>
<td>900</td>
<td>800</td>
</tr>
<tr>
<td>Remittances</td>
<td>600 - 800</td>
<td>900</td>
<td>1100</td>
<td>1000</td>
</tr>
<tr>
<td>Self employment</td>
<td>800 - 1000</td>
<td>1100</td>
<td>1300</td>
<td>1200</td>
</tr>
<tr>
<td>Small business</td>
<td>1000 - 1200</td>
<td>1300</td>
<td>1500</td>
<td>1400</td>
</tr>
</tbody>
</table>
**Expenditure Patterns: a bad year (2008 - 2009)**

All groups purchased food in the reference year. In relative terms, poorer households had to spend more of their income on food than better off households, who could rely on more of their own crops. Although the proportion of expenditure on non-staple foods is similar across all groups, the very poor spend a larger portion of their available income on this item compared to the poor and the middle groups. In absolute terms, the better off spent more than double what other household groups spent on non-staple foods. The better off were the only households to purchase meat.

Expenditure on household items (salt, soap, kerosene and grinding), inputs (mainly seeds), social services (health and education), clothes and other items increased with wealth. The category ‘other’ includes beer and tobacco.

The better off spent significantly more (in absolute terms) on agricultural inputs, including the purchase and maintenance of ploughs, hiring of agricultural labour, and seeds. Better off households spent more on education than other groups. Very poor households did not have enough money to purchase inputs.

**Hazards**

**Insecurity** is a chronic hazard undermining both crop and livestock production. Livestock raids have led to the loss of all types of livestock in the past. In addition to the loss of livestock, human lives are often lost during the raids. Insecurity prevents households from cultivating productive land that is located in insecure areas, reducing overall production. Insecurity also limits access to wild foods and game.

**Livestock diseases** diminish income that can be realized from livestock sales, in addition to reducing milk and meat yields. Diseases that threaten livestock production are East Coast Fever (ECF), rinderpest, contagious bovine pleuropneumonia (CBPP), foot and mouth disease (FMD) for cattle and recently *peste des petits ruminants* (PPR) for goats. Poultry is often attacked by Newcastle disease.

**Prolonged dry spells/drought** are a persistent threat, and have led to crop failures in the last three years resulting in food insecurity throughout the zone and the whole of Karamoja Region.

**Flooding:** The last serious flooding was reported in 2007. Normal seasonal water-logging occurs in low lying areas.
Weeds affect crop production yearly especially in years of good rainfall. The *striga* weed has affected sorghum production in the last two years and if not controlled will continue to reduce sorghum yields in future.

**Coping Strategies**

To reduce the risk of attacks, households cultivate lands that are near their homes. Several households usually herd their animals together to form a united front against potential raiding. People organise and move in large groups when going to the markets. Key informants reported that the increased emphasis on pig rearing was a response to cattle raids.

In an effort to combat livestock diseases the government and its development partner agencies have been providing vaccinations for livestock free of charge. Better off households usually purchase drugs to treat their livestock. There have also been distributions of seeds and planting materials and tools by government and development partners to encourage and raise the levels of production. The government is also promoting alternative income sources, especially pig raising, apiculture and aquaculture to enable the communities cope with the loss of livestock due to insecurity.

When communities are suffering food shortages, they look for more labour opportunities in addition to selling firewood, charcoal, poles, bamboo, and other construction materials. Some members of the households will temporarily migrate to nearby districts in search of labour and be paid in kind with grain.

The better off may sell their goats, sheep and even cattle to get income in order to access food in bad years. Increased collection of wild foods is an option exploited by many people in the zone during periods of food insecurity.
The key parameters listed in the table below should be monitored every year to provide warning of potential losses to the local household economies.

<table>
<thead>
<tr>
<th>Item</th>
<th>Key Parameter – Quantity</th>
<th>Key Parameter – Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crops</strong></td>
<td>• Sorghum</td>
<td>• Sorghum</td>
</tr>
<tr>
<td></td>
<td>• Cassava</td>
<td>• Cassava</td>
</tr>
<tr>
<td></td>
<td>• Millet</td>
<td>• Millet</td>
</tr>
<tr>
<td></td>
<td>• Groundnuts</td>
<td>• Groundnuts</td>
</tr>
<tr>
<td></td>
<td>• Cowpeas</td>
<td>• Cowpeas</td>
</tr>
<tr>
<td></td>
<td>• Pigeon peas</td>
<td>• Pigeon peas</td>
</tr>
<tr>
<td></td>
<td>• Beans</td>
<td>• Beans</td>
</tr>
<tr>
<td></td>
<td>• Sesame</td>
<td>• Sesame</td>
</tr>
<tr>
<td></td>
<td>• Sweet potatoes</td>
<td>• Sweet potatoes</td>
</tr>
<tr>
<td><strong>Livestock production</strong></td>
<td>• Goats (herd size)</td>
<td>• Goat prices</td>
</tr>
<tr>
<td><strong>Other food and cash income</strong></td>
<td>• Agricultural labour (availability)</td>
<td>• Daily casual labour rates</td>
</tr>
<tr>
<td></td>
<td>• Oxen hiring</td>
<td>• Oxen hiring</td>
</tr>
<tr>
<td></td>
<td>• Construction labour</td>
<td>• Firewood</td>
</tr>
<tr>
<td></td>
<td>• Brick making</td>
<td>• Charcoal</td>
</tr>
<tr>
<td></td>
<td>• Remittances</td>
<td>• Building materials</td>
</tr>
<tr>
<td></td>
<td>• Firewood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Charcoal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Building materials</td>
<td></td>
</tr>
</tbody>
</table>
Annex 1: Livelihood Zones of Karamoja

Source: Famine Early Warning System, 2009
Annex 2: Livelihood Zones of Baseline Assessment

Source: Famine Early Warning Systems, 2009