

Southern Nation, Nationalities and People's Region, Ethiopia

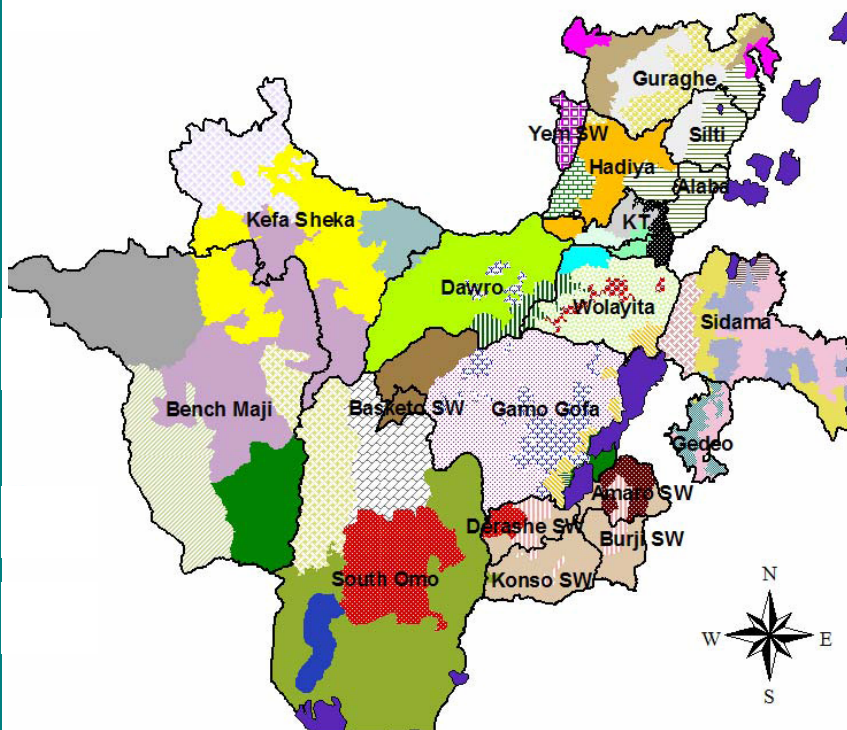
Livelihood Profiles

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**FEWS NET
ACTIVITY**



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Introduction

The Livelihood Profiles that follow document how the rural populations of the Southern Nations, Nationalities and Peoples' Regional State (SNNPR) live. *A livelihood* is the sum of ways in which households make ends meet from year to year, and how they survive (or fail to survive) through difficult times.

There is increasing interest in using livelihoods analysis as the 'lens' through which to view a number of subjects. These subjects range from emergency response to disaster mitigation to longer term development. The interest rests upon two basic observations:

- 1) Information about a given area or community can only be properly interpreted if it is seen against the context of how people live.
- 2) Interventions can only be designed in ways appropriate to local circumstances if the planner knows about local livelihoods and whether or not a proposed intervention will build upon or undermine existing strategies.

Two main products are offered here:

Regional Livelihood Zone Map	The map shows the division of the Region into homogeneous zones defined according to a livelihoods framework.
Livelihood Zone Profiles	The Profiles describe the major characteristics of each Livelihood Zone, including a brief differentiation of the food security status of different wealth groups. There is some emphasis on hazards and the relative capacity of different types of households in different places to withstand them.

In compiling the Profiles, a balance has been struck between accessibility and level of detail. Taken together, they provide a compendium on the livelihoods in the Region; on the other hand, the Regional Overview, including the short summaries for each Livelihood Zone, provides a more rapid introduction to the subject matter. The preparation of these Profiles was a joint activity between the USAID FEWS NET project and the Disaster Prevention and Preparedness Commission (DPPC) of the Ethiopian Government. The main focus of FEWS NET's work is early warning, food security monitoring and emergency assessment. The Livelihood Profiles have been structured primarily with these types of activity in mind. However, it is hoped that they will also prove useful to the wider development community.

The Uses of the Profiles

The livelihood zoning and Profiles presented here offer an analysis rural food security on a geographical basis. The Region is divided into homogeneous zones defined according to a livelihoods framework. A brief description of each zone is provided, including an analysis of the position of different wealth groups within the zone. It is envisaged that this product will be useful on three levels, as follows.

1. An Introductory Guide to Food Security in the Region

The Profiles pack considerable information and analysis into a few pages of presentation. They should therefore form a useful briefing for a newcomer who needs to get a grasp of food security conditions around the Region. As far as this is consistent with ground realities, the geographical divisions into Livelihood Zones is in single pieces – i.e. a given zone is not split into several non-contiguous parts - so that the reader can take in the general pattern and the basic differences between areas and populations.

Development planners can also benefit from using the Livelihood Profiles. One objective of development is to reduce people's vulnerability to hazard and to increase their capacity to cope. An important first step is to understand who is vulnerable, to which hazards, and why. Likewise, efforts to reduce poverty require an understanding of how the poorest households normally survive in different areas of the Region and the reasons for their poverty.

2. Early Warning and Food Security Monitoring

Most early warning and food security monitoring systems draw heavily from two information sources: (i) crop and/or livestock production data; and (ii) market price information. Given the predominance of production data, local food security is often equated with production outcomes. Hence, a chronic or temporary production deficit against local food requirement is immediately translated into chronic or temporary food insecurity.

This is almost never the whole story. A full account of the Household Economy includes both what food people produce, and what cash people earn to purchase food. Thus, data on casual employment or wild foods, or charity from relatives or the sale of handicrafts is equally important to the livelihood story as data on crop and livestock production.

Using a baseline Livelihood Profile, we can then inquire into household capacity to adapt to economic stress, especially failed crop or livestock production; and we can appreciate household activities at different periods in the yearly cycle. All of which feeds directly into our analysis of need, helping to answer key questions such as; which areas and what types of household are likely to cope should a hazard strike and which will need assistance? What types of intervention will be most appropriate, and when and for how long should they be implemented?

Thus for instance one could point to the position of poor households in a given geographical area who are highly dependent on coffee harvesting employment. If the harvest is seriously reduced for any reason, their labor will be less in demand: can they find alternative income elsewhere – and will they be competing with people from other zones in these activities?

Officers working within the Regional early warning system have an immense knowledge of their Region. The livelihoods approach helps to provide a framework for the full use of that knowledge, as well as adding a new level of information to it.

3. Policy Development

Disaster management has been the main impetus to the spread of early warning systems. The rationale in early warning is to improve the efficiency in the scale and timing of emergency food aid. However, increasingly planners are looking at alternatives to food aid in early emergency intervention—and this often requires changes in policy and practice. A case in point is the stabilization of market prices for basic foods. Livelihoods analysis can expose the likely effects of such interventions on different households' capacity to survive a crisis. The analysis can also recommend the optimum timing for intervention.

Livelihood analysis can also be applied to other policy changes. For example, if government taxes on trading of a cash crop were reduced, or new charges were made for government veterinary drugs, what would be the impact on households? More generally, the household viewpoint offers a more secure footing for looking at the increasingly voluminous discussion of poverty alleviation. It allows one to look at the story which lies behind Regional statistics.

Key Concepts

Risk, hazard, vulnerability and **need** have well-established meanings in the context of disaster management. They are, however, frequently misused in the context of food security. The meaning of these terms is perhaps best explained with an example (see below).

Defining Risk, Hazard, Vulnerability and Need _____

- Drought is a major **hazard** affecting crop and livestock production in several parts of Ethiopia.
- Poor households are more **vulnerable** to (i.e. less able to cope with) drought than better-off households; they have fewer reserves of food or cash to fall back on, and fewer options for generating additional income.

- Poor households living in drought-prone areas of the Region are more **at risk** of a food shortage than other households because they are both exposed to and vulnerable to the drought hazard.
- Once a drought strikes, the poor are the most **in need** of food assistance.

To be at risk of food deficits you must both be exposed to a hazard and be vulnerable to that hazard, as in the case of poor households in the drought-prone areas in the above example. Because vulnerability is so closely linked to hazard, it follows that there is no general state of vulnerability; people can only be vulnerable *to something*. For example, farmers cultivating along a river margin may be vulnerable to flood (which is likely to wash away their crops), but may not be vulnerable to drought (since they can irrigate their crops using water from the river). Likewise, pastoralists may not be very vulnerable to drought provided they can move freely in search of water and grazing. They may, on the other hand, be highly vulnerable to conflict if that inhibits their movement to key water points and grazing areas.

Mathematically, the relationship between risk (R), vulnerability (V) and hazard (H) can be summarized as:

R = f(H,V) Where:

Risk = likelihood of a negative outcome (e.g. food deficit)

Hazard = likelihood of exposure to a hazard (e.g. drought)

Vulnerability = likelihood that people will not be able to cope with a defined hazard.

Once a hazard has struck, it no longer makes sense to talk about vulnerable groups. Put simply, people are **vulnerable before the event**, (since this refers to their ability to cope should a hazard strike). They are **in need after the event** (i.e., those actually affected by and unable to cope with a hazard). Going back to the drought example, the poor are vulnerable to drought before the rains fail, but once they have lost their crops or livestock they are in need of assistance. For the assessment and analysis of these matters, one of the most widely used livelihoods-based approaches is the Food or Household Economy Approach, first developed by Save the Children UK in the 1990s¹. This is described further in the next section.

The Household Economy Approach

There is one basic principle underlying the Household Economy Approach. This principle states that:

an analysis of local livelihoods is essential for a proper understanding of the impact— at household level - of hazards such as drought or conflict or market dislocation.

Total crop failure may, for example, leave one group of households destitute because the failed crop is their only source of staple food. Another group, by contrast, may be able to cope because they have alternative food and income sources. These alternative sources—such as livestock to sell or relatives elsewhere who can assist—can make up the production shortfall. Thus, effective hazard impact assessments must be based on livelihood analysis, and livelihood analysis itself involves several steps (see table below).

The Livelihood Zone Map: Patterns of livelihood clearly vary from one area to another. Local factors such as climate, soil, access to markets etc. all influence livelihood patterns. The first step in a Household Economy Analysis is therefore to prepare a **livelihood zone map**. This map delineates geographical areas within which people share basically the same patterns of access to food (i.e. they grow the same crops, keep the same types of livestock, etc.) and have the same access to markets. An example of a livelihood zone map based on information gathered from southern Mozambique is presented on page 5.

The Wealth Breakdown: Where a household lives is one factor determining its options for obtaining food and generating income. Another factor is wealth, since this is the major factor determining the ability of a household to exploit the available options within a given zone. It is obvious, for example, that better-off households owning larger farms will in general produce more crops and be more food secure than their poorer neighbours. Land is just one aspect of wealth, however, and wealth groups are typically defined in terms of their land holdings, livestock holdings, capital,

¹ See 'The Household Economy Approach', Seaman J., Clarke P., Boudreau T., Holt J., Save the Children UK 2000.

education, skills, labor availability and/or social capital. Defining the different wealth groups in each zone is the second step in a Household Economy analysis, the output from which is a **wealth breakdown**.

The Household Economy Baseline: Having grouped households according to where they live and their wealth, the next step is to generate **Household Economy baseline** information for typical households in each group for a defined reference or baseline year. Food access is determined by investigating the sum of ways households obtain food — what food they grow, gather or receive as gifts, how much food they buy, how much cash income is earned in a year, and what other essential needs must be met with income earned.

Household Coping (or Response) Strategies: Once this baseline is established, an analysis can be made of the likely impact of a shock or hazard in a bad year. This is done by assessing how food access will be affected by the shock, what other food sources can be added or expanded to make up initial shortages, and what final deficits emerge.

Outcome Analysis: The objective is to investigate the effects of a hazard on *future* access to food and income, so that decisions can be taken about the most appropriate types of intervention to implement. The rationale behind the approach is that a good understanding of how people have survived in the past provides a sound basis for projecting into the future. Three types of information are combined; (i) information on baseline access, (ii) information on hazard (i.e. factors affecting access to food/income, such as crop production or market prices) and (iii) information on response strategies (i.e. the sources of food and income that people turn to when exposed to a hazard). The approach can be summarized as follows:

Baseline + Hazard + Response = Outcome

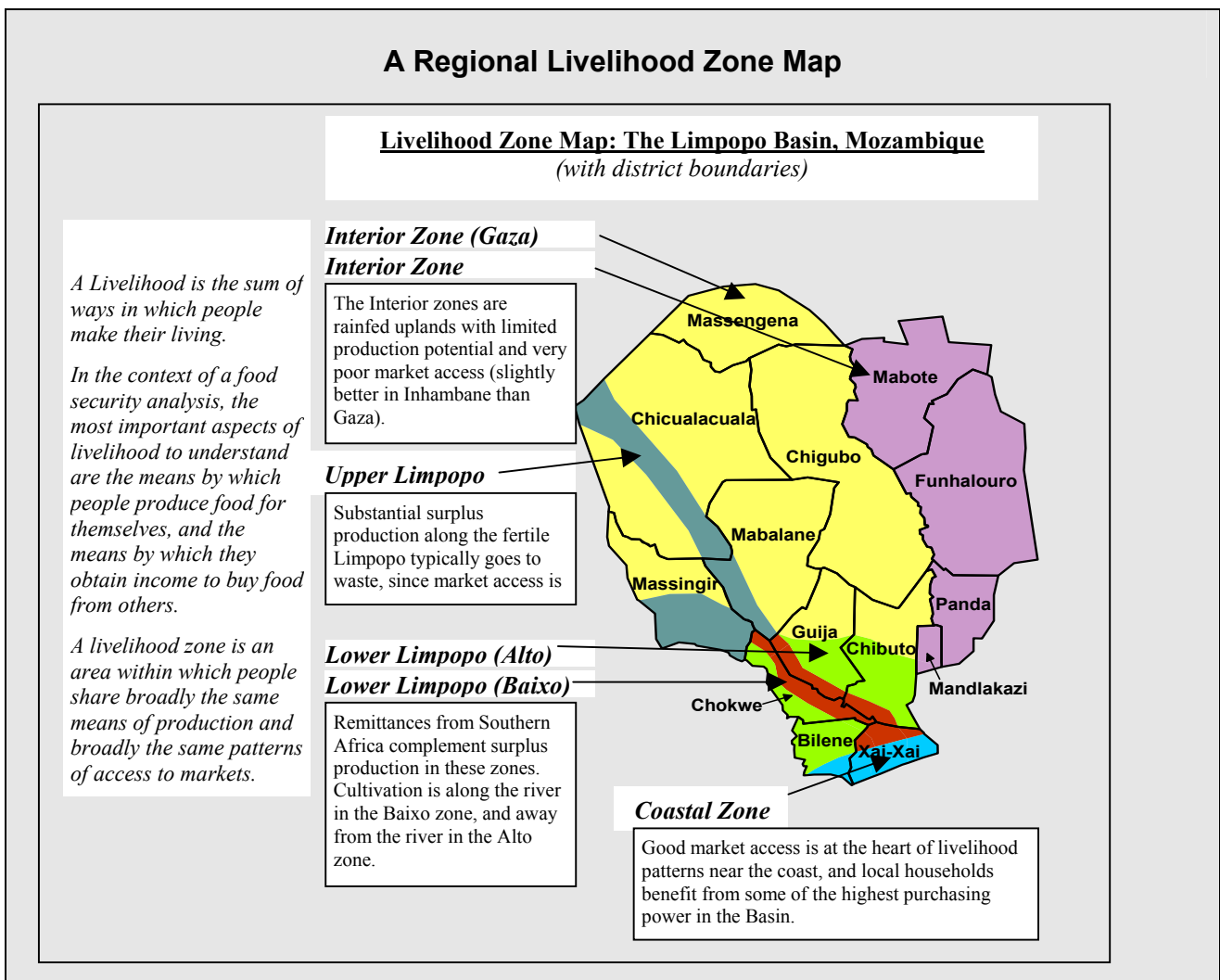
The idea is that once the baselines have been compiled they can be used repeatedly over a number of years - until significant changes in the underlying economy render them invalid. A good food economy baseline will generally be

<u>Outcome Analysis: Baseline + Hazard + Response = Outcome</u>		
<p>The baseline picture provides a starting point or context for understanding the likely impact of a shock or hazard on food access at household level.</p> <p>If, for example, ‘poor’ households are heavily dependent upon crop production, then they may be vulnerable to hazards affecting crops, such as drought or pest attack. Households that rely upon other sources of food and income are, on the other hand, less vulnerable to these hazards.</p>	<p>The first step is to superimpose the hazard on the baseline to assess its effects on food access at household level.</p> <p>This requires that the hazard be expressed in quantitative terms, e.g. a 50% reduction in crop production, a 20% reduction in milk output, etc.</p> <p>In the example below, a 50% reduction in crop production results in a 25% deficit in food access for the ‘poor’, since crops provide half of baseline food needs for this group.</p>	<p>The second step is to consider the response strategies that can be pursued by households exposed to a hazard, and the amount of food and/or income that can be generated from these.</p> <p>In the example, the ‘poor’ keep from 3-5 goats, and in a crisis can exchange 2 of these for 1-2 sacks of grain – enough to cover roughly 10% of annual food needs. This has the effect of reducing the deficit from 25% to roughly 15%.</p>
<p>Baseline</p>	<p>+</p> <p>Hazard e.g. 50% crop failure</p>	<p>+</p> <p>Response e.g. sale of 2 goats</p>
<p>= Outcome</p> <p>The outcome represents the final result, expressed in terms of the food intake deficit likely to result from a particular hazard, once household-level responses have been taken into account.</p> <p>In the example, the conclusion is that a 50% crop failure is likely to result in a food intake deficit of 15% for ‘poor’ households. Similar analyses undertaken for other types of household (e.g. the ‘middle’ and the ‘better-off’) will indicate their vulnerability to this particular hazard.</p>		

valid for between 3 and 10 years. What varies is the prevailing level of food security, but this is a function of variations in hazard, not variations in the baseline. Put another way, the level of maize production may vary from year to year (hazard), but the underlying pattern of agricultural production does not (the baseline).

The Household Economy analytical framework described here sets out the types of information and analysis that are required to understand the impact of a hazard on food security and local livelihoods. As much of this information as possible has been included in the current Profiles, which together with the Regional livelihood zone map are designed as a stand-alone product (see section on Uses of the Profiles). However, the Profiles do not contain all the information acquired to complete the full quantitative outcome analysis described in the graphic on page 4. The full set of information gathered in the SNNPR Baseline Survey has been stored on separate spreadsheets.¹

Livelihood Zone Maps: A livelihood zone is an area within which people share broadly the same patterns of access to food (i.e. they grow the same crops, keep the same types of livestock, etc.). They also share broadly the same access to markets.



Livelihood zone boundaries do not always follow administrative boundaries. Instead, a river or mountain range may be the boundary for a livelihood zone. In this way, in Ethiopia a single woreda will often contain parts of different livelihood zones, for instance reflecting lowland versus midland ecologies. By the same token, a livelihood zone will often cover parts of several woredas. However, resources are allocated on the basis of administrative units not livelihood zones, and so it is an advantage when livelihood zone boundaries coincide with district boundaries; but this

¹ The full Household Economy baseline provides quantitative information on food, income and expenditure for at least three main wealth groups within a livelihood zone. Taken together these baseline data provide detailed information on the *amounts* of food accessed and the *amounts* of cash income generated from different sources by typical households living at different levels of wealth. The Livelihood Profiles include information on the *proportional contribution* of different sources of food, in terms of their contribution of kilo-calories (the food energy measure) to total consumption, and the different types of household expenditure as a *proportion* of the overall household cash budget; however cash income sources are given in absolute Birr terms.

is frequently not possible because ecology and economy so often cross the administrative boundaries. In the SNNPR the boundaries of livelihood zones have been lined up with Peasant Association boundaries so that the populations in the livelihood zones can be identified and their numbers determined.

What is in a Livelihood Profile

The Profiles are divided up into a number of sections:

Zone description offers a general description of local livelihood patterns (crop production, livestock rearing, 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 three main wealth groups ('poor', 'middle' and 'better-off'), explaining the differences between these groups and how this affects potential access to food and cash income¹.

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. 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..

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 strategies².

Early warning involves identifying and interpreting key events that indicate that a severe food shortage or famine may be developing. The final section, **Indicators of Imminent Crisis**, draws upon the classification of early warning indicators proposed by Fred Cuny³. This section provides information on the key indicators and their likely timing by zone, based upon an understanding of local livelihoods⁴ and local patterns of response to food shortage⁴.

¹ It is important to bear in mind for this analysis that we are thinking of wealth in relative (and local) terms. Statistical data may indicate that 80% or even 90% of the population in a particular area lives below the national poverty line, but this is measuring poverty on a national, absolute scale. In a livelihoods analysis we are interested in understanding some of the differences between different groups within the community and the reasons for these – in which case it is not particularly useful to lump 80% or 90% of the population together into one group.

² The term response strategy is preferred to coping strategy for two reasons. Firstly, the term coping strategy is often used to refer to regular components of everyday livelihood (e.g. firewood sale), which strictly speaking are only coping strategies when intensified in response to a hazard. Secondly, 'coping' can be taken to imply that the strategy in question is cost-free, which is not always the case.

³ 'Famine, Conflict and Response: A Basic Guide', Cuny F. C. and Hill R. B. Kumarian Press, 1999, pp 33-42.

⁴ Fred Cuny identified two types of early warning indicator, those that provide advance warning of a famine (indicators of imminent crisis) and those that confirm the existence of famine (indicators of famine). The latter group includes indicators such as distress sales of productive assets (e.g. plow oxen), consumption of seeds, increased malnutrition and increased mortality. Indicators of famine are not generally context specific (i.e. a single list could be prepared that would apply to all livelihood zones). They are also of little use in predicting or preventing severe food shortage or famine. For these reasons they have not been included in the Livelihood Profiles.

Methodology

The livelihood zone map and Profiles presented here have been compiled through a combination of field work and reference to existing secondary data sources. A draft map of the Livelihood Zones of SNNPR was achieved through a Regional workshop held in October 2004 in which representatives of Special Woredas and Administrative Zones joined regional representatives of the DPPC, Food Security Bureau and the Department of Agriculture. The map was then revised during the course of the subsequent baseline fieldwork. This fieldwork, involving six trained field teams, was undertaken between February and September 2005. Most of the field data was collected directly at village level from community key informants and focus groups; however this was always preceded by meetings and interviews with key woreda officials; and traders were also interviewed.

SNNPR Livelihood Profiles

Regional Overview

December 2005

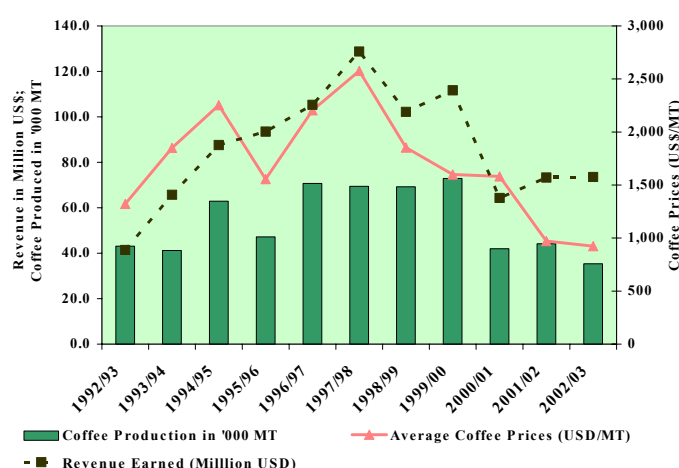
Introduction

The 112 woredas of the Southern Nations, Nationalities and Peoples' Regional State (SNNPR) occupy most of south-west Ethiopia. The Region contains up to one-fifth of the country's population, with 12-14 millions depending on growth assumptions for the decade since the last full census. SNNPR is the region of the country with by far the greatest number of ethnic and language groups, including Gurage, Hadiya, Kambata, Wolayta, Sidama, Gamo, Goffa, Ari, Sheko, and the pastoral/agro-pastoral Hamar and Surma of the Omo River area and beyond to the west.

SNNPR boasts all of the inhabited environments seen elsewhere in Ethiopia: arable highlands (*dega*), midlands (*woina dega*) and lowlands (*kolla*), and pastoral rangelands (*bereha*). But the most characteristic environment of the Region is a relatively fertile and humid midland which contains the densest rural populations of Ethiopia. The majority of woredas have more than 100 people per square kilometre, many have over 200 ppkm², several over 300 ppkm² and one, Wengen in Gedeo Administrative Zone, as many as 600 ppkm².

The most characteristic product of SNNPR is enset, a food unique to Ethiopia, and in modern times at least, largely confined to southern Ethiopia as a staple. Enset (*Ensete ventricosum*) is sometimes called 'False Banana' because its leaves are so similar to those of the banana plants to which it is related; but it is the starchy base of the plant – the corm and the leaf-sheaths – which provides the foodstuff. This is eaten in various forms: boiled corm (*amicho*), or a fermented product in the form of a bread (*kocho*), or the best-quality product from mature plants (*bullla*) in the form of pancakes, porridge or dumplings. Enset may be planted in clusters around the compound, or in dense fields. As a perennial, maturing at around four years and grown up to seven years, enset acts as a food store which can be used at any time of year; it is a relatively drought-resistant plant, and the leaves provide fodder for livestock as well as twine for rope-making.

**Total Coffee Production and Revenue Earned
and their Respective Unit Prices in SNNPR (1992/93 – 2002/03)**



Source: Coffee production data are from SNNPR Finance and Economic Development Coordination Bureau; supply and unit prices are from Ministry of Trade and Industry, Coffee and Tea Authority.

However, enset is virtually never the sole food-source of households and is rarely their chief marketed item. Cereals are ubiquitous, and are dominant in relatively high- or low-altitude arable areas, together with smaller amounts of pulses and oilseeds. Annual root crops are important especially in midland areas, and include sweet potatoes, Irish potatoes, taro and cassava – the last of which may also be a perennial. But the varied ecologies of SNNPR also offer greater or

lesser niche areas for important cash-crops, of which the biggest is coffee. The graphic below, taken from a FEWS NET Special Report on SNNPR in 2003, shows both the importance of coffee revenue and its dramatic downturn between the late 1990s and the early 2000s, caused partly by production conditions but mainly by the collapse in international coffee prices. Both production and prices have since substantially recovered.

Other important cash crops are ginger and chilli peppers, and the stimulant drug leaf *chat* (*Catha edulis*) has been an increasingly marketed product in recent years. Honey comes mainly from lowland areas, and there is more localized production of bananas from irrigated plots (especially in the Chamo-Abaya Irrigated Banana Livelihood Zone), whilst the cardamom-like spice *afromomum* is a still more localized product (notably in Basketo Melo Coffee Livelihood Zone), as are wild spices from the forests of the far west of the Region where honey is also collected. Eucalyptus poles are a widely marketed product in middle and high altitude areas, feeding the upsurge since the mid 1990s in building in cities which requires the poles in great numbers particularly for scaffolding. Finally there are livestock, not only amongst pastoral groups in the rangelands of the south-west, but in crowded agricultural areas where cattle are often hand-fed, and butter is an important marketed item, and oxen are fattened for the meat market. Most of these cash-earning items reach the Addis Ababa market, and products from areas in relative proximity to Addis Ababa, in the north-east, east and central areas of the Region, gain significant producer-price advantages through competition between traders and lower transport costs.

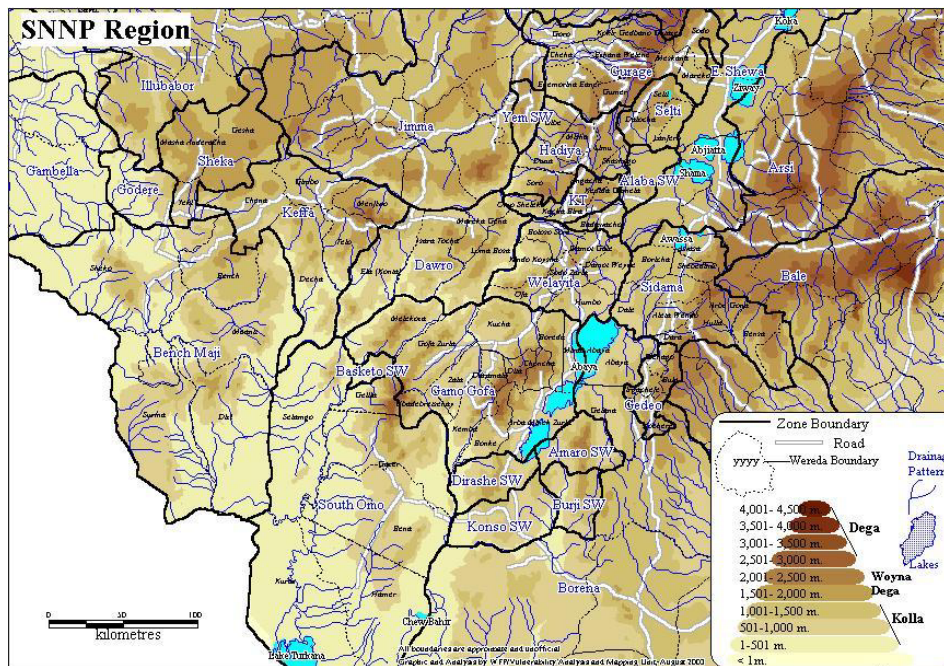
The Regional capital, Awassa, is the only really big urban center in the Region, and during the last dozen years it has grown substantially in size and economic activity. It thus offers an important demand for labor, not least for building construction, which is partly filled by rural people who either reside nearby or migrate seasonally. But Awassa is located near the eastern limit of the Region, and it is northwards beyond the regional boundary, and on or near the main national highway which proceeds to Addis Ababa, that towns of some size are otherwise to be found: Shashamene, Ziway, Nazret. However, compared with these, Addis Ababa itself provides by far the greatest labor market both for seasonal migrant workers and for those who settle and send back remittances to their families. Not surprisingly it is the far northern areas of SNNPR, Gurage, Siltie and Hadiya Administrative Zones, which have the most intense employment relationship with Addis Ababa. The irrigated farming establishments on the Awash River, dominated by the Metahara sugar plantation, also offer seasonal employment to numbers of people from the east/north-east half of the Region. For the north-west areas of the Region, Jimma town in Oromiya provides some employment, but it is rather the surrounding coffee industry – the basis of Jimma’s wealth – which invites seasonal labor migration. On the other hand, the southern, south-western and far western populations are mainly isolated from external labor demand; and more generally it can be said that for the Region as a whole, the national commodity market is far more important than the national labor market.

Despite a more or less dense population making do on relatively small plots of land, SNNPR overall is not as food insecure as other Regions to the north and east. Despite the record of erratic rainfall in some parts, outright drought of the kind which destroys a year’s crop production and/or kills off great numbers of livestock has not struck SNNPR as it has struck some other regions. More fundamentally, the bimodal and generally relatively abundant rainfall has allowed the diversity of food and cash crops as well as intensive livestock production noted above, and this in itself makes for less risk than exists in an economy with a single rainy season and high dependence only on staple cereal crops. But also the spread of different harvests during the year reduces the effect of the annual ‘hungry season’ associated with the finishing of household grain stocks and dependence on food market with seasonally rising prices. In several highly populated areas, for instance, there are two sweet potato crops in the year, the second of which falls exactly when access to grain has declined. If this is diminished, e.g. by an attack of sweet potato butterfly, then *enset* provides an important buffer. However, the pressure of population on land means that the poorer third to half of the rural population operate on such small plots – often well under half a hectare – that they have very little margin of harvest stocks or livestock assets to withstand shocks, whether to food production or to cash crop prices. Given their dependence on the markets for food, for cash crops and for labor, it is difficult to distinguish between food insecurity and income insecurity. That is why it is important to obtain the rounded view of their livelihoods which is offered in the Profiles.

Geography and Climate

With a total land area of about 112,000 square kilometers, therefore some 10% of the area of Ethiopia, SNNPR extends west from the Rift Valley as it runs through southern Ethiopia. The Rift Valley lakes, in a line from north-east to south-west, roughly mark the eastern borders of the territory: Lakes Ziway, Awassa, Abiyata, Shala, Abaya, Chamo, Chew Bahir and finally on the border with Kenya, the northern tip of Lake Turkana into which flows the Omo River. That river is served by the biggest drainage pattern in the Region, entering from the north along the boundary between Wolayita and Dawro Administrative Zones and defining the northern-western boundary of Gamo Gofa Administrative Zone before the river enters the main valley in South Omo, with some drainage from Bench Maji. There are other more

localized drainage areas, notably those serving the Bilate River which runs into Lake Abaya and the Weito River which runs into Chew Bahir.



The Region’s cool highland terrains are not extensive, but they are densely populated. Notable highland areas are in Gurage and Hadiya Administrative Zones in the north-east, in Sidama and Gedeo Administrative Zones where they form a south-western leg of the Arsi-Bale massif, and in the Gamo and Gofa highlands of the center/south-west. The dominant, temperate midlands are relatively ‘wet’ or ‘dry’ mainly depending on their altitude within the range of roughly 2500 to 1500 meters above sea level, and this has an effect on the relative success of enset or coffee production, to name two key products. The main lowland areas stretch to the south-west and west, mainly in South Omo and Bench Maji Administrative Zones, and with their relatively high temperatures and low rainfall they are particularly the scene of agro-pastoralism. Elsewhere there are smaller areas of more arable lowland, for instance surrounding Lakes Abaya and Chamo in the Humbo, Arba Minch Zuria and Amaro Special woredas and further south in Dirashe and Konso Special Woredas. But the relatively narrow Bilate river valley is more or less an agro-pastoral lowland.

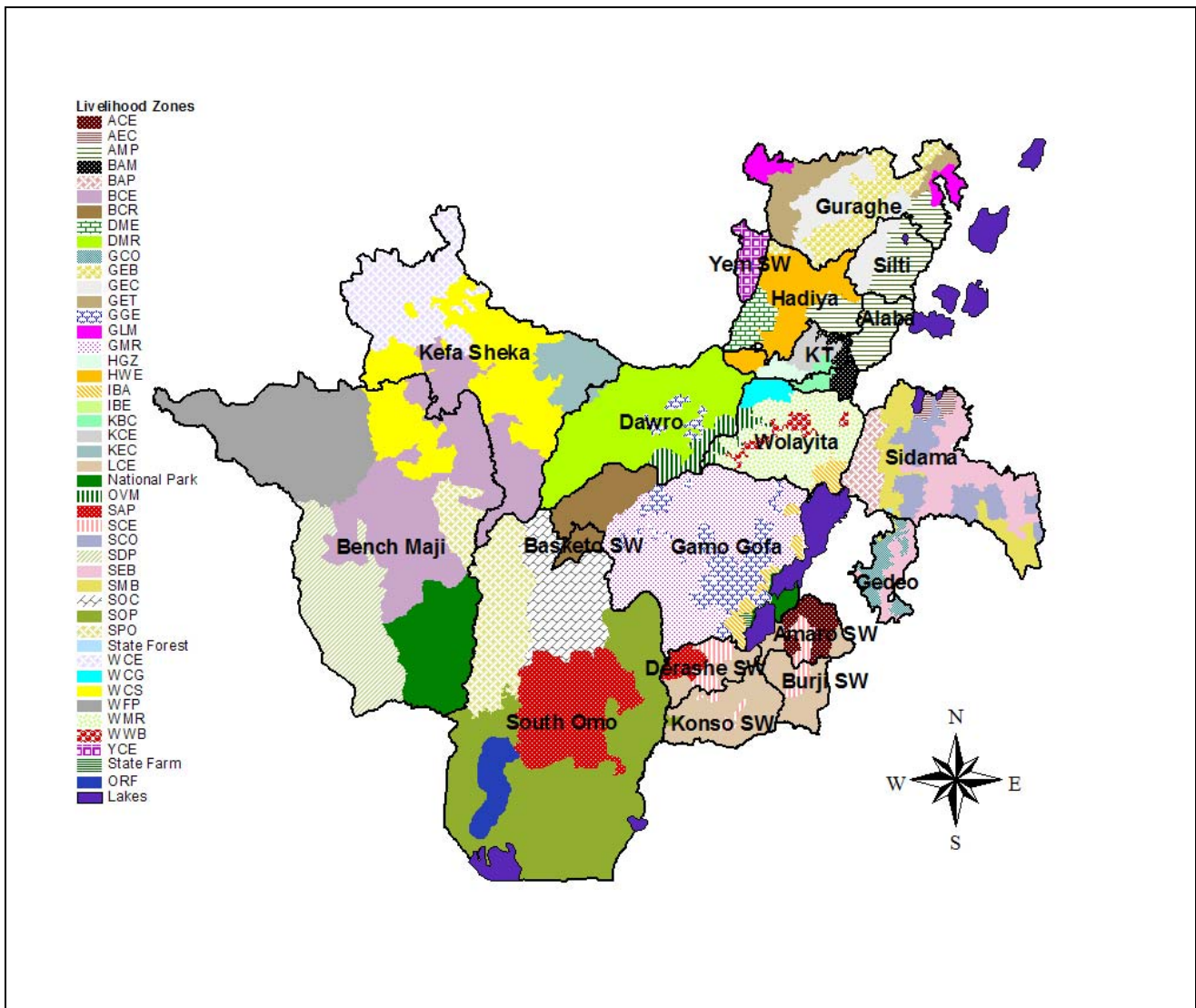
SNNPR is a region of relatively high rainfall by Ethiopia standards. Few woreda reporting stations show under 1000mm of annual precipitation in the 30-year mean 1971-2000. Those that do are lowland areas such as the Hamer rangeland (601mm) and the lowlands around Lake Abaya mentioned above (around 900mm), whilst Konso (609mm) has the lowest rainfall for an arable area – and this is where a traditional technique of land terracing helps to conserve soil moisture. By contrast the highest rainfall is found in the north-western areas of Masha Anderacha (2180mm) Gesha (2004mm), Yeki (1776) and Bench (1735mm) which are mainly in the Sheka and Kaffa Cereals and Enset and the Western Coffee and Spices Livelihood Zones. Elsewhere the Limu area scores high (1811mm, in the Hadiya-Kembata Cereal and Enset Livelihood Zone), as does the Gamo highland at Chench (1704mm, in the Gamo Gofa Enset and Barley Livelihood Zone). The range for most of the midland of the center, north-east and east of the Region, where the majority of the Region’s population live, is between 1100mm and 1500mm.

The bimodal rainfall pattern is universal, and nowhere is any month of the year on average completely without rainfall; but the spread over the months differs between areas (the patterns for each Livelihood Zone are shown under the Seasonal Activities Calendars in the Profiles). On the rangeland of Kuraz only two months on average show above 100mm (April and October) whilst Bench and Limu show virtually continuous high precipitation between February or March and October, with most months above 200mm and no month below 100mm. However, there are ‘good’ rainfall years and ‘bad’ rainfall years which are defined not only by variations in overall precipitation but by irregularities such as a late start to the spring rains which seriously delays maize and sorghum seeding, or dry spells at critical periods of growth which much reduce the grain or tuber formation in plants that otherwise look quite healthy. As a rule of thumb, irregularities in rainfall increase as altitude decreases; but in the lowlands it is not always clear what is real rainfall ‘irregularity’ and what is within a locally quite normal range of inter-annual variation. People have their own judgement when they are trying to make a living from cereal crops in areas traditionally considered suitable only for livestock grazing. In other words, it is not always clear what is a temporary climatic aberration and what is a result of chronic population pressure pushing people down the hill, so to speak.

The Rural Livelihood Zones

The SNNPR Region is internally varied and complex, and has merited division into no less than 38 Livelihood Zones, two of which are further divided into two sub-zones. By way of a regional summary it is possible to put these zones informally into six geographical areas in order to discuss them collectively in general terms, as is done in the next section: north-east; central; east; south; south-west; west. These divisions have some cohesion in terms of ethnic groups and overall economy, but such an analysis should not be pushed too far, and it is more a matter of temporary convenience.

Thus grouped, the zones are as follows (preceded by identity codes used in the graphics in the next section):

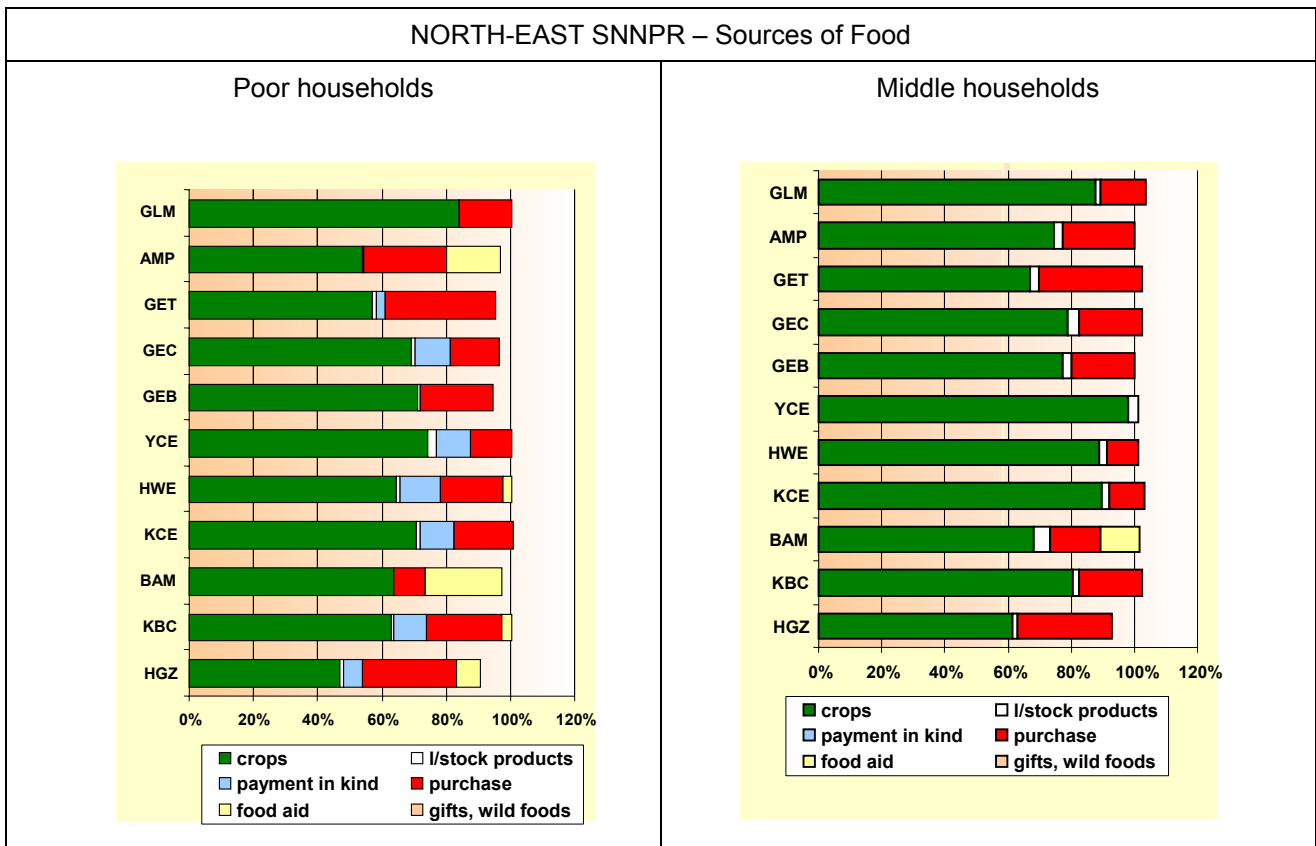


Code	Name of Livelihood Zone	Geographical Area and Agro-ecology
GLM	Gurage Lowland Maize and Teff LZ	North-east lowland
AMP	Alaba-Mareko Lowland Pepper LZ	North-east lowland
GET	Gurage-Siltie Enset and Teff LZ	North-east midland/lowland
GEC	Gurage-Siltie Midland Enset and Chat LZ	North-east midland
GEB	Gurage-Siltie Highland Enset and Barley LZ	North-east highland
YCE	Yem Cereal and Enset LZ	North-east midland/highland
HWE	Hadiya-Kembata Cereal and Enset LZ – Hadiya sub zone	North-east midland/highland
KCE	Hadiya-Kembata Cereal and Enset LZ – Kembata sub-zone	North-east midland/highland
BAM	Badewacho-Alaba Maize LZ	North-east midland
KBC	Kedida-Badewacho Coffee LZ	North-east midland
HGZ	Hadero Ginger LZ	North-east lowland/midland
WCG	Wolayita Ginger and Coffee LZ	Central midland/(lowland)
WMR	Wolayita Maize and Root Crop LZ	Central midland/(lowland)
DMR	Dawro-Konta Maize and Root Crop LZ	Central midland/lowland
GMR	Gamo Gofa Maize and Root Crop LZ	Central midland/lowland
BCR	Basketo-Melo Coffee and Root Crop LZ	Central midland/(highland)
WWB	Wolayita Barley and Wheat LZ	Central midland/highland
GGEB	Gamo Gofa Enset and Barley LZ	Central midland/highland
OVM	Omo Valley Maize and Sorghum LZ	Central lowland
IBA	Chamo-Abaya Irrigated Banana LZ	Central lowland
BAP	Bilate Basin Agro-Pastoral LZ	Eastern lowland
SMB	Sidama Maize Belt LZ	Eastern lowland/midland
AEC	Awassa Chat and Enset LZ	Eastern midland
SCO	Sidama Coffee LZ	Eastern midland
GCO	Gedeo Coffee LZ	Eastern midland
SEB	Sidama-Gedeo Highland Enset and Barley LZ	Eastern highland
LCE	Southern Special Woredas Lowland Cereal LZ	Southern lowland
SCE	Southern Cereal, Enset and Root Crop LZ	Southern midland/(lowland)
ACE	Amaro Coffee and Enset LZ	Southern midland/lowland
SOP	South Omo Pastoral LZ	South-west rangeland
SPO	Salamago Pastoral LZ	South-west rangeland
SDP	Surma Agro-Pastoral LZ	South-western western lowland/(midland)
SAP	Southern Agro-Pastoral Livelihood Zone	South-west lowland
SOC	South Omo Crop LZ	South-west midland/(highland)
WCE	Sheka Cereal and Enset LZ	Western midland/highland
KEC	Kaffa Cereal and Enset LZ	Western midland/(highland)
BCE	Bench-Kaffa Cereal and Enset LZ	Western midland/highland
ECS	Western Coffee and Spices LZ – Eastern sub-zone	Western midland
WCS	Western Coffee and Spices LZ – Western sub-zone	Western midland
WFP	Western Forest Products LZ	Western lowland/midland

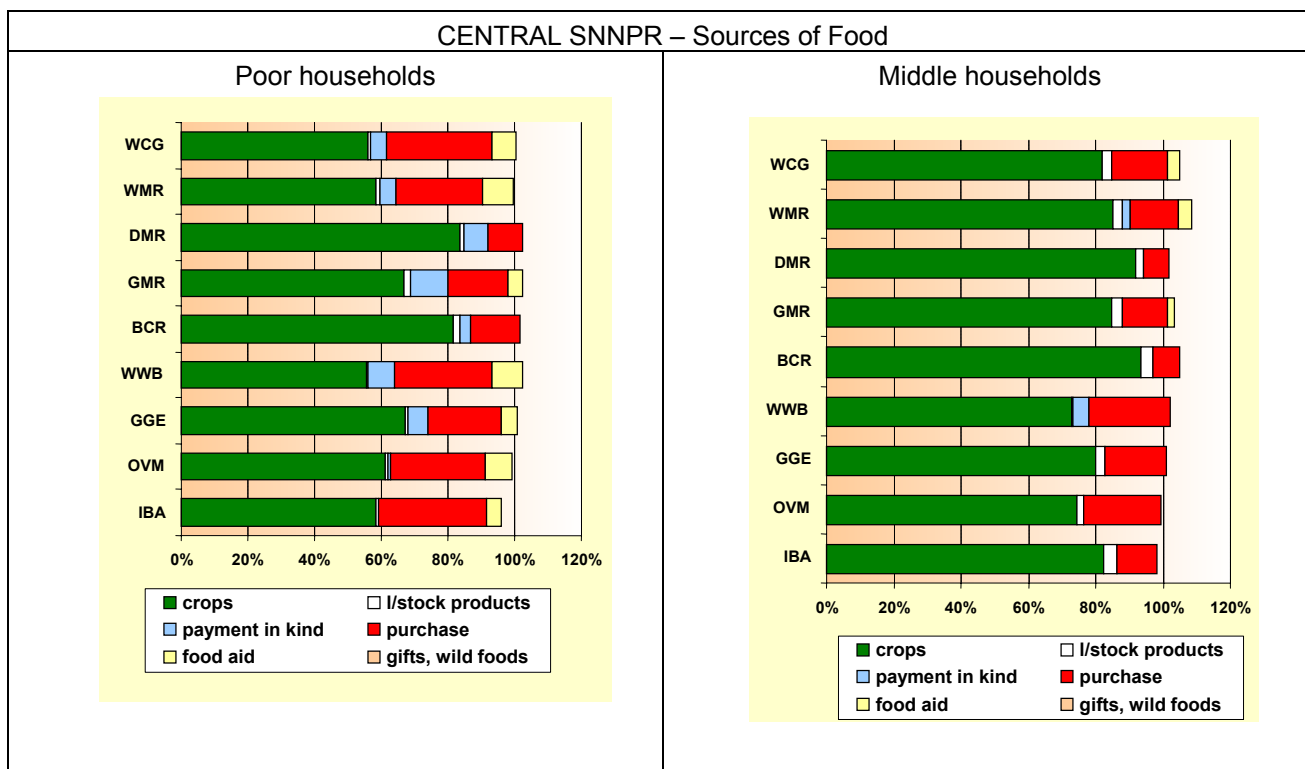
Rural Sources of Food and Cash: Main Findings and Implications

The graphics in this section offer a summary view of the two poles of household survival: how people get their food and how they get their cash. As may be seen in a third graphic item on household expenditure in the Profiles themselves, the cash is not only necessary for most people to purchase staple food during some months of the year, but is also needed to pay for essential household items: salt, spices, and stimulants (mainly coffee), and non-food items including soap and lighting oil and sometimes wood-fuel for cooking; and for clothing, school and medical expenses, production inputs, and tax.

Information on poor and middle wealth group households is shown here. They usually represent around 80% of all households, usually, but not always, with somewhat greater numbers of poor/very poor. Better-off households, who are thus rarely above 20% of total households, are generally self-sufficient in basic food, or nearly so, although they may choose to purchase preferred foods such as teff and animal products which they do not produce sufficiently for themselves. Exceptions are in agro-pastoral and pastoral areas where nobody expects to grow sufficient crops, but where everybody lives more by consuming grain than by consuming animal products. The grain is bought largely with cash from livestock sales. Other exceptions are better-off households in cash-cropping areas, e.g. in Awassa Chat and Enset Livelihood Zones and the Sidama and Gedeo Coffee Livelihood Zones, where land is at a particular premium and it is judged advantageous to devote at least as much area to cash crops as to food crops, i.e. it is more profitable to buy food with cash crop revenue than to grow more of it (although it seems all smallholders in all arable areas grow some amount of staple food).

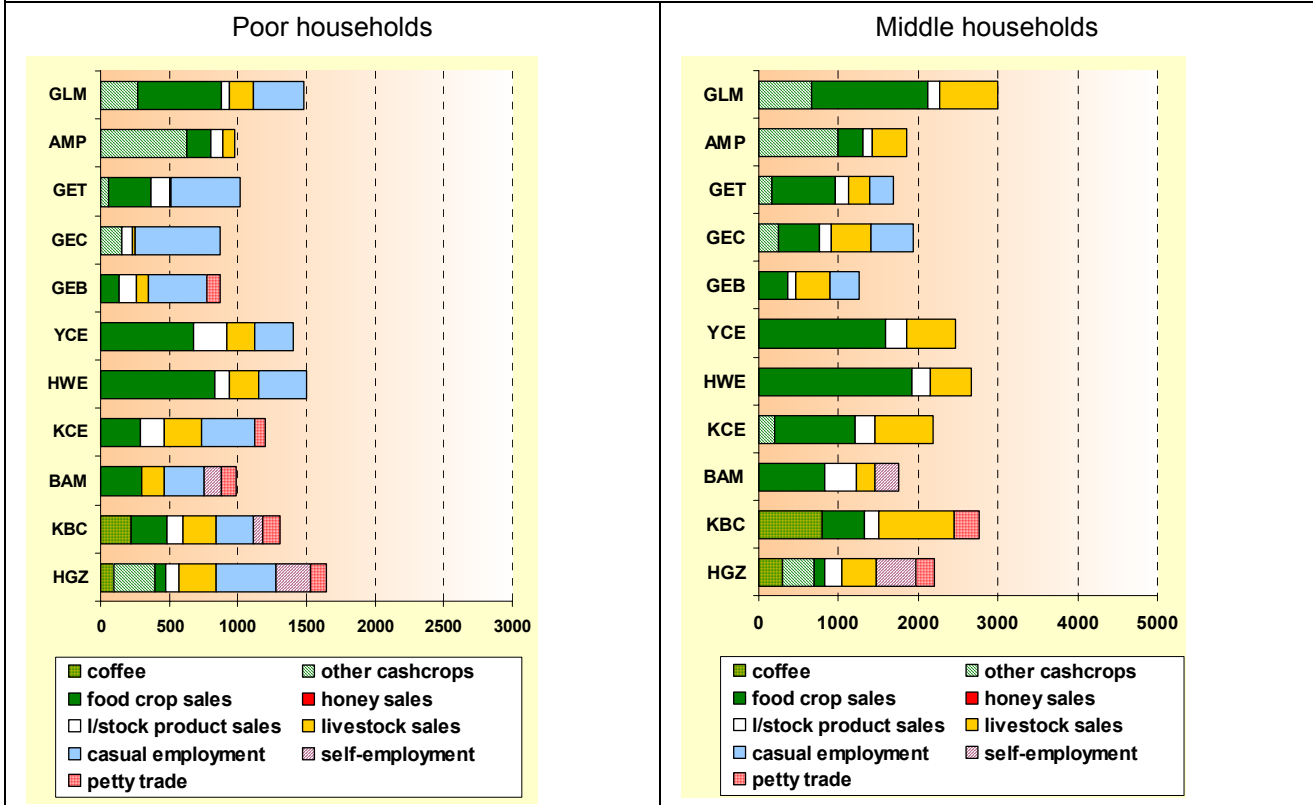


CENTRAL SNNPR – Sources of Food

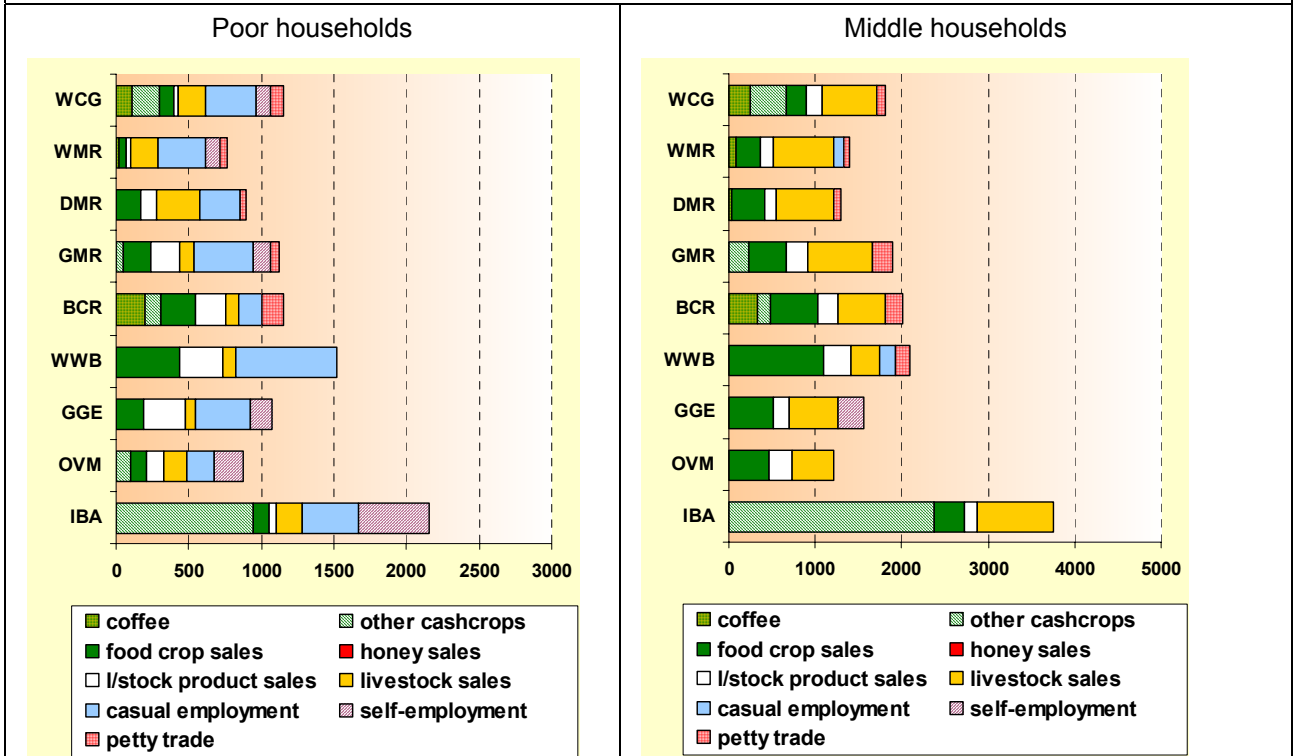


There is important variation in results within these collections of Livelihood Zones – that is partly why they are separate zones. Insofar as we may use these groupings of convenience to make general comments, we may note first that in both the north-east and central areas, which include many of the crowded locations of the Region, there is a substantial level of own-crop consumption as opposed to market purchase. Even poor households manage to produce around 60% of the food they consume, whilst middle households manage mainly above 80%. Particular exceptions in the northeast are the Hadero Ginger Livelihood Zone (HGZ), where declining soil fertility and rain failure have taken their toll, and on the positive side, Yem Cereal and Enset Livelihood Zone (YCE) which regularly produces a surplus of cereals exported from the zone on the market. In both the north-east and central areas most poor households do not normally achieve their full annual food needs as expressed in terms of an average food energy consumption of 2100 kilo-calorie per person per day. But food aid has been more widespread in the central area than in the north-east.

NORTH-EAST SNNPR – Sources of Cash

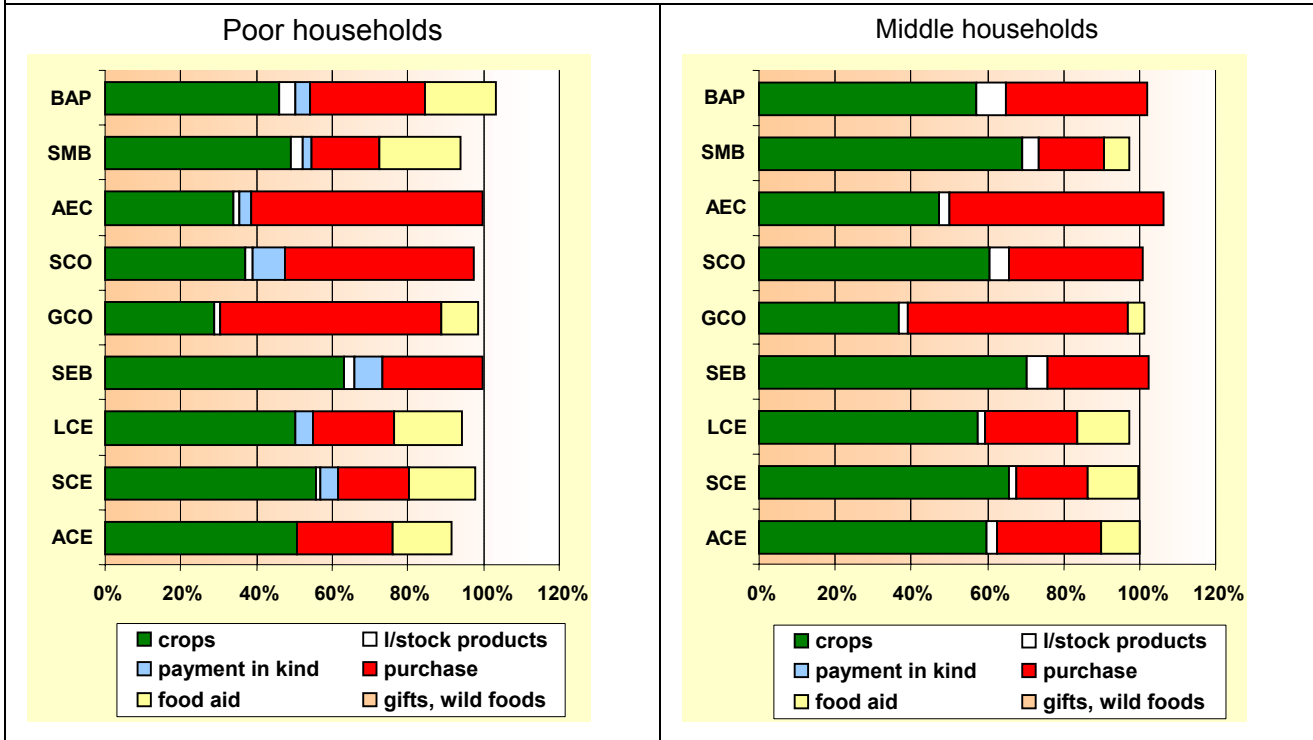


CENTRAL SNNPR – Sources of Cash



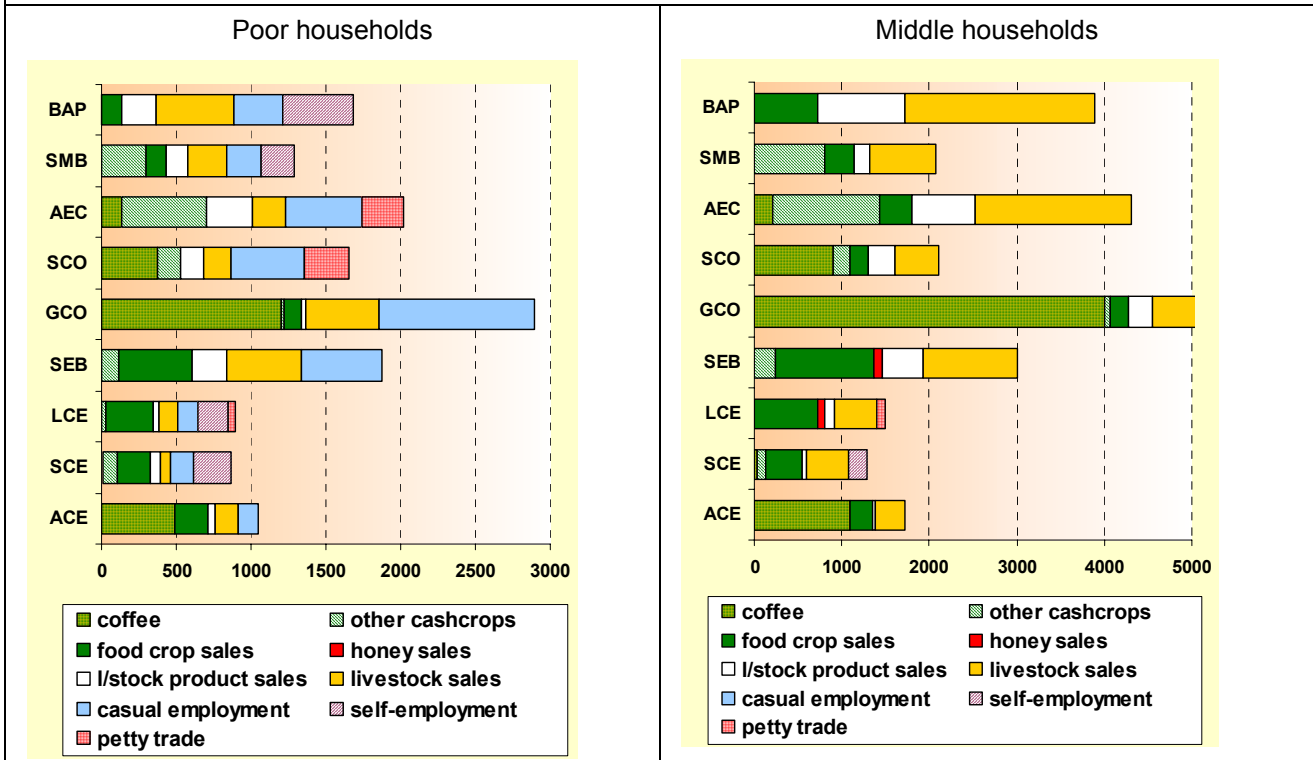
There is a common pattern throughout of poor people relying quite heavily on cash earnings from casual employment. Livelihood Zones in the north-east are generally somewhat more dependent than those of the central area on crop sales – both food and cash-crops – as a proportion of their overall cash income. Equally generally, the central area Livelihood Zones are somewhat more dependent than those of the north-east on livestock and livestock product (chiefly butter) sales, especially the middle wealth group households. An exceptional area is the lowland Chamo-Abaya Irrigated Banana Livelihood Zone, where the value of the bananas (substituted by cotton amongst those without access to irrigation) is very high due to demand reaching from as far as Addis Ababa.

EAST AND SOUTH SNNPR – Sources of Food



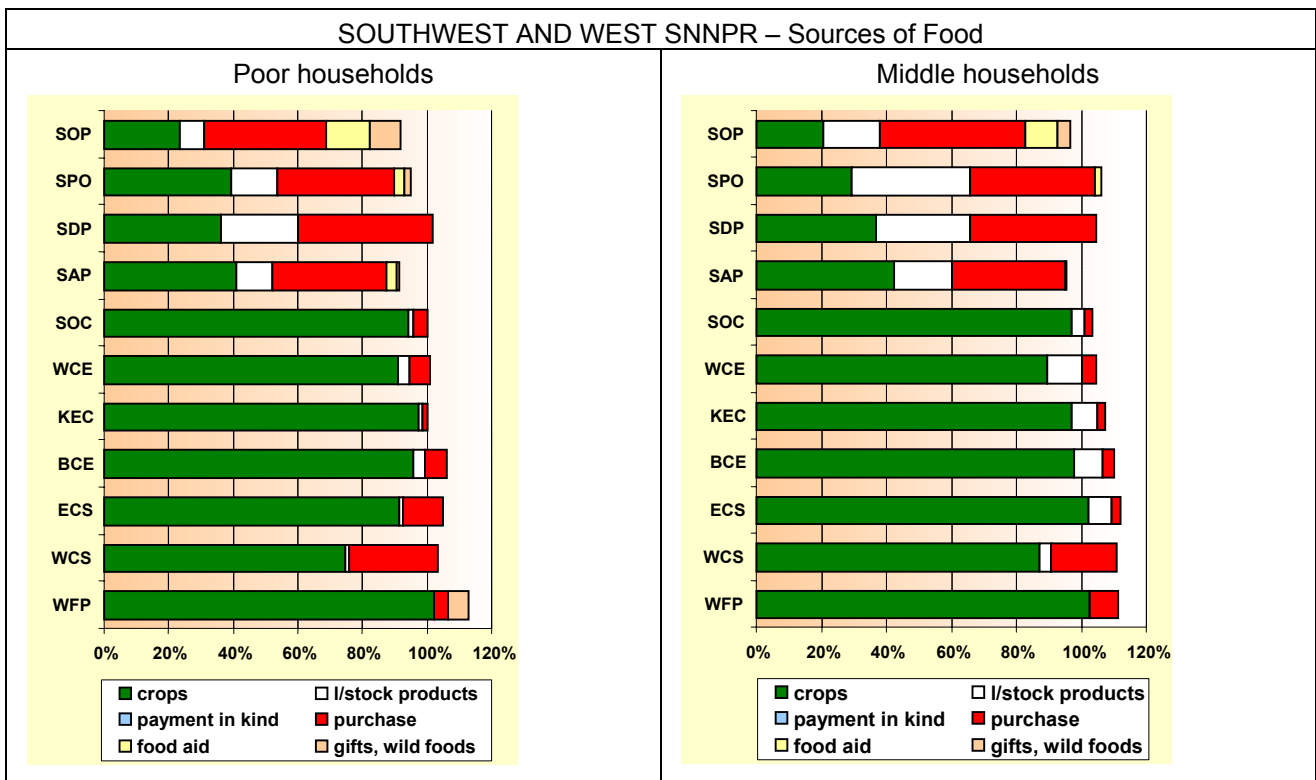
The eastern Livelihood Zones in the graphics go down to SEB (Sidama-Gedeo Highland Enset and Barley) - and the last three zones are the southern ones. The southern Livelihood Zones are essentially at lower altitude than the eastern Livelihood Zones (with the exception of the Bilate Basin Agro-Pastoral Livelihood Zone – BAP), and this is part of a connection between them: over recent generations people from the crowded high midlands and highlands have settled, or been settled, in neighbouring low midlands and lowlands as cultivators. The overall pattern is of significantly less consumption of own-grown food than in the north-east and central areas, and therefore a considerably greater dependence on the food market. However the food sources picture masks a quite acute difference in wealth between the eastern and southern areas, which becomes clear when we look at the cash income side:

EAST AND SOUTH SNNPR – Sources of Cash



The cash earnings of the eastern Livelihood Zones are far higher than in the southern Livelihood Zones, such that even poor households in the east earn substantially more than middle households in the south. Particularly outstanding is Gedeo Coffee Livelihood Zone (GCO), well known for the quality of its cash crop which inter alia gives evidently quite lucrative employment to poor people as laborers. In the east too, there are major earnings from sales of livestock and livestock products. This is not surprising in the Bilate Basin Agro-Pastoral Livelihood Zone (BAP), but is counter-intuitive in densely populated and cultivated areas elsewhere, including the Awassa Chat and Enset Livelihood Zone (AEC). The earnings here, as in other crowded parts of the Region, reflect not large numbers of animals, but rather the profit from fewer, largely cut-and-carry fed animals, chiefly cattle, which either produce the milk for butter which is sold as far as Addis Ababa, or are oxen fattened after use as plow animals and sold also to urban meat markets as far as Addis Ababa. The significant livestock-related earnings by poor people is an apparent conundrum, given that they generally own very few animals, especially cattle. The answer lies precisely in the difficulty of keeping cattle where grazing is in very short supply and fodder must be brought to the animals. This involves considerable labor, and wealthier people effectively employ poorer people to provide some of it through the *yerbee* system, whereby an agreement is made that one household takes on the maintenance of animals owned by another, and in return is allowed all or part of the milk, as well as possibly a proportion of the progeny – especially if it concerns smallstock. Similarly, the system can be used in relation to fattening of oxen, where a part of the profit goes to the household effectively hired to look after the animal. This is an important redistribution of wealth from livestock.

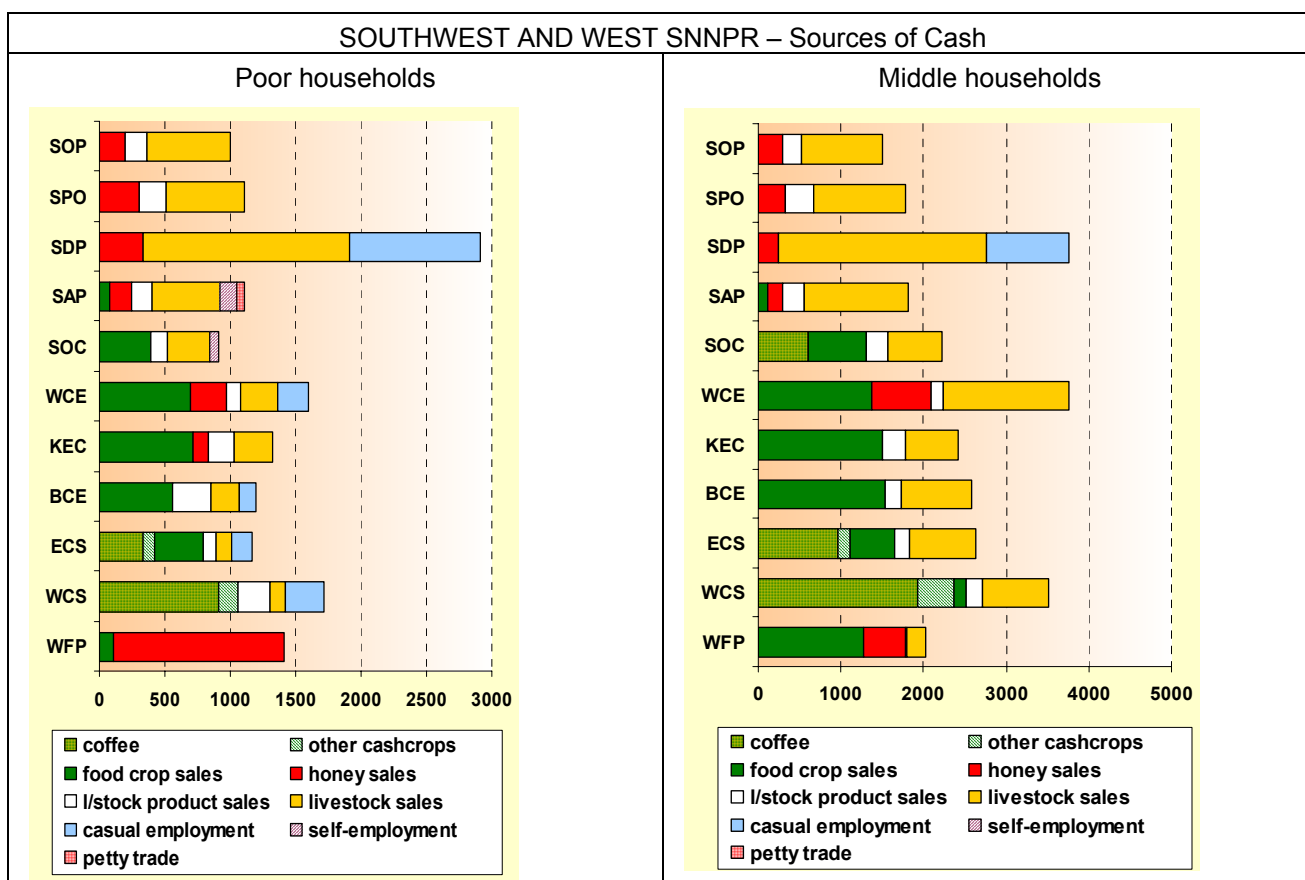
In the south, trypanosomiasis has limited cattle rearing, and only the Amaro Coffee and Enset Livelihood Zone has success with coffee as a cash crop, whilst ‘self employment’ tends to mean cutting and selling firewood, which finds its market up the hill. This is a prerogative of lowlands generally, but based on a natural resource which cannot generally sustain the rate of exploitation.



The graphs show a clear but not surprising contrast between the south-western lowlands (which go down to SAP – Southern Agro-Pastoral Livelihood Zone) and the rest, all of which represent the western area of SNNPR except the first, SOC - South Omo Crop Livelihood Zone which is a midland to highland area on the edge of the south-west. The south-west lowlands are mainly inhabited by Nilotic groups who rely essentially on livestock rearing but undertake crop production to differing degrees – so that some are labelled as ‘agro-pastoral’, some as ‘pastoral’. No such group normally gets even half of its food from its own cultivation, and indeed better-off households tend to gain no more than others from agriculture in terms of stocks per capita, whilst they own substantially more livestock. As was mentioned earlier, these livestock-oriented people may drink far more milk than most farmers, but they actually depend more on the consumption of grain – purchased or grown – than on milk consumption, in common with virtually all pastoralists today in Africa and beyond. On the whole the south-western rangeland Livelihood Zones have received far less food aid per capita than most of the other areas so far discussed; this is largely no doubt due to the rarity of severe rain failures, but also perhaps in some measure due to the isolation of these areas from the mainstream of the Regional economy and polity. However the South Omo Pastoral Livelihood Zone (SOC) is an exception, having experienced

repeated drought in the past and received significant amounts of food aid. Even here, however, the major hike in livestock prices experienced in 2005 ought to lessen any food aid requirements for some time.

In the other Livelihood Zones shown, the complete lack of food aid reflects the very high degree of self-sufficiency in staple crops and thus also a generally low degree of dependence upon the market – which is fortunate because these areas are in the main also isolated from the Regional mainstream, and indeed often from any main road.



The picture of sources of cash in the south-west rangelands shows only one surprise, and that is the element of ‘casual employment’ in the Surma Agro-Pastoral Zone which is largely associated with work in the gold mining areas beyond the Zone, mostly in neighboring Bero woreda. In the western livelihood zones there is quite a diversity of income sources, as between crop and livestock (and products) sales and items from honey to spices and coffee which are partly produced but also partly collected from the forest areas. The difference between forest-bound collection (together with some hunting) and minor crop production on the one hand, and more extensive crop production and livestock keeping on the other, broadly reflects an ethnic divide between indigenous groups and the large and increasing population of officially settled and self-settled people from further – often much further – north. The current indications are that the latter mode of livelihood is gaining the upper hand, and increasing numbers of indigenous people will join it as best they may as natural forest disappears with some rapidity.

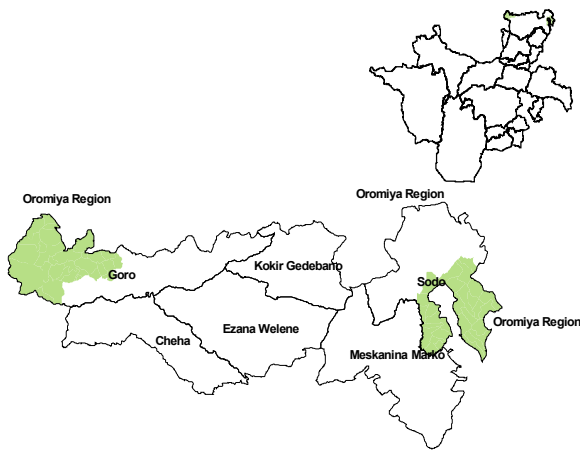
In summary, SNNPR shows many and contrasting kinds of livelihood. The most characteristic types, however, are those which manage to support exceptionally dense rural populations living largely by primary production (and generally without substantial food aid). These are the great majority who occupy the central, eastern and north-eastern midlands and highlands. Despite some damaging fluctuations in rainfall hitting especially cereal production, and occasional blight on onset and pest attacks on sweet potatoes, and increasing costs of chemical fertilizers to augment the minimal contributions of animal dung, and advancing trypanosomiasis added to a host of common livestock diseases, and newly severe malaria debilitating humans in lower elevations, people succeed to a remarkable degree in maximising what the land can support. The Region has major advantages in its bimodal rainfall regime which extends food cultivation through much of the year, shared between cereal crops and root crops, together with onset as a perennial buffer. However the data in the Profiles shows that except in the minority of locations where onset is the overwhelming staple, maintaining stands of mature onset is generally possible only for the wealthier half of the population, whilst poorer people are forced by need – especially in years of reduced grain production – to cut onset before it is mature, thus losing by far the greater part of the food potential of the plant. This calls into question whether onset is really a viable standby for poorer people in most of the territory.

SNNPR's extensive niche ecologies favor important cash crops, dominated by coffee, and these are crucial to the region's ability to pay for a net market importation of staple food in the form of grain. But not the least remarkable feature revealed by the Household Economy Baseline Study has been the importance of livestock and their products across the wealth groups, to some extent for consumption but especially for sale. The data tell us that so far from being a rich person's prerogative, earnings from livestock are crucial for even poor households to make ends meet. The principal fact is that the conversion of local vegetation into meat and butter, when very scarce local grazing must be painstakingly augmented by collected matter including crop residues, grasses and enset leaves, is worth the high labor and risks of production. The reason is the high price levels resulting from urban demand largely from beyond the Region's boundaries, which also drives other parts of the cash crop economy. In this way SNNPR is crucially linked to the central economic area of the country, dominated by Addis Ababa.

Rural Livelihood Zone Summaries

NORTH-EAST AREA

1: Gurage Lowland Maize and Teff Livelihood Zone

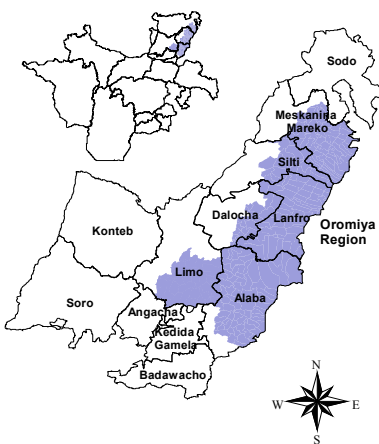


Split between the eastern and western lowlands of Gurage Administrative Zone, and between the Rift Valley and Omo Valley drainage systems respectively, this livelihood zone is relatively food secure and has not been targeted for food aid. Land holdings are relatively high, with poor households possessing at least a hectare, and better-off households up to five hectares. Even poor households normally grow upwards of 80% of the staple food they consume. Maize, sorghum and pulses are produced as food crops and teff is the main cash crop, but maize, wheat and peppers are sold as well, altogether bringing 60-80% of cash earnings. There are also some fruits and

sugar cane. Livestock sales bring 10-20% of cash earnings; but there is a major problem of trypanosomiasis in the western part. There is no labor out-migration, but poorer farmers depend on working locally for others for part of their annual income.

Main Food Crops & Livestock
Maize, teff, wheat Cattle Goats & sheep
Main Income Sources
Sale of: Cereals Livestock Local casual employment

2: Alaba-Mareko Lowland Pepper Livelihood Zone

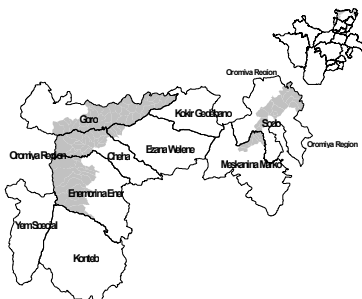


This relatively food secure zone has a valuable cash crop industry that attracts migrant laborers from other zones. The population is relatively sparse and land-holdings are large enough to allow even poor households to grow nearly 60% of their food needs as well as gaining more than 60% of their cash earnings from sale of peppers, as do middle and better-off households. In addition teff and other crops are sold. Livestock production, especially cattle, is important for middle and better-off households, where sales amount to some 20% of annual cash earnings. Even poor households make around one-tenth of their income from selling butter. There is no irrigated production, and rain failure has affected production in recent years; but floods from the neighboring highlands are also a frequent problem, although at the same time as causing damage they

deposit fertile silt.

Main Food Crops & Livestock
Maize, wheat, sorghum Cattle Goats & sheep
Main Income Sources
Sale of: Peppers Other crops Livestock Livestock products

3: Gurage-Siltie Enset and Teff Livelihood Zone



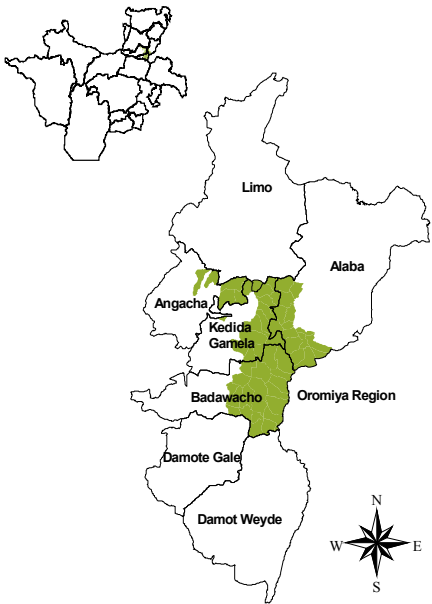
This is a fertile midland/upper lowland zone, but until recently the increasing population has been unable to cultivate a large part due to government set-aside for the resettlement program and to trypanosomiasis, which severely inhibits local oxen production and encourages today some use of tractors to open the new land. Elsewhere both hand-hoes and ox-plows are used to cultivate, the latter especially for teff and Niger seed (the oilseed *noug*), which are the principal cash crops (together with some *chat*, coffee and onions) reaching the capital via the Jimma-Addis

Ababa highway, as do livestock sold for annual festivals. Enset is the main staple food, together with maize (mostly eaten 'green'), sorghum and chickpeas, as well as some annual root crops: yams and taro. Erratic spring or main summer rains can be particularly damaging to production given the high moisture requirement in this relatively hot area, and the long cycle cereals (maize, sorghum) need both rains. In good years especially, Better-off households rely on engaging the local seasonal labor offered by poorer farmers.

Main Food Crops & Livestock
Enset, maize Cattle Goats
Main Income Sources
Sale of: Teff Oilseeds Livestock & products Local laboring Remittances

4: Gurage-Siltie Midland Enset and Chat Livelihood Zone		
	<p>This zone supports a particularly dense population, producing a wide variety of crops as well as the main staple, enset, and the main cash crop, <i>chat</i>. There have not been serious climatic problems. Even the poorer households produce an unusually high proportion of their basic food requirement – around 70%; but unlike the middle and better-off groups they sell rather few crops and depend heavily for cash on casual work locally and in urban centers, including Addis Ababa. Middle and better-off households get up to 40% of their cash from livestock and livestock product sales. All groups receive significant remittances from family members working long-term in Addis Ababa: for the better-off this provides upwards of 25% of their overall cash earnings. However this long-standing source of income is under some threat as competition for work in the capital has intensified with migrants from many other areas and there are official restraints on street vending. The official tax on <i>chat</i> entering Addis has reduced its local offtake and price. Pest attacks on enset and coffee berry disease have been recent constraints to production. This has been a food secure zone, but it has been under some economic stress.</p>	<p>Main Food Crops & Livestock Enset, mixture of cereals Cattle Sheep & goats</p> <p>Main Income Sources Sale of: Chat Other crops Livestock & products Rural/urban work Remittances</p>
5: Gurage-Siltie Highland Enset and Barley Livelihood Zone		
	<p>This highland (<i>dega</i>) zone has historically been self-sufficient in crop production, and households remain generally food secure, with even poor households growing as much as 70% of their staple food requirement. But the pressure of an increasing population on a limited space of arable land puts the future in question, and already there is major work out-migration of young men as far as Nazareth, Addis Ababa and even Dire Dawa, although men from poorer households tend more to look for local employment, which brings in nearly 40% of their annual cash earnings. Apart from enset the main food crops of the zone are those typical of high elevations in Ethiopia: barley, pulses, Irish potato, kale (<i>gomen</i>). Space for pasture is so limited that it is difficult to graze oxen and even some better-off households have only one ox, and must share with neighbors to put together a plow-team. Nevertheless middle and better-off households depend on selling livestock for up to one-third of their annual cash income. Apart from food crops, land is used for eucalyptus plantations where trees for a single households often number in the hundreds: not only does this provide firewood for domestic purposes, but after two years poles are a potentially valuable item for sale as far as Addis Ababa especially for scaffolding for the burgeoning construction industry.</p>	<p>Main Food Crops & Livestock Enset, barley pulses, potato Cattle Sheep & goats</p> <p>Main Income Sources Sale of: Chat Other crops Livestock & products Rural/urban work Remittances</p>
6: Yem Cereal and Enset Livelihood Zone		
	<p>This livelihood zone is not only food secure but a source of surplus cereals and pulses for the wider market of neighboring Oromiya. The terrain is upper midland to highland in terms of altitude bands, with three factors making for an advantageous agricultural and animal husbandry picture: reliable rainfall, low population density (and therefore land-holdings higher than in more crowded neighboring zones), and a lack of the trypanosomiasis which ravages cattle in lower-lying zones. However the soil is only moderately fertile, and the use of chemical fertilizers is less than optimal due to cost. Enset is the main staple, but the full set of annual field crops is cultivated: wheat, barley, teff, maize, sorghum, and pulses. The middle and better-off households, with over 60% of the population, produce all the staples they need to consume, and poorer households produce nearly 80% of their requirement. For sources of cash income, crop sales predominate (including Irish potatoes), but livestock sales and products give 30-40% of earnings for all wealth groups. In addition, poorer households depend on laboring locally and elsewhere for about 20% of their cash income.</p>	<p>Main Food Crops & Livestock enset, wheat sorghum Cattle Sheep & goats</p> <p>Main Income Sources Sale of: Teff Pulses Irish potatoes Livestock & products Casual labor</p>

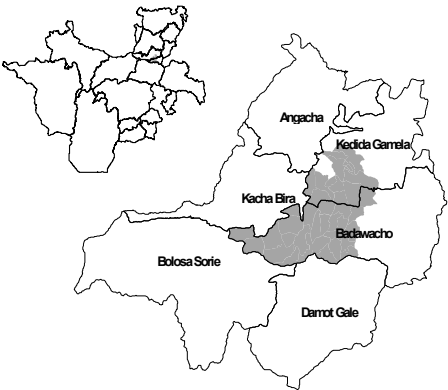
7: Badewacho-Alaba Maize Livelihood Zone



Low population density, relatively large landholdings per household, flat and fertile soils, and a *woina dega* agro-ecology together provide a conducive environment for agricultural production in this zone. However, the limiting factor is rainfall, and recurrent drought has been the cause of frequent production shortfalls in recent years, so that poorer households have depended on food aid to cover somewhat over 20% of their basic requirement even in a non-crisis year, whilst other households normally depend on the market for some 20% of their requirement. The basic staple, maize, is supplemented with sorghum, haricot beans and finger millet. Teff and maize are the main marketed crops, with good road access to main markets, including Shashamene – people sell teff and buy cheaper grains. However, for the better-off livestock sales are the single highest income earner – mainly cattle. Beyond selling some crops and livestock, poor households make ends meet by a variety of economic activities, including casual labor, selling firewood, and petty trade.

Main Food Crops & Livestock
Maize, sorghum, beans Cattle Sheep & goats
Main Income Sources
Sale of: Teff, maize Livestock & products Rural/urban work

8: Kedida-Badewacho Coffee Livelihood Zone

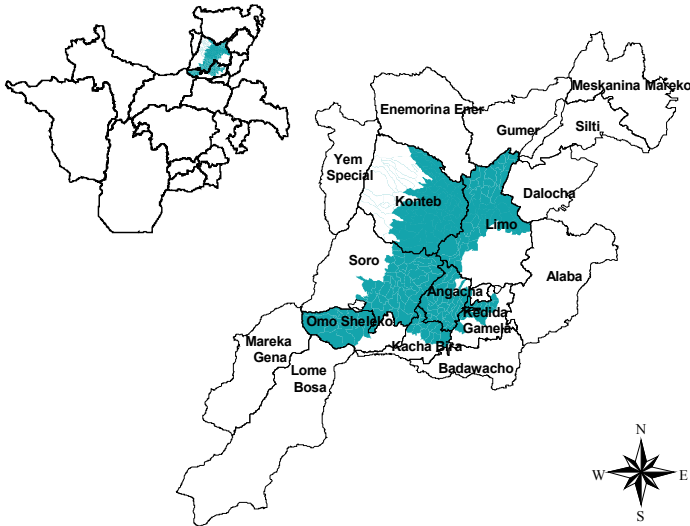


This midland zone is characterized by coffee production; but teff and wheat are also important cash crops, whilst for middle and better-off households livestock sales come a very close second to combined crop sales. At the same time, most households are able to depend on their own crop consumption for 65-85% of their staples requirement, and even the very poor (about 25% of households) produce half of their needs. With such a diversified production and market base, livelihoods have been food secure in this zone. The very poor rely heavily on working for others locally or elsewhere, but the poor (roughly 30% of households) have a better balance of crop sales,

livestock/products (mainly butter) sales, casual employment and petty trade. Nevertheless, shortage of land is becoming a more acute problem for the poorer half of the growing population, and this threatens to limit their self-sufficiency in the future.

Main Food Crops & Livestock
Wheat, teff sweet potatoes Cattle Sheep & goats
Main Income Sources
Sale of: Coffee Teff Livestock & products Local/migrant labor

9/10: Hadiya-Kembata Cereal and Enset Livelihood Zone

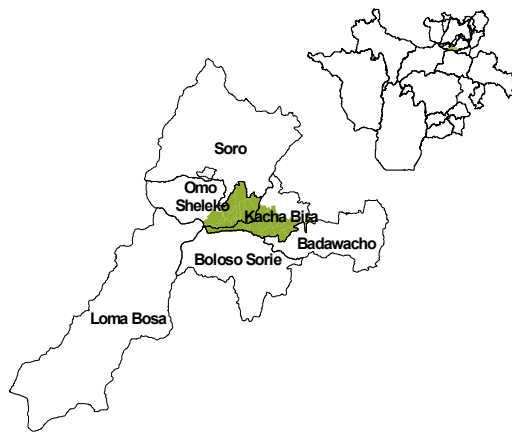


This is the largest zone in the north-east part of SNNPR, and it is densely populated. The terrain lies in the upper midland and highland altitude bands, where rainfall has been relatively reliable over recent years and despite relatively limited landholdings the population has very largely managed to remain food secure. The chief cereal is wheat, both as a consumption and cash crop. Poor and very poor households purchase or obtain as direct payment for labor between 30% and 50% of their annual staple food needs,

mainly in maize and processed enset – *kocho*. The zone may be split into two sub-zones, Hadiya and Kembata, which are differentiated by the amount of major crops produced, which is somewhat higher in the Hadiya area with slightly larger land-holdings for the middle and better-off, and with crop sales forming a greater proportion of the income of all wealth groups. On the other hand, in the Kembata area livestock sales are comparatively important for all wealth groups, and especially the poor, whilst the very poor are extremely dependent on casual work to make ends meet.

Main Food Crops & Livestock
Enset, wheat Cattle Sheep & goats
Main Income Sources
Sale of: Wheat, pulses Potatoes Livestock & products Rural/urban laboring

11: Hadero Ginger Livelihood Zone



This zone is one of chronic and frequently acute food insecurity, where poor households received nearly 10% of their basic food requirement from food aid in the reference year. It consists of lowland to midland terrain which is rugged and in large parts uncultivated due to poor soil cover. Where there is cultivation, conditions have been unfavorable over recent years, with small landholdings, relatively infertile soils, frequent rain failure and declining livestock numbers due in part to endemic trypanosomiasis. The cash-crop ginger which characterizes this zone is somewhat drought resistant, and in bad years people try to market more in order to get by; but the glut as well as poor quality reduces the

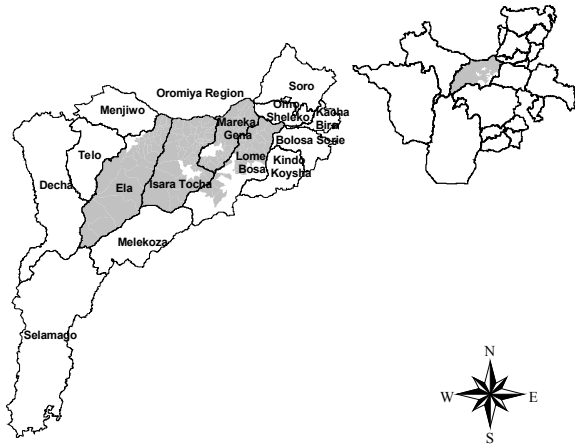
product price considerably. The main food crops are maize and sweet potatoes, with a shift towards the latter in recent years. Normally the poor (roughly 50% of households) manage to grow about 45% of their staple food requirement, whilst other households grow between 60% and 75% of requirement. All wealth groups depend heavily on the market for the balance of their food. Usually ginger and declining amounts of coffee account for some 25% of poor households' annual cash earnings whilst another 25% comes from casual laboring, including work migration which increases in bad years. By contrast, better-off households get by far the greater part of their cash from both cash crops and livestock sales, in about equal proportions.

Main Food Crops & Livestock
Maize, sweet potatoes Cattle Sheep & goats
Main Income Sources
Sale of: Ginger Coffee Livestock & products Rural/urban work

CENTRAL AREA

12: Wolayita Ginger and Coffee Livelihood Zone		
	<p>This zone is mainly midland, although in the west it slopes down to dry midland and upper lowland. An increasingly dense population occupies arable plots of necessarily diminishing size, and intensive cultivation has led to increasing soil infertility for food crops. Nevertheless, middle and better-off wealth-groups, who number about 40% of total households, are normally able to produce 80-90% of their food requirements. But rains have been untrustworthy, and for the poor and very poor a serious hunger gap often appears when sweet potatoes fail in the spring season and maize planting is delayed so that the green</p>	<p>Main Food Crops & Livestock Maize sweet potatoes Cattle Sheep & goats</p>
<p>maize consumption is late. Enset, cassava and other root crops only fill the gap to a limited extent, and it has been normal for the very poor households to obtain some 10% of their annual food requirement through food aid, and poor households 7%, and even middle-wealth households 4%. On the other hand, growing conditions are conducive for two perennials, ginger and coffee, and despite fluctuating prices ginger production in particular has recently expanded. Nevertheless, the better-off and middle groups normally make somewhat more money from livestock sales than from cash-crop sales, whilst for the poor casual work brings in more than cash crop sales, and the very poor depend on casual work for fully 60% of their income, implying high vulnerability to any climatic or market shock which diminishes labor demand.</p>	<p>Main Income Sources Sale of: Ginger, coffee, teff Irish potatoes Livestock & products Rural/urban work</p>	
13: Wolayita Maize and Root Crop Livelihood Zone		
	<p>This livelihood zone covers most of the midland and upper lowland/dry midland terrain of the Wolayita Administrative Zone and therefore most of its population. Population pressure dictates generally very small landholdings, but maximum use is made of what there is, with possibly the most varied cropping in all Ethiopia, spread between two growing cycles per year. But rain failure as well as pests such as the sweet potato butterfly frequently push part of the population over the hunger threshold and onto relief food aid. In ordinary production years, relative success, as exemplified by better-off and middle-wealth</p>	<p>Main Food Crops & Livestock Maize, beans sweet potatoes enset Cattle Sheep & goats</p>
<p>households, requires use of at least half-a-hectare of land, allowing a household normally to be nearly or actually self-sufficient in staple food. The main food crops are maize and beans intercropped, and sweet potatoes in two harvests, whilst enset is generally small in volume but important as a backstop in the lean months of February to May. Secondly other cereals are grown as well as a variety of root crops, whilst teff and coffee are cash crops. With very scarce grazing, livestock must be largely hand-fed with crop residues and fodder bought on the market. By far the biggest investment is in cattle, and for better-off and middle households the greater part of their annual cash earnings actually come from livestock and butter sales, including fattened oxen for the festival meat markets as far as Addis Ababa. These owners also contract poorer households to keep and fatten some of their stock, rewarded by a share in the sales, so that poor (but not very poor) households gain about one-third of their cash in this way. By comparison, crop sales are far less important across the board. Very poor people depend on casual work earnings for about 80% of their cash earnings, poor people for about 45%, so that somewhat over half of all households are heavily dependent on working away from their own land.</p>	<p>Main Income Sources Sale of: Cattle, butter teff, coffee Irish potatoes Casual work</p>	

14: Dawro-Konta Maize and Root Crop Livelihood Zone



This midland and upper lowland zone is relatively food secure, since food crop cultivation by the moderately dense population, on land between quite rugged hills, is so successful that even the roughly 20% of very poor households normally produce some 75% of their staple food. This includes not only maize and other cereals on 70% of the land, but enset, sweet potatoes, taro and beans on the rest. There is no specialized cash crop, but households sell some maize and one-half to two-thirds of the teff and pulses they produce. Coffee is a secondary sales item, partly because of coffee berry disease. Livestock, especially cattle, are important

products, providing the 45-60% of the cash earned annually by middle and better-off households, and including sales of fattened oxen and butter. Poor households also get about 30% of their cash from livestock production, often jointly owning a cow with a better-off farmer and gaining half the profit in return for maintaining the animal. Very poor households depend heavily on members going away on migrant work, especially for the coffee harvest in Jimma area of Oromiya Region.

Main Food Crops & Livestock
Maiz, enset sweet potatoes Cattle Sheep & goats
Main Income Sources
Sale of: Cattle and butter Maize, teff, pulses Migrant work

15: Wolayita Barley and Wheat Livelihood Zone

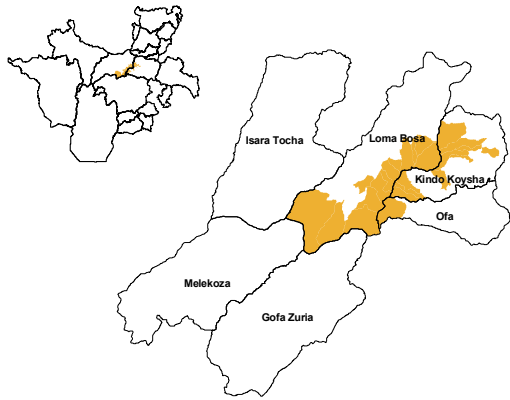


This mountainous zone has a highland and wet midland ecology, and hosts a dense population. The poorer half of the population is food insecure in most years, and receives food aid. This is not so much because of periodic rain failure as because of the chronic pressure on land which results in both small landholdings and difficulties in finding grazing and fodder for oxen, so that at least half of all households have no oxen and must either cultivate by hand-hoe or hire oxen in return for labor on the owner's plot. Grazing is so limited, and fodder so expensive to buy, that poor

people even find it increasingly unprofitable to contract with livestock owners to herd their cattle in return for a share of the milk and progeny. The main food crops are annuals spread between two rainy seasons: barley, wheat, pulses, sweet potatoes, Irish potatoes, and other root crops. These are backed up by the perennial enset, which helps breach lean periods of the year. Even better-off households, supporting 8-10 people, have only about a hectare of arable land, and they are unable to grow all their requirements of staple food; poorer households normally produce about half of their requirement. Most of the annual types of food crop are sold, even by poorer households, since all households must obtain cash for essential expenditure. Poor households (but not the very poor) likewise sell the best part of the butter they produce from their one or two cows, providing some 20% of their annual income. But they depend for about 50% of income on seasonal laboring locally or beyond the zone, and the very poor labor for as much as 70% of their cash income; at this level of poverty even the lunches provided by employers are a significant contribution to the family food budget.

Main Food Crops & Livestock
Barley, wheat sweet potatoes Enset
Cattle Sheep & goats
Main Income Sources
Sale of: Cereals Root crops Livestock & products Local/migrant labor

16: Omo Valley Maize and Sorghum Livelihood Zone



Despite unreliable rainfall in this lowland area, crop and livestock production are usually sufficient for the population to be food secure through consumption of own produce and purchases from the market. The main food crops are maize, sorghum, haricot beans and sweet potatoes. Subsidiary food crops such as taro and yams are also cultivated. The main cash crop is teff. The middle and better-off households who form the substantial majority make far more of their cash income from sales of livestock and their products rather than from crops sales. However, opportunities for off-farm income have been few: local farm laboring

employment is limited, and the poor are not used to migration for work (although new commercial plantations in neighboring Woito in the Omo Valley may change the picture). The poor make about 20% of their cash from laboring, 35% from livestock, another 25% from crop sales and much of the rest from grass and firewood sales. They have also received food aid amounting to somewhat under 10% of annual food consumption. Trypanosomiasis is a major hazard, and this together with malaria render the lowest parts of the zone uninhabited and uncultivated to date.

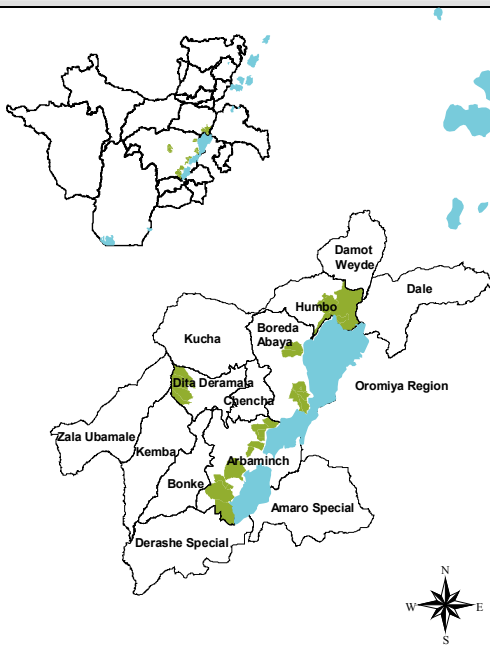
Main Food Crops & Livestock

Maize, sorghum, pulses, root crops
Cattle
Goats

Main Income Sources

Sale of:
Livestock & products
Teff
Grass, firewood

17: Chamo-Abaya Irrigated Banana Livelihood Zone



Although this lowland zone is characterized by irrigated banana production, not all kebeles have access to irrigation, and there the main cash crop is cotton. As regards bananas, the profitable bulk-production of this perishable luxury item is based on access to the main road via Awassa to Addis Ababa, which runs through the main part of the zone from the main local center of Arba Minch: i.e. the majority of the bananas are sold in the largest urban market of the country. Raw cotton is also sold in Awassa and Addis for processing, whence some of it returns to the big local garment factory in Arba Minch. The dominant food crop from the relatively large landholdings of the zone is maize, together with haricot beans and sweet potatoes. Middle and better-off households are usually self-sufficient in staple foods, although they sell some of their stock and buy preferred but more expensive items on the market, such as teff. Abundant pastures allow even poor households to keep three to five cattle, and fattened oxen gain

added value because of the direct road access to Awassa and Addis. The zone is essentially food secure and is indeed one of the most prosperous in the Region (although there are income differences between those who have irrigation and those who don't, and poor households have received some food aid). However, the area suffers from erratic rainfall, including sometimes extensive dry periods in the rainy season which diminish irrigation, but also from floods which damage both irrigated and rainfed production.

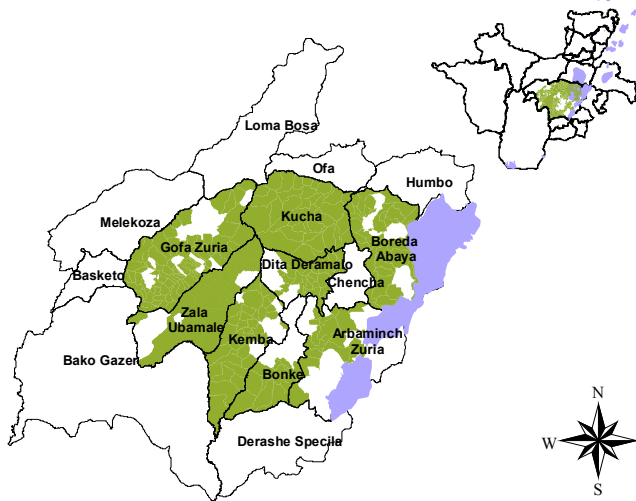
Main Food Crops & Livestock

Maize, sorghum, pulses, root crops
Cattle
Goats

Main Income Sources

Sale of:
Bananas
Cotton
Livestock & Products
Local casual labor

18: Gamo-Gofa Maize and Root Crop Livelihood Zone

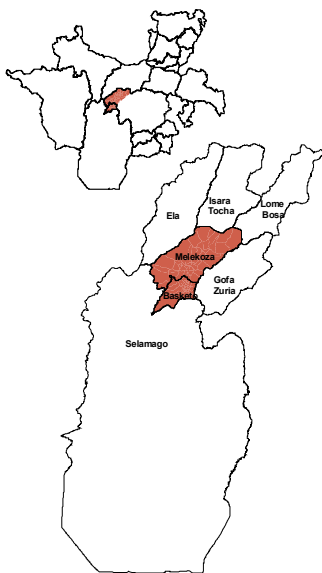


This is an extensive zone of hilly and undulating midland and upper lowland terrain. It is highly food insecure due to a combination of factors: high population density, therefore small landholdings for the majority of households; low soil fertility; frequent rainfall irregularities; endemic trypanosomiasis; and relative isolation, with poor roads and market access, as well as poor coverage with health and education services. Fewer than one in five households are normally self-sufficient in staple food production, whilst the very poor fifth and the

poor third of households have respectively received food aid amounting to about 9% and 5% of their annual basic food in the reference year.. The food crops are maize, enset, sweet potatoes, taro, teff, and yams. Enset and root crops are an important hedge against losses of the less drought-resistant maize; but need forces the poorer majority of households to cut their enset before it matures (after 4 years), so that two-thirds of the potential food from a plant is lost. Although all wealth groups sell crops to some extent, none makes as much as half of annual earnings from this. It is livestock and butter sales that bring the biggest portion of cash to the better-off and middle groups; at the same time butter sales bring in some 20% of the annual cash earnings of the poor and very poor, and this is made possible by the system of caring for the stock of richer owners in return for a share of the milk and sometimes the progeny. The very poor also gain about 20% of their income from selling firewood and collected grasses. However by far the main source of cash for all the poorer households is casual employment, including migrant work on state farms in Jinka, Awash, Shashamene and Ziway.

Main Food Crops & Livestock
Maize, enset root crops Cattle Goats, sheep
Main Income Sources
Sale of: Livestock & products Maize, Teff Grasses, firewood Local and migrant casual work

19: Basketo-Melo Coffee and Root Crop Livelihood Zone

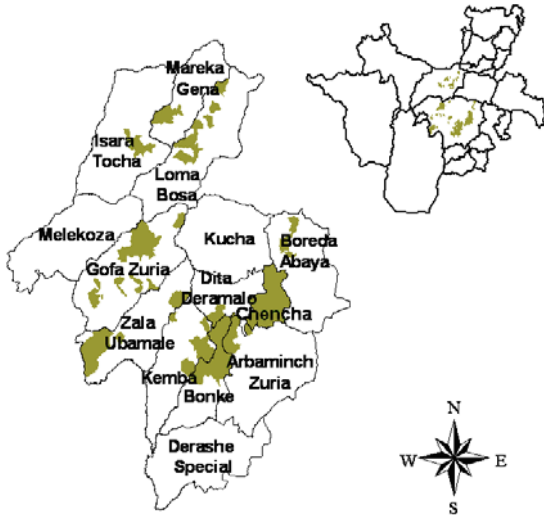


This is a food secure zone with dependable rain, fertile soils and a good balance of food and cash crops. The main terrain is midland, with a smaller wet lowland area which is cultivated but not permanently inhabited by many people. Enset is the first staple, followed by a mix of root and tuber crops including sweet potatoes, yams and taro, with a smaller amount of cassava. Maize makes an important contribution in both mature and green form, whilst there are much lesser amounts of barley and sorghum; horse beans are also grown. A good stand of enset trees insures against failure by the household for any reason to produce other food crops normally; root crops too are an important stand-by if, unusually, grain crops fail. But normally the zone is more or less self-sufficient in staples, and even the very poor are able to produce nearly 80% of their requirement. Coffee is the characteristic cash crop, but the cardamom-like spice *afromomum* is a significant cash earner too. Livestock sales are largely confined to the better-off and middle groups, but the sale of butter brings up to 30% of the annual cash of poorer households, largely from the milk gained as the reward for keeping cattle of wealthier households. But the

very poor also depend heavily on casual work for others in order to make ends meet.

Main Food Crops & Livestock
Enset, root crops Cattle
Main Income Sources
Sale of: Coffee, <i>afromomum</i> Livestock & products Processed enset, root crops

20: Gamo Gofa Enset and Barley Livelihood Zone



This is a mountainous and densely populated zone that includes the wet midland and highland agro-ecological zones of Gamo Gofa Administrative Zone. In general the population have been food secure, but arable land is at a premium and the poorer half of households operate on one-quarter to one half of a hectare. They therefore have only a very small margin for coping with the periodic production problems, whether from a late start to rains or poor distribution of showers across the season, or crop pests such as aphids attacking pulses. These households have received food aid over the years amounting to 5-8% of their annual basic food requirement. The enset and barley are complemented by wheat, sweet or Irish potatoes, horse beans and field-peas as food crops, together with some maize and haricot

beans mainly consumed green. There is no specialized cash crop, and only a limited capacity, even amongst the better-off, to sell food crops; and this is often aimed at exchanging one food for another, e.g. Irish potatoes for sweet potatoes, or pulses sold to buy maize imported into the zone. The middle and better-off make the biggest proportion of their cash from selling livestock, which like some crops find their way on the market as far as Awassa and Addis Ababa. But poorer households also commonly keep and feed one or two cows for wealthier owners, and in return get a share of the milk, from which they produce and sell butter which brings in 20-30% of their annual cash income. Otherwise, both poor and very poor households depend mainly on earnings in cash and kind from casual labor to obtain the 35-50% of required food they cannot grow, as well as essential non-food items.

Main Food Crops & Livestock

Enset, barley sweet & Irish potatoes Cattle Sheep

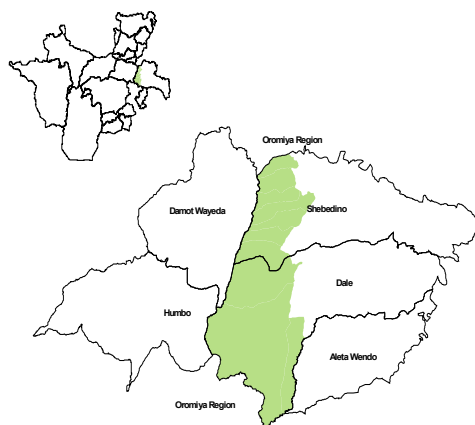
Main Income Sources

Sale of:

Livestock & products
Food crops
Casual labor

EASTERN AREA

21: Bilate Basin Agro-Pastoral Livelihood Zone



This dry and mainly flat lowland area has the perennial Bilate River as its western border, and it is along the river that most food crops are grown: maize, haricot beans, sweet potatoes, together with some enset. Much of the rest of the land area is used for extensive grazing. The unusually large majority of middle and better-off households (70%) are food secure, but it is cattle and milk products which are the basis of their economy (despite endemic trypanosomiasis). They not only make upward of 80% of their cash from sales of animals and their products, but also consume between roughly 10% and 20% of their overall food calories in the form of milk products and meat – a high proportion for people who are not pure pastoralists. But the picture is quite

different for the poor 30% of households. They produce about 45% of their requirement in food crops, not greatly different to the wealthier household who produce under 60% of their requirement (no group sells many crops); but the poor consume only small amounts livestock products, selling most together with live animals to bring in together under 40% of annual cash earnings. Otherwise they depend on working for wealthier people, especially on cultivation, and on sales of firewood. Isolation from main regional markets increases the price of food coming into local markets and decreases price of animals sold – both phenomena exaggerated in the droughts which periodically strike this area. The poor have on average received nearly 20% of their basic annual food requirement in food aid.

Main Food Crops & Livestock

Maize, sweet potatoes, enset Cattle Goats

Main Income Sources

Sale of:

Livestock & products
Firewood
Casual labor

22: Sidama Maize Belt Livelihood Zone

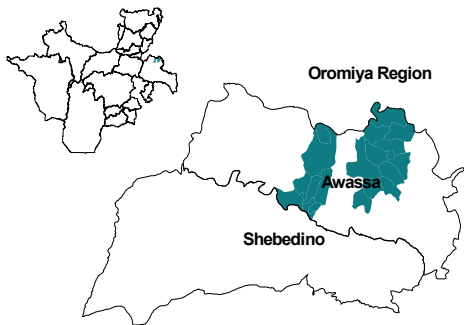


This zone covers the lowest-lying areas of Sidama Administrative Zone, with plains and undulating hills ranging between lowland and lower midland altitudes. Growing population pressure on the land, declining soil fertility, and erratic rainfall have made the zone food insecure to the extent that in the reference year the poor and very poor households (together 40% of the total) covered only 35-45% of their annual basic food requirement with their own produce and have obtained some 21-25% of their requirement from food aid. The main crop is maize, planted in the *belg* or spring rainy season; shorter-cycle crops, including sweet potatoes, haricot beans and teff are grown in the summer rainy season, and are particularly concentrated on when the maize crop is unpromising due to poor *belg* rains. The perennial enset is a backstop but not at all as important as it is in the higher neighboring areas. Cattle and goats are important assets of the middle and better-off groups and proceeds from sales of animals and

their products nearly rival the proceeds from maize and cash crop sales which make up the rest of these groups' income – mainly coffee, *chat* and chilli peppers. The main highway on the eastern border and internal all-weather link roads give good market access to the towns of the Sidama midland/highland and to Awassa city. Animal and crop sales together give poor households around 60% of their annual earnings, but the very poor only 20%. Both groups make up the rest of their earnings through casual labor locally for wealthier farmers and through sales of firewood – leading to advancing deforestation along with the expansion of agriculture as the population increases.

Main Food Crops & Livestock
Maize, sweet potatoes
Cattle Goats
Main Income Sources
Sale of: Coffee, chat, chillies Livestock & products Firewood

23: Awassa Chat and Enset Livelihood Zone

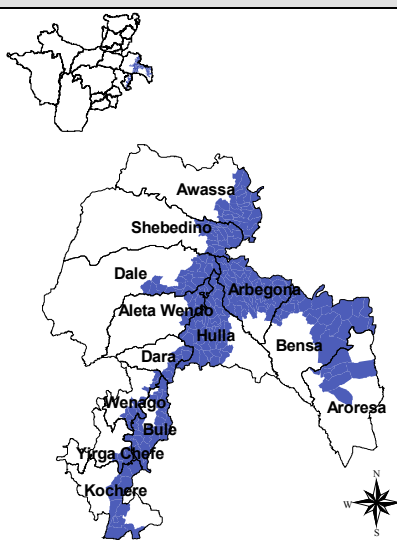


Ranging from low to high midlands, with both hilly and flat terrain, this is one of the most densely populated parts of the Region and therefore of all Ethiopia. The zone today lives more by cash crop and livestock sales than by food production, and is relatively wealthy. Better-off, middle and poor households normally purchase about 40%, 50% and 60% respectively of their annual staple food requirements which cannot be met by the stands of enset and plots of maize, haricot beans and Irish potatoes on the very small landholdings. As such it is a food secure zone, and the small amount of food aid is associated with development projects. Chat has overtaken coffee as the primary cash crop, although the latter still makes a significant

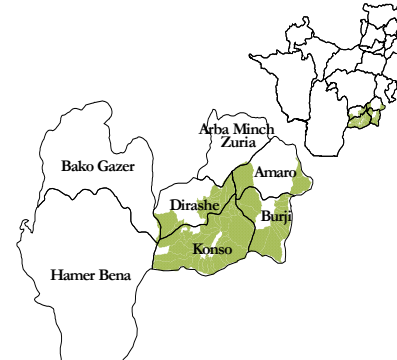

contribution; eucalyptus poles are a secondary 'crop'. The chat industry is labor intensive in the daily picking, packaging, carrying, assembling and loading onto trucks of this perishable stimulant leaf. Thus it offers the poor substantial employment, whilst casual work and petty trade often associated with the nearby regional capital, Awassa, bring further cash. This income in turn helps the poor to save enough to invest in some livestock, including one or two cows fed by hand from which they sell milk and butter which alone give them some 15% of annual cash income.


Main Food Crops & Livestock
Enset, maize, Irish potatoes Cattle Sheep & goats
Main Income Sources
Sale of: Chat Coffee Livestock & products Casual labor

24: Sidama Coffee Livelihood Zone						
	<p>This zone covers the midland area of Sidama Administrative Region. It is densely populated, and land holdings are skewed heavily to the better-off and middle wealth groups: the better-off 20% of households hold up to eight or ten times as much land as the very poor 15 %, who have just one-quarter of a hectare to cultivate, from which they normally obtain one-quarter of their annual basic food needs. But wealthier households, with larger families, do not grow more than 60% of their food needs because in general people put half or more of their land under coffee. The rest goes to enset as the main food crop, and small areas of maize, sorghum, haricot beans and root crops, and sometimes also fruits e.g avocados, pineapples. Sugarcane and eucalyptus (for poles) are also grown for the market. The middle and better-off 60% of households own substantial livestock, including up to 8 cattle, whilst very poor households own no livestock at all, and the poor 25% of households perhaps one cow, exceptionally 2, and not more than one sheep or goat, and a donkey. The very poor rely heavily on casual work, paid in cash and kind, to obtain the 75% of their food which they do not grow. (Coffee harvesting and processing are labor-intensive, and migrant workers come into the zone seasonally.) The poor grow somewhat less than half of their food but have a more varied portfolio of income activities, including not only casual labor but sale of coffee (25% of income in a poor year for coffee), petty trading, and about 20% from livestock and milk/butter, showing the value of even one or two carefully tended animals and their young. Overall, the population is food secure, despite huge income disparities. There was very little relief food aid even in a year such as 2003-4 when both coffee production and coffee prices were low, and maize prices were high due to drought in neighboring areas.</p>	<table border="1"> <tr> <td>Main Food Crops & Livestock</td> </tr> <tr> <td>Enset Maize Cattle</td> </tr> <tr> <td>Main Income Sources</td> </tr> <tr> <td>Sale of: Coffee, Other cash crops Livestock & products Casual labor Petty trade</td> </tr> </table>	Main Food Crops & Livestock	Enset Maize Cattle	Main Income Sources	Sale of: Coffee, Other cash crops Livestock & products Casual labor Petty trade
Main Food Crops & Livestock						
Enset Maize Cattle						
Main Income Sources						
Sale of: Coffee, Other cash crops Livestock & products Casual labor Petty trade						
25: Gedeo Coffee Livelihood Zone						
	<p>This exceptionally densely-populated livelihood zone covers the midland area of Gedeo Administrative Zone, including lower and upper midlands. It produces coffee famous for its high quality, and wealthier households own coffee bushes numbering in thousands whilst poorer households have some hundreds of bushes. After a crisis of very low coffee prices in 2002-3 due to the international market, prices had returned to good levels by 2005, and most farmers were in unions which increase profits by organising international marketing without trading intermediaries in Addis Ababa. Although coffee berry disease and coffee wilt periodically take their toll, coffee alone brings some 75% of the annual cash income of the better-off, 65% for the middle majority and 40% for the poor, who make another roughly 40% by casual work in other farmers' coffee plantations and in local pulping stations. In terms of cash income amongst all wealth groups this is the wealthiest zone in the Region; but cash management by farmers is often weak, and some still struggle to buy food in the period before the green maize harvest in July/August or August/September, depending on the lower or higher altitude. Given that rainfall has been relatively reliable, this might explain why food aid has provided 10% of their annual food requirement to the poor 30% of households, who have to purchase from the market some 60% of their annual food. Food production comes second to coffee production for all groups; enset is the main locally-produced staple, but the zone is a net importer of staple grain. Livestock production is also of secondary priority for all wealth groups, although sales of animals and their products bring in around 20% of annual income across the board.</p>	<table border="1"> <tr> <td>Main Food Crops & Livestock</td> </tr> <tr> <td>Enset Maize Cattle</td> </tr> <tr> <td>Main Income Sources</td> </tr> <tr> <td>Sale of: Coffee, Livestock & products Casual labor</td> </tr> </table>	Main Food Crops & Livestock	Enset Maize Cattle	Main Income Sources	Sale of: Coffee, Livestock & products Casual labor
Main Food Crops & Livestock						
Enset Maize Cattle						
Main Income Sources						
Sale of: Coffee, Livestock & products Casual labor						

26: Sidama-Gedeo Highland Enset & Barley Livelihood Zone		
	<p>This hilly zone, in the extreme east of the Region, covers the highlands of Sidama and Gedeo Administrative Zones. The area is known for its high quality enset production, some of which is exported out of the zone in the processed form of <i>kocho</i>. Barley and wheat are the main cereals, although wheat rust has resulted in some substitute sowing of maize. Horse beans and peas are also grown mainly for consumption, whilst vegetables are the main cash crop: shallots, garlic, kale. Rainfall is reliable, and the area is food secure not only because of its perennial stock of enset in the field, but because livestock, especially cattle, are kept in some numbers, and even the poor are able to make 40% of their annual cash income from livestock and butter sales, and the other wealth groups upwards of 50%. All groups tend to buy grain in order to preserve enset stocks, so that the poor are able to keep substantial stands of mature trees (whereas in other enset-growing areas poor households in need tend to cut the trees before maturity at 4+ years, thus losing much of the potential food yield from the plant). In addition, in this zone poor households commonly send a member out for migrant work on the coffee harvest in neighboring livelihood zones. There has been no history of food aid distributions in this zone.</p>	Main Food Crops & Livestock Enset Barley Pulses Cattle Sheep
		Main Income Sources Sale of: Livestock & products Enset Vegetables Casual labor

SOUTHERN AREA

27: Southern Special Woredas Lowland Cereal Livelihood Zone		
	<p>This zone covers a flat, lowland area. It is food insecure, and even in ordinary years all but the better-off have received significant food aid. The essential problem is neither land shortage nor soil infertility: it is erratic rainfall which repeatedly brings severe moisture stress to crops (and periodically outright drought), especially serious in the spring or <i>belg</i> season upon which 70-80% of crop production depends. The staples are maize and sorghum, whilst teff is the main cash crop. Only the better-off are able largely to feed themselves from their own production whilst making some 50% of their annual cash earnings from selling teff together with some maize and sorghum. Despite the presence of trypanosomiasis, the other half of their earnings is from livestock and butter sales (including fattened oxen). The other wealth groups have received food aid amounting to some 15% of annual food requirement for middle households, 20% for the poor, and 25% for the very poor. Even with this they have not normally quite managed to consume their full minimum requirement. For the poor and very poor, own crop consumption provides 40-50% of requirement, and purchases (plus earnings in-kind from agricultural labor) cover some 25%. The difference between the middle and the poorer households is that the middle balance crop sales with sales of animals and their products, whilst the others balance more modest crop sales with, in varying proportions, casual labor and selling of firewood and grasses, although the poor also obtain about 15% of their cash from animals. All but the better-off engage in some petty trade, which gives them a small but important addition to their budgets. But the zone is isolated from major regional markets, and trade is further disadvantaged by the lack of all-weather roads.</p>	Main Food Crops & Livestock Maize, sorghum Cattle Goats
		Main Income Sources Sale of: Teff & maize & sorghum Livestock & Products Firewood, grasses Casual labor Petty trade
28: Southern Cereal, Enset and Root Crop Livelihood Zone		
	<p>The terrain of this zone includes both flat lowlands and low to mid midland. The population tend to reside in the midland areas, to avoid endemic malaria and livestock diseases in the lowlands. But they cultivate nearby lowlands as well as their midland plots, especially since in the latter the soils are declining in fertility from overuse. In the Konso area the traditional terracing is a response to particularly degraded soils. Lack of grazing in the midland areas has increasingly induced farmers to send cattle down to the pastures of the lowlands</p>	Main Food Crops & Livestock Sorghum maize, enset Root crops Cattle Goats

<p>despite the depredations of trypanosomiasis. The bulk of grain crops are grown in the lowlands: sorghum and maize mainly for consumption, and teff as the main cash crop of the entire zone (some coffee and chat are grown in Konso). The midlands provide some secondary cereals – wheat, barley – but the important element is enset and root crops, because these are a backstop when drought, the chief hazard of the zone, destroys the less resistant cereal crops. These are also sold in modest amounts. In normal production years households overall produce between 55% and 75% of their food needs. This is a markedly food insecure zone, and all households, including the better-off, have received food aid which even in ordinary years has amounted for poor, middle and better-off households to around 20%, 15% and 10% of annual food requirement respectively. The middle and better-off have very similar cash income portfolios, balancing crop and livestock sales, and adding some petty trade; the better-off have somewhat greater profit from livestock. The poor, on the other hand, make ends meet through a diversity of activities: crop sales, casual labor, petty trade and traditional beer-making, firewood sales and modest sales of animals and butter.</p>	<p>Main Income Sources</p> <p>Sale of: Teff Livestock & products Firewood Casual labor Petty trade</p>	
<p>29: Amaro Coffee and Enset Livelihood Zone</p>		
 <p>The map shows the geographical location of the Amaro Coffee and Enset Livelihood Zone within the Oromiya Region of Ethiopia. It highlights four special zones: Arbaminch Zuria, Derashe Special, Amaro Special, and Burji Special. The Amaro Special zone is shaded in purple.</p>	<p>This hilly midland to lowland zone has many production advantages: fertile soils, rainfall in two seasons allowing both long and short cycle annual food crops as well as enset and cassava as perennials, and a good ecological niche for coffee production. However repeated drought in recent years has rendered the zone food insecure to the extent that all wealth groups have received relief food assistance ranging from about 20% of annual food requirement for poor households to 7% for better-off households. A longer-term problem is the population pressure which severely limits the size of landholdings; in addition, limited grazing in the midlands combined with trypanosomiasis especially in the lowlands combine to reduce livestock holdings. A shortage of plow oxen (none owned by the poor and very poor households who number just under half of total households) reduces the production of cereals and pulses which are grown in the lowlands. The chief food crops are maize and haricot beans, supplemented by the enset and cassava grown in the midland elevations. Teff is the main cash crop from the lowlands, and is known on the wider market for its high quality. Coffee is the cash crop of the midland, but there are few pulping stations in the zone. Coffee sales are important for all wealth groups, and even the very poor gain around one-third of their annual cash earnings from this, whilst for the middle group it brings two-thirds. For the rest of their income, poorer households sell other crops and a few livestock and some butter, and undertake casual labor which is mainly local coffee-picking. Wealthier households sell crops and livestock in differing proportions, but only the better-off gain more than 20% of cash income from livestock.</p>	<p>Main Food Crops & Livestock</p> <p>Maize, beans enset, cassava Cattle Goats</p> <p>Main Income Sources</p> <p>Sale of: Coffee, Teff Livestock & products Casual labor</p>

SOUTH-WEST AREA

30: South Omo Pastoral Livelihood Zone



This is a semi-arid rangeland zone in the basin of the Omo River, with low and erratic rainfall. The zone is crossed by the Weyto river and numerous seasonal rivers that originate in the bordering Kuttume Mountains to the east and west and drain down to the valley basin in the wet season. The Hamar are the largest of five pastoral groups who inhabit the area. Wealth is particularly gauged by cattle ownership: the better-off households (25% of total households) have up to 70 cattle and up to about 200 smallstock, mainly goats; middle households (45%) have up to 20 cattle and 80 smallstock; and the poor (30%) not more than 5 cattle and 25 smallstock. Although the economy is overwhelmingly based on livestock, there is some

cultivation of sorghum and maize on the sandy soils of the plains on the valley bottom, using both the modest rainfall of the main season between March and June and irrigation fed by run-off from the Kuttume Mountains. Despite great disparities in wealth, the livelihood patterns of all households are very similar. Like most pastoralists in the world today, the bulk of their diet is grain purchased on the market; milk, meat and blood (siphoned from live cattle) are an important element, but give even the better-off not much more than 25% of their food calories. Own crops normally give all households around 20% of their food requirement (added to by small amounts of collected bush-foods) whilst purchased grain gives some 40-50%. Frequent rain failure has rendered the population food insecure, and all wealth groups have received annual relief food amounting to 8-14% of annual food requirement. Although better-off households obtain as much as four times as much cash as poor households, the patterns are again similar across the board, with 80-90% of cash coming from sales of animals and their products (largely butter) and the rest from honey sales. Extreme distance from main regional markets renders selling prices low and imported grain prices high – to the extent of creating economic shock if there is drought in the source zones.

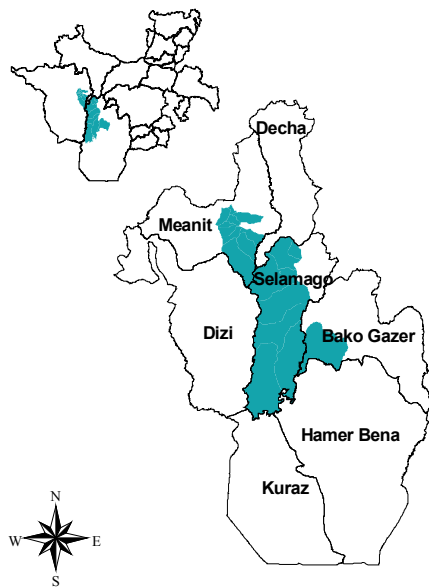
Main Livestock & Food Crops

Cattle
Goats
Sheep
Sorghum, maize

Main Income Sources

Sale of:
Livestock & products
Honey

31: Salamago Pastoral Livelihood Zone



Consisting of the lowland area of Salamago woreda, this sparsely populated livelihood zone is the home of two pastoral ethnic groups, the Mursi and the Bodi. The zone has been more or less food secure, and has received little food aid over recent years. The terrain is predominantly a clay loam plain covered with thick grasses. The southern border is the Omo river, whilst a handful of small rivers run through the plain from the bordering midlands to the north. Rainfall is low but reliable, and grazing usually plentiful, supporting mainly cattle with some goats, and allowing milk production sufficient to provide a proportion of the diet (in terms of calories) which is remarkably high even for a pastoral population: around 40-45% for the middle and better-off wealth groups who make up 75% of total households. However, the economy is not purely pastoral: maize and sorghum are grown under shifting cultivation using the main rains between March and May. The rains in the three last months of the year are important for pasture regeneration, not cropping. However, during this period use is made of the annual flooding of the Omo River,

and people move south to the river banks to grow cereals by the flood-recession method. Overall it is the poor, with fewest livestock, who depend most on growing crops, providing some 35% of their annual food, whilst another 35% comes from the market. The other wealth groups buy more grain than they grow. The cash sources to pay for this and other essentials are the same for all households: in order of magnitude, livestock sales, milk and butter sales, and honey sales. Such food insecurity as there has been has come not so much from rare drought as from disruptive clashes between the Mursi and Bodi and from periodic hikes in grain prices when drought has struck neighboring grain-source areas.

Main Livestock & Food Crops

Cattle
Goats
Sorghum
Maize

Main Income Sources

Sale of:
Livestock & products
Honey

32: Southern Agro-Pastoral Livelihood Zone		
	<p>This zone covers a flat lowland terrain which was traditionally a grazing ground. Settled agriculture is a recent phenomenon here, largely rainfed except for some irrigation from the Weyto river in the Konso part of the zone. The crops grown are sorghum, maize, and some teff for sale. But there is still a main dependence upon livestock: own crops amount to around 40% of household food consumption across all wealth groups, but crops sales are very low, and it is livestock and livestock products which bring in by far the bulk of cash inter alia for the purchase of grain to make up another 40% of household food. The balance of food comes essentially from the consumption of milk from own herds. This is a low rainfall area at the best of times, and agricultural risk has been magnified in recent years by erratic rains and periodic drought, which have also affected the condition of livestock, and therefore their market value and milk output. The poor have been unable to obtain much more than 90% of their annual food requirement, even with a small addition of food aid. Since they have fewer livestock than others, they try to make ends meet with additional activities: honey collection (also done by other wealth groups), petty trade, selling local beer, making pots, collecting firewood and incense-gums for sale. In the future, without an extension of irrigation greater dependence on agriculture is likely to mean greater food insecurity.</p>	<p>Main Food Crops & Livestock Sorghum, maize Cattle Goats & sheep</p> <p>Main Income Sources Sale of: Livestock & products Honey Teff</p>
33: South Omo Crop Livelihood Zone		
	<p>This zone comprizes both midland and highland terrain, but it is in the midland that the majority of the population, essentially the Ari ethnic group, live. The main food crops are a mix of grains – maize, barley, sorghum together with beans – and root crops: enset, yams, sweet potatoes, taro, cassava. Maize and beans are sown twice in the year, using the spring and summer rains, which have been reliable and abundant over the years. This has been a food secure area, and the economy achieves a good balance between crop and livestock production. Households across the wealth groups manage to produce virtually all the staple foods they need, and all groups earn substantially from selling surpluses. The middle and better-off also grow coffee and make about one-quarter of their cash from selling the harvest. But despite endemic trypanosomiasis all wealth groups make at least 40% of their cash from livestock and their products, and in the case of the poor nearly 60%. The poor also sell firewood. The earnings of the better-off, at up to ETB 4000 per year, compare well with those of better-off people in many less remote midland zones.</p>	<p>Main Food Crops & Livestock Maize, beans enset, root crops Cattle Sheep</p> <p>Main Income Sources Sale of: Maize, Coffee Livestock & products</p>
34: Surma Agro-Pastoral Livelihood Zone		
	<p>This lowland to dry midland zone, bordering on Sudan, is sparsely populated by Surma pastoral clans. They depend more for their living on livestock than on agricultural production, and have managed to maintain a food secure economy. The chief livestock are cattle, which number almost as many as the goats also kept. These give all households an important part of their diet in milk: between 25% and 33% of total food calories depending on wealth. Own crops – maize, sorghum, beans, sweet potatoes, cassava – give somewhat more, from about 35% to 40% in terms of calories. The balance comes from market purchases of grain, and it is livestock sales which bring households from half to three-quarters of their cash. Otherwise they sell some honey, and make significant money from working in neighboring gold mining areas, chiefly in Bero woreda. Insofar as there is any short-term food insecurity, it comes from livestock raiding between the Surma and neighboring pastoral groups. Market price shocks occur when drought reduces marketed surplus grain from neighboring areas. And a longer-term problem which reduces pastoral productivity is the plethora of livestock diseases.</p>	<p>Main Food Crops & Livestock Maize Sorghum Root crops Cattle Goats</p> <p>Main Income Sources Sale of: Livestock & Products Honey Gold mining work</p>

WESTERN AREA

35: Sheka Cereal and Enset Livelihood Zone						
	<p>Covering midland and highland terrain of the Sheka and Kaffa Administrative Zones, this livelihood zone is fertile, sparsely populated, has reliable rainfall, and is food secure. Land holdings are comparatively large for SNNPR, so that even poor households have up to two hectares. Maize, teff, pulses and a little wheat are complemented by stands of the perennial enset. Cattle are kept in some numbers (even the poor have as many as four cows and sometimes a plow-ox, whilst the middle-wealth half of households have up to 15 cattle as well as a team of oxen). Between staple crops and livestock products households across the board are self-sufficient in food, although the poor buy small amounts of maize from the market before harvest if they don't want to over-consume green maize. The wealthier a household, the more it is livestock which bring in the annual cash. For the poor, crop sales form a larger proportion of their income; these are the food crops, since there is no special cash crop. They also sell honey and take on a little casual work for neighbors as well as selling some firewood. Production is periodically reduced, but never critically, by crop disease and pest, including bacterial wilt on enset. Both diseases and wild animal attacks affect livestock production. However the 'bad year' is not in the local vocabulary. Numerous streams offer the potential for irrigation development; however the zone is remote from major markets, and this diminishes the value of all produce.</p>	<table border="1"> <tr> <td>Main Food Crops & Livestock</td> </tr> <tr> <td>Maize, enset pulses Cattle Sheep & goats</td> </tr> <tr> <td>Main Income Sources</td> </tr> <tr> <td>Sale of: Livestock Teff & other food crops Honey Firewood</td> </tr> </table>	Main Food Crops & Livestock	Maize, enset pulses Cattle Sheep & goats	Main Income Sources	Sale of: Livestock Teff & other food crops Honey Firewood
Main Food Crops & Livestock						
Maize, enset pulses Cattle Sheep & goats						
Main Income Sources						
Sale of: Livestock Teff & other food crops Honey Firewood						
36: Kaffa Cereal and Enset Livelihood Zone						
	<p>This largely midland zone occupies the north-eastern part of Kaffa Administrative Zone. Slow progress in planned road construction means that this remains one of the most isolated zones in the Region, with most kebeles inaccessible by road throughout the year. This in turn means that most localities of the zone are particularly poorly connected to outside markets, limiting possibilities of product sales and other economic activities. However, the sparse population, on reasonably large landholdings with fertile soils and reliable rainfall, are markedly food secure, and even poor households produce virtually their entire staples requirement: maize, wheat, sorghum, barley, teff, pulses, enset. The difference between these and wealthier people is that the latter consume significant amounts of milk (for settled cultivators) from their 5-10 cattle, whilst the poor need to devote all the milk from their single cow to produce butter for sale. All wealth groups make 50-60% of their annual cash income from crop sales mainly to local woreda towns. Most of the rest comes from sale of livestock and their products. The poor also sell honey. There are no special cash crops. This is to date a largely self-contained economy, not wealthy, but economically secure.</p>	<table border="1"> <tr> <td>Main Food Crops & Livestock</td> </tr> <tr> <td>Maize, other cereals & pulses Enset Cattle Sheep</td> </tr> <tr> <td>Main Income Sources</td> </tr> <tr> <td>Sale of: Food crops Livestock & products Honey</td> </tr> </table>	Main Food Crops & Livestock	Maize, other cereals & pulses Enset Cattle Sheep	Main Income Sources	Sale of: Food crops Livestock & products Honey
Main Food Crops & Livestock						
Maize, other cereals & pulses Enset Cattle Sheep						
Main Income Sources						
Sale of: Food crops Livestock & products Honey						

37: Bench-Kaffa Cereal and Enset Livelihood Zone						
	<p>This is a midland zone with reliable climatic conditions and sufficient land per capita to make it productive and food secure, although deforestation and soil degradation are increasing problems. The population contains some immigrant minority ethnic groups who are socially/culturally isolated and may suffer some economic disadvantage. Generally all wealth groups are self-sufficient in food crops, with maize as the main cereal, harvested mature in October but also eaten green in July, whilst enset is a backstop which can be cut and processed at any time of year. There are no cash crops, and in terms of marketing of crops and livestock (and butter) there is some disparity between the east and west of the zone. The west is crossed by the main highway connecting Mizan Teferi via Bonga to Jimma; the east suffers from relative isolation, with a poor secondary road network. Overall, households across the wealth groups make roughly half of their annual cash from crop sales and half from livestock and product sales. The middle group depend somewhat more than others on crop sales; the poor gain proportionately more income from butter than live animal sales: they have only a handful of smallstock, and from their one nor two cows, rather than drinking much milk (as do the wealthier households) they concentrate on butter production and sales. Casual employment is a minor feature even for the poor, but those in the west have the advantage of coffee plantations and large private farms in nearby areas beyond this livelihood zone, whilst those in the east rely on finding local work.</p>	<table border="1"> <tr> <th>Main Food Crops & Livestock</th> </tr> <tr> <td>Maize Enset Cattle Sheep</td> </tr> <tr> <th>Main Income Sources</th> </tr> <tr> <td>Sale of: Maize Livestock & products Casual labor</td> </tr> </table>	Main Food Crops & Livestock	Maize Enset Cattle Sheep	Main Income Sources	Sale of: Maize Livestock & products Casual labor
Main Food Crops & Livestock						
Maize Enset Cattle Sheep						
Main Income Sources						
Sale of: Maize Livestock & products Casual labor						
38/39: Western Coffee and Spices Livelihood Zone						
	<p>The main populated part of this zone is midland terrain, but there are also stretches of tropical lowland and mountain forest. The zone is food secure, with maize and sorghum as the common cereals, with cattle and sheep kept in generally modest numbers due to shortage of pasture areas; spices growing wild in forest areas are collected for sale. There is a comparatively modest dependence by the poor on casual labor earnings. Within this overall picture there are differences between the west and east of the zone which merit a division into two sub-zones. In the west, coffee sales (including wild coffee) are something of a speciality and more spices, particularly ginger and turmeric, are also sold. Food self-sufficiency is quite high, with even poor households producing nearly 80% of their staple consumption. Livestock holdings are comparatively small, although households make 15-20% of their cash from sales of livestock and their products, and most of the rest from spice and crop sales. In the east the accent is more on food-crop production, including enset and teff, with very high food self-sufficiency but with less income from spices (principally cardamom) and coffee, but somewhat larger livestock holdings and profits from these. The livelihood zone as a whole benefits from the presence of the Mizan Teferi – Bonga – Jimma highway for onward marketing. Apart from the common crop and livestock pests and diseases, there is little to threaten food security unless it is bouts of civil conflict between indigenous ethnic groups and immigrant groups who are particularly concentrated in the west.</p>	<table border="1"> <tr> <th>Main Food Crops & Livestock</th> </tr> <tr> <td>Maize, sorghum, enset Cattle Sheep</td> </tr> <tr> <th>Main Income Sources</th> </tr> <tr> <td>Sale of: Coffee Spices Food crops Livestock & products Casual labor</td> </tr> </table>	Main Food Crops & Livestock	Maize, sorghum, enset Cattle Sheep	Main Income Sources	Sale of: Coffee Spices Food crops Livestock & products Casual labor
Main Food Crops & Livestock						
Maize, sorghum, enset Cattle Sheep						
Main Income Sources						
Sale of: Coffee Spices Food crops Livestock & products Casual labor						

40: Western Forest Products Livelihood Zone



This zone contains one of the few remaining extensive natural forest areas in the country, with tropical species covering lowland and low midland elevations. The products of this forest, especially wild root crops, honey, wild coffee and some small game, have traditionally formed the main livelihood of the indigenous population, but they have also increasingly practiced shifting cultivation with hand-tools. By contrast, another part of the population are mainly self-settling immigrants from the north (rapidly increasing in numbers in the last ten years) who have imported northern agricultural techniques, clearing wide areas of forest and plowing established fields with oxen. These have also begun more

livestock rearing and planting coffee and some peppers; and there are also large private and state farms. The trend is for the traditional livelihood system to turn quite rapidly into the fixed farming and plantation system as the population rises and forest rapidly diminishes. Taken as a whole the population is food secure. The poor, who are heavily represented by indigenous people, purchase very little food, and depend for about 70% of their consumption on own crops and 25% on collected forest foods. They are well able to cover their food needs, and they make by far the greatest proportion of their cash income from honey sales, both from their own hives and from collection from wild hives. The other wealth groups are entirely self-sufficient in their own cultivated staples (maize, sorghum, finger-millet). The middle group make about 60% of their cash from crop sales, the rest from honey sales and some livestock sales. The better-off make almost all their money from crop sales, with very modest livestock sales. Some crops and honey find their way via traders to the Administrative Zone capital, Mizan Teferi, and onwards to Jimma.

Main Food Crops & Livestock

Maize, sorghum
Forest (wild) yams
Honey
Cattle
Goats & sheep

Main Income Sources

Sale of:
Food crops
Honey
Coffee (including some wild)
Livestock & products

SNNPR Livelihood Profile

Amaro Coffee and Enset Zone

June 2005¹

Zone Description

The Amaro Coffee and Enset Livelihood Zone is a coffee growing zone with significant productive potential, boasting fertile land, good rainfall, and a strong base of drought resistant crops (enset and cassava) to draw on in bad years. Frequent droughts over the past five years have, however, made it increasingly dependent on relief assistance.

Income in this livelihood zone is closely linked to coffee production and prices. As a result, the population is particularly vulnerable to coffee market fluctuations, crop diseases, and unusual rainfall patterns that result in reduced coffee harvests. Widespread irrigation of coffee plantations mitigates the effects of poor rainfall on coffee production, but food crops remain highly vulnerable to drought.

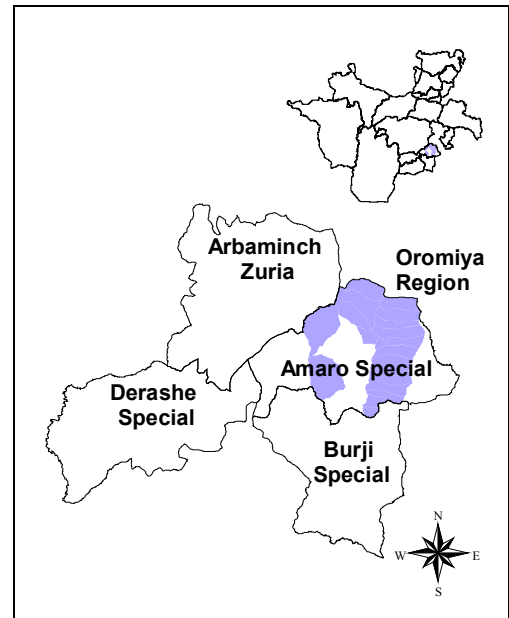
The livelihood zone is located mainly in the *woina dega* and *kolla* altitude zones, and is characterized by hilly terrain. The population of the livelihood zone cultivate in both the *belg* and *meher* seasons. They use plow oxen to prepare their lowland fields of maize, teff and haricot beans, while tending to their coffee, enset, and cassava plantations in the midlands. Maize, enset, and cassava are the primary food crops in the livelihood zone, the latter two holding particular significance because of their drought resistance. The main cash crops are coffee and teff, with some sugar cane, bananas and occasionally *chat*. There is very little use of either fertilizer or pesticides in the livelihood zone; in the case of coffee this is because organic coffee production is encouraged.

Besides shocks to local production systems, the main constraints to accessing both food and cash income in this livelihood zone are the availability of land and of labor/traction. Lack of land in *woina dega* areas limits the amount of income that can be generated from coffee, while lack of labor, plow oxen and plows limits the area that can be cultivated in the lowlands. In each case, the problems are most acute for poorer households within the livelihood zone.

Livestock holdings per household are generally low in the livelihood zone. Cattle are kept for plowing, for milk and for sale, and goats mainly for sale. Livestock are kept close to home where they graze on available pasture and crop residues. Trypanosomiasis is a significant problem in the livelihood zone, affecting all types of domestic livestock.

Access to local markets is reasonable for most villages in the livelihood zone, with roads providing year-round access to the woreda town. However, the geographical isolation of the livelihood zone limits access to more distant urban centers (Arba Minch, Hagare Mariam and Addis Ababa). The availability of transport is limited, and some people have to walk long distances to bring their goods to market. Additionally, since donkeys are not common in this livelihood zone (numbers having been reduced by trypanosomiasis), people have to carry their goods to market.

Besides sale of crops, the most common sources of income for poor households in the livelihood zone are sale of goats and labor on the coffee harvest. Sale of grass or firewood and collection of honey are activities for a minority of households. Firewood sale is not common as there is a local government ban on the cutting of firewood. Labor migration is uncommon in this area, except in bad years when individuals from poorer households migrate to Moyale for mining and Hagare Mariam for agricultural work.



Markets

Road conditions and relative isolation are the main constraint to marketing in the Amaro Coffee and Enset Zone.

¹Field work for the current profile was undertaken in April, May, and June of 2005. The information presented refers to June 2003-May 2004 (EC Sene 1995 to Genbot 1996). This was a broadly average year by local standards; i.e. a year in which overall production levels and rural food security as a whole were average 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 2010).

Roads into and within the livelihood zone are unpaved, marked by potholes, and become muddy in the rains. The area is also geographically isolated from the main zonal markets (Arba Minch and Hagare Mariam) and from Addis Ababa. The road to Arba Minch from Amaro is often cut in the rainy season. This geographic isolation contributes to limited development of markets in Amaro.

The primary market for most of the villages in this livelihood zone is the Amaro woreda market. A small number of villages cannot access the woreda market, and the inhabitants of these villages are forced to take their goods to Arba Minch, a distance of about 60 km. The main commodities sold out of the livelihood zone are coffee and teff. Green coffee is purchased by local processors and then exported to Addis. Teff from the zone is considered to be of very high quality, demands a good price, and is distributed to Arba Minch, Gedeo, and Awassa.

Maize and kocho (a product from enset) are the main foods purchased in this livelihood zone. Local production is generally insufficient to meet demand. Maize is imported from Gedeo and Hagare Mariam, while kocho comes from neighboring highland areas.

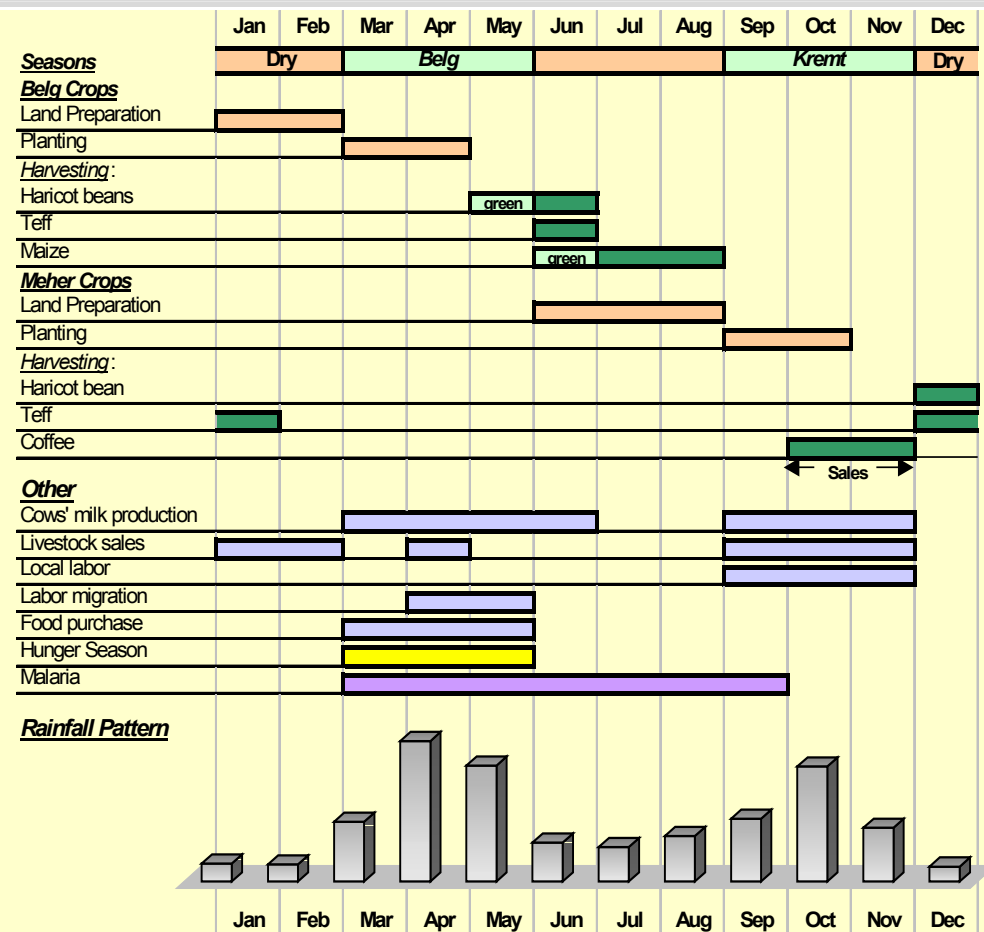
Prices for the main staple foods fluctuate seasonally and from year to year. Seasonal demand for maize is highest when the road conditions are poorest, affecting both supply and price. Local production failure also drives up the demand for maize, and can cause significant additional price increases. Enset prices tend to be more stable than maize prices, since enset is sourced more locally.

Because livestock numbers are low, the volume of trade is limited. Most livestock are sold within the woreda, for local consumption and to local restaurants.

Seasonal Calendar

The livelihood zone has two relatively discrete rainy seasons; the *belg* rains from March to May and the *kremt* rains from September to November. Short cycle crops are grown in both seasons. Of the two seasons, the *belg* is the most important. This is the season in which maize, one of the main food staples, is cultivated.

Most land preparation takes place before the *belg* rains, with crops being planted once the rains start. Maize, haricot beans and teff are planted in the lowlands, with maize and haricot beans generally intercropped. Enset, cassava and coffee are cultivated in the *woina dega* areas. All of these crops take more than 12 months to mature. Cassava requires 18-24 months, enset 4-5 years (although it can be eaten immature) and coffee 3-4 years (at which point it can produce for decades). Enset and cassava can be harvested at any time of year.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Staple food prices peak in the months running up to the start of the green maize harvest – the annual ‘hunger’ season. This is preceded by one of the main periods for livestock sales, since households need cash to purchase food. Livestock tend to be sold before rather than during the ‘hunger’ season because livestock condition is better at this time of year and demand tends to be higher as people still have some money from the coffee harvest. Other significant livestock sales are made at holiday times in April (before Easter) and September (Meskel), as well as during the months of the

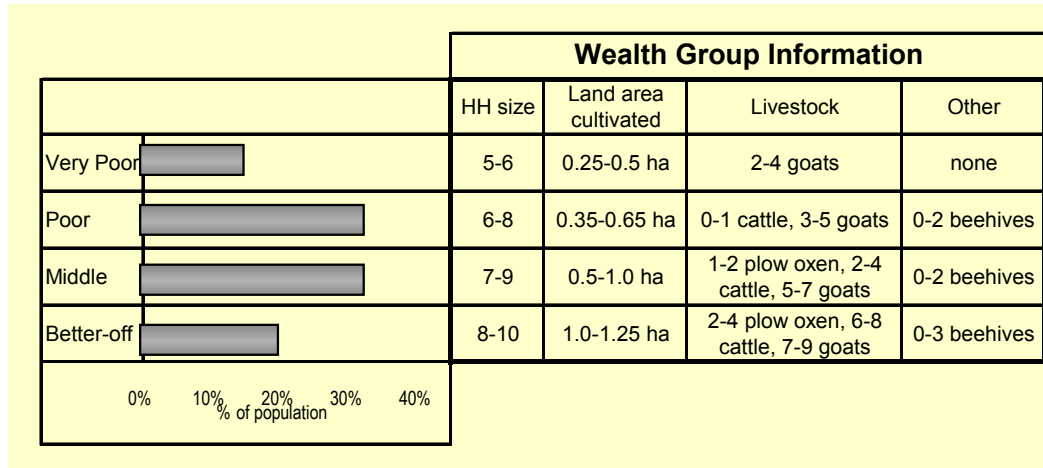
coffee harvest itself.

Coffee harvesting is the main source of local employment for poorer households (September-November). Unlike in some other coffee growing livelihood zones, there are only a few pulping stations in the livelihood zone, and most of the work is therefore coffee picking rather than coffee processing. It is also worth noting that little work is available during the main 'hunger' season months from March to May. In bad years, younger members of the household will migrate out of the livelihood zone at this time of year, searching for casual employment in either Hagare Mariam or Moyale.

Malaria is worst throughout the months from March through September, affecting labor availability at household level during this important agricultural period.

Wealth Breakdown

In this livelihood zone, a considerable percentage of the population (45%-50%) is classified as poor or very poor by local standards. This is due to a shortage of good quality land and lack of access to labor/traction, the key factors determining wealth in the livelihood zone. Availability



of land is the major constraint in the *woina dega* areas, affecting both food crop production (enset and cassava) and cash crop production (coffee). Shortage of labor, plow oxen and plows is more important in the lowlands, limiting production of maize, beans and teff. Other differences in wealth, such as number of animals owned, tend to follow on from differences in cash income and food production potential.

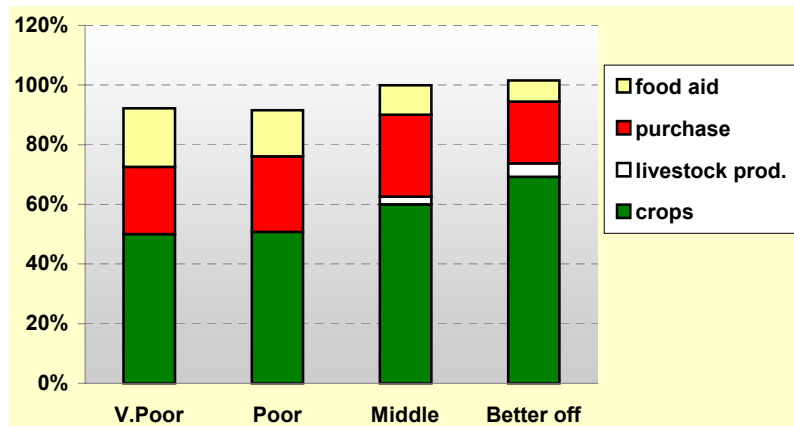
The poor and very poor are similar in many respects. The main difference between the two groups is the availability of labor at households level. Very poor households are often female-headed or households headed by elderly and/or infirm individuals. Many poor households are also relatively young as younger households tend to lack both land and labor. Renting and share-cropping are not common in the livelihood zone, and are not therefore a means by which poorer households can increase their access to land.

Better off households are generally larger than those of other wealth groups, providing them with more available labor. This is because they tend to be more 'mature,' meaning that the household head may be older and have had more children. It is also quite common for the better off to have two or even three wives.

Sources of Food – An average year (2003-04)

The graph represents the contributions of various food sources to the average yearly diet for each wealth group in the livelihood zone, for the period June 2003 – May 2004. This was an 'average' year compared to recent years, but may perhaps be considered a 'bad' year if a longer time period is considered (since villagers report that drought has been a common phenomenon in the last five years).

Overall, the better off and middle groups covered almost all of their food needs in 2003-04. The very poor and poor, on the other hand, consumed only an estimated 90% of their minimum food energy needs, even though they received significant amounts of food aid. The contribution of



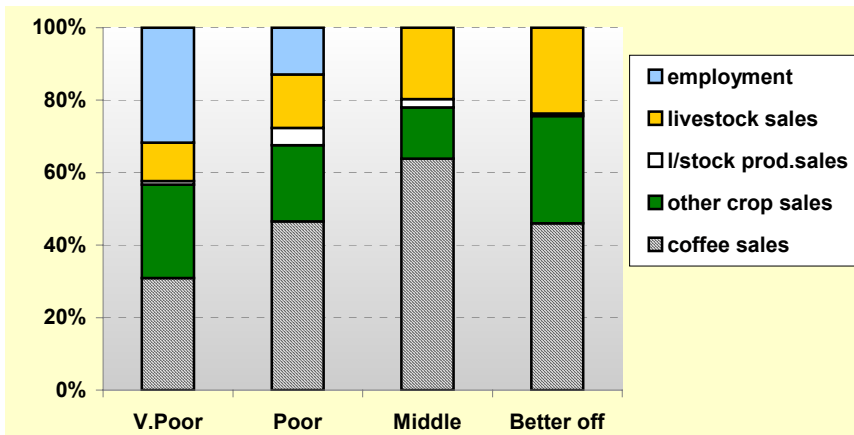
In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

crops to food consumption increased from very poor to better off, but the trend is not very marked, so that the better off still had to purchase a significant proportion of their calorie intake. This is explained partly by the larger size of better off households (so that food crop production has to be shared among a larger number of people) and partly by a focus on cash crop rather than food crop production by the better off.

Over the past five years this livelihood zone has received regular food assistance, and though 2003-04 was a relatively average year, the livelihood zone may have received food assistance partly to help the process of post-drought recovery and partly to meet the immediate needs of villages that experienced problems with the amount and consistency of rainfall in 2003-04.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.



This bar graph shows the various sources of income for each wealth group in the livelihood zone for the reference year, 2003-04. All groups relied heavily on sale of crops, especially coffee. The very poor generally sell their coffee when it is wet and the value is low, in order to meet immediate cash needs. Other wealth groups can afford to dry and store a portion of their coffee harvest while waiting for higher prices.

Teff was the second most important crop sold, followed by variable quantities of maize, beans, enset, sugar cane, bananas and *chat*.

Livestock sales provide a secondary source of income. Each wealth group sold one or more goats in 2003-04,

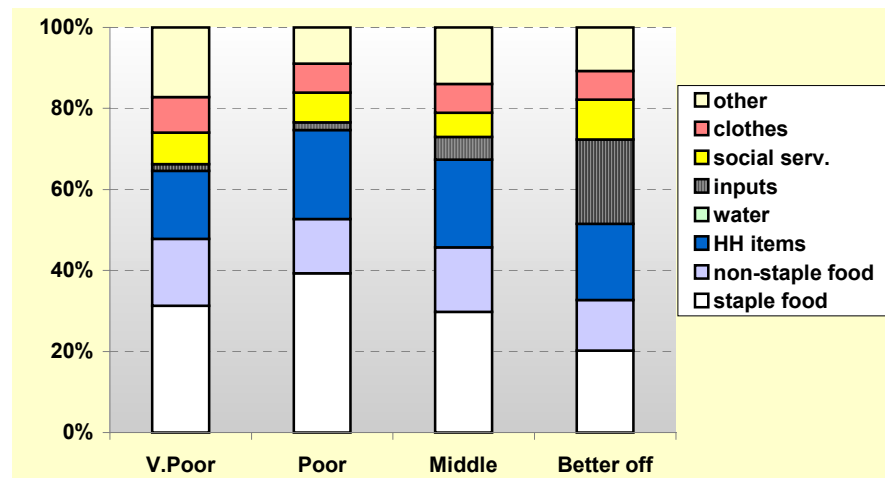
Annual income (ETB)	800-900	850-1250	1,500-2,000	2,000-3,000

and about half of middle and better off households also sold one fattened ox.

The poorer wealth groups supplement their income from crop and livestock sales with wages from local agricultural labor. Firewood sales are also a potential source of income for most households. However, cutting of firewood is prohibited by the local government, and is no longer a widespread practice in this livelihood zone in an average year. It is interesting to speculate whether the cutting of firewood would increase again if food aid provision were reduced and not replaced by another form of assistance (e.g. cash).

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category. For a number of categories, a similar percentage of income was spent by all four wealth groups (i.e. while the total amount of money spent on a particular category increased, the percentage of expenditure devoted to that category did not). The exceptions are expenditure on staple food and on inputs. Expenditure on staple foods increased from the very poor to the poor, and decreased with wealth thereafter. This reflects a number of factors including total income and purchasing power, and the amount of the food that had to be purchased to supplement



The graph provides a breakdown of total cash expenditure according to category of expenditure. 'HH (household) items' includes salt, soap, and kerosene, 'other' includes tax, social obligations and ceremonies, and 'social services' includes spending on health and education.

the other food sources (crop production and food aid).

'Inputs' include seeds, tools, livestock drugs, and payment for labor. The jump in expenditure on inputs for the better off represents additional expenditure on livestock drugs and agricultural labor. Only the better off pay for agricultural labor, while only the middle and better off wealth groups consistently reported expenditure on livestock drugs.

Hazards

The main hazards affecting the Amaro Coffee and Enset Zone are **drought** and/or **inconsistent rains**, which result in crop failure and **increased staple food prices**. Drought used to be an irregular occurrence in this livelihood zone, but has become more common, occurring every other year since 2000. Poor rainfall causes non-drought resistant crops to wither, producing little or no yield. Compounding the problem, erratic rains also promote the spread of **crop pests**, especially army worm and aphids.

Other significant hazards for the livelihood zone are those affecting coffee production and income. If there are significant changes in **coffee prices**, extensive spread of **coffee berry disease**, an outbreak of a disease that dries the coffee leaves and affects production, or extended periods of drought, these can all have a major impact on income for people in the Amaro Coffee and Enset Zone. Though many coffee plantations are irrigated, this is only sufficient to support a reduced harvest in bad years.

Livestock disease is endemic to the region as well, and is a chronic hazard with severe effects on the number of cattle (for milk) and plow oxen (for cultivation). The most serious livestock disease in this livelihood zone is trypanosomiasis. **Malaria** during the rainy season and **water shortages** during the dry season are two other chronic problems that affect health and labor availability at household level.

Response Strategies

Different wealth groups will pursue a variety of strategies when faced with a loss of food or cash income, e.g. due to drought. Expansion of **enset consumption** is common for all wealth groups in bad years. However, such expansion usually involves consumption of immature enset stems, and has a negative effect on enset holdings for future years. The middle and better off can cover most of their food purchase needs in a bad year through a combination of **livestock sales** and a **reduction in non-food purchases**. In addition to cutting back on non-food expenditure, members of poorer households may be involved in **labor migration** (younger people tend to go to Moyale to participate in mining activities or to Hagare Mariam to look for agricultural labor), or may turn to **firewood collection and sale**. It is also common during bad years for the very poor to ask for **food loans and gifts** from relatives living in the highlands. These are typically in the form of enset.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis resulting from drought/irregular rainfall. The timing of some of the hazards, such as pest infestation will vary according to the pattern of rainfall. The observation of farmers sowing later than expected or re-sowing, pest infestations, labor migration, poor conditions of crops and livestock, and high staple food prices are progressive, observable indications of the onset of drought, and are clear indications of developing crisis.

Season	Month	Indicator
Dry Season	Jan	
	Feb	
Belg rains	Mar	Late onset of rains
	Apr	Erratic rainfall and/or shortage of rains; No visible signs of crop growth Farmers re-sowing; Food prices above seasonal average
	May	Army worm infestation; People migrating to find casual employment Continued pest infestation; Wilted or immature crops; Staple food prices high People migrating to find casual employment; Distress sales of livestock
Dry Season	Jun	Consumption of immature crops
	Jul	Staple food prices high and food imported into LZ
	Aug	
Kremt rains	Sep	Late onset of rains and/or shortage of rainfall
	Oct	Erratic rainfall and/or shortage of rains; No visible signs of crop growth Farmers re-sowing; Coffee prices low (Oct-Nov)
	Nov	Poor condition of crops and livestock
Dry Season	Dec	Poor condition of crops and livestock

SNNPR Livelihood Profile

Awassa Chat and Enset Livelihood Zone

May 2005¹

Zone Description

The Awassa Chat and Enset Livelihood Zone is a cash crop area where household cash incomes are high and food production is relatively low. It is a food secure area of SNNPR that attracts migrant labor from other parts of the region.

This is a densely populated², midland (*woina dega*) livelihood zone, located in the eastern half of Awassa woreda of Sidama Administrative Zone. The northeastern parts of the livelihood zone are hilly, while the remainder is predominantly flat. The altitude ranges from about 1650 to 2200 meters above sea level. One perennial river (the Boga) crosses the zone and flows into Awassa Lake. There are many streams that cross the livelihood zone, particularly in the Wondo Genet area, and irrigated cultivation is practiced. The soil is clay

loam of dark colour and the vegetation cover is dense. Perennial food and cash crops make up a significant proportion of the vegetation cover. Sand and rock mining, hot springs and gypsum³ are major natural resources.

The zone has a bimodal rainfall pattern, with the *belg* rains falling from February – April and the *kremt* rains falling from June – October. Temperatures range from 16^oc – 28^oc.

Mixed farming is the main agricultural system in this livelihood zone. Chat, sugarcane, avocado, mango and vegetables (including tomatoes) are the main cash crops. Enset, maize, haricot beans, and Irish potatoes are the main food crops. Middle and better off households generally cultivate their land using plow oxen, whereas the poor cultivate mainly by hand. Farmers in some areas use irrigation for chat, tomato, potato and fruit production.

The types of livestock reared are cattle, shoats, and donkeys. Donkeys are important for transportation, particularly the transportation of chat to market. In addition to this, most middle and better off families have horse carts for transportation. Most grazing lands are communal and there is no migration of livestock out of the zone.

Opportunities for casual agricultural work are relatively plentiful in this livelihood zone, both for local poor households and for migrant laborers from nearby areas.

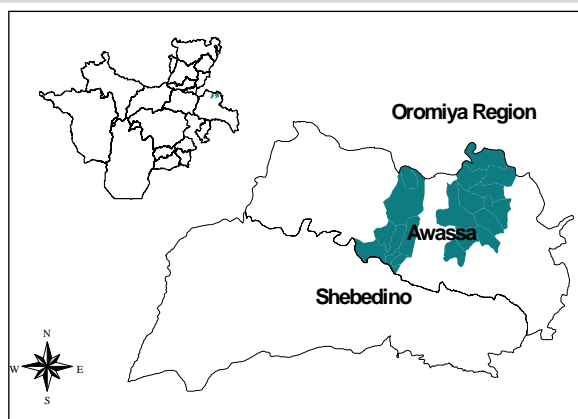
Markets

Market access is good in this livelihood zone. Most kebeles are connected to the main Addis Ababa – Moyale asphalt road by good all-weather roads and large regional markets are nearby.

The zone has easy access to well-known chat markets like Tula and Basha that operate 24 hours a day. These markets are the major suppliers of chat to Awassa and Addis Ababa and all major towns in between, including Shashamene and Nazareth. There are two ways for farmers to sell their chat: they can harvest and transport it to market themselves or they can sell their whole field to a trader who organises the harvest and transport.

Fruits and vegetables from this livelihood zone are supplied to Awassa, Shashemene, Addis Ababa and Moyale. The main markets for livestock are local woreda markets and Awassa.

Maize and enset are imported into the livelihood zone from neighboring livelihood zones: the Sidama Maize Belt and the Sidama-Gedeo Highland Enset and Barley Livelihood Zone.



¹Fieldwork for the current profile was undertaken in May 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of 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 2010).

²Population density is estimated at 456 people per square kilometer.

³ Salty soil used to feed animals.

Seasonal Calendar

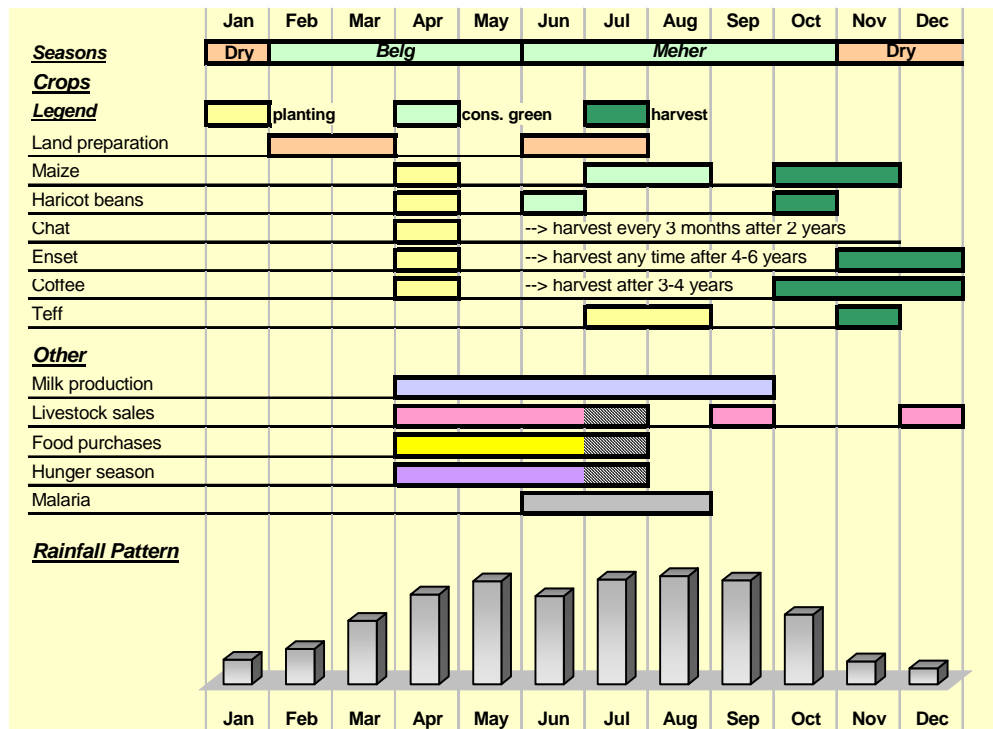
The livelihood zone has two relatively discrete rainy seasons: the *belg* rains from February to April and the *kremt* rains from June to October.

Most land preparation takes place during the first two months of the *belg* rains, with crops being planted towards the end of that rainy season. The exception is teff, which is planted during the *kremt* rains.

Food purchases peak in the months running up to the start of the green maize harvest – the annual ‘hunger’ season. This is also a period when livestock sales are high, as households sell animals in order to obtain cash to purchase food. Livestock are also sold during the main holiday periods.

The main dry harvest period begins in October and continues through December. Enset can be harvested at any time, but most harvesting occurs during the long dry season from November through January.

Malaria is worst during the rainy season, and particularly from June to August, affecting labor availability at household level during this important agricultural period.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

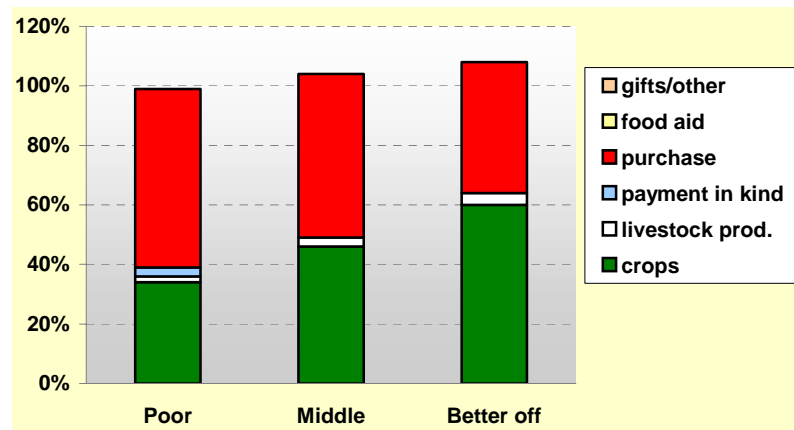
		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Poor	[bar]	6-8	~ 0.25 ha	10-30 mature enset stems; 10-20 eucalyptus trees	1-2 cattle, 1-3 goats, 1-3 sheep; 4-6 hens
Middle	[bar]	7-9	~ 0.5 ha	30-50 mature enset stems; 20-40 eucalyptus trees	0-2 oxen, 2-4 cattle, 2-4 goats, 3-5 sheep, 4-8 hens
Better-off	[bar]	8-10	~ 0.75 ha	60-120 mature enset stems; 40-80 eucalyptus trees	1-3 oxen, 4-8 cattle, 3-5 goats, 3-5 sheep, 5-10 hens
0% 10% 20% 30% 40% 50% % of population					

Land and livestock holdings are the main determinants of wealth in this livelihood zone. Cattle are the most important type of livestock because they provide food (milk and butter), cash (milk, butter and animal sales) and draft power for cultivation. Households that own relatively large areas of land also tend to have large areas planted with mature enset, eucalyptus trees and chat.

Sources of Food – An average year (2003-04)

The bar chart shows how different food sources contributed to the average yearly diet for each wealth group in an average year (July 2003 – June 2004).

The contribution of crops to food consumption increased from poor to better off, but the trend is not very marked, so that the better off still had to purchase a significant proportion of their calorie intake. This is explained partly by the larger size of better off households (so that food crop production has to be shared among a larger number of people) and partly by a focus on cash crop rather than food crop production by the better off.



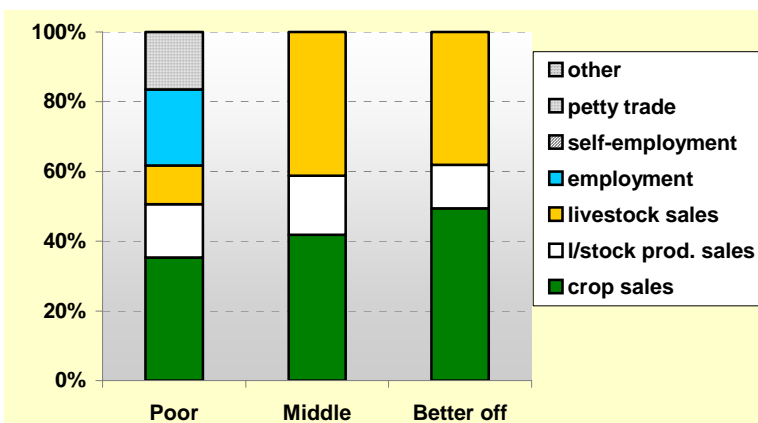
Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

All households purchased maize, *kocho*⁴, meat and pulses in the reference year. Middle and better off households also purchased wheat, teff, oil and sugar.

Households in some *kebeles*⁵ receive food aid from time to time, but this is generally for development projects rather than because of a food shortage problem. Food aid was not a typical source of food in the reference year for any wealth group.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.



Annual income (ETB)	1,500-2,500	3,500-5,500	5,500-7,500
Annual income (ETB)	1,500-2,500	3,500-5,500	5,500-7,500

to area within the livelihood zone. Some areas specialize in tomato production, while others grow avocados, sugarcane or Irish potatoes.

This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (July 2003 – June 2004). Better off households earn roughly three times that of poor households.

The middle and better off groups rely almost entirely on crop and livestock sales income. Poor households supplement these sources with casual agricultural work for better off households ('employment' in the graph) and with petty trade of small quantities of food and non-food items.

The most important crop sold by all wealth groups is chat, but coffee also makes a significant contribution to cash income.

The other crops sold tend to vary from area

⁴ *Kocho* is a form of prepared enset.

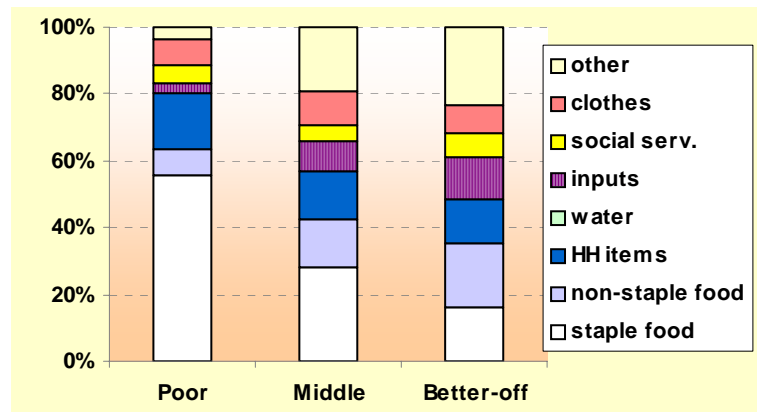
⁵ *Kebeles* are also called peasant associations (PAs) and generally represent one village.

Expenditure Patterns – An average year (2003-04)

The graph on the right presents expenditure patterns for the period from June 2003 – May 2004. The percentage of income spent on staple food declined dramatically with wealth. While poor households spent over 50% of their income on staple food, better off households spent less than 20%. In contrast, better off households spent more money (both in absolute and percentage terms) on expensive non-staple foods such as meat, teff, pulses, oil and sugar.

The 'inputs' category included seeds, tools, livestock drugs, fertilizer and payment for labor. The jump in expenditure on inputs for the better off represents additional expenditure on livestock drugs and agricultural labor. Only the better off pay for agricultural labor.

The category 'household items' included salt, soap and kerosene. 'Other' included tax, social obligations, ceremonies and savings. The category 'social services' includes spending on education and health.



The graph provides a breakdown of cash expenditure according to category of expenditure.

Hazards

According to key informants, **drought, excessive rains, crop diseases and pests, and market factors** are the main hazards that can affect households in this livelihood zone. Rainfall has reportedly been declining in recent years and this has affected crop and livestock production. Because most households in this livelihood zone depend on the market for food purchases, increased staple food prices are another periodic hazard. Since most staple food is imported into the livelihood zone, particularly during the hunger period, the most common scenario is for prices to increase when there is crop failure in the areas that supply this livelihood zone. Other significant hazards for this area are those affecting chat production and income. If there are significant declines in chat prices, extensive spread of pests (such as army worm), or extended periods of drought or excessive rains, these can all have a major impact on income for people in the Awassa Chat and Enset Livelihood Zone. Bacterial wilt is another hazard that affects enset production. Malaria during the rainy season is a chronic problem that affects health and labor availability at household level.

Response Strategies

Different wealth groups pursue a variety of strategies when faced with a loss of food or cash income due to the types of hazard mentioned above.

Expansion of **enset consumption** is common for all wealth groups in bad years. However, such expansion usually involves consumption of immature enset stems, and has a negative effect on enset holdings for future years. Only better off households have mature enset in reserve in most years.

The **reduction of non-essential expenditure** is a commonly employed strategy in bad years. Households reported reducing expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years.

Livestock sales expand in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock, but even for them this strategy has strict limits if the sale of productive animals is to be avoided.

Poor households do **more local casual work and petty trade** in bad years. Daily wages and profit rates are often lower in bad years, so this means that able-bodied households members have to intensify the number of days per week that they work.

Indicators of Imminent Crisis

Season Month Indicator

Dry	Jan	
Belg season	Feb	Delayed start to belg rains or insufficient rains -->
	March	Lack of employment opportunities for migrants suggests previous season was poor -->
	April	Severe outbreak of malaria during April - October
	May	Army work infestation, affecting all crops
Dry	Jun	Delayed start to meher rains or insufficient rains -->
	July	Delayed start to green maize harvest
	Aug	
	Sept	
	Oct	Unusually high prices for maize during and following the harvest period -->
Dry	Nov	Unusually low prices for chat during November - February
	Dec	Prevalence of pests affecting chat during November - February

The main indicators of approaching crisis include a delayed start of the rainy season or long periods without rain at critical stages of the rainy season. The observation of crop pest infestation, farmers sowing later than expected or re-sowing, poor conditions of crops and livestock, high staple food prices at unexpected times, and migrant laborers unable to obtain work are progressive, observable indications of the onset of drought, and are clear indications of a developing crisis.

SNNPR Livelihood Profile

Alaba-Mareko Lowland Pepper Livelihood Zone

June 2005¹

Zone Description

The Alaba-Mareko Lowland Pepper Livelihood Zone is a relatively food secure area of SNNPR that attracts migrant labourers from nearby livelihood zones. Households in this livelihood zone rely on long cycle crops and consequently any fluctuation in rainfall distribution during the *meher* season (either insufficient or excessive rainfall) reduces food and cash incomes at household level. However, if the rains are optimal, surplus production is possible due to the relatively fertile soils.

This livelihood zone covers a number of woredas in Hadiya, Siltie and Gurage Administrative Zones and Alaba special woreda. The landscape of the zone is flat and short indigenous shrubs, eucalyptus and acacia trees dominate the vegetation of the livelihood zone. Remote areas have a more dense vegetation cover.

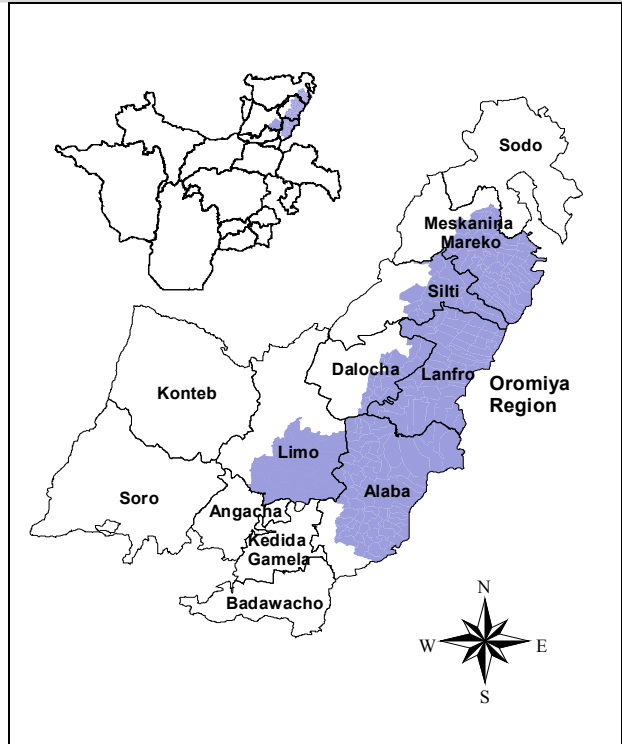
The zone is located between the high grounds of Gurage, Siltie and Hadiya to the west and the Rift Valley to the east.

While the northern part of the zone falls within the Awash/Rift Valley drainage system, the southern part belongs to the Omo drainage system. Rains in the surrounding highlands cause flooding in Shashego every year. The flooding temporarily displaces households and damages the *meher* crops. Although the flooding brings a benefit in the form of fertile soil (silt) from the highlands, it also partially submerges most of the houses, resulting in high annual maintenance costs. To control flooding, efforts are required in both the highlands and lowlands.

The zone is sparsely populated and, as a result, households own relatively large areas of land. Mixed farming is the main livelihood pattern. The cultivation of cash and food crops, as well as animal rearing, are the main sources of both food and cash income for the majority of households. The main food crop is maize and the main cash crop is pepper. Other crops include wheat, sorghum, teff and millet. The sale of pepper is the most important source of income for all wealth groups. A decline in pepper production results in reduced cash income and reduced access to purchased food and non-food items. The main livestock types reared are cattle, goats, sheep and donkeys.

Access to markets for many farmers in the zone is inadequate due to poor infrastructure and lack of affordable transportation. In addition, a good local market information network is lacking. The establishment of farmer cooperatives may help farmers acquire access to credit, technology and information. Cash employment opportunities may help households to compensate production losses and help improve access to markets in both good years and bad.

There is no labor migration out of the zone; rather, people from outside migrate into the zone in search of work. Local employment opportunities are limited, however, and are generally restricted to agricultural work. Some poor households engage in this type of work, but the majority do not.



¹Fieldwork for the current profile was undertaken in February and June 2005. The information presented refers to the consumption year from August 2003 to July 2004 (or Nehase 1995 – Hamle 1996 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

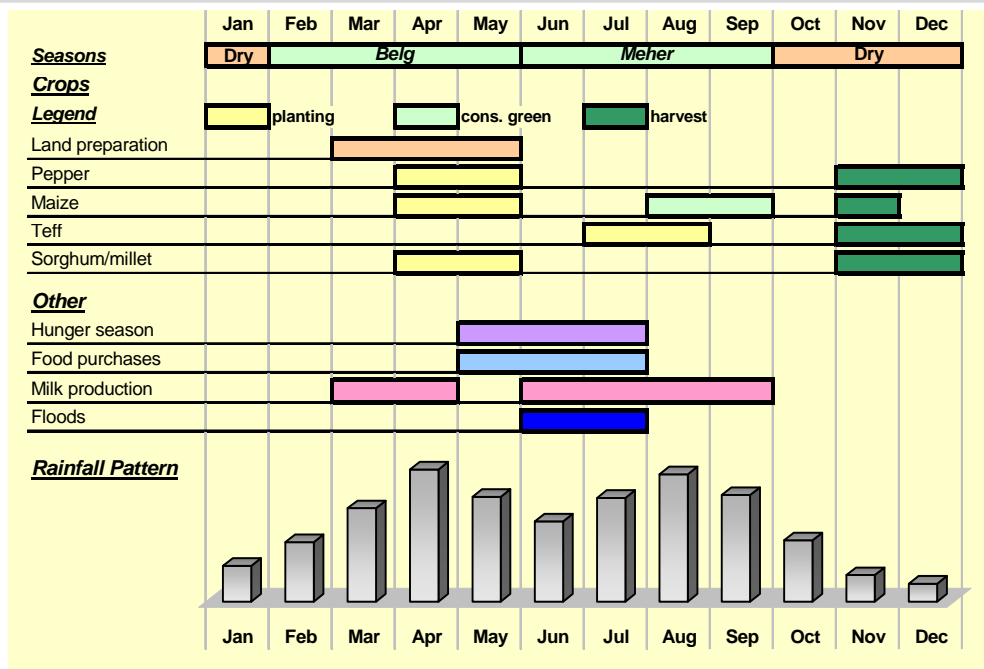
Markets

The major markets in the zone are Butajira (Meskan woreda), Worabe (Dalocha woreda), Kulito (Alaba special woreda), Koshe (Mareko woreda) and Bonesha (Shashego woreda). There is a big variation in the sphere of influence of both markets. While the range of influence of Bonesha encompasses a small geographic area, that of Butajira and Kulito stretches as far as Addis Ababa. The importance of Worabe as a market center is associated with the establishment of Siltie as a separate administrative zone in 2003. This livelihood zone is one of the major suppliers of pepper to Addis Ababa as well as other parts of the country.

Because of their central location between the densely populated south and Addis Ababa to the north and the availability of commercial facilities such as communication networks and stores, Butajira and Kulito attract pepper traders from far and wide. Although the pepper production in Shashego Woreda is as significant as in Alaba, Gurage and Siltie, bad infrastructure has deterred commercial interaction with external markets.

There are some specialized markets where specific items are exchanged. Doesha, in Shashego, is a major specialized market for livestock trade. Doesha serves as a livestock market for the local population and as a transit and centre of exchange for livestock traders from Arsi (Oromiya) and Hossana, Dalocha and Siltie.

Seasonal Calendar



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

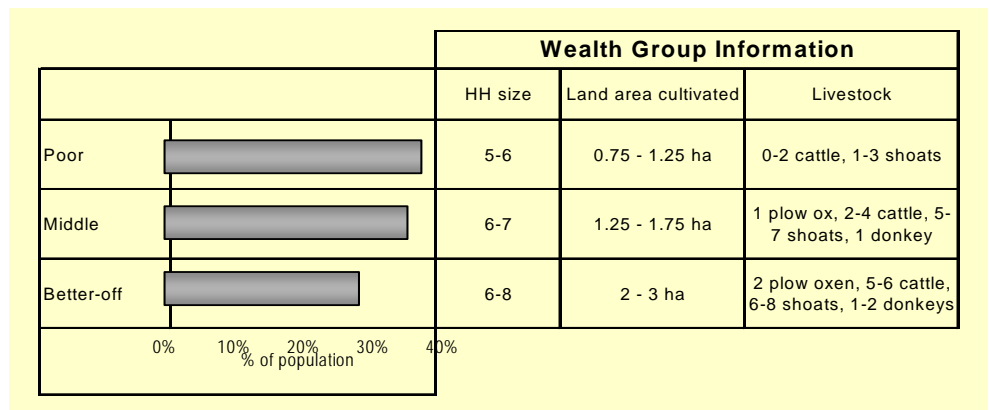
The zone depends mostly on long cycle crops and agricultural activities occur from March until November. Land preparation usually begins before the *kremt* rains and harvesting of the long cycle crops starts in November.

The months of May to July are described as the hunger season, the period when household grain reserves are depleted and households depend on the market for their food needs. As household food demand increases and market supply shrinks, food prices increase during these months.

The prices of staple foods tend to follow the agricultural season and the amount harvested. Food prices steadily increase until harvest and then decline as the harvest yields more supply. Poor production at harvest time in a bad year may prolong (or exacerbate) the period of high staple prices, just as good production will keep prices low for longer. This is also true for the main cash crop in the zone. Poorer households tend to sell their harvest immediately after harvest, while better off households may sell some of the harvest immediately and store a portion to sell later when prices are more favourable.

Wealth Breakdown

Wealth at the household level is determined primarily by two factors: (i) the size of land cultivated and (ii) the number of livestock owned. Cattle, particularly plow oxen, are the most important productive assets. By contrast, shoats are kept mainly to generate cash income on a regular basis.

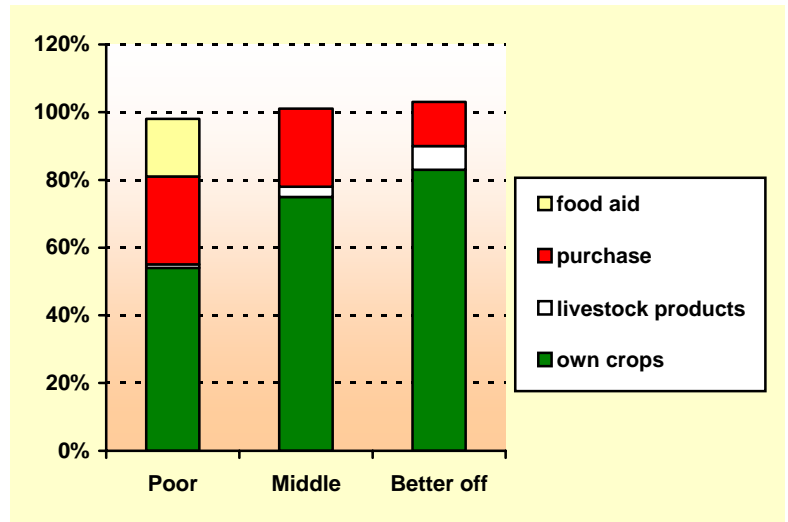


Ownership of a pair of oxen enables better off households to rent in the land of poor households for a share of half or more of the crop after harvest.

Sources of Food: An average year (2003-04)

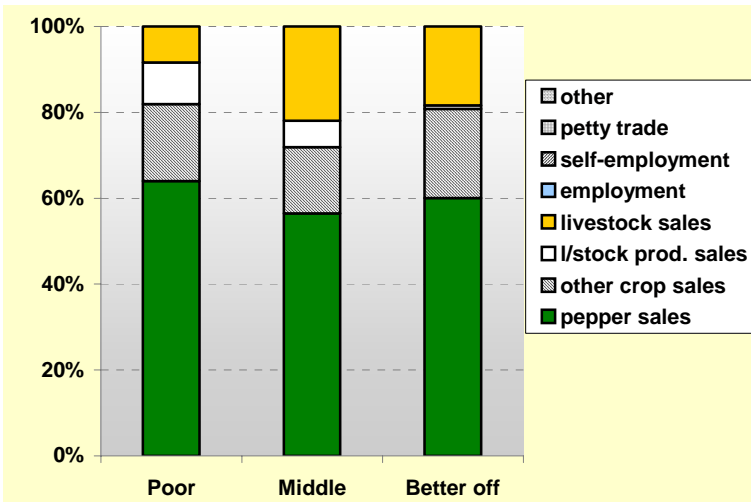
The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). Own crop production was the most important source of food for all wealth groups in that year and its contribution to annual food requirements increased with wealth. The contribution of livestock products (milk and butter) was small, but also increased with wealth. In contrast, the contribution of purchased food (mostly maize, sorghum and meat) decreased with wealth. Only poor households benefited from relief assistance.

Better off and middle households had similar options for obtaining food. However, the relative contributions of the food sources varied because of differences in land and livestock holdings and in the use of agricultural inputs.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kilocalories per person per day.

Sources of Cash: An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	800-1200	1500-2500	2500-3000

The graph presents the sources of cash income for households in different wealth groups for the period August 2003 – July 2004.² The sale of crops, livestock and livestock products (mainly butter and eggs) were the income-generating options common to all wealth groups in the reference year. The amounts of income obtained from these sources differed significantly by wealth group, however, resulting in a nearly three-fold difference in total cash income between poor and better off households.

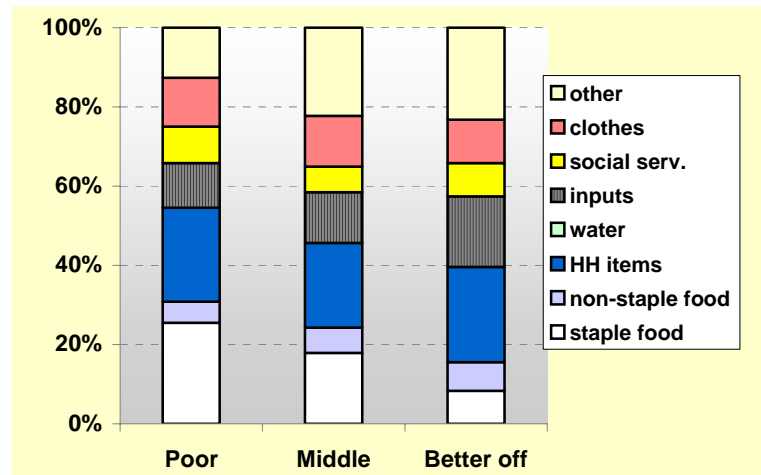
The quantities of pepper sold ranged from about 100-150 kg for poor households to 250-350 kg for better off households in the reference year. Middle and better off households typically obtained a better price for their pepper compared to poor households.

² It should be noted that incomes are slightly lower than the average in Shashego woreda than in other parts of this livelihood zone. This is because market access is difficult due to poor roads. As a result, farmers have difficulty marketing their production.

Expenditure Patterns: An average year (2003-04)

The graph presents the expenditure patterns for the period August 2003 – July 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. About a quarter of poor household income went toward the purchase of staple food, compared with less than 10% in the case of the better off.

The category 'household items' includes coffee, salt, soap, grinding and kerosene. 'Other' includes tax, social obligations, ceremonies and savings. 'Inputs' includes livestock drugs, seeds, fertilizer and, in the case of the better off, agricultural labor. Expenditure on most items (except staple food) increased with wealth.



Hazards

The main hazards affecting the zone are:

Drought. Mixed farming is the main means of livelihood and agriculture is entirely rainfed in this livelihood zone. Frequent drought has been the main cause of production failure in recent years.

Flooding. Flooding is a recurrent hazard that forces people to leave their localities in June and July every year. Flooding is always the result of the rains in the neighboring highlands. In some instances, untimely rains in the highlands cause unexpected flooding in the lowlands (particularly in Shashego woreda) and claim human and animal life.

Malaria. Malaria is one of the leading causes of morbidity throughout the year. It reduces labor availability and forces households to expend precious income on medicines. Unlike other mosquito-infested areas, malaria is not a seasonal phenomenon in this livelihood zone and occurs throughout the year.

Response Strategies

Households pursue a number of strategies to cope with hazards. The main strategies for the Alaba-Mareko Lowland Pepper Livelihood Zone are as follows:

Increased sale of livestock. This is an option for better off and middle households only, since poor households have such small livestock holdings. Most households try to maintain their productive assets until all efforts to protect asset depletion are exhausted.

Switch expenditure towards the purchase of cheaper staple foods. All wealth groups reduce non-food expenditure by either purchasing lower quality items or reducing the quantity, or both. Expenditure that is 'saved' in this way can then be used to purchase cheap staple foods.

Increased land rental. Renting and selling land was previously a common practice in this livelihood zone. Although a permanent transfer of land through sale is constitutionally prohibited, there was sale of land through traditional agreements until recently. Due to government intervention, the sale of land is no longer practiced. However, renting land to better off households is widely practiced by the poor, particularly in years of poor crop production.

Reduced number of meals per day. A shift in consumption patterns is another response strategy employed by all wealth groups. Though the extent to which the different wealth groups deviate from the normal consumption habit varies, all households tend to rely on a lower quality and quantity of food in bad years.

Short distance migration. Households residing in the flat lowlands migrate to the nearby highlands in June and July. The movement of people with their livestock is a reciprocal seasonal interdependence between the highlanders and the lowlanders. The highlanders in turn move their livestock to the lowlands to share the pasture in the lowlands during the dry season. The pasture that thrives after the floodwaters recede is generally sufficient to support local livestock as well as the livestock of the highlanders.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the lead up to a food or income crisis. There is a wide range of key indicators for the zone, including those related to rainfall, staple food prices, and the timing and quantity of harvests.

Maize is the main staple food. The consumption of green maize plays an

important role as a means of escaping the hunger season, particularly in August and September. If the belg rains are late, this delays the start of the green maize harvest and prolongs the hunger season.

As pepper is the only cash crop and the main income-generating option in this livelihood zone, production failure or decreased prices present a severe economic challenge for all wealth groups. Pepper prices are determined not only by production in this livelihood zone, but also by production in other pepper-producing areas, and should be closely monitored.

Season	Month	Indicator
Belg season	Feb	Delayed start to or failure of belg rains
	Mar	
	Apr	
Dry	May	Early cessation or poor distribution and intensity of <i>belg</i> rains
Meher season	Jun	Excessive flooding during June-July
	Jul	
	Aug	Delayed start to green maize harvest
	Sept	Early cessation or poor distribution and intensity of <i>kremt</i> rains
Dry season	Oct	Unusually high staple food prices during and after main harvest period
	Nov	
	Dec	Low prices for pepper during and after harvest period
	Jan	

SNNPR Livelihood Profile

Badewacho-Alaba Maize Livelihood Zone

March 2005¹

Zone Description

Low population density, relatively large landholdings per household, flat and fertile soils, and a *woina dega* agro-ecology together provide a conducive environment for agricultural production in the Badewacho-Alaba Maize Livelihood Zone. Mixed farming is the means of livelihood for households and agriculture is predominantly rainfed. Maize is the major food crop, and in years of good production, the zone supplies a large amount of green maize to Addis Ababa and nearby markets. However, the limiting factor to agricultural production is rainfall, and recurrent drought has been the cause of frequent production shortfalls in recent years.

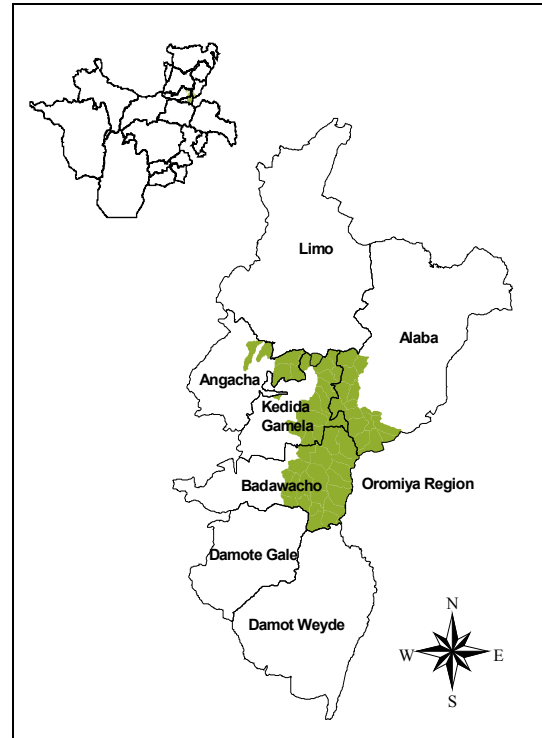
The Badewacho-Alaba Maize Livelihood Zone includes part of Alaba Special Woreda and most of Badawacho Woreda. It is located along the Addis-Arba Minch road, which is one of the major commercial lifelines of the country. Relatively good access to major nearby markets (Wolayita, Shashamene, Kulito and Awassa) and distant markets (Addis Ababa) offers a special advantage to this livelihood zone. Access to local markets is also fair, as there are two relatively large markets in Shone and Hadilo.

The landscape is flat and much of the area is deforested. Scattered indigenous shrubs and eucalyptus trees dominate the remaining vegetation.

The livelihood pattern is primarily dedicated to rainfed crop production. The main staple food crop is maize, which is supplemented with haricot beans, sorghum, and finger millet. The dominant cash crops are teff and maize. Poor households grow the same crops as middle and better off households, but to a lesser extent. Middle and better off households use improved seeds and fertilizers. Better off households employ poor household members for land preparation, weeding, harvesting and threshing. Poor households rent out their land and sell their manual labor locally to better off households. They cannot afford many agricultural inputs.

The majority of households in the zone either own or have access to some livestock. For the poor, one sheep and goat may be owned or accessed through a *yerbee* contract, whereby they look after livestock of better off households and in return are allowed to take the milk and a share of the progeny. Middle households are in a more secure position and own small stock, cattle and at least one ox. The better off have more livestock than other households, owning at least two oxen and a small herd of cattle. Livestock graze on communal grazing lands. After the harvest, farmers let the cattle roam the fields to consume the crop residues.

For all households, agricultural production is the most important food source, followed by market purchase. For the poor, food aid has been equally if not more important than purchased food in recent years. Households obtain most of their cash income from crop, livestock and livestock product sales. Poor households supplement these sources with firewood sales, small-scale petty trade, and casual employment. Casual employment includes both local agricultural work for better off households (particularly during the planting and harvesting seasons) and migratory work (in the neighboring Alaba-Mareko Lowland Pepper Livelihood Zone and on state sugarcane plantations in Oromiya).



¹Fieldwork for the current profile was undertaken in February-March 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

Markets

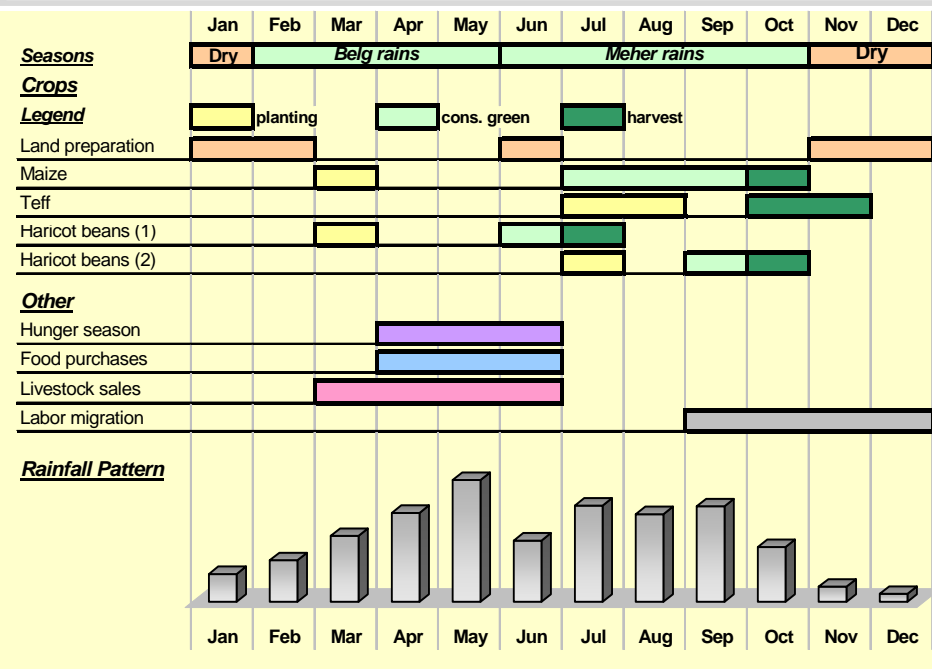
The principal food and cash crops are maize and teff and nearly every household grows these crops to a certain extent. Green maize is produced and consumed by all households, but is sold primarily by the better off and is exported outside the zone to the market in Addis Ababa. Livestock sales are also important in terms of cash income, but are more important for the middle and better off households than for poor households.

Market access for the majority of households in the zone is fair due to the tarmac road that demarcates the zone’s western border. Only households that live in the eastern part of the zone have difficulty reaching the market, especially in the rainy season when feeder road conditions are poor.

The Shone market is the largest market in the zone and is where most households go to purchase staple foods and sell agriculture and livestock products. The Hadilo market, which is situated along the main tarmac road, is the zone’s principal market for shoats.

As in many other areas in the region, agricultural production determines the market price of staple food in the zone. When there is a good harvest prices remain low until May, when household reserves become depleted. At this time, poor households rely on the purchase of maize, enset and sweet potato until the next green maize harvest.

Seasonal Calendar



Land preparation occurs before and at the start of the two rainy seasons. Maize and haricot beans are planted in March, while teff and a second season of haricot beans are planted in July. Green maize becomes available in July, together with the first bean harvest, marking the end of the hunger season. The main harvest period for maize, teff and second-season haricot beans occurs in October – November.

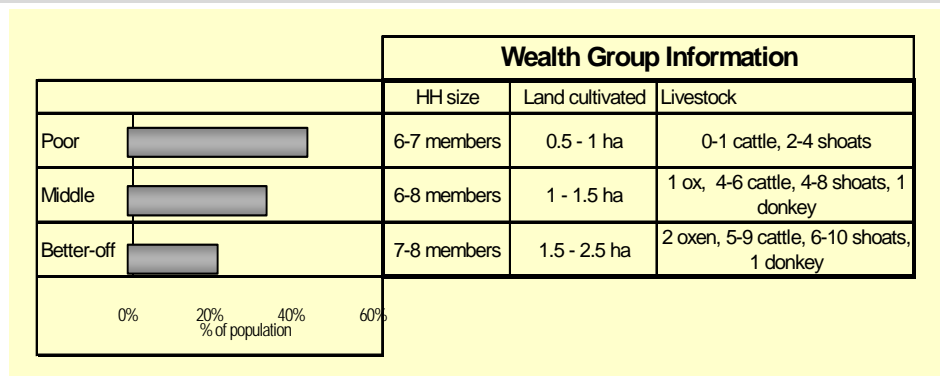
The months of April to June are the hunger season, the period when household grain reserves are depleted and many households depend on the market for their food needs. As household food

Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

demand increases and market supply shrinks, food prices increase during these months. Livestock sales peak during these months, as households sell their livestock in order to obtain cash to purchase food.

Wealth Breakdown

The main determinants of wealth in this zone are land ownership and livestock holdings. Better off households own more land and rent in additional land from poorer households. Since they usually do not have enough household members to cultivate their land, better off households hire local laborers to assist in food and cash crop cultivation. They are better able to afford agricultural



Inputs, such as improved seed (for maize and teff), inorganic fertilizers and pesticides, than other wealth groups. These households also have larger herds of livestock, including a pair of plow oxen.

Middle households cultivate less land than the better off (1-1.5 hectares) and therefore produce less food and cash crops.

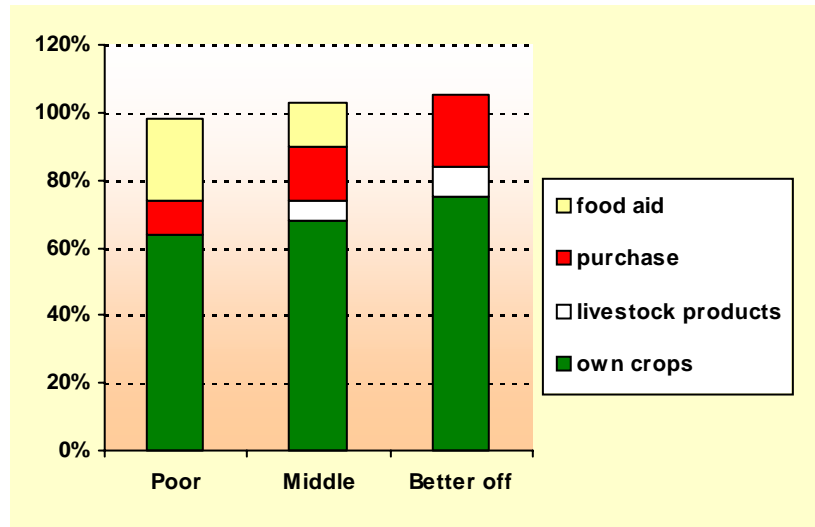
Like the better off, middle households invest in agricultural inputs, but to a lesser degree. Their livestock herd is smaller than the better off as they have limited resources (land, capital, and labor) to maintain a larger herd. Furthermore, middle households own only one plow ox. To compensate, middle households borrow and lend oxen to plow their land.

Poor households cultivate small plots of land (less than 1 hectare). Due to their limited agricultural resources (i.e. oxen and inputs), the poor rent out some of their land to the better off. On the remainder of their land, they cultivate some teff (for cash) and food crops such as maize, haricot beans, sweet potatoes and local vegetables. For the majority of poor households, livestock ownership is limited to a couple of goats or sheep and some chickens. In some areas, their livestock is held in *yerbee*. As mentioned above, this is an agreement between better off and poor households, whereby the better off give livestock to the poor, who feed them in exchange for a predetermined number of offspring. Unlike the other two wealth groups, the poor lack livestock products and obtain less income from livestock sales. Furthermore, the lack of plow oxen constrains the amount of land the poor can cultivate and, therefore, the amount of food and cash income they can obtain through crop production.

Sources of Food: An average year (2003-04)

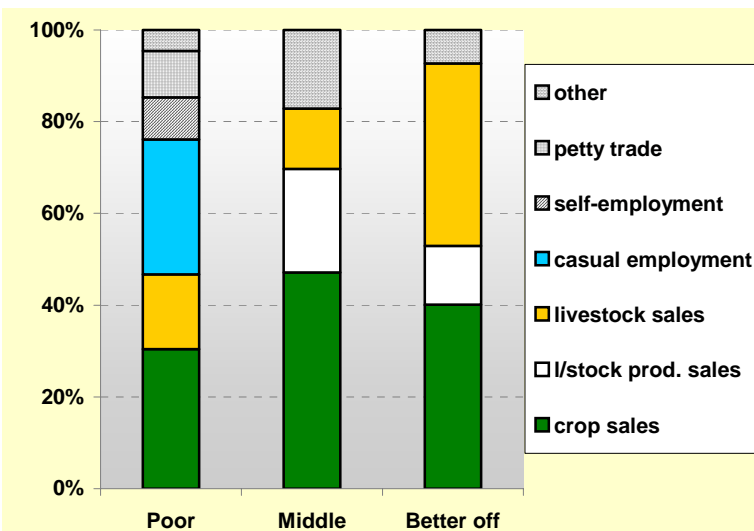
The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). Own crop production was the most important source of food for all wealth groups in that year and its contribution to annual food needs increased with wealth. If households consumed all of the teff they produced, rather than selling it, the contribution of own crop production would be much higher. However, it makes economic sense to sell teff, a high value crop, and purchase cheaper cereals.

Own crop production and market purchase were common sources of food for all wealth groups, but other options were important to specific wealth groups. Poor and middle households benefited from relief assistance, while livestock products were relevant to better off and middle households only. In recent years, food aid has been distributed every year in this livelihood zone.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kilocalories per person per day.

Sources of Cash: An average year (2003-04)



The graph provides a breakdown of annual cash income according to income source.

The graph presents the sources of cash income for households in different wealth groups for the period July 2003 – June 2004. For the better off and middle wealth groups, the sale of own crops, livestock and livestock products were the most important means of generating cash income. These households also obtained some income from ‘other’ sources, including the sale of eucalyptus poles and straw.

Casual employment, both local and migratory, was the main alternative cash income source for poor households. Any hazard affecting crops not only affects their own crop production but also their income from local employment, as better off households tend to employ less external labor in bad years.

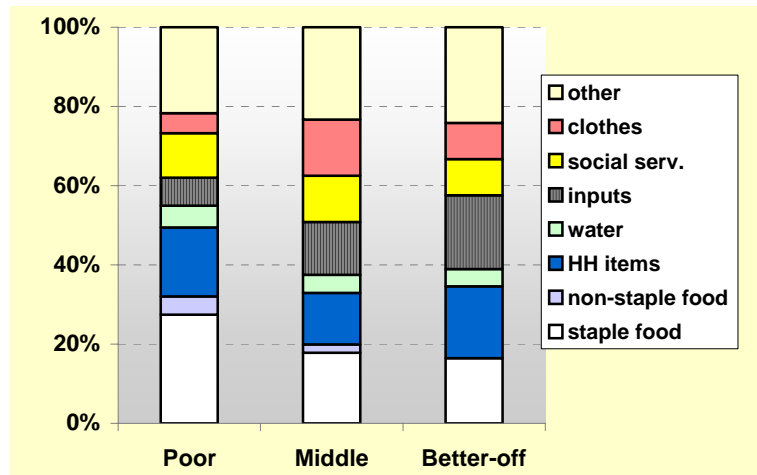
Poor households supplemented their main income sources with self-employment and other income sources, which include firewood sales, very small-scale trading and renting out their land.

Annual income (ETB)	800-1200	1500-2000	2500-3000

Expenditure Patterns: An average year (2003-04)

The graph presents the expenditure patterns for the period July 2003 – June 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. About 25-30% of poor household income went toward the purchase of staple food, compared with about 15% in the case of the better off.

The category 'household items' includes coffee, salt, soap, grinding and kerosene. 'Other' includes tax, social obligations, ceremonies and savings. 'Inputs' includes livestock drugs, seeds, and fertilizer. Expenditure on most items (except staple food) increased with wealth. Unlike many other livelihood zones, households expend money on water in this livelihood zone.



Hazards

The main hazards affecting the zone are:

Erratic rains. Mixed farming is the main means of livelihood and agriculture is entirely rainfed in this livelihood zone. Inadequate and uneven distribution of rainfall is the major recurrent hazard that affects crop production. In addition, hailstorms in August – October can damage crops.

Crop pests. Stalk borer is a problem for maize production in this livelihood zone, reducing yields in some years.

Response Strategies

Households pursue a number of strategies to try and cope with hazards. The main strategies for the Badewacho-Alaba Maize Livelihood Zone are as follows:

Increased sale of livestock. Middle and better off households may increase the sale of their livestock in order to purchase more food. Middle may sell 1 or 2 extra goats, while better off households may be able to sell more shoats and possibly a calf. If the situation is serious they may sell more livestock and possibly an ox.

Switch expenditure towards the purchase of cheaper staple foods. All households in the zone may reduce their non-food expenditure to purchase more food, and also may buy cheaper foods such as kocho (enset 'bread'), sweet and Irish potatoes.

Increased land rental. Poor households rent out all of their cultivable land and increase their labor sales in bad years. Middle households sometimes also implement this strategy, especially if they forecast a poor harvest.

Firewood sales. Although the poor normally rely on firewood sales as a source of cash income, they may increase firewood sales either by cutting their own tree reserves or wild trees.

Increased sale of labor. This is an important strategy employed mostly by poorer households, but middle households may also sell their labor. Within the zone, labor is expanded to the off-farm sector, road construction, and/or development projects, if available. Many laborers also migrate to the sugar plantations in Wonji and Methara to find work.

Increased grain trade. Households buy cheaper staple foods in the market in Serado and transport them to the more expensive market in Shone. This option is often employed by the middle and better off households, but some poorer households may borrow cash from other to respond similarly.

Forage for wild foods for livestock. In years when pasture is insufficient, middle and better off households may forage for livestock fodder. In most cases they select the leaves of the fig tree that is found in the zone.

Indicators of Imminent Crisis

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Belg season	Feb	Delayed availability and high prices for <i>belg</i> season inputs
	Mar	Delayed start to, or failure of, the <i>belg</i> rains
	Apr	High maize prices and low livestock prices in April- June
	May	High maize prices and low livestock prices in April- June
	Jun	Delayed start to, or failure of, the <i>kremt</i> rains. Delayed green bean harvest
Meher season	Jul	Delayed start to green maize harvest. Delayed availability of <i>meher</i> season inputs
	Aug	Irregular or excessive rainfall and hailstorms (Aug - Oct). Crop pest infestation (Aug - Sept)
	Sept	Abnormally large numbers of people migrate for work (Sept - Dec)
	Oct	Excessive rainfall damages dry harvest. Failure of <i>meher</i> season harvests
Dry season	Nov	High cereal prices during and after main harvest period
	Dec	High cereal prices during and after main harvest period
	Jan	

The graphic presents the likely sequence of indicators in the lead up to a food or income crisis. There is a wide range of key indicators for the zone, including those related to rainfall, staple food and livestock prices, labor migration, crop pests and the timing and quantity of harvests.

Maize is the main staple food. The consumption of green maize plays an important role as a means of escaping the hunger season, particularly in August and September. If the *belg* rains are late, this delays the start of the green maize harvest and prolongs the hunger season.

SNNPR Livelihood Profile

Bilate Basin Agro-Pastoral Livelihood Zone

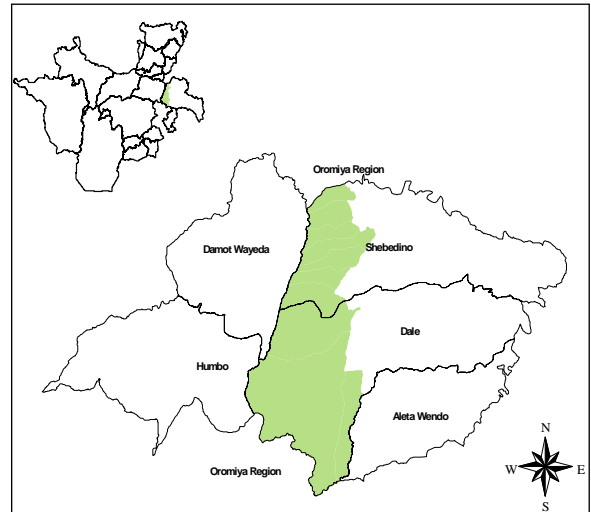
May 2005¹

Zone Description

The Bilate Basin Agro-Pastoral Livelihood Zone is sparsely populated and relatively food secure. Households have large livestock holdings compared to neighboring agricultural livelihood zones, in addition to both rainfed and irrigated land. Rainfall, however, is irregular and serious livestock and human diseases are endemic.

This small livelihood zone covers the western lowlands of Boricha and Dale woredas in Sidama Administrative Zone. The southern part of the livelihood zone borders Oromiya Region.

The topography of the zone is mainly flat, with a gentle decline from east to west, where the large perennial Bilate River provides a boundary. The altitude range is from 560-1700 meters above sea level. Lower areas of the livelihood zone are covered with relatively dense



bush, while higher altitude areas have less vegetation cover. Farmers plant along the river and use the area between high cliffs to the east and the river to the west for grazing in a communal grazing area with lots of bush and grass. The soil type is mainly sandy loam of grey colour and, because it is susceptible to erosion, gullies and gorges cross the zone. The zone is full of termite hills, which affects the availability of cultivable and grazing land.

This is a low rainfall area with a sporadic rainfall pattern during the two rainy seasons. The *belg* rains fall from February to April and the *kremt* rains from July to early October. Temperatures are relatively hot, ranging from 26^oc - 33^oc.

The zone is agro-pastoral, but the pastoralist way of life is dominant. Households live together and share resources in common. They have significant livestock numbers per household, and livestock and livestock product sales are the main cash income sources. The types of livestock reared in the zone are cattle, goats, sheep, and donkeys (in descending order of importance). There is a large amount of communal grazing land in the Bilate Valley, which attracts additional livestock from the neighboring Sidama Maize Belt. There is no outmigration of livestock.

The main staple food crops in the zone are maize, haricot beans, kocho, and sweet potato, all produced in relatively small amounts. Chat is an income-generating crop in the higher-altitude areas of the zone, but it is not typical of the zone as a whole. Farmers use animal traction to plow their land and they have both rainfed and irrigated land.

Excessive rains are beneficial in one sense, allowing pasture to flourish, and detrimental in another sense, flooding irrigated crops. The opposite is true in drought years: livestock, pasture and rainfed crops suffer, while irrigated crops thrive. On balance, agro-pastoralists in this livelihood zone prefer to have heavy rains, reflecting the importance of livestock over crops.

In recent years there has been a lack of services from the woreda – due to a disagreement about whether the area should be part of Sidama or Wolayita Administrative Zones – but this is now being resolved. The implication was a lack of support to education, health care, agricultural extension and inputs.

Because the area is very far from the central markets of the region, market accessibility is not good and livestock are sold at relatively low prices.

There is no labor migration but local agricultural labor is common. Poor household members are involved in plowing, weeding and harvesting activities for better off farmers.

¹Fieldwork for the current profile was undertaken in May 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of 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 2010).

Markets

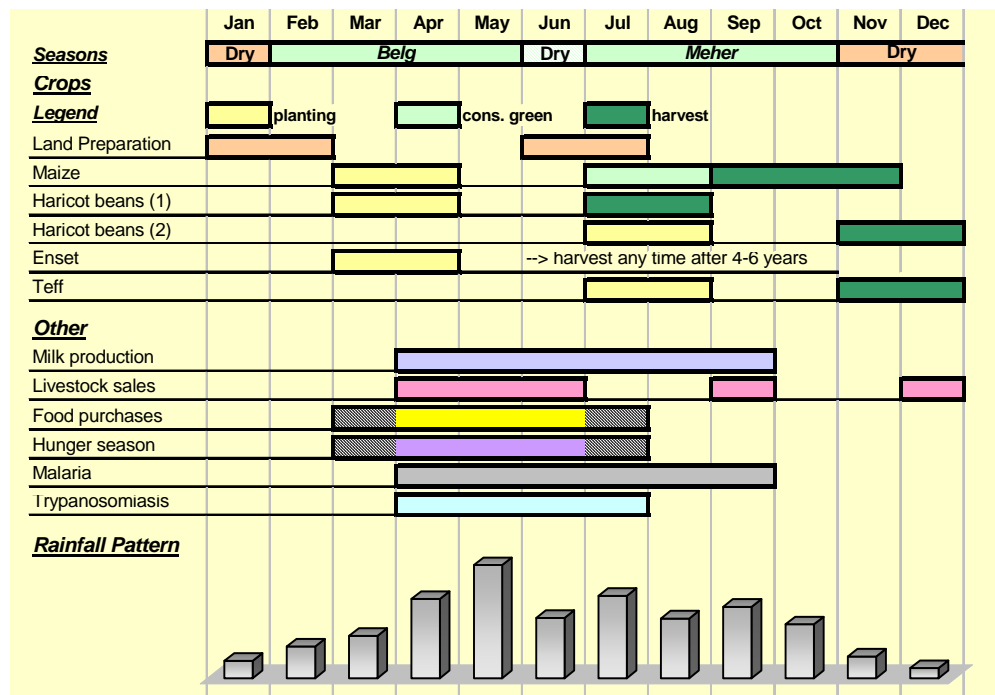
This livelihood zone is far from the main regional markets and road connections are poor, resulting in difficult market access. Households generally obtain low prices for the items that they sell (especially livestock) and pay high prices for the things that they purchase (including staple food and basic household items). Since maize production is low in this livelihood zone, traders supply maize to local markets from the neighboring Sidama Maize Belt Livelihood Zone. The major markets for crops and livestock are found at Derara in Boricha woreda of Sidama Administrative Zone and Humbo woreda in Wolayita Administrative Zone. Humbo is very near to the zone while the Derara market is relatively far (about 30 km). The main destination markets for livestock are Awassa and Dilla.

Seasonal Calendar

The two rainy seasons are the *belg* rains, which fall from February to April, and the *kremt* rains, which fall from July to October. Most land preparation work occurs in the months leading up to these two rainy seasons. Maize, haricot beans and enset are planted during the *belg* rains, while teff and second-season haricot beans are planted during the *meher* season. The main harvest period for maize is September to November.

The hunger season and staple food prices peak in April to June, the months running up to the start of the green maize harvest. Livestock sales are also common during these months because households require cash to purchase food. Livestock sales also occur during the main holiday periods.

Malaria occurs throughout the year, but is worst from April to September. Other human diseases tend not to show a distinct seasonal pattern. Trypanosomiasis is the main livestock disease affecting cattle and it peaks from April to July.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

	Wealth Group Information		
	HH size	Land area cultivated	Livestock
Poor	5-7	0.5 - 1 ha	1-5 cattle; 3-7 shoats; 1 donkey
Middle	7-9	0.75 - 1.25 ha	10-30 cattle; 10-20 shoats; 1-3 donkeys
Better-off	9-11	1.5 - 2 ha	30-70 cattle; 30-40 shoats; 2-4 donkeys

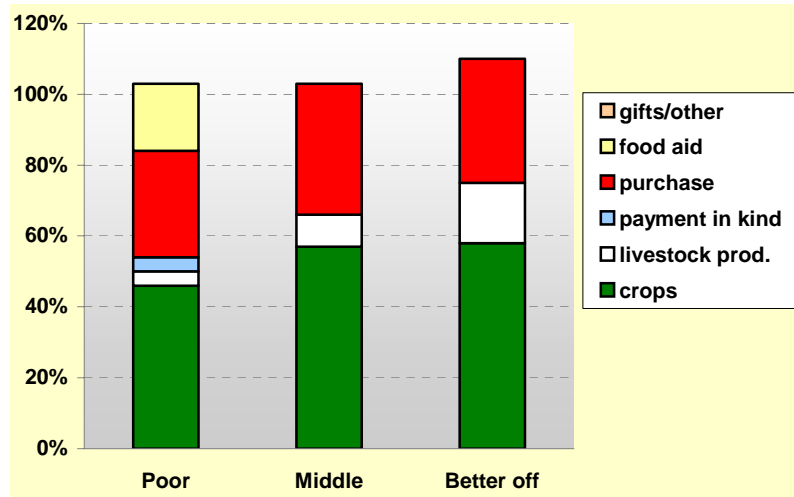
0% 10% 20% 30% 40% 50%
% of population

Wealth in the Bilate Basin Agro-Pastoral Livelihood Zone is determined primarily by livestock holdings, particularly cattle holdings. The area of land that a household owns and cultivates is secondary to this.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Bilate Basin Agro-Pastoral Livelihood Zone for the period July 2003 – June 2004. July represents the start of the consumption year because that is when the green maize harvest starts, marking the end of the annual hunger season.

The contribution of own crop production increases with wealth, but not markedly so. This is partly because household sizes increase significantly with wealth and partly because the better off spend more time tending their livestock than their crops. The main rainfed crops are maize, haricot beans, enset and teff. The main irrigated crops are maize, haricot beans and sweet potatoes.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kilocalories per person per day.

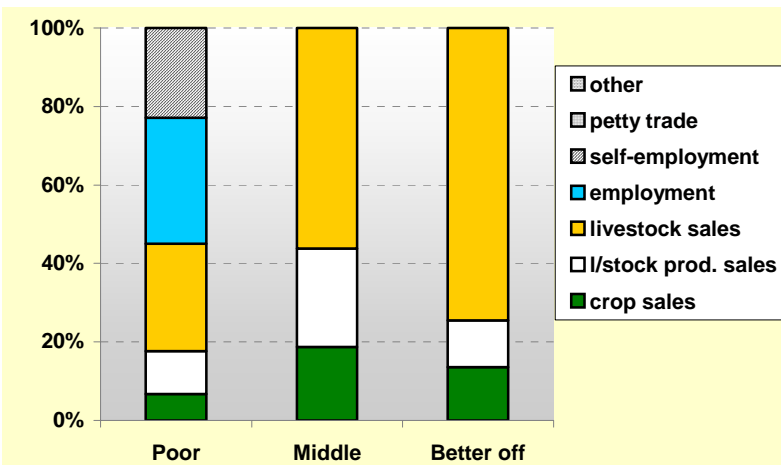
The contribution of livestock products (milk, butter and meat) increases with wealth and is large compared to neighboring livelihood zones, as one would expect when comparing an agro-pastoral zone with mixed farming zones.

The percentage of food purchase is fairly similar across wealth groups, primarily because poor households received food aid in the reference year, thus reducing their need to purchase food. The main foods purchased were maize, kocho from enset, haricot beans, and meat.

Poor households received significant amounts of food aid in the reference year, even though it was not a particularly bad year. The main explanation for this was that the previous year (2002-03) was a bad year and some of the relief was distributed with the aim of 'recovery'.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.



Annual income (ETB)	1,500-2,500	3,000 – 5,000	5,000-7,000

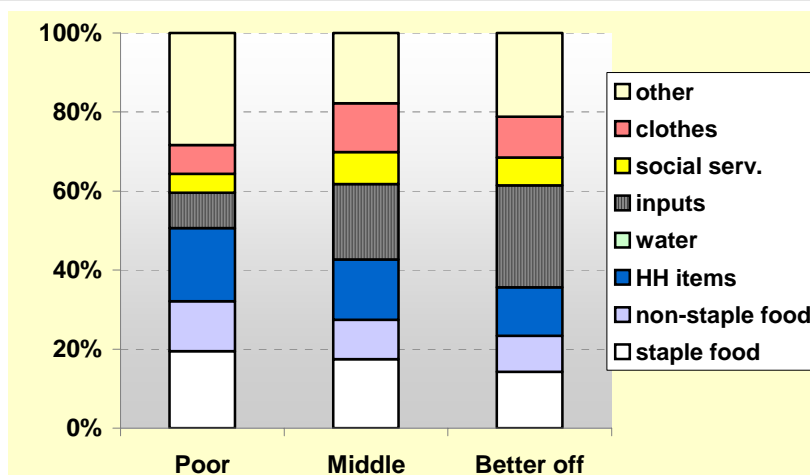
The graph presents the sources of cash income for households in different wealth groups for the period July 2003 – June 2004. Middle and better off households obtained most of their income from livestock and livestock product sales. This was supplemented with income from the sale of small amounts of maize, haricot beans and teff.

Poor households also obtained income from these sources, but in smaller amounts and their total contribution to household income was less than 50%. Other income sources for the poor included casual agricultural employment for better off farmers and firewood sales (which is called 'self-employment' in the graph).

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period July 2003 – June 2004. Expenditure on staple and non-staple food, and on household items, declined as a proportion of income as wealth increased. However, expenditure on inputs (including livestock drugs, seeds and fertilizer) greatly increased with wealth.

The category 'household items' includes salt, soap and kerosene. 'Other' includes tax, social obligations, ceremonies and savings. The category 'social services' includes spending on education and health. In absolute *birr* terms, expenditure on all items increased with wealth in the reference year.



The graph provides a breakdown of cash expenditure according to category of expenditure.

Hazards

The main periodic hazard that affects the zone is **drought**, which results in crop failure and increased staple food prices. **Livestock diseases** are a chronic hazard, with trypanosomiasis leading the complaints of farmers in all areas of the livelihood zone. **Malaria** during the rainy season is another chronic problem that affects health and labor availability at household level. **Flooding** along the Bilate River is generally regarded as beneficial, since it increases pasture availability and livestock production, even though it may damage crop production.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards. Chief amongst these is **increased livestock sales**. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock. Poor households seek out **more local casual work** in bad years. Daily wages are often lower in bad years, so this means that able-bodied household members have to intensify the number of days per week that they work. The **increased consumption of enset** is a bad year strategy for all households, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production (since enset takes 4-6 years to mature). All households also have the option of **reducing non-essential expenditure** on items such as clothes, kerosene, meat and ceremonies, in order to spend more money on staple food.

Indicators of Imminent Crisis

Dry	Jan	Late onset and insufficient belg rains -->
Belg season	Feb	
	March	
Dry	April	Severe infestation of tsetse flies that causes trypanosomiasis (April - July)
	May	Prevalence of army worm in May reduces crop production
	June	Severe malaria outbreak in April - September
Meher season	July	Late onset and insufficient kremt rains ->
	Aug	High maize prices continue into harvest season -->
	Sept	
Dry	Nov	Unusual reduction in water in Bilate River from November to March -->
	Dec	

The main early warning indicators include a delayed start to the rainy season or long periods without rain at critical stages during the rainy season, both of which can result in reduced crop and livestock production. The unusually severe prevalence of trypanosomiasis, malaria or army worm can also cause problems at household level. Since households purchase some of their food each year, unusually high maize prices are also an indication of a worsening food security situation.

SNNPR Livelihood Profile

Bench-Kaffa Cereal and Enset Livelihood Zone

July 2005¹

Zone Description

The Bench-Keffa Cereal and Enset Livelihood Zone is a food secure area of Western SNNPR that covers an extensive area of both Bench Maji and Kaffa Administrative Zones. It includes parts of Bench, Shey Bench, and Meanit Goldia woredas in Bench Maji Administrative Zone, and most of Chena and Bita woredas in Kaffa Administrative Zone. The livelihood zone is bordered by the Western Forest Products and Western Coffee and Spices Livelihood Zones and has similar characteristics to these two zones regarding rainfall distribution and amount (reliable and plentiful), although deforestation and soil degradation are more common than in those neighboring zones. Most of the livelihood zone falls in the midland (*woina dega*) agro-ecological zone and temperatures are moderate throughout the year.

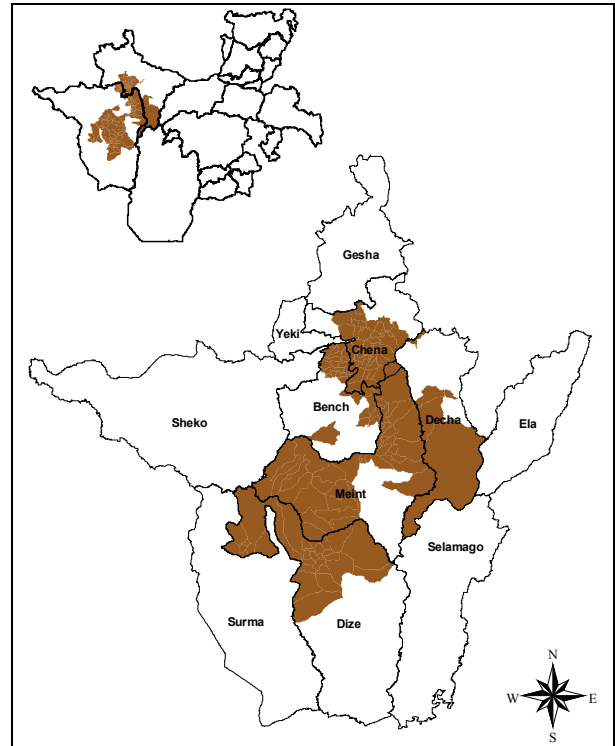
Households in this zone do not produce cash crops, relying instead on cereal (primarily maize) and enset production for both food and cash income. Livestock are also important and cattle, sheep and horses are the main livestock types reared in the zone. Oxen are used for land preparation and horses are essential for the transport of crops and for trading in the rainy season.

The major threats to production are crop and livestock diseases, crop pests, wild animal raids on both crops and livestock, and poor access to markets for some cereals.

The presence of large plantations in the neighboring livelihood zones creates an opportunity for poor laborers to out-migrate to these areas. However, there is no tradition of labor migration from the zone and most poor households do not avail of this opportunity due to cultural barriers. Instead, they tend to find casual work locally in most years and only a few migrate during the coffee harvesting season.

The Bench, Meanit and Kaffa are the main ethnic groups living in this livelihood zone. Other groups include immigrants that have settled in some parts of the zone, who are mainly found in Bita woreda. Most of them originally came from Amhara, Oromiya and Tigray Regions. There are also ethnic minorities living under serious discrimination.² These people belong to the *Menja* tribe and are settled in Kaffa Administrative Zone. Attempts made during this baseline work to interview poor households belonging to the *Menja* tribe failed twice. The team is therefore not confident that this report is representative of the livelihood patterns of this minority group.

Market access varies from one part of the livelihood zone to another and is generally better in western areas. Infrastructure is good for most woredas except for Shey Bench and Meanit Goldia, which would benefit from the development of rural roads.



Markets

The administrative zone and woreda towns are the major market centres for the livelihood zone. Accessibility to these markets declines as one moves from west to east. The west is crossed by a major road that connects Jimma with Mizan Teferi, via Bonga. Rural kebeles in the western part of the zone have access to these major market towns due to physical proximity and the availability of roads and transportation. Those in the extreme east are distant from market centres and do not have road access, particularly during the rainy season. The eastern part therefore suffers from a lack of market for

¹ Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of 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 2010).

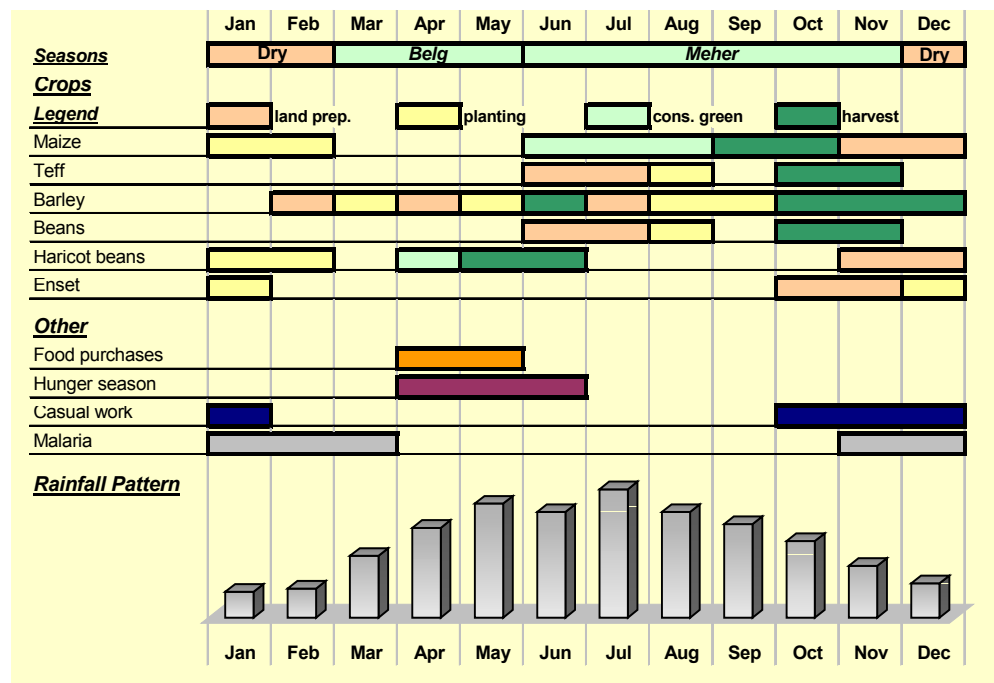
² They cannot enter the house of, or shake hands with, someone from another ethnic group.

maize (the major cereal crop of the zone) and for livestock and livestock products. There are, however, a number of primary markets where people exchange crops and other commodities at village level.

Seasonal Calendar

This livelihood zone receives moderate to heavy rainfall for nine months of the year, from March to November. A few places also receive small amounts of rain in December and February.

Land preparation work is done at various times of the year, depending on the crop. Maize is planted from December to February and green consumption starts in mid-June. The main month for green maize consumption, however, is July. Maize and haricot beans are mostly intercropped. Barley is planted and harvested three times a year, but a good yield is obtained only from the October – December harvest. Though it is sometimes eaten before maturity, enset takes 4-6 years to mature and can be harvested at any time.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Some poor households face food shortages in the months before the start of green maize consumption (April – June). Households in this livelihood zone rarely purchase staple food, but those who face a problem in a particular year are most likely to purchase in April - May.

Malaria prevails throughout the year, and due to the vastness of the zone it peaks at different times in different areas. However, the months at the beginning and at the end of the rainy season are generally peak periods for malaria.

Wealth Breakdown

The major determinants of wealth at household level in this livelihood zone are area of land cultivated and number of livestock owned. Poor households typically cultivate less than a hectare of land whilst the better off cultivate up to 5 hectares.

	Wealth Group Information		
	HH size	Land area cultivated	Livestock
Poor	4-6	0.75 - 1 ha	0-1 plow ox, 1-3 cattle, 1-3 sheep
Middle	5-7	2 - 3 ha	1-3 plow oxen, 4-5 cattle, 3-4 sheep, 0-1 horse
Better-off	7-8	4 - 5 ha	2-4 plow oxen, 6-10 cattle, 4-6 sheep, 1-2 horses

0% 20% 40% 60%
% of population

Better off households tend to be larger than the households of other wealth groups, mainly because they are more likely to be polygamous. They typically own more than one pair of oxen, which gives them an advantage over the other groups within the community. First, they are able to carry out agricultural activities in a timely manner, resulting in higher yields from their land. Second, they are able to rent in land from poor households or to enter sharecropping agreements with the poor. In both cases they benefit from either the additional land they acquire or the share of crop they receive. Third, they can obtain additional labor by pairing an ox with poor households. Better off households also own more cattle and sheep than the other groups. This influences the amount of livestock products they produce and the income options they have from these assets. On average the better off own 1-2 horses. These animals are used for transportation during the

harvesting period and can be rented out to gain income.

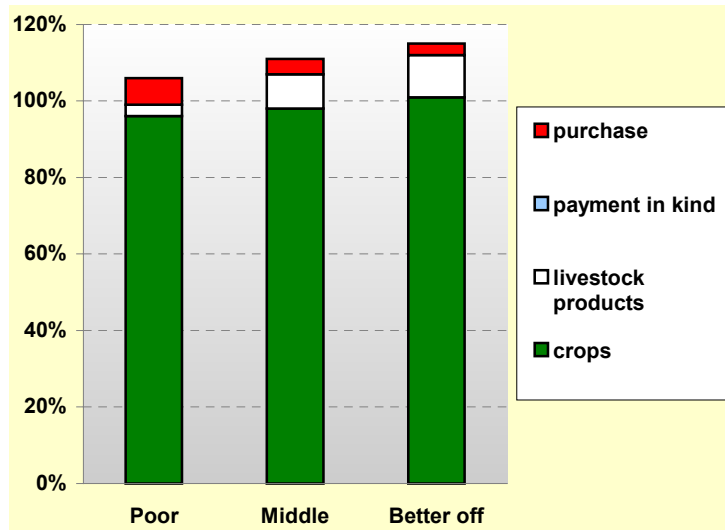
Middle households own an average of 2 oxen. This enables them to cultivate their land at the right time. Like better off households, they are also able to rent in the land of poor households. Some poor households own an ox, while others do not. Those with 1 ox must find ways to gain access to another ox for plowing. Some enter into sharecropping agreements with middle or better off households. However, as this greatly affects the amount of production they obtain, most enter into an agreement to share oxen with another household belonging to the same wealth group. Poor households that do not own an ox either work in exchange for oxen usage or enter into sharecropping arrangements with better off households. The yields obtained in an average year for this group are lower compared to the better off and middle due to the inability to carry out all agricultural activities in a timely manner. Poor households also own a smaller number of cattle and sheep and have no horses.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in Bench-Kaffa Cereal and Enset Livelihood Zone for the period July 2003 – June 2004. In most areas of the livelihood zone, it was an average year (which, in fact, means a good year in this part of SNNPR, since bad years are relatively unknown).

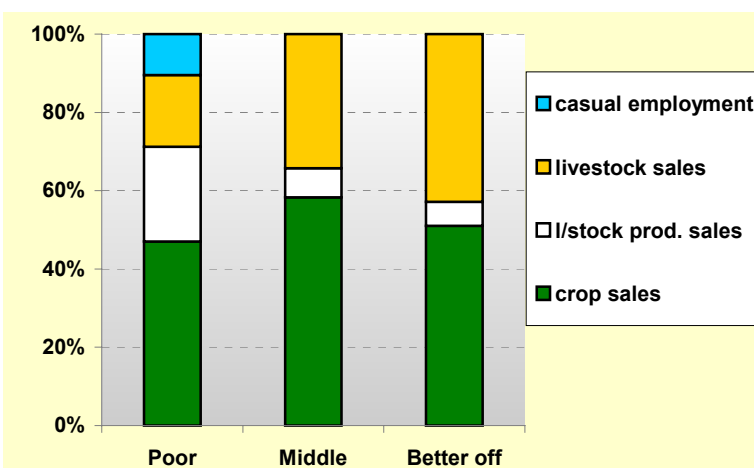
Households in all wealth groups obtained most of their food from own crop production in the reference year. Poor and middle households obtained 95 – 100% of their annual food requirements from own production, whereas better off households obtained more than 100%.

The contribution of livestock products also increased with wealth. In contrast, the contribution of purchased food decreased with wealth. There was no staple purchase by any wealth group in the reference year, since they generally produced adequate staple food from their own production.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of annual cash income according to income source.

Annual income (ETB)	900-1,500	2,000-3,000	3,000 - 3,500

animal sales, the middle and better off sold cattle in the reference year, whilst the poor only sold sheep.

The ownership of livestock by better off households clearly separates them from the poor wealth group in terms of the amount of cash income they can earn on an annual basis. In addition to the animals they keep and sell themselves, they benefit from half the income gained through the sale of 'adero' animals (which are animals kept under a special agreement whereby the poor tend animals of the better off and earn an equal share of the offspring).

Compared to other zones in Western SNNPR, the income gap between the poor and the better off was narrow in the reference year. The better off earned roughly 2 to 3 times the income of the poor. Crop and livestock sales were the major income earners for middle and better of households.

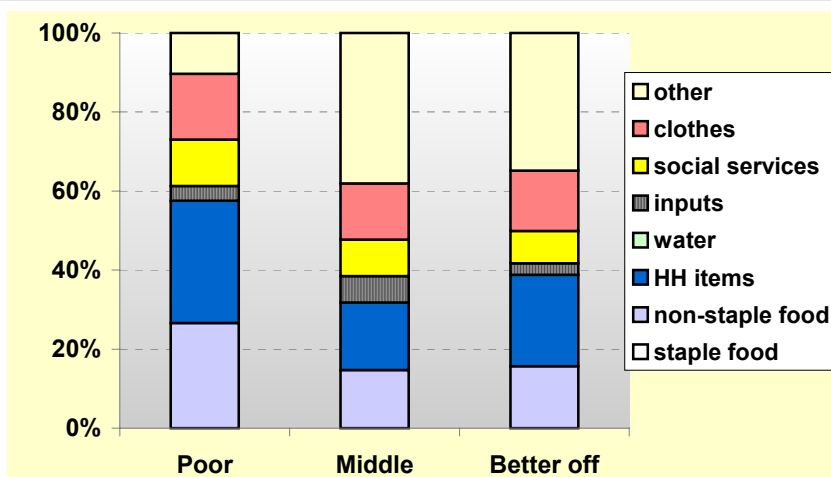
The income sources of the poor were slightly more diversified. They earned income from labor in addition to crop and livestock sales. However, labor options for the poor were not equal in all corners of the livelihood zone. Those in the west benefited from labor opportunities at nearby plantations and private farms, while daily casual work for the local better off was more common in the east.

Livestock products were an important cash earner for poor households. They sold most of the butter they produced. In terms of live

Expenditure Patterns – An average year (2003-04)

The graph presents the expenditure patterns of households in different wealth groups for the period July 2003 – June 2004. Expenditure items were similar across all wealth groups. Households did not purchase staple food during the reference year. The amount of cash spent on each expenditure category increased with wealth (in absolute *birr* terms).

The category ‘household items’ included coffee, salt, soap, kerosene and grinding. ‘Other’ included tax, social obligations, festivals, ceremonies, local drinks and savings. ‘Inputs’ included livestock drugs and seeds. ‘Social services’ included spending on education and health.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This livelihood zone is subject to a number of periodic and chronic hazards. **Crop diseases and pests** reduce crop production. Enset production is affected by bacterial wilt disease and by rodents (such as squirrels). All crops are also subject to damage by wild animals (particularly monkeys).

Household income levels suffer when **market prices** for the crops and livestock that they sell are low. The price of maize has been low in recent years due a combination of high production and lack of external demand, which is discouraging for farmers. In some years, maize is fed to livestock because of a lack of market.

Although rainfall is generally reliable, the **delayed onset of the rainy season** delays planting and also harvesting, thus prolonging the hunger season for poor households. In contrast, excessively **heavy rainfall during the main harvest** periods can damage crops for all wealth groups.

Livestock diseases (such as trypanosomiasis and blackleg) and **wild animals** are serious hazards to livestock production.

Response Strategies

Western SNNPR in general is not an area of food deficit. There is no recorded ‘bad year’ in recent decades. However, households in this livelihood zone have both potential short-term strategies (which are largely unutilized) and widely practiced long-term strategies to respond to hazards that reduce their food or cash income.

In the short term, the potential strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years in other parts of SNNPR. Households can reportedly reduce expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Generally, all wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, households can **expand livestock sales** and **increase consumption of enset**, but there are strict limits to these strategies if households are to avoid unsustainably depleting their enset reserves and livestock holdings.

In the longer-term, households respond to many of the hazards mentioned above by **adapting their cultivation practices**. Farmers attempt to select resistant species of enset to protect their production from bacterial wilt. They plant enset densely to protect the stems from rodents (squirrels). In addition, they withdraw their children from school to herd livestock and protect crops from wildlife.

Indicators of Imminent Crisis

Season **Month** **Indicator**

Season	Month	Indicator
Rainy season	March	Delayed start to rainy season delays planting
	April	Erratic rainfall during rainy season affects crop development -->
	May	
	Jun	Delayed start to green maize harvest prolongs hunger season
	July	Trypanosomiasis affects livestock production
	Aug	Trypanosomiasis affects livestock production
	Sept	Excessive rainfall affects maize harvest. Low prices for maize.
Dry season	Oct	Excessive rainfall affects harvest. Low prices for maize.
	Nov	
	Dec	
	Jan	
	Feb	

This livelihood zone is self sufficient in food production and often produces a surplus. However, there are some hazards that affect the ability of households to obtain food and cash income. These include erratic rainfall (including both late on-set and excessive rainfall at certain periods during the agricultural calendar), outbreaks of livestock disease, and the lack of a market for cereals like maize (which result in low prices).

SNNPR Livelihood Profile

Basketo-Melo Coffee and Root Crop Zone

May 2005¹

Zone Description

The Basketo-Melo Coffee and Root Crop Livelihood Zone is a food secure zone, with a mixture of dependable food and cash crops. The zone is a combination of Basketo Special Woreda and Melekoza Woreda of Gamo Gofa Administrative Zone. The livelihood zone is very hilly, with some mountain terrain. For the most part it is a midland (*woina dega*) area with a smaller part as upper lowland, more humid than main lowland areas. There are several permanent and seasonal rivers.

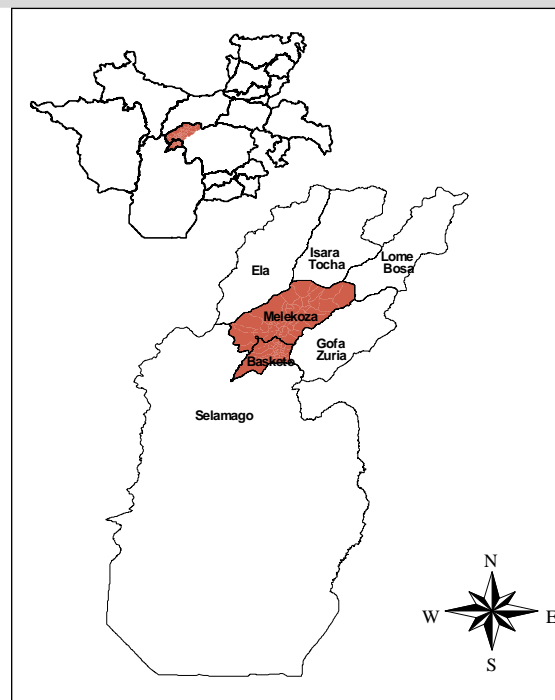
There are two cultivating seasons, the *belg* and *meher*, and both have shown good and regular rains over many years. The zone is characteristically well covered with green vegetation, and the soil is fertile. All these factors, combined with optimum temperatures for many crops, make the zone highly productive, although the majority of farmers do not invest in modern inputs such as fertilizers and improved seed. The upper midland has a relatively dense population, whilst the lowland's population is sparse. However, some of the land in the lowland is used for teff production by people resident in the midland. Neither Basketo nor Melekoza woreda has faced a food shortage for many years past; nor have they been targeted with food aid.

Of the food crops, enset is the first staple, followed by a mix of root and tuber crops including sweet potatoes, yams and taro, with a smaller amount of cassava. Maize makes an important contribution in both

mature and green form, whilst there are much lesser amounts of barley and sorghum; horse beans are also grown. A good stand of enset trees insures against failure by the household for any reason to produce other food crops normally; root crops too are an important stand-by if, unusually, grain crops fail. The zone is characterised by coffee as the main cash crop, but the cardamom-type spice aframomum (Amh. koririma; bot. *Amomum melegueta*) is also a significant niche product and a substantial cash earner. Teff, as the most valuable cereal, is grown more for sale than for consumption. But all of these high-value crops are mainly produced by the middle and better off, whilst the poor depend far more on employment as well as petty trade. Enset and root crops are also sold, although they are mainly grown for home consumption. Otherwise, honey is another marketable product, but mainly sold by better off households.

Livestock, whether cattle or sheep and goats, are kept in only modest numbers even by the better off. But poor and even very poor people are able to maintain a cow or bull because they undertake *yerbee* contracts to keep and fatten animals for the better off. Part of the profit is in the use of milk, and this is transformed and sold as butter by all groups. All groups keep poultry. But the very poor and most poor households do not possess oxen, and their tilling is done with hand tools, which reduces their yields by comparison with the more optimal tilling done with ox-plowing by middle and better off households. Relative to the middle and better off groups, the poorer households essentially produce crops and their few livestock for home consumption, and therefore gain only modestly from market sales.

The very poor and poor grow only some 20-40% of the food they consume. Much of the rest is obtained by working for others for cash or, especially for female workers serving better off households, payment in kind. There is a limited amount of demand in the towns for casual laborers; but beyond that very few if any people go outside the zone to look for work.



Markets

The roads of the zone are rough and do not allow easy passage of goods in and out; as a result market access is poor, and this drives up prices for in-coming items as well as reducing the prices paid by outside traders for the cash-crops. Meanwhile,

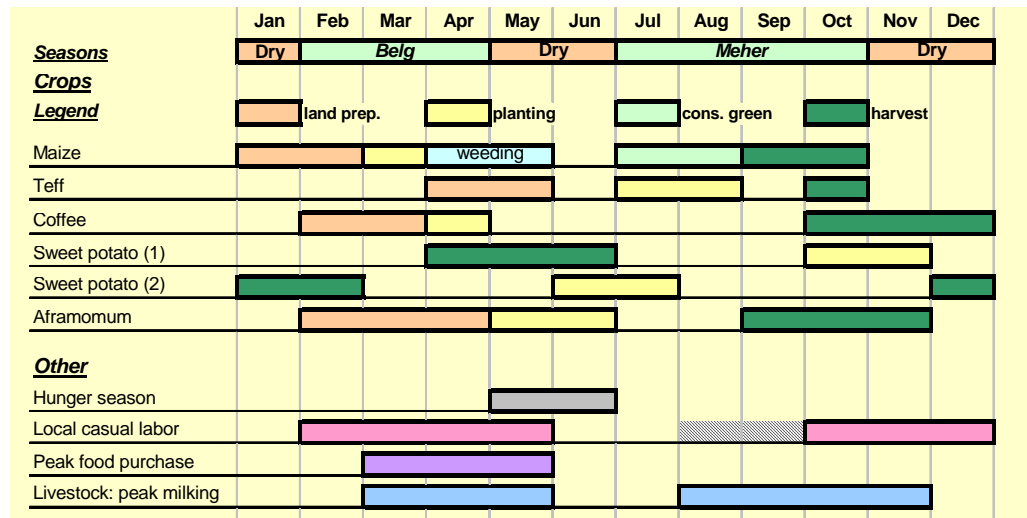
¹ Fieldwork for the current profile was undertaken in May 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

farmers are forced to transport their products to market by pack-animal, which also entails a cost, since most households do not maintain donkeys or horses, and they must rent these from special owners.

The main food crops sold and purchased are maize and teff together with root crops in some quantity. Coffee, teff and aframomum are exported to Gofa and then via Wolayita Sodo to Addis Ababa. The big intermediate market for all the commodities from Basketo and Melekoza is Bulqi market, which is outside the zone in Gofa Zuria woreda: produce is brought on pack-animals and taken away by traders on trucks. Cash-crops are sometimes transported directly to Addis Ababa from the zone's own main markets at Laska and Leha, although this is not common due to the condition of roads in both wet and dry seasons.

Seasonal Calendar

Both the *belg* (spring) and the *meher* (summer) rains are important for cultivation in the zone. The shorter *belg* rains usually begin by the end of February and finish by the end of April, although there may be a few showers in May, and the really dry period is so short that soil moisture does not disappear. The *meher* is the main rainy season, from the beginning of July to the beginning of October.

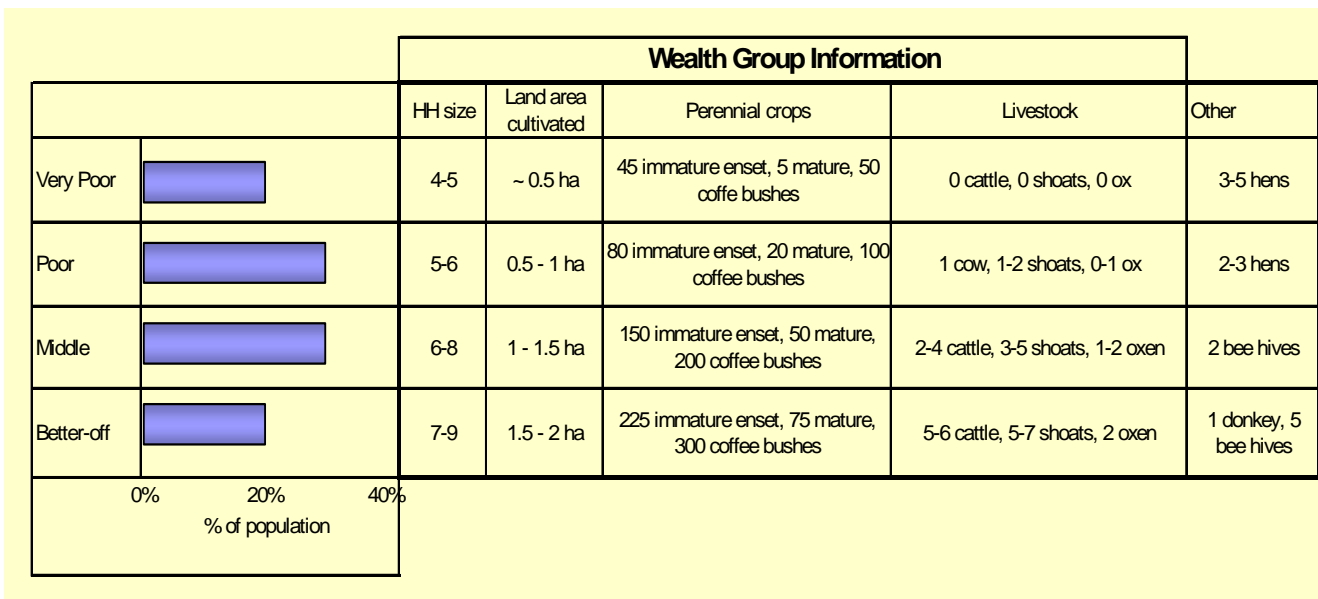


Maize is the longest-cycle annual food crop here, sown in the *belg* in March and harvested in the *meher* season in September - October – although it is consumed green already from July. Because it requires much weeding in April/May, this is a labor-intensive crop. Teff is shorter-cycle, grown entirely with *meher* rains. The cash-crop aframomum is a long-cycle annual, planted at the end of the *belg* and harvested up to November, and the coffee harvest is also at this time: October to December. Sweet potatoes are planted in two seasons, and the harvest of the first set, in April-June, is particularly important as it coincides with the 'food shortage' period of the year, although this is also covered by the perennial enset and crops stored in the field: taro, cassava and yams. Enset is a perennial, maturing from about 4 years, which is cut and prepared for food at any time of the year.

It is weeding and harvesting which give the poor and very poor the most employment as laborers for the wealthier households, and also enset processing by women. The peak food purchase season for most people is April to May but the very poor and poor may start as early as March. It is also in April and May that the price of most staple crops is highest in market: this is indeed the period of food shortage for some, and they tend to try then to maximise their employment as well as their sales of collected grass and fodder. This is the period also when middle and better off households tend to sell livestock in order to support food purchases.

Malaria is mainly confined to the minority population in the lowlands, and occurs mainly during April and May.

Wealth Breakdown



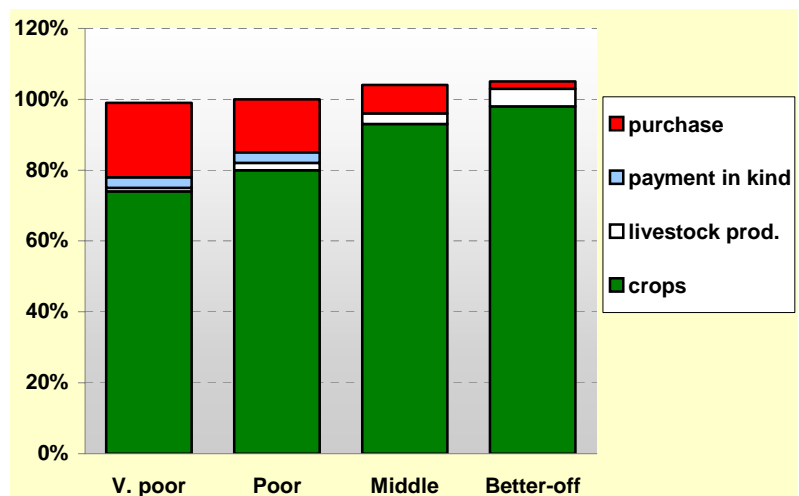
The average size of households has significance in terms of the likely number of able-bodied members. Amongst the very poor there tend to be households where the head is very old or has a disability problem. But the four wealth groups identified are defined mainly on three other criteria. One is the amount of land they have under annual and perennial crops, and this is usually the entirety of the land they own, i.e. there is no fallow land. The second element is the number of livestock owned; but here what is paramount is the number of oxen owned, if any, since that is a major factor in the efficiency of annual non-perennial crop production: owning a team of oxen allows you to plow when you want, to avoid sharing or borrowing arrangements, and indeed to hire out the team when you have finished with it. The third element is the number of perennials that are owned: enset, especially mature enset, indicates the level of food self-sufficiency, and the number of coffee bushes indicates the households cash-earning capacity. These three criteria are linked: for instance, it is unlikely that a household with relatively very small land-holdings will be able to maintain many livestock, since they will not have the crop residues for feed nor the profits from cash-crops to pay for extra fodder. Owning just one milking-cow, as on average the poor households do, puts them above the very poor in terms of quality of diet as well as assets, unless a very poor household has a *yerbee* contract to keep a cow for a better off family. Milking cows also contribute importantly to cash earning through the sales of butter.

Sources of Food – An average year (2003-04)

For the reference year, this is a picture of a relatively food self-sustaining zone, where food aid did not play any part. The middle and better off households were essentially able to meet or surpass their basic requirements but tended to buy some preferred foods, including teff. The poorer 50% of households were able to consume the best part of their requirements from their land, since root crops and enset even on small, but fertile, land holdings allow a good basis for survival. However they still needed to purchase a significant part of their food, and this left them with few if any savings to invest in assets, especially livestock. The very poor in particular usually get milk from looking after animals for the better off.

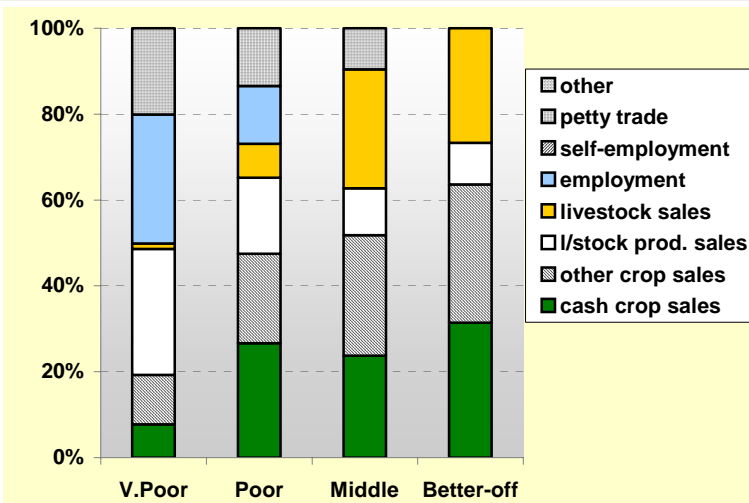
Poorer households tend to drink skimmed milk and sell the butter, whilst others use

butter to increase the quality of the enset porridge '*amicho*' which is much eaten here. Direct payment for labor in food - 'labor-exchange' – is usually in the form of the enset 'bread' *kocho* or maize.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	500-800	1000-1400	1500-2500	2500-3500

although the proportion of crop income was not greatly different from the poor, the better off earned around three times more than the poor from crops in actual cash terms. The middle and better off were likewise by far the principal sellers of livestock, and of butter in volume. Petty trade was an important preoccupation of the poorer half of households, who tend to put in much time in day and night markets to make very small margins on small transactions which nevertheless add up to an important part of their income. The middle engage in trade at a higher level, but the relative isolation of the zone makes this a minor source of profit.

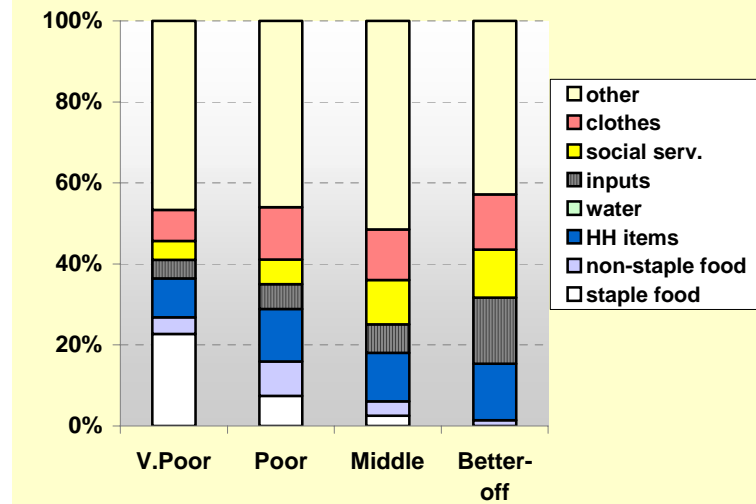
In the reference year crop sales – mainly the cash crops coffee and aframomum, but also some enset products and root crops – contributed to all budgets. This was a year of average coffee prices and average production. The very poor have few crops to sell at the best of times. In the reference year, their sale of butter was almost as important as that of cash crops, but came from livestock they looked after for others. Those offspring they were allowed to keep, plus poultry, made up their livestock sales. Laboring for others was a particularly important source of income for the very poor, who also engaged in very small-scale petty trade.

As regards the middle and better off, they made more than half of their cash from crops, and it should be noted that

Expenditure Patterns – An average year (2003-04)

For the reference year of 2003-04 the graph shows a broadly similar pattern of expenditure between the groups, but at different levels of absolute cash spent. One difference is that the very poor and poor need to purchase basic staples to survive, whilst the middle and better off households tend to buy preferred foods such as meat as well as teff.

Another exception is the far higher expenditure by the middle and especially the better off on agricultural inputs – chiefly fertilizers and pesticides. This, and not only their greater amount of land or labor, is what makes them more productive than poorer households. Household items include basic requirements such as kerosene, salt and soap. Social expenditure includes schooling and medical costs, and here the better off stand out in the proportion, and of course the actual cash amount, which they devote to this category of expenditure.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This is a zone with relatively few acute hazards to production in terms of rainfall failure or other major, damaging events.

Rodent and other pest damage on the main staple, enset. This is the main complaint from farmers, and a chronic problem.

Infestation of sweet potato butterfly. A periodic, damaging occurrence.

Rare occurrences of serious irregularities in rainfall. These include late onset of *belg* or *meher* rains in March and July respectively or an early end to the rains. Maize as the main grain crop is sensitive to problems of precipitation. These may also be in the form of delays between showers in the growing period, but are more in terms of substantial rains at the end of the season when the maize cobs should be drying. On the other hand, such events do not so much affect perennials or root crops, and late showers may even be an advantage. Late *belg* rains can affect coffee flowering, threatening the next season's harvest.

Trypanosomiasis. A serious problem, but essentially confined to the lowland areas: the long-standing scourge of cattle, which limits the numbers of oxen available and therefore local productivity.

Malaria is not a major problem in this zone.

Response Strategies

Hazards are very rarely acute in this zone, but households in different wealth groups mainly respond to any level of event in different ways.

Increased consumption of enset. A recourse for any household in the rare event of a failure of both maize and root crops. Wealthier households have sufficient mature stems to cut, but poorer household may begin to cut immature stems, gaining less immediate food and reducing the food potential for future years.

Increased sales of livestock. This is mainly a recourse for middle and better off households, since they are the ones with most of the livestock. However, if misfortune forced a poor family to sell their only cow, this would be a major asset loss, taking possibly two or more years to recoup.

Seeking more casual employment. This is the most likely response by very poor and poor households. Members will look for work in services to better off households, including work on their maize or teff fields, preparing enset at their homestead. They may look also for work in nearby towns; but work migration outside the zone is unlikely.

Indicators of Imminent Crisis

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Dry	Jan	High prices of staple crops, especially maize.
	Feb	No rain in February and poor land preparation for maize sowing.
Belg season	March	Late onset <i>belg</i> rain. Delayed/reduced sowing of maize. Reduced coffee flowering.
	April	Poor rain performance encouraging rain pests.
Dry	May	Incidence of sweet potato butterfly.
	Jun	
Meher season	July	Late <i>meher</i> rains. Presence of butterflies in July - September
	Aug	Poor harvest of green maize.
	Sept	
Dry	Oct	Poor moisture level for planting sweet potato; late, excess rain on cereals.
	Nov	Attack of sweet potato butterfly; low market prices for coffee, afroamum.
	Dec	High market price of cereals.

NB. Events which might lead to food crisis are very rare in this zone.

SNNPR Livelihood Profile

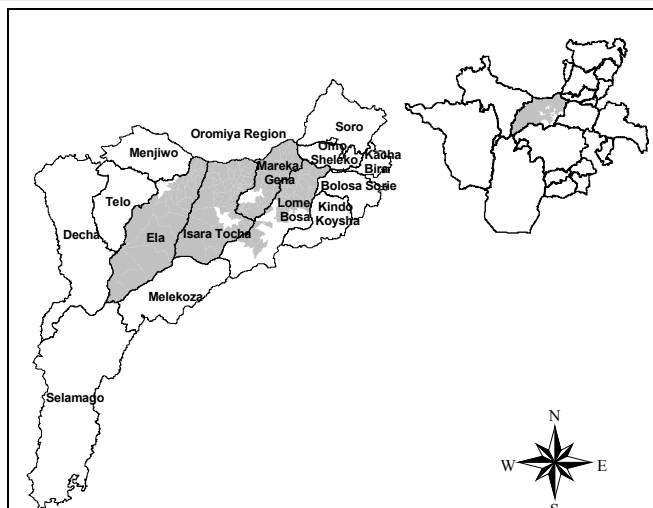
Dawro-Konta Maize and Root Crop Zone

June 2005¹

Zone Description

The Dawro-Konta Maize and Root Crop Zone is a relatively food secure livelihood zone located in Dawro Administrative Zone and Konta Special Woreda. There are five woredas in Dawro and one woreda in Konta within this livelihood zone. These are located within the upper lowlands and the midlands, between 1300 and 2000 meters above sea level. Much of the land is hilly and is not suitable for grazing or cultivation, but this does not prevent farmers from cultivating on sloping land, resulting in erosion and reduced soil fertility. The mountainsides are lined with bush scrub and eucalyptus trees.

Dawro-Konta is a mixed farming zone that has moderate population density and is largely food secure. Crop coverage is 30% enset, 1% coffee, and 69% cereals, root crops and other crops. Annual rainfall averages between 1500 – 2000 mm divided between the *belg* rainy season from February to May, and the *kremt* rainy season from June to October, with three dry months from November to January. Soil fertility is moderate. Approximately 5% of farmers use modified seed and fertiliser, while 95% use traditional farming practices.



There are poorly maintained rocky and thick red muddy soil roads, which are impassable during the rainy season. The zone has market accessibility constraints due to the bad roads and the undulating, winding terrain.

The major livestock types kept are cattle, sheep and goats. The main diseases reported are trypanosomiasis, black leg internal parasite, and anthrax. There is moderate availability of grazing land, with about two-thirds of it communally owned and the balance privately held, mostly by middle and better off households. The remaining grazing sources are maize stalks after harvest, and bushes.

Household wealth characteristics improve as you head west from Wolayita to Dawro and Konta. This is due to better climatic conditions and improved availability of suitable farming land. The Government of Ethiopia is currently resettling people to these areas. The picture presented in this profile is an average one for the livelihood zone as a whole.

Water is available from 39 permanent rivers and 151 seasonal rivers. Due to the absence of a potable water system, drinking water is obtained from rivers, springs and ponds.

Markets

The main markets are located in Maraka, Waka, and Taricha. The major products traded are maize, coffee, and teff. In addition to these products, individual petty traders sell small amounts of root crops, *kocho* (a prepared product of enset), sorghum, fruits (banana, oranges, and avocado) and fibre produced from enset. The market days are Thursday and Saturday, and occasionally Sunday. Profit margins for small-scale petty traders are between 2 and 3 birr every market day. The zone is a food secure zone and does not import food. In fact, maize is exported to Wolayita, Jimma, and Addis Ababa.

Maize and teff are the main cash crops. The lowest volume of trade is from April to June, when maize trades at 60 Ethiopian birr (ETB) per *quintal*², and teff at 160 ETB per *quintal*. High volume trade occurs from October to December, and during this period maize exports are made to Jimma and Wolayita. During this period, prices rise to 120 ETB per *quintal* for maize and 200 ETB per *quintal* for teff.

¹Fieldwork for the current profile was undertaken in June 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of 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 2010).

²A *quintal* of cereal weighs 100 kg.

The main types of livestock kept in the livelihood zone are cattle and shoats³. Livestock are not usually exported in large volumes, except during peak trading festival periods like *Meskel* in September, and Easter in March. At this time exports increase, following the same trade route as food crops, to Jimma via Wolayita, and to Addis Ababa.

Market access is constrained by dry weather roads that are poorly maintained. In the most inaccessible areas, traders ferry products on donkey carts and on foot to and from the market. In the more accessible areas, pick-up trucks are used to transport products to the market.

The local labor market is weak, offering only limited income-generating opportunities for very poor and poor households. Payment is usually made in grain, ranging from 2-4 kg per labor day for different agricultural labor activities including land preparation, weeding, and harvesting. Where payment is in cash, agricultural laborers earn between 50 ETB and 135 ETB over a 2-3 month period. Additional cash income is obtained from coffee harvesting activities in Jimma Administrative Zone, where laborers can earn between 150 ETB and 300 ETB over 3 months.

Seasonal Calendar

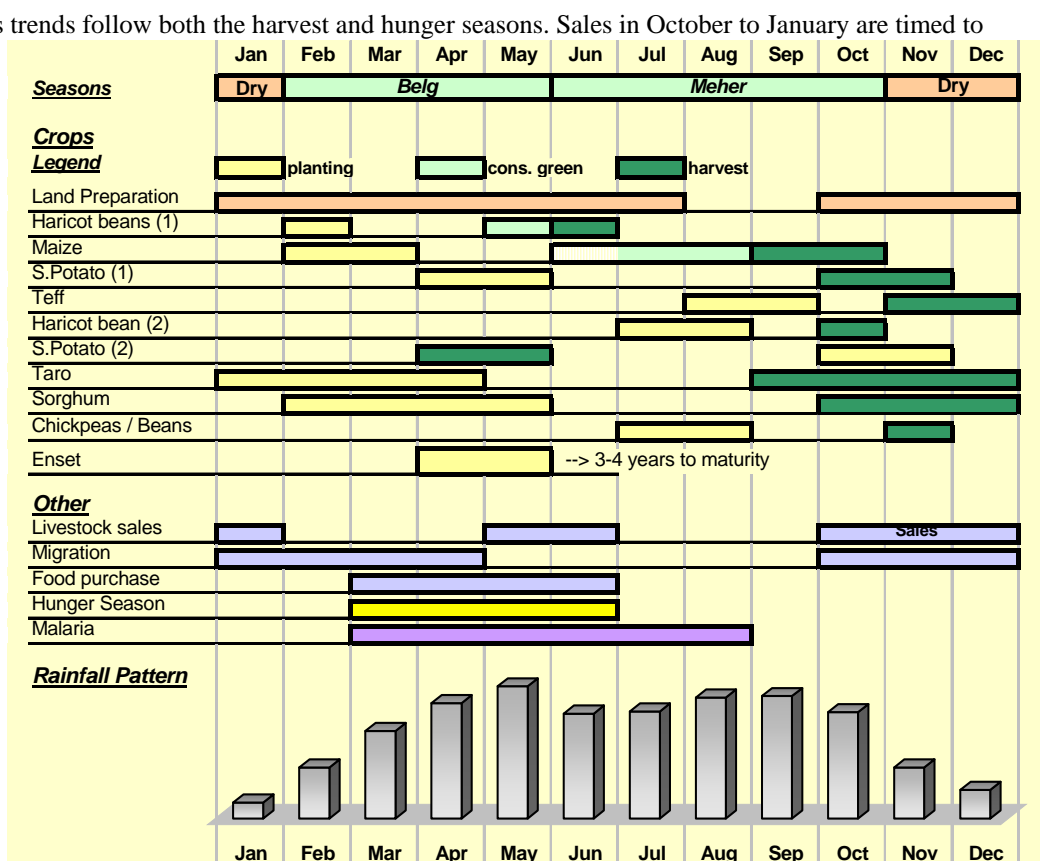
Agricultural activities are planned in anticipation of the *belg* and *kremt* rainy seasons. The *belg* season rains, which begin in January and end in April, represent the main crop season, while the *meher* season rains begin in June and end in early October. The major *belg* season crops are maize, sweet potatoes, taro, haricot beans, and sorghum. The *meher* season crops are teff, sweet potatoes, haricot beans, chickpeas, and beans. Sweet potatoes and haricot beans are two-season crops grown in both the *belg* and *meher* seasons, while another major food crop, enset, is a perennial crop.

The consumption year begins in July, when the main period of green maize consumption begins. All wealth groups depend on green maize to end the hunger season, which peaks from March to June. Food purchases are highest during the hunger season. The *belg* crop harvest starts in September with dry maize and taro, and ends in November with sweet potatoes. Sorghum and haricot beans are harvested in October. *Meher* planting begins in July and August with chickpeas, haricot beans and teff, which are harvested in October and November. Second-season sweet potatoes are planted after the land is cleared in October and are harvested the following March.

Cattle and shoats sales trends follow both the harvest and hunger seasons. Sales in October to January are timed to coincide with the harvest season when people have disposable income from crop sales and demand is good. Sales in May to June are a strategy to cope with the hunger season, as farmers strive to earn money for food purchases.

The demand for coffee harvesting labor in Jimma increases labor migration among the very poor and poor between October and April.





The peak season for milk production is from February to September. Malaria is most prevalent from March to August.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

³ Shoats = sheep and goats.

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		4-5	0.25 -0.5 ha	0-20 mature enset stems, 0-20 eucalyptus trees, 0-10 coffee bushes	1 shoat, 0-4 hens
Poor		5-6	0.5 - 1 ha	10-20 mature enset stems, 10-30 eucalyptus trees, 5-15 coffee bushes	0-1 ox, 1 cow, 0-1 milking cow, 1-3 shoats, 1-5 hens
Middle		6-8	1 - 1.5 ha	15-25 mature enset stems, 30-50 eucalyptus trees, 10-20 coffee bushes	1 plow ox, 2-4 cattle, 0-2 milking cows, 2-4 shoats, 3-5 hens
Better-off		7-10	1.5 - 3 ha	20-40 mature enset stems, 50-150 eucalyptus trees, 20-40 coffee bushes	2-3 plow oxen, 4-8 cattle, 1-3 milking cows, 4-6 shoats, 4-8 hens
0% 10% 20% 30% 40% % of population					

The better off own about 6 times more land than the very poor. The very poor use all their land to produce household food crops, with occasional limited sales, while the better off have the capability to divide their land between food crops, cash crops and pasture. The very poor and the poor obtain access to additional land by producing teff for the better off, receiving a part of the produce depending on what they contribute to this agreement. If they contribute only labor, they get less than a household that brings additional inputs to the arrangement.

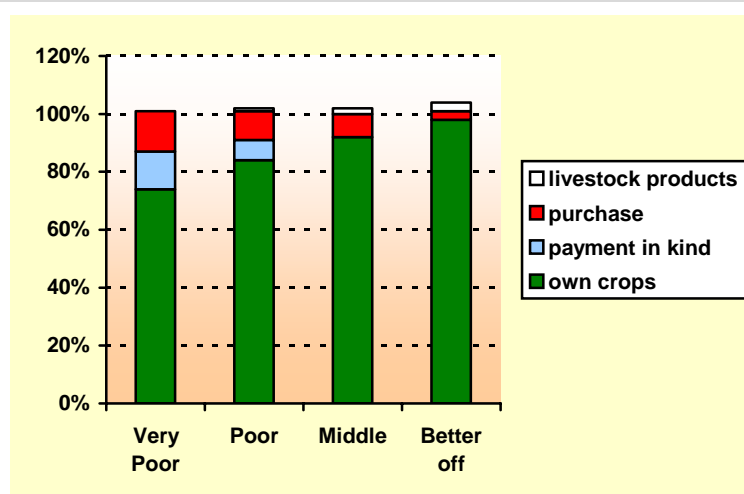
Cattle are the single most important livestock type. An ox provides traction for wider land utilization and productivity, and cows provide milk and butter for sale. The poor often jointly own a cow with the better off, and have the responsibility of feeding and herding the cow in return for half the income from milk sales and the eventual sale of the cow or its offspring. Shoats are widely owned across all wealth groups but contribute significantly less income than cattle. The very poor and poor earn less cash from sheep and goat sales because they sell earlier into the selling season, at lower prices.

Enset is a perennial crop, which matures over 4 years and is an important food source for all wealth groups. Consumption is preferably of mature enset, but the very poor and poor wealth groups regularly consume immature enset because they have limited alternatives.

Sources of Food – An average year (2003-04)

The major food source across all wealth groups is own crop production. In addition to own crop production, the better off and middle wealth groups depend on a small amount of purchases, while the very poor and poor significantly depend on labor exchange (payment in kind for casual work) and purchase.

Maize (both the green and dry harvests) is the main food crop, followed by taro, sweet potatoes and enset. The very poor depend on green maize consumption for 2 months as compared to 3 months for the rest of the wealth groups. This is because they have less land and consequently lower production. The production of maize increases across the livelihood zone going towards Konta, beginning from the region bordering Dawro. Haricot beans and sorghum are produced exclusively by the better off and middle groups and have a minor role as food crops.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

In Dawro, poor women work for better off households preparing enset in exchange for small amounts of grain, while in Konta, poor men work on the land of the better off and get a quarter of the produced maize or enset.

Overall, this is a food secure zone and there is no history of food aid distributions.

Sources of Cash – An average year (2003-04)

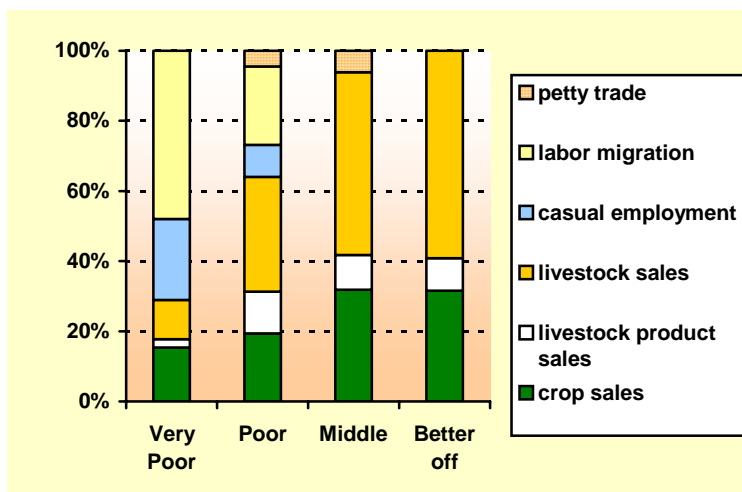
Income levels are starkly different from one wealth group to the next. Better off households earned roughly four times more than poor households in the reference year. The major distinguishing factors between wealth groups are livestock sales, particularly of cattle, and crop sales.

Livestock are primarily bred for sale and for traction (in the case of oxen). The better off typically buy an ox, use it for a cultivation season, fatten it and then sell it. They then buy a younger ox to raise, work, and resell the following year. Shoats are the most commonly sold livestock across all the wealth groups and represent a relatively easy source of cash. Butter is the main livestock product sold, with middle and better off households selling roughly half the butter they produce and poor households selling more than three-quarters.

No crop is produced specifically as a cash crop, with maize, teff, pulses and taro acting as both food crops and the main cash crops. Teff and pulses are the highest earning crops per unit, and, as a result, all wealth groups sell a large amount of these two crops relative to what they produce. The very poor and poor sell about two-thirds of the teff and pulses they produce, while the better off and middle sell about half.

Agricultural labor and labor migration are more important activities for the very poor than for the poor for earning cash. However, local casual labor opportunities are limited in this zone, and income earned from this source is low. Migration is generally to the coffee producing areas of Jimma Administrative Zone, for coffee picking.

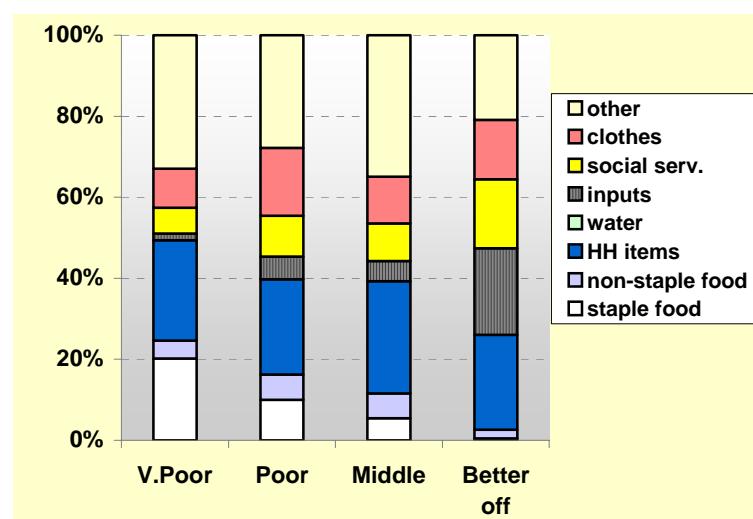
Poor and middle households engage in petty trade of foodstuffs and basic household items for limited cash earnings on market days.



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	500-750	800-1000	1000-1600	2200-3200

Expenditure Patterns – An average year (2003-04)



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Expenditure on staple food purchases increases the poorer the wealth group. This is directly related to amount of land that households have. The better off spent a marginal 1% of total income on food in the reference year, while the very poor spent about 20% (and even this is very low compared to more food insecure livelihood zones in SNNPR).

By far the greatest proportion of income is spent on household items and other non-food requirements, and the better off expend significantly more of their total income on these than do the very poor. This is largely because they can afford more coffee and soap, better clothing, access to health services, and education for the children in their larger households. The better off have enough income to invest in agricultural seed, fertilizer, livestock and veterinary services.

During difficult times, expenditure on non-essential commodities such as kerosene, clothing, festivals, grain milling, local beer and utensils is cut by at least half.

Hazards

Most of the hazards in this livelihood zone are chronic problems, for which long-term solutions are required:

Crop disease. Coffee is severely affected by the coffee berry disease (CBD). This reduces the production of coffee and lowers the quality of the crop and the income earned from its production. Enset, a major food source, is also affected by bacterial disease and pests.

Poor human health services. Human health services are poor in this zone. There is a lack of both health centres and health personnel, and many of the existing health centres are inaccessible because of poor roads and transport services. Malaria is the most prevalent of the serious human diseases (particularly in April – June), followed by tuberculosis and yellow fever. Illnesses can reduce household labor availability at key periods in the agricultural calendar, which can potentially reduce production.

Livestock disease. There is a marked shortage of veterinary services in this livelihood zone. Livestock are seriously affected by trypanosomiasis, foot and mouth and anthrax, which can reduce milk production and lead to animal deaths. Communities reported significant cattle losses due to disease.

Water shortage. There is a shortage of water for both humans and livestock. This exposes humans to disease through drinking from contaminated sources. Lack of water for livestock also reduces milk production.

Declining soil fertility. Dawro is a hilly zone. There is a shortage of suitable farming land and people are forced to cultivate on sloping land, using poor soil conservation methods. Consequently, there is a problem of soil erosion and landslides. This results in declining land productivity as the fertile topsoil is washed away. There is also very limited use of fertiliser and improved seeds, which are very expensive.

One hazard that affects the livelihood zone is periodic, threatening food security in some years more than others:

Erratic rainfall pattern. The cropping calendar is planned around the two rainy seasons. Drought and erratic rainfall reduce crop and livestock productivity, negatively affecting household food production and cash income.

Response Strategies

Households pursue a number of strategies in order to cope with a hazard affecting food security. The main strategies for households in the Dawro-Konta Maize and Root Crop Livelihood Zone are as follows:

Increased labor migration. Very poor and poor household members generally migrate to coffee producing areas of Jimma Administrative Zone to harvest coffee for between 3 to 5 months per year. While this is usually a livelihood strategy for the poorer groups, during periods of hardship even middle and better off households engage in this strategy to earn income for food purchases and household expenses.

Increased livestock sales. In times of stress, all wealth groups increase livestock sales. The sale of valuable assets such as cattle has the potential to negatively deplete household assets if the hazard is prolonged and is of sufficient magnitude. All wealth groups increase the sale of shoats in a bad year.

Decreased crop sales. More of the crops produced are used for household consumption rather than for sale in bad years. This strategy is more relevant for the better off, who have enough land to produce both for sale and consumption. The very poor and poor resort less to this strategy because they consume most of their own production even in good years.

Intensification of local income generating activities. There is an increase of firewood and charcoal sales through collecting more and for longer periods. Petty trade is also intensified in bad years.

Increased livestock product sales. Household consumption of milk and butter is eliminated and these high-value items are reserved for sale in order to raise money for food purchases.

Increased enset consumption. Enset is generally preferred for consumption when mature or as it approaches maturity. However in difficult times, there is increased consumption of immature enset.

Shift in land use patterns. There is increased production of taro and decreased production of maize in bad years. Taro is drought resistant and, if the rains are late, farmers increase the amount of taro planted.

Decreased expenditure on non-essential commodities and activities. There is a marked decrease in expenditure on non-essential commodities such as beer, utensils, kerosene, clothing, festivals and community obligations. Supplemental school expenses like stationery are also reduced. Livestock drugs are also targeted for decrease, but this has the potential of increasing livestock disease and deaths.

Indicators of Imminent Crisis

Dry	Jan	High staple food prices
Belg season	Feb	Late rains delay land preparation and planting of maize
	March	
	April	Poor rain distribution affects maize germination
Dry	May	
Meher season	Jun	Late availability of green maize
	July	Late rains delay land preparation for teff
	Aug	Poor rains delay planting
	Sept	Poor rains affect crop development
	Oct	High incidence of butterflies infesting sweet potato
Dry	Nov	Low price for harvested teff and maize. Unexpected rains disrupt harvesting
	Dec	High staple food prices

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, and staple food prices.

SNNPR Livelihood Profile

Western Coffee and Spices Livelihood Zone

June 2005¹

Zone Description

The Western Coffee and Spices Livelihood Zone is a fertile zone, where rainfall is reliable, households are food secure and income levels are relatively high. It occupies an extensive area of three administrative zones of western SNNPR: Sheka, Kaffa and Bench Maji.

The zone is divided into two sub-zones in this profile, based on differences in the types and amounts of major food and cash crops produced. The main spices harvested in the west are ginger and turmeric, while in the east the main spice is cardamom. In both cases, most of the spices grow wild in forest areas. Coffee and spice production is higher in the west, while food crop production is higher in the east. Maize and sorghum are produced in both sub-zones, but enset and teff are only produced in the east.

Landholdings are similar in both sub-zones, but livestock holdings are slightly larger in the east. Lastly, the west retains more natural forest cover (which is a good source of wild coffee and spices), while a larger proportion of the land is cultivated in the east.

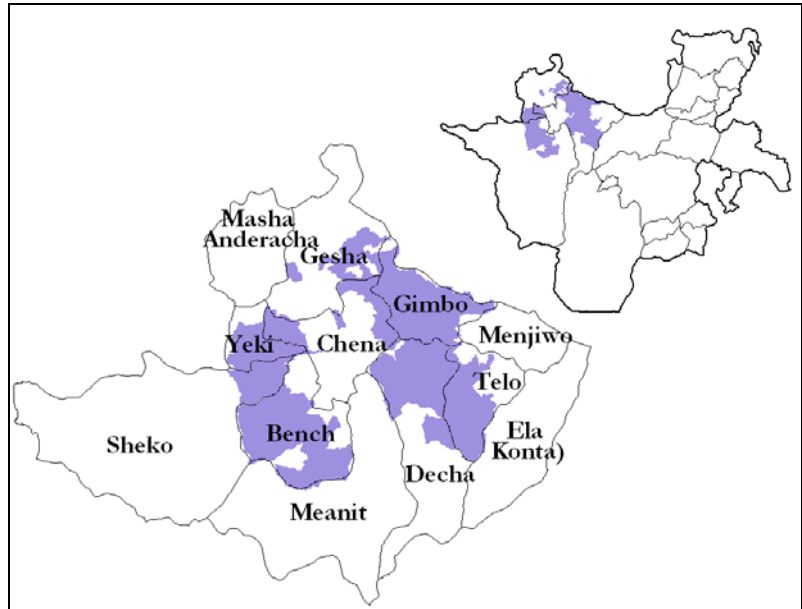
The western sub-zone includes Yeki woreda in Sheka Administrative Zone, most of Sheko woreda in Bench Maji Administrative Zone, and part of Bita woreda in Kaffa Administrative Zone. The eastern sub-zone includes parts of Bench and Shey Bench woredas in Bench Maji Administrative Zone, and most of Chena, Decha, Bita and Gimbo woredas and parts of Cheta and Gewata in Kaffa Administrative Zone.

The livelihood zone receives moderate to heavy rainfall throughout the year, except in the months of December to February, which are relatively dry months. The terrain ranges from tropical lowland to mountain forests, but the largest part of the zone falls in the midland (*woina dega*) agro-ecological zone. In terms of land use, it includes both smallholdings and large state and private plantations that produce coffee, tea and rubber.

The presence of large plantations provides a labor opportunity for the local population and also attracts large numbers of migrant workers from outside the zone every year. It is common for outside laborers to eventually settle permanently in the zone. The western sub-zone in particular is predominantly occupied by settlers that originally came from outside the region.

Livestock are not reared in large numbers in this livelihood zone primarily due to pasture shortage, which is caused by the widespread growth of perennial crops such as coffee. A limited number of sheep and cattle are reared on the land around residential areas and by using supplementary feed such as crop residues and enset leaves. Livestock numbers generally increase from west to east in the livelihood zone. In the eastern sub-zone, there are more open spaces for rearing livestock, partly because coffee plantations are less extensive.

The major problems faced by people in the zone are caused by crop diseases, market failure and ethnic conflict. Coffee wilt disease (tracheomyces) and coffee berry disease seriously affect coffee production and therefore also affect household cash incomes. Similarly, rodents like squirrels and bacterial wilt disease attack enset, an important source of food for the eastern sub-zone. On the market side, the slump of international coffee prices a couple of years ago greatly



¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to June 2003-May 2004 (Sene 1995 to Ginbot 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of average production and rural food security, when judged in the context of recent years). Compared to other livelihood zones, an average year in Western SNNPR is a good year, since bad years are unknown. 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 2010).

affected the livelihoods of people in the zone, as did the problem of low prices for spices due to lack of demand. Without these crop and market hazards, the households in this livelihood zone would have had substantial surplus production and income. Prices for coffee and spices have improved since the reference year.

The main ethnic groups in the western sub-zone are the Sheka, Sheko and Mejenger and in the eastern sub-zone are the Bench, Meanit and Kaffa. In 2002, there was a conflict involving the Sheka, Sheko, Mejenger and some settlers (mainly Amharas and some Oromos and Tigrayans). Conflict at the same time in the eastern sub-zone involved a small minority group in the called the Menja, who are highly discriminated against despite the fact that they speak the Kaffa language and live in Kaffa Administrative Zone. Conflict has cost many lives and affected the stability of the area.

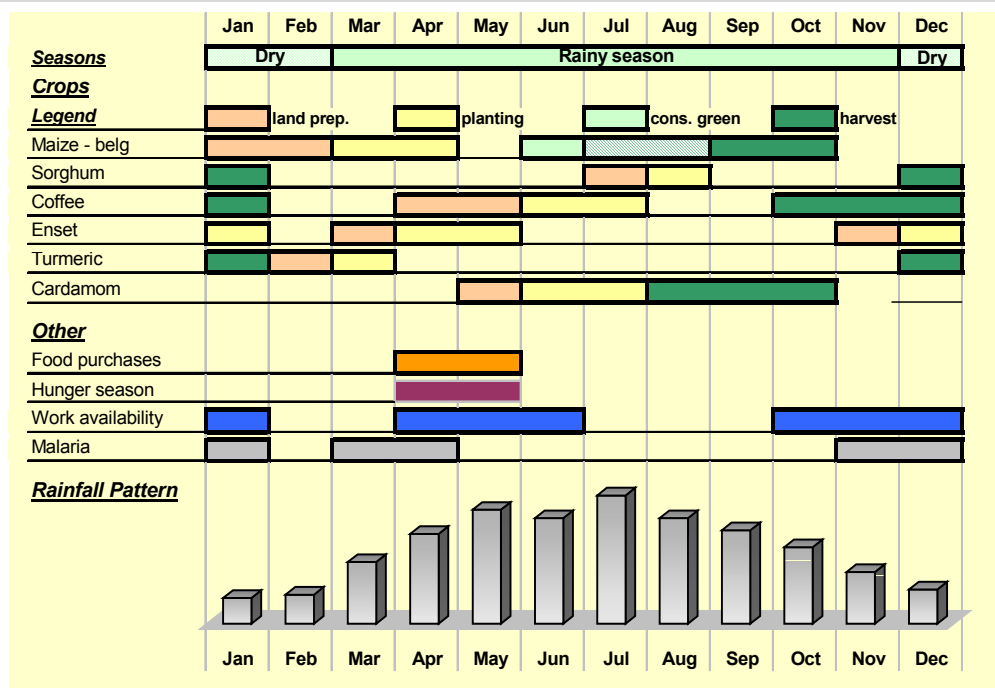
Markets

Farmers sell their produce either directly to traders or at nearby kebele markets. The three major towns of Mizan Teferi, Tepi and Bonga are the main secondary markets for the zone, where small traders who purchase from farmers directly or in small kebele markets sell on to larger merchants. All-weather roads connect these three large markets, but the other roads in the livelihood zone are dry-weather and access becomes very difficult during the rainy season. Furthermore, many kebeles are not connected by any type of road.

Seasonal Calendar

The livelihood zone receives rainfall for most of the year, from March to November. Green maize consumption starts in June but is most common in July and August. The hunger season falls in the months running up to the start of the green maize harvest, and this is also when food purchases peak.

Although enset planting periods are marked in diagram, enset takes a number of years to mature, depending on altitude. In *woina dega* areas, it may take only 3-4 years, whereas in *dega* areas it takes 6-7 years. Harvesting can occur at any time of the year. Similarly for cardamom, maturity is reached only after



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

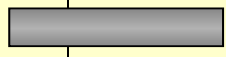
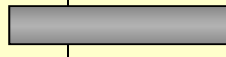
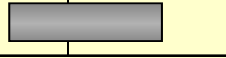
2-3 years, not within one season as might be suggested in the diagram above.

The main periods for laborers to find work in this livelihood zone are April – June and October – January. Local laborers provide most of the work in the first period. In the second period, both local and migrant laborers find work, as demand is very high at this time for harvesting coffee.

Malaria occurs throughout the year, but periods when it is most severe are marked in the graph.

Western Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Land cultivated with cash crops	Livestock
Poor		4-6	0.5 - 1.5 ha	0.25 - 0.75 ha	0-2 cattle, 0-2 sheep
Middle		5-7	2 - 3 ha	1 - 1.5 ha	1 plow ox, 1 - 3 cattle, 3-5 sheep
Better off		6-8	3.5 - 5 ha	2.5 - 3 ha	2 plow oxen, 2-4 cattle, 3-5 sheep
0% 10% 20% 30% 40% 50%					

The primary determinant of wealth in this sub-zone is the area of land cultivated, particularly the area of land cultivated with cash crops. Livestock ownership is the second determinant of wealth, but it is not as important as land due to the lack of communal pasture areas in this part of the livelihood zone. The need for plow oxen for cultivation is also minimal due to the dominance of perennial cash crops.

The better off in the sub-zone have large fields of coffee and, in addition to the relatively large amount of labor available within the family, they hire labor during peak periods in the agricultural calendar, such as harvest time.

Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). Own crop production was the main source of food for all wealth groups in this sub-zone. The main food crops in this livelihood zone are maize and sorghum.

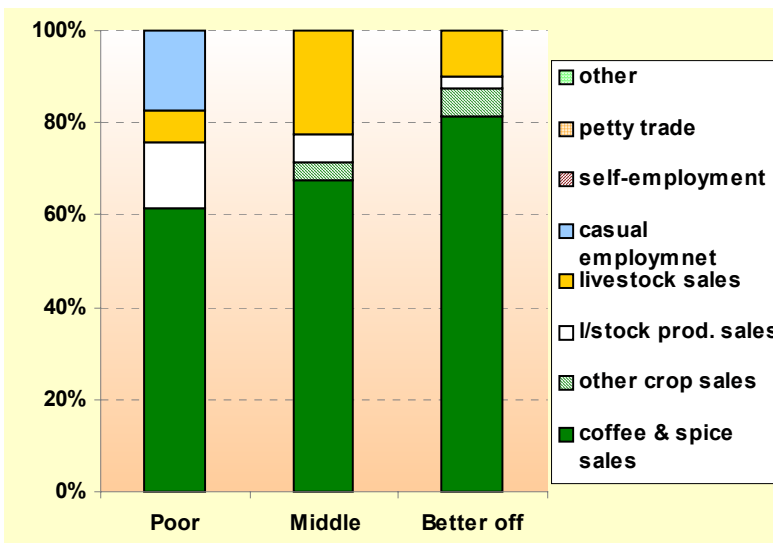
Purchase was the second source of food in the reference year. The poor purchased about a quarter of their food in that year, all of which was staple food, while the middle and the better off purchased relatively little staple food. The purchase of non-staple foods such as oil and meat was more important for these groups, which reflects their higher income levels and standard of living.

Although the contribution of livestock products (milk and meat) is much lower than that of own crops and purchased food, its contribution increases with wealth, reflecting differences in livestock holdings.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcal per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,500-2,000	3,000-4,000	7,000-8,000

a common activity for the poor and they are often paid in kind, keeping half of what they harvest. As a result, households in all wealth groups earned cash income from coffee sales in the reference year.

Livestock sales were the second most important cash source for better off and middle households in the reference year. In addition to typically selling one sheep and one calf in that year, middle households also purchased, fattened and then sold an ox. Poor households, in contrast, typically only sold one sheep and a couple of chickens.

All households earned cash income from the sale of livestock products (milk, butter and eggs), but this source of income was more important for poor households than for the other wealth groups. Milk and butter are high-value items that can be sold in small quantities on a regular basis, making them a particularly useful source of income for poor households. Poor households sold a higher proportion of their milk and butter compared to other wealth groups.

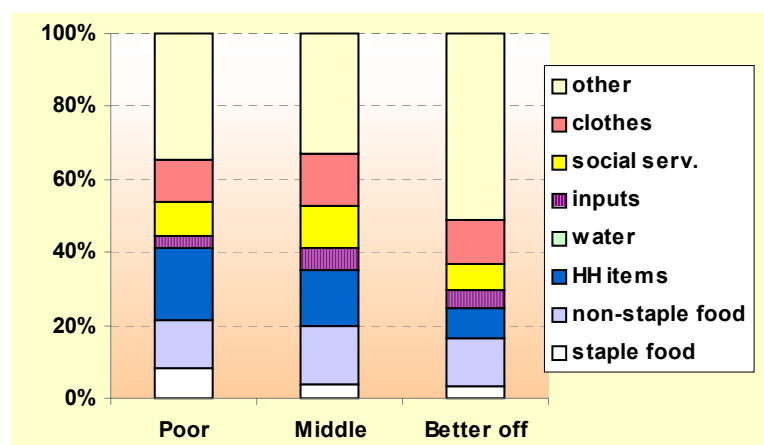
Income from local casual employment, mostly agricultural work for the better off, was another important source of cash income for poor households.

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varied significantly by wealth group. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased, although all groups spent a minor amount of their cash on this expenditure category.

Expenditure on production inputs, social services and clothes increased with wealth in absolute terms, although not necessarily in percentage terms. Relative to their income, the poor spent more on household items such as salt, soap, kerosene, and grinding than other groups.

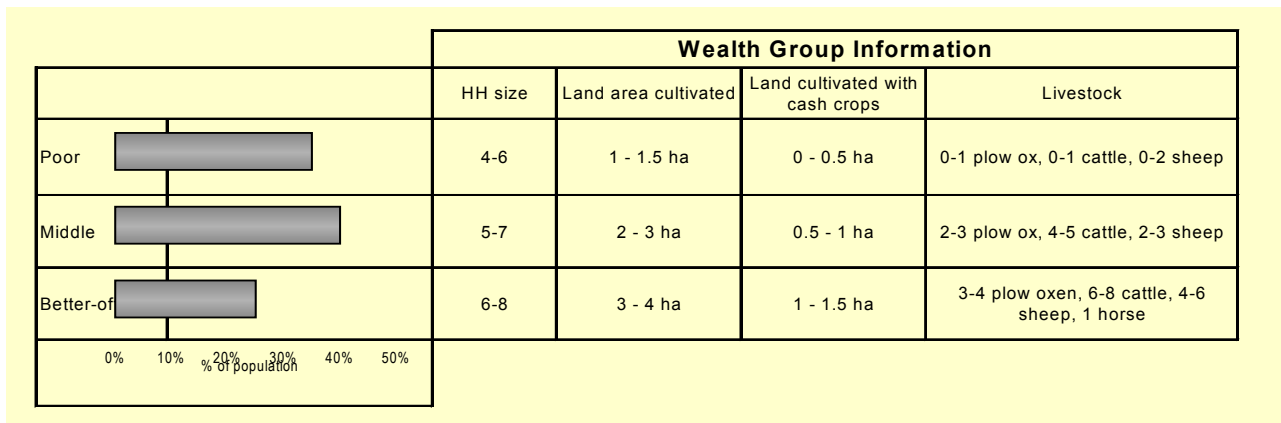
The 'other' expenditure category included social contributions, festivals, transportation, the purchase of sacks for crops and local drinks.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Eastern Sub-Zone

Wealth Breakdown



Wealth in the eastern sub-zone is determined by area of land cultivated and ownership of plow oxen and other livestock. Better off households cultivate more land than the poor, taking advantage of their larger landholdings and their oxen. They also obtain additional labor from poor households in exchange for the use of oxen, which requires the poor to cultivate for the better off in return.

The production of both cash and food crops is equally important in this sub-zone and the ownership of plow oxen has a significant contribution to the production process. Poor households in this sub-zone enter into agreements with other households in order to obtain access to oxen and other livestock. The first type of agreement is mentioned above, whereby poor households work for better off households in return for the use of their oxen. Another type of agreement is where two households (generally poor or middle households) share the ownership of an ox equally and alternately use the ox for plowing. The sale of one household's half share at current market price of the animal, or the transfer of ownership, also takes place whenever one of the households is short of cash.

A third type of agreement is more complicated: the poor household takes care of a young calf/bull of a better off household for 3-4 years, uses the animal for one to two years after it reaches maturity and returns it to the owner at the end of the agreed period. This type of agreement is known as "adero" and it applies for other types of livestock as well. When such an agreement is entered for a milking cow, in most cases the poor household uses all the milk and the calf is returned to the owner. In some cases they share the milk equally, while in others the owners milk the cow only on weekends. In the case of shoats, the offspring is usually shared equally.

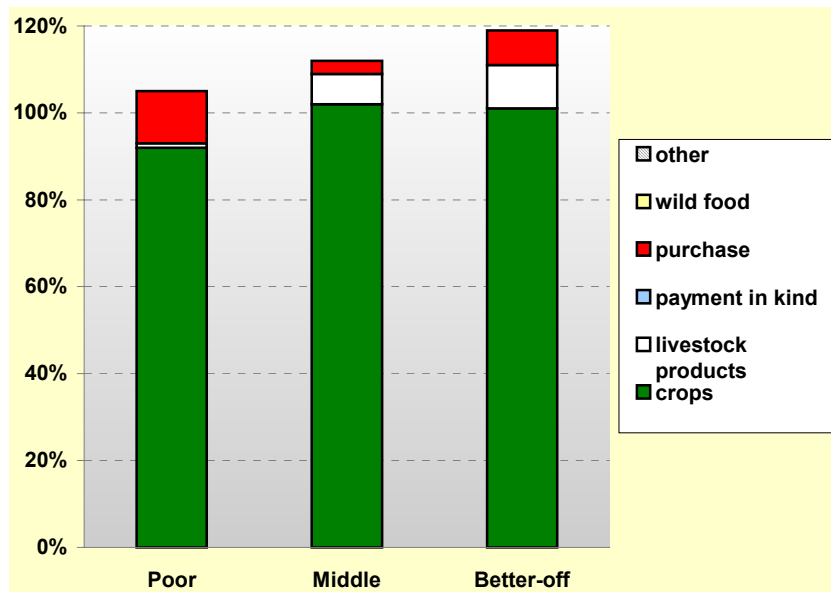
Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for the three wealth groups in the reference year. Middle and better off households were self sufficient from their own crop production, while the poor only needed to purchase a small amount of food in that year (and in most years). The major food crops of this sub-zone are maize, sorghum and enset.

The poor purchased both staple and non-staple food while households in the other wealth groups purchased only non-staple food (primarily meat and oil) to supplement their own production.

The total food intake increased with wealth and all households were able to cover more than 100% of their minimum food requirements.

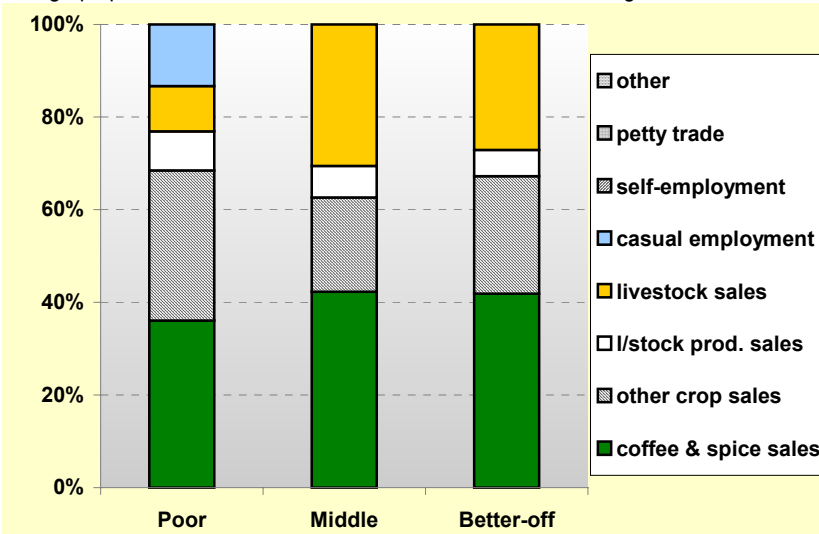
The contribution of livestock products was relatively small and increased with wealth.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



Because cash crop production and sales were lower, the overall income levels of the three wealth groups in the eastern sub-zone were lower than in the western sub-zone.

Similar to the other sub-zone, however, there was a large difference in cash income between the poor and the better off. Better off households typically earned about four times more cash income than poor households in the reference year.

There was only a slight difference in income sources between wealth groups. All wealth groups obtained most of their cash income from the sale of crops – both cash crops and food crops. The most important cash crops were coffee and spices (primarily cardamom).

Livestock sales were the second most important cash earner for middle and

Annual income (ETB)	800-1,500	2,500-3,000	4,000-5,000

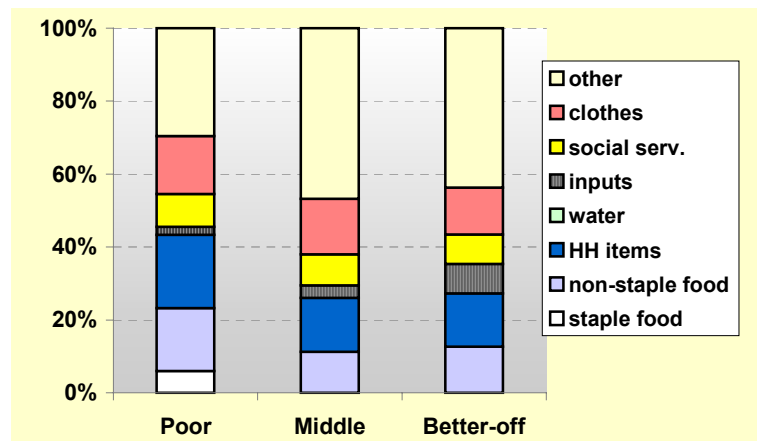
better off households. Unlike the western sub-zone, the sale of butter (livestock product sales) was common for all households in the eastern sub-zone and, together with the income from livestock sales, was a reflection of better livestock rearing practice in this sub-zone.

Poor households also typically obtained part of their annual income from casual employment for better off households within the community and for plantation owners.

Expenditure Patterns – An average year (2003-04)

With the exception of staple food, which was an expenditure item only for poor households, all wealth groups purchased similar items in the reference year. In most cases, the middle spent more money on and purchased larger quantities of each item than the poor, and the better off, in turn, spent and purchased more than the middle.

In the graph, 'social services' includes school and health; 'household items' includes coffee, salt, soap, and grinding; 'inputs' includes livestock drugs, seeds and tools (and fertilizer and agricultural labor in the case of the better off only); and 'other' includes tax, social obligations, ceremonies, transport and other miscellaneous items.



The graph provides a breakdown of total annual cash expenditure according to category of expenditure.

Western Coffee and Spices Livelihood Zone (both sub-zones)

Hazards

This livelihood zone is subject to a number of hazards. Some hazards undermine food security every year (chronic hazards), while others threaten food security in some years more than others (periodic hazards).

Crop diseases and pests reduce food and cash crop production. Coffee berry disease and coffee wilt disease (tracheomyces) greatly reduce coffee production of the zone. The latter is a highly contagious disease, the only remedy for which is to carefully uproot and burn the affected stem. This has long-term consequences for production, since the replanted coffee takes 3-4 years to reach maturity. The occurrence of coffee wilt disease is not associated with a specific season. In the eastern sub-zone, onset production is reduced by bacterial wilt disease and by rodents (such as squirrels). Wild animals are an additional 'pest' when crops are ripe, just before harvest.

Ethnic conflict within the indigenous ethnic groups and between natives and immigrant settlers, especially in the western *Western Coffee and Spices Livelihood Zone*

sub-zone, is the most serious hazard in the zone.

Household income levels suffer when **market prices** for cash crops are low. Coffee prices are determined by the international market and have fluctuated considerably in recent years, reaching a low in 2002-03. There was problem of low prices for spices due to lack of demand in the reference year, but more recently demand and prices have picked up.

Although rainfall is generally reliable in this livelihood zone, the **delayed onset of the rainy season** delays planting and also harvesting, thus prolonging the hunger season for poor households. In contrast, **heavy rainfall during the main harvest** periods can damage crops for all wealth groups. In contrast, coffee can be damaged at the flowering stage by **dry spells**, resulting in reduced yields from 'sunburn'.

Livestock diseases and **wild animals** are serious hazards to livestock production in all years and affect all households regardless of wealth status.

Response Strategies

In reality, this livelihood zone has not experienced any very serious crises to livelihoods in recent decades. 'Bad years' are generally not known in this part of SNNPR. However, households have both potential short-term strategies (which are largely unutilized) and widely practiced long-term strategies to respond to hazards that reduce their food and cash income.

In the short term, the potential strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years in other parts of SNNPR. Households can reportedly reduce expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Generally, all wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, **livestock sales expand** for all wealth groups and poor households do **more local casual work**. Daily wage rates are often lower in bad years, so this means that able-bodied households members have to intensify the number of days per week that they work. The **increased consumption of enset** is a short-term strategy for households in the eastern sub-zone, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production.

In the longer-term, households respond to many of the hazards by **adapting their cultivation practices**. Farmers uproot and replant coffee in response to coffee wilt disease. They attempt to select resistant species of enset to protect their production from bacterial wilt. They plant enset densely to protect the stems from rodents. They plant shade trees amongst their coffee trees, or plant their coffee in the forest, to protect the coffee from sunburn caused during dry spells. In addition, they farm in large groups in order to deter wild animals from attacking, often withdrawing children from school to allow them to herd livestock or work in the fields.

Indicators of Imminent Crisis

Season Month Indicator

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Rainy season	March	Late onset of rain or erratic rainfall
	April	Late onset of rain or erratic rainfall
	May	Outbreak of livestock diseases (blackleg and trypanosomiasis)
	Jun	Delay in green maize harvest
	July	
	Aug	Low cardamom prices (August - October)
	Sept	Heavy rain during maize harvesting period (September - October)
Dry season	Oct	Low coffee prices (October - December)
	Nov	
	Dec	Low turmeric prices (December - January)
	Jan	
	Feb	

The hazards that have most affected households in this food secure livelihood zone are related to market price shocks, particularly in relation to coffee and spices. The graphic presents the likely sequence of indicators in the lead up to a food or income crisis. There is a range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, livestock diseases, and market prices for cash crops.

The late onset of rain in some years results in the late sowing of crops and consequently the delayed availability of green maize, the impact of which is felt primarily by poor households. Heavy rain at harvest time also has a negative impact on production.

Some of the chronic and temporary hazards mentioned in previous sections, such coffee berry disease, enset bacterial wilt disease, rodents, and ethnic conflicts, are not seasonal occurrences and it is therefore difficult to have crisis indicators linked to particular months in the graphic above.

SNNPR Livelihood Profile

Gedeo Coffee Livelihood Zone

June 2005¹

Zone Description

The Gedeo Coffee Livelihood Zone is a food secure area of SNNPR that produces some of the highest quality organic coffee in Ethiopia and is also productive in terms of *enset*. Households are relatively wealthy, with poor households in this zone earning more cash than better off households in some other areas of SNNPR. The coffee livelihood zone has experienced few hazards in recent years, with the exception of the extreme slump in international coffee prices in 2002-03, which caused hardship for households here and affected the entire economy of the region. Fortunately, prices have now returned to more favourable levels, but some problems continue to threaten livelihoods in the long term: high population density and population growth, landholding fragmentation from one generation to the next, declining pasture and livestock holdings, and endemic coffee plant diseases.

The Gedeo Coffee Livelihood zone is densely populated² and covers the midland (*woina dega*) agro-ecological areas of Gedeo Administrative Zone, including parts of Wenago, Yirgachefe, and Kochere woredas. The area is hilly and quite well wooded, with coffee typically grown under indigenous shade trees. It provides a good example of agro-forestry since it is a productive area where agriculture has not resulted in the destruction of the forest. There is no exploitation of the forest for timber or for firewood and there is no culture of cutting down trees. Substantial income from coffee means that households do not need to sell firewood and the importance of shade for coffee production means that shade trees are preserved. Firewood for Dilla town comes from near Lake Abaya and timber from Sidama Administrative Zone.

Rainfall in this livelihood zone is bi-modal, falling during the *belg* and *kremt* rainy seasons, and is relatively plentiful and reliable compared to many other parts of the region. There are numerous permanent springs and streams, draining into the Legedara River, which forms the border between Gedeo and Sidama Administrative Zones and runs into Lake Abaya.

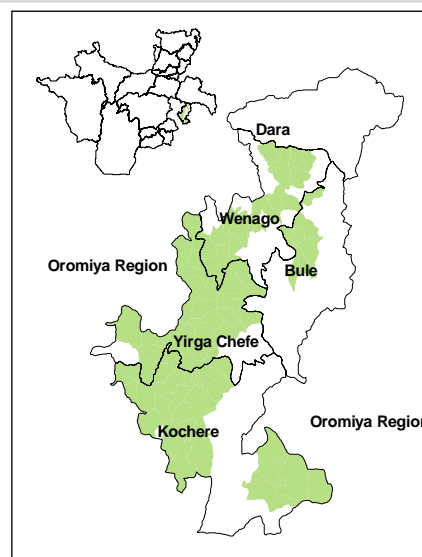
Both food and cash crops are grown. Roughly three-quarters of cultivated land is used for cash crops, of which by far the most important is coffee. Other less important cash crops grown in certain parts of the zone are mango, avocado, bananas, sugar cane and chat. *Enset* is the main food crop, harvested throughout the year. Maize is a secondary food crop, all of which is consumed green in July/August (at lower altitudes) and August/September (at higher altitudes). Small quantities of sweet potatoes and yams are also grown, mainly in the *meher* season.

Much of the maize, wheat, barley, pulses and teff consumed in rural areas are imported into the zone. Maize, wheat, barley and pulses come from the neighboring highland *enset* and barley livelihood zone. Teff comes from that part of Oromiya bordering the west of the livelihood zone.

Fertilizer is not used in the livelihood zone. Instead people use vegetable compost, made from plant residues and waste coffee pulp. Pesticides are also not used. Coffee berry disease is prevented by using wood ash around the coffee bushes and by smoking the bushes.

Coffee production is labor intensive, mainly during harvesting and processing, and provides an important source of casual labor income for poor households in the livelihood zone. There is also some seasonal migration into the livelihood zone from Sidama for the coffee harvest. There is no migration out of the livelihood zone.

Small numbers of livestock are kept, mainly cattle and sheep. Livestock holdings are constrained by the general lack of grazing land. Cattle are kept for milk. Fattening of oxen is common, for sale throughout the year, and especially at the major festivals of New Year and Christmas. Consumption of meat is relatively high in the livelihood zone, and animals



¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to August 2003-July 2004 (EC Nehase 1995 to Hamle 1996), a relatively average year by local standards (i.e. a year of 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 2010).

² Population density is 600-900 people per square kilometer.

are imported into the livelihood zone for local consumption. There are no plow oxen in this zone, as the presence of perennial crops and the small size of plots used for food crops do not suit ox plowing.

The livelihood zone has good market access. The main Addis-Moyale asphalt road crosses the zone, and there are feeder roads to most of the kebeles or peasant associations (PAs). Although accessible throughout the year, the feeder roads are in poor condition.

Markets

Farmers sell their coffee in two forms: wet red cherries and dry cherries. Wet coffee is sold during the harvest season (September to December) to cooperatives or to private investors who own pulping stations. The coffee is processed locally at the pulping stations, which involves pulping, fermenting, washing, drying and sorting. The remaining coffee is dried by farmers and sold from January onwards, also to cooperatives and private traders. Although wet coffee generally brings in more money, dry coffee acts as a saving mechanism for farmers because it can be sold at any time.

The coffee prices received by farmers within the livelihood zone are determined by the world market for coffee and have little to do with local production conditions each year. However, most farmers in Gedeo belong to coffee unions, established within the last 2-3 years, which organise the international marketing of coffee. This cuts out the middleman in the central market in Addis Ababa, increasing the price paid directly to farmers. Farmers also share in the union profits, which is an added benefit.

Although many crops are grown in the zone, most crops apart from enset are not grown in sufficient quantities to satisfy local demand. Maize, wheat, barley and pulses are imported from the neighboring highland areas of Gedeo, while teff comes from neighboring areas of Oromiya.

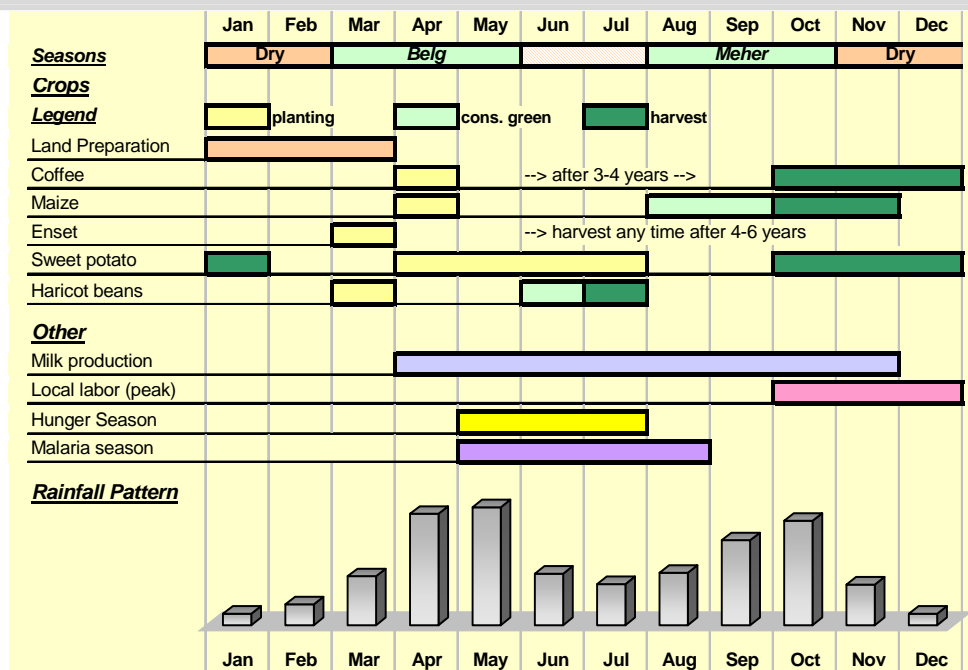
Markets are held in the woreda towns and the larger peasant associations once or twice a week, usually in the afternoons and evenings. These are major events in the local calendar and many people are involved in the trade of food and non-food items (often on a very small scale) and of livestock. The livelihood zone generally has good market access, with a major tarmac road passing through the zone and all-weather roads feeding into it.

The main destination markets for livestock are local, due to the relatively high level of meat consumption in this livelihood zone. The peak periods for the sale of livestock are the annual hunger period (May to July), when households need cash, and the main religious holidays (Meskel and Christmas), when demand is high.

Seasonal Calendar

The two rainy seasons are the *belg* rains, which fall from March to May, and the *kremt* rains, which fall from July to October. Some rainfall also occurs in June, but this is known as a hot and sunny month. Most land preparation work occurs in the months before the start of the *belg* rains and most crops are planted with the start of the rains. Annual food crops are generally intercropped amongst the perennial coffee and enset plants.

The main coffee harvesting period is October to December, but there are some variations from one area to the next depending on altitude. Lower areas tend to harvest early, starting in September, while higher areas can harvest as late as January.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

The hunger season and staple food prices peak in May to July, the months running up to the start of the green maize harvest. The main period for food purchases is variable, depending on how individual households manage their money. Some households buy a large stock of food when they sell their coffee and have lots of money; others wait and purchase food throughout the year (which causes problems if they have poor budgeting skills).

Livestock sales are similarly variable: some animals are sold during the hunger season when cash is required to purchase food, while others are sold when demand and prices are high during the main holiday periods.

Although much less prevalent than in neighboring lowland areas, malaria occurs throughout the year, but is worst from May to August. Other diseases tend not to show a distinct seasonal pattern.

Wealth Breakdown

	Wealth Group Information			
	HH size	Land area cultivated	Perennial crops	Livestock
Poor	6-8	0.375 - 0.5 ha	200 - 700 coffee bushes; 50-200 enset stems	0-2 cows; 0-3 sheep; 1-7 hens
Middle	7-9	0.75 - 1.5 ha	900 - 2300 coffee bushes; 200-600 enset stems	1-3 cows; 2-4 sheep; 4-6 hens
Better-off	9-11	1.5 - 2.5 ha	1800 - 3600 coffee bushes; 500-1500 enset stems	2-6 cows; 3-6 sheep; 0-4 goats; 4-8 hens

Wealth in the Gedeo Coffee Livelihood Zone is determined primarily by the area of land and the number of cattle that a household owns. Other characteristics (such as the number of sheep owned or the type of housing inhabited) tend to result from these more basic characteristics. Households that own relatively large areas of land also tend to have large areas planted with mature coffee and enset.

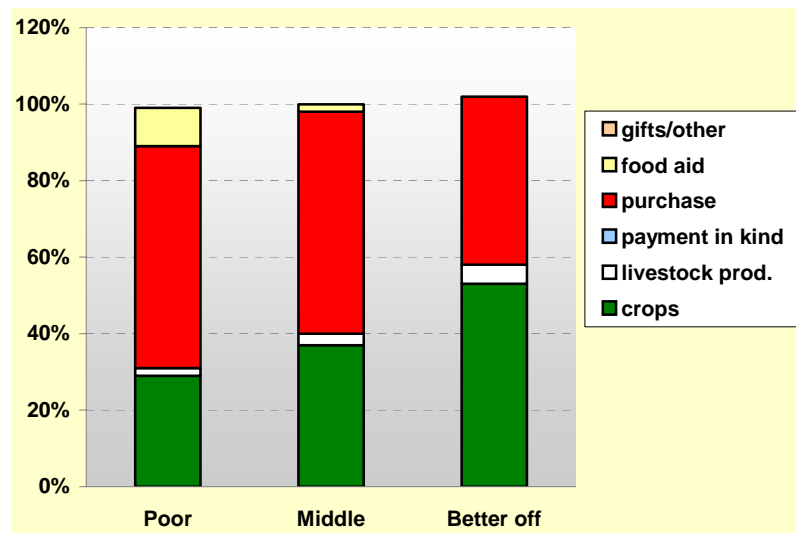
Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Sidama Coffee Livelihood Zone for the period August 2003 – July 2004. August represents the start of the consumption year because this is when the green maize harvests starts in earnest, marking the end of the annual hunger season.

The contribution of own crop production generally increases with wealth. However, it is worth noting that crop production is not the main priority in this livelihood zone – households concentrate their efforts on coffee production, knowing that they can then use the cash they earn to purchase food. The main foods purchased are *kocho* (a preparation of enset), maize, pulses, teff, meat and vegetable oil.

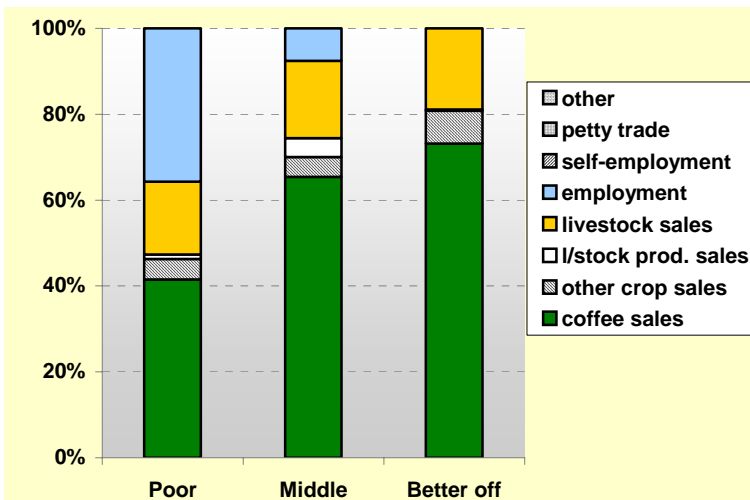
The contribution of own livestock production (milk and meat) is small, but increases with wealth because richer households typically have a larger number of milking animals.

Given the relative wealth of this livelihood zone, one might question why food aid was distributed in roughly half of kebeles during the reference year, but there are a couple of possible explanations. The food aid could have been planned during the previous year, when coffee prices were very low. Or it could be an attempt to offset the poor cash management for which farmers in this area are well known, enabling poor households to make it through the year. Savings schemes might be more effective and sustainable in this regard.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	2,500-3,500	5,000-7,000	8,000-10,000

The graph presents the sources of cash income for households in different wealth groups for the period August 2003 – July 2004. The contribution of income from crops and livestock increased with wealth. These were the main income sources for all three wealth groups.

Poor and middle households supplemented their income from own production with local casual work in the coffee fields of the better off and in pulping stations. Casual work is readily available in this livelihood zone, both for local workers and for migrants from neighboring areas.

Better off households earned almost three times that of poor households in the reference year. However, it should be noted that income levels are generally very high in this livelihood zone, with poor households earning more than better off households in many other livelihood zones of SNNPR.

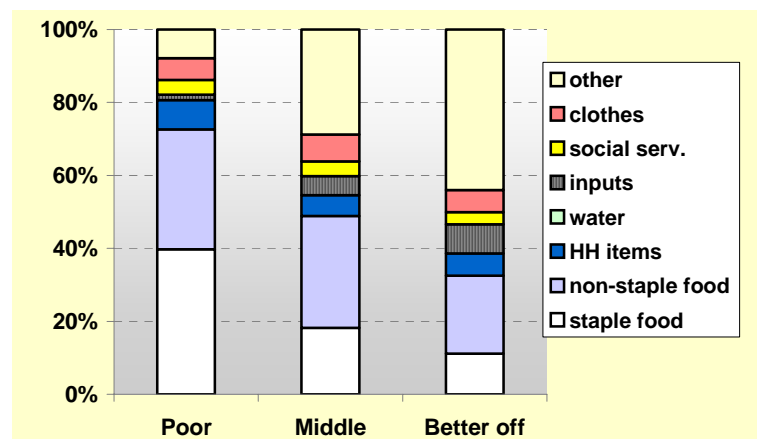
Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period August 2003 – July 2004.

Expenditure on staple food declined as a proportion of income as wealth increases, although the birr amounts that each group spent on staple food in the reference year were very similar.

All wealth groups in this livelihood zone purchase meat regularly, again emphasizing the relative wealth of the zone compared to other areas in SNNPR.

The category 'household items' includes salt, soap and kerosene. 'Other' includes tax, social obligations, ceremonies and savings. The category 'social services' includes spending on education and health. Expenditure on most items (except staple food) increased with wealth.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Expenditure on most items (except staple food) increased with wealth.

Expenditure on agricultural inputs varied significantly by wealth group. Better off households spent a considerable amount of money employing local and migrant labor, especially for the coffee harvest period.

Hazards

This is a relatively food secure livelihood zone, which has experienced few serious hazards in the past. Rainfall is generally plentiful and reliable. However, the following hazards are worth noting:

Hail and frost: These are possible hazards in April and May and can have a devastating effect on coffee production, usually in localised areas.

Crop diseases: The main complaints for farmers are coffee berry disease and coffee wilt disease (or tracheomyces). The former reduces coffee production and, with the current emphasis on organic production, the only solution is to use wood ash and smoke. In the case of the latter, the only solution is to uproot and burn the coffee tree and then replant, with obvious consequences in terms of lost production.

Fluctuating international coffee prices: Coffee prices are determined on the international market and there is little that farmers can do to protect themselves from this. Recent efforts to establish coffee unions, however, do mean that farmers receive a larger proportion of the international price directly.

Increased staple food prices: Most households in this livelihood zone depend on the market for food purchases, making them vulnerable to increased staple food prices. Since most staple food is imported into the livelihood zone, the most common scenario is for prices to increase when there is crop failure in the areas that supply the coffee livelihood zone.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards. These vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in difficult times. Households reported reducing expenditure on clothes, kerosene, meat, ceremonies and other non-staple items.

All wealth groups attempt to expand their food and income sources that are less directly affected by the hazard. For example, **livestock sales expand** in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock, but even for them this strategy has strict limits if the sale of productive animals is to be avoided.

Poor households seek out **more local casual work** in bad years. Daily wages are often lower in bad years, so this means that able-bodied household members have to intensify the number of days per week that they work.

The **increased consumption of enset** is a bad year strategy for all households, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production.

Because of the high income levels in this livelihood zone, better off households may also have **cash savings** to help them to manage in bad years.

Indicators of Imminent Crisis

Although rainfall is reliable in this livelihood zone, its delay would indicate an impending problem, as would long periods without rain at critical stages in the agricultural calendar. Frost or hail can reduce coffee production. Other indicators of future difficulties for household in the livelihood zone relate to prices: low prices for the items that households sell (especially coffee) and high prices for the things that they buy (especially staple food).

Season	Month	Indicator
Belg season	Mar	Delayed start of rainy season
	Apr	Long periods without rain at critical stages in rainy season -->
	May	Frost or hail during April - May is bad for coffee production
Meher season	Jun	
	Jul	
	Aug	High staple food prices during and after maize harvest -->
	Sep	
Dry season	Oct	Low coffee prices and low wage rates during the harvest period -->
	Nov	High staple food prices during main enset production period -->
	Dec	Rainfall in December is bad for coffee production
	Jan	
	Feb	

SNNPR Livelihood Profile

Gurage-Siltie Highland Enset and Barley Zone

May 2005¹

Zone Description

The Gurage-Siltie Highland Enset and Barley Livelihood Zone covers the highland (*dega*) areas² of Gurage and Siltie Administrative Zones of SNNPR, including parts of Edja, Enemor and Ener, Sodo, Alecho Weriro, Gumer, and Mehur Aklil woredas. This livelihood zone has historically been self-sufficient in terms of crop production and households are generally food secure. However, the current trend of population growth is alarming and may place future food security in doubt as landholding sizes per household shrink.

The livelihood zone is one of the most densely populated areas in SNNPR. Increasingly, the share of land per household is not large enough to guarantee a

sustained living. The only viable option that households have found to tackle this problem is the migration of a significant number of youths to the major urban areas of the country, including Addis Ababa, Nazareth, Dire Dawa, Awassa, Arba Minch and Ziway. The migration of youngsters has been increasing over time, leading to severe competition for urban work, as the number of migrants and the employment opportunities in urban areas are incompatible.

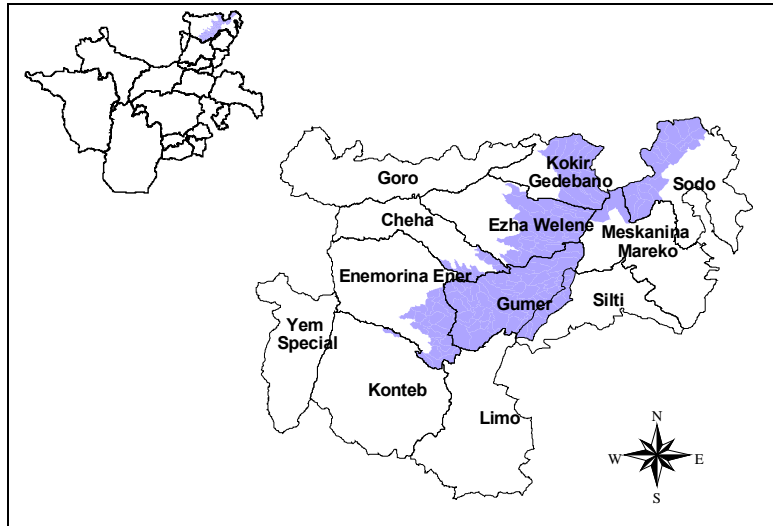
Undulating escarpments and small areas of flat land are interspersed at irregular intervals throughout the zone. The Enset and Barley Livelihood Zone is the source of various tributaries of the Abay (Blue Nile) and Awash Rivers and streams are scattered throughout the zone. Despite this, there is a shortage of clean drinking water for humans, and of water generally for livestock, in areas that are distant from streams.

Rainfed agriculture is the main economic activity in the livelihood zone. Crops are primarily dependent on the *kremt* rains, but *belg* rainfall is also important for the cultivation of long cycle crops. The main food crops are enset, barley, pulses, Irish potatoes and *gomen* (cabbage). The combined effect of undulating topography, small land holdings and limited grazing land has impeded the use of oxen for plowing. Cattle, sheep and horses are the main types of livestock kept in this highland livelihood zone. However, the livestock population is limited due to the lack of pasture.

The main sources of income for households in this livelihood zone are the sale of crops, migratory urban employment, local employment (mainly casual agricultural work), and the sale of livestock. The amount of cash generated through the sale of crops and livestock is limited because production levels of both crops and livestock are constrained by small land holdings per household and lack of adequate grazing land for animals. Due to a lack of alternative local sources of income, households rely on migration to supplement their cash income. This makes them vulnerable to any hazard that affects crop or livestock production or impedes migration.

Eucalyptus has played an important role in preventing excessive deforestation and in preserving the remaining areas of indigenous vegetation in this livelihood zone. Indigenous podocarpus and temperate conifers are sparsely available throughout the zone.

Market access is generally good. The flow of people and goods is relatively easy due to the location of the zone near to urban areas and the availability of well-maintained roads. The livelihood zone is located between two major roads: the Addis-Jimma and Addis-Arba Minch asphalt roads. It is connected to these roads by all-weather subsidiary roads.



¹ Field work for the current profile was undertaken in May 2005. The information presented refers to September 2003-August 2004 (EC Meskerem to Nehase 1996), a relatively average year by local standards (i.e. a year of 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 2010).

² These are the areas over 2200 meters above sea level.

Markets

There are different sizes of market in the livelihood zone, with varying quantities and types of items traded and varying spheres of influence. The small local markets (*guilt*) are held every day and supply a small volume of items to local consumers. Larger woreda markets are held once or twice a week and encompass a larger geographic area within their sphere of influence that may stretch beyond the woreda boundaries. These are markets for grains, livestock and industrially produced goods. In between these two types of market, there are medium-sized markets such as Ambeli, Ketana, Kela, Amata and Eskut, to which there is relatively good road access for the majority of woredas in this zone.

Due to its close proximity to other livelihood zones and relatively good road access, trade interaction with external markets is quick and easy. The Enset and Barley Livelihood Zone's location between two major markets (Wolkitie and Butajira) also provides a special opportunity for households to take advantage of the spatial variations in the prices of goods and services.

The main food crops sold in this zone are barley, pulses and Irish potatoes. Sale of livestock is also important, especially for better off and middle households.

Seasonal Calendar

Food access in the zone is highly seasonal and depends upon the pattern of rainfall and crop production. In most years, the hunger season lasts from April, when main season crops run out, until June, when Irish potatoes are harvested. With supplementary food (usually *gomen*), potatoes last until the beginning of the first beans harvest in November.

Depending on their level of crop production, different wealth groups depend on market purchases of food in different seasons.

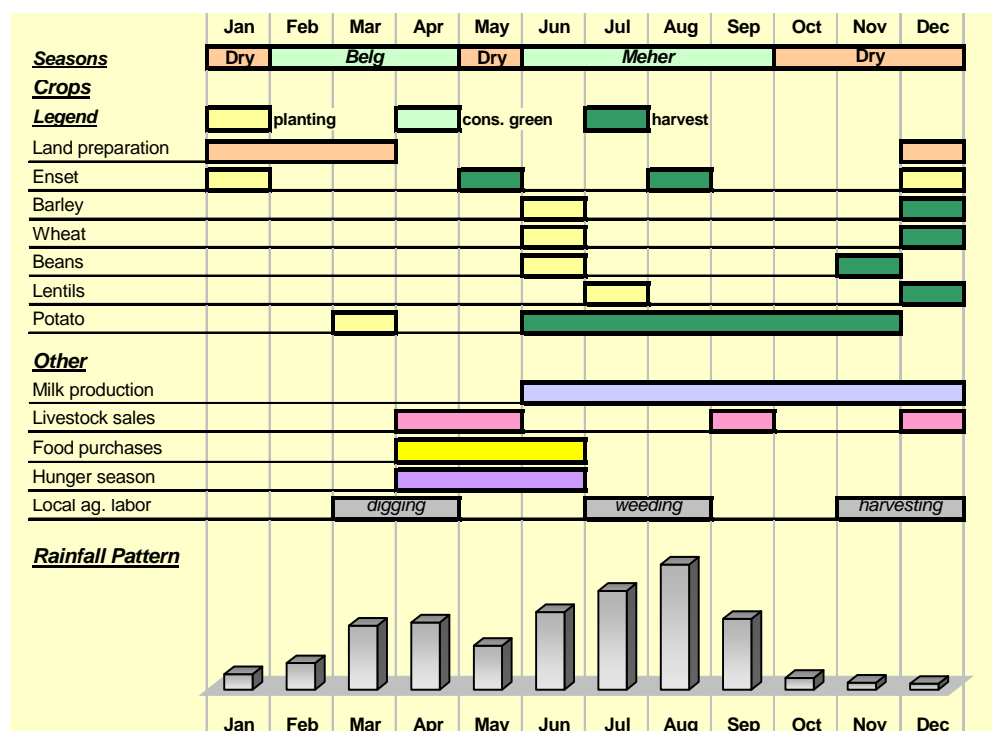
Although better off households produce

more *kocho* (an enset preparation) and cover a higher proportion of their kilocalorie needs from their own crop production, all wealth groups in the zone are dependent on markets for the purchase of food items at some point during the year, particularly from April to June. All wealth groups purchase *kocho*, maize and wheat to supplement their own production.

While urban employment provides an important source of income for all wealth groups and is not seasonal, local labor provides a limited source of income for poor households on a seasonal basis. Local labor opportunities are available when better off households require additional labor, particularly in March and April (for digging), July and August (for weeding) and November and December (for harvesting).



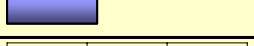
Livestock sales occur at selected times, generally when the demand and prices are high during the main Christian and Muslim festivals.

The agricultural cycle for potatoes is quite different from all other crops cultivated in the zone. They are planted in March using the *belg* rains and harvested over an extended period from June until October. Potatoes play an important role in filling the food gap during the hunger season. Enset can be harvested at any time of year, but is most commonly harvested twice a year in this livelihood zone, in May and August. It is buried underground for a period of fermentation (at least 4 months) until it is ready for consumption. However, at a time of severe food shortage, the age at which the enset is harvested (uprooted) and the duration of fermentation are reduced.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

		Wealth Group Information			
		HH size	Land cultivated	Perennial crops	Livestock
Poor		5-7	1-3 timads	100-200 enset stems, 50-150 eucalyptus trees	0-2 cattle, 1-3 sheep
Middle		5-7	3-5 timads	200-300 enset stems, 150-300 eucalyptus trees	0-1 ox, 2-4 cattle, 2-4 sheep, 0-1 horse
Better off		5-7	5-7 timads	250-350 enset stems, 300-500 eucalyptus trees	1-2 oxen, 4-6 cattle, 3-5 sheep, 1 horse

0 20 40 60

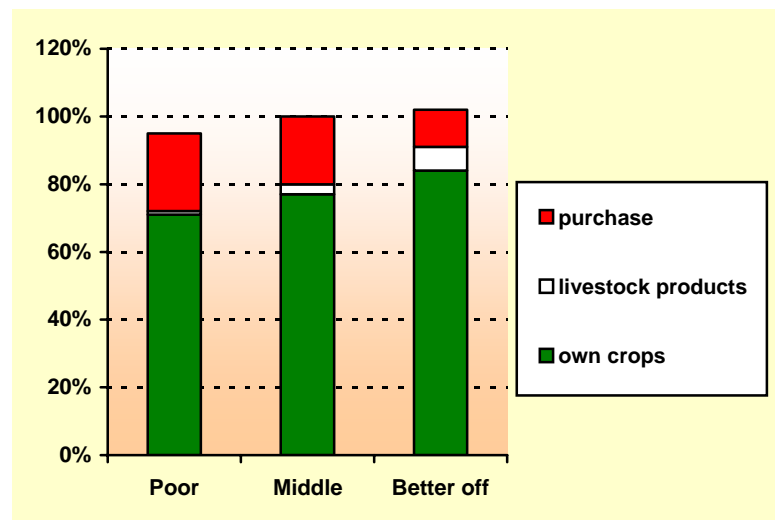
Wealth in the Gurage-Siltie Highland Enset and Barley Zone is defined on the basis of two prime factors: the number of livestock and the size of land owned by different households. Better off households differ from other wealth groups in both agricultural production and assets. Through their ownership of more oxen and use of inputs, better off households are able to plow their larger fields in a timely manner and as a result gain more production than the other wealth groups. The ownership of a relatively large herd ensures access to livestock products for household consumption and serves as a source of cash income. Poor households are characterized by lack of livestock and ownership of a very small amount of land. This partly explains why poor households depend on better off households for employment.

Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). Better off households covered about 90% of their annual food requirements from own crops. The food purchases made by this wealth group were generally of crops that are not cultivated within the livelihood zone, such as maize, and of luxury items like meat. Although the contribution of livestock products was much lower than that of other sources of food, it was higher for the better off than for other wealth groups.

Middle and poor households also gained much of their food from own crops. The remainder of food was covered mainly through purchase, with a small contribution from livestock products.

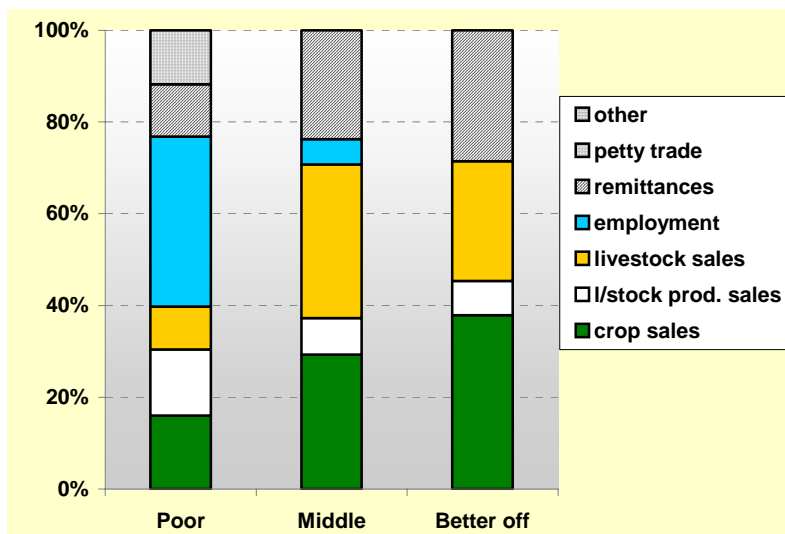
Generally, there was a strong dependence on enset by all wealth groups, supplemented by barley, wheat, Irish potatoes, pulses, *gomen* and purchased maize.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income in the reference year according to income source.



Annual income (ETB)	800-950	1000-1500	1500-2000

dependence of all wealth groups on remittances. In addition to the cash transfer, remittances are also made in the form of gifts in kind – clothing, school supplies for younger siblings, kerosene and slaughtered meat for Arefa and Meskal, the major holidays of the year for Muslims and Christians respectively.

There are differences in the number, types and relative importance of income sources for each wealth group. Surplus production not only ensures the availability of enough food for consumption, but also enables better off households to generate cash income through the sale of crops. Better off households tend to sell crops late in the hunger season, when the demand for grains and corresponding prices are the highest in the year. Although the amount of cash obtained is smaller, sale of crops is also an important source of income for middle households.

Employment (local and migratory) and remittances are major sources of income for poor households. There is a long-standing tradition of migration of youths from Gurage and Siltie Administrative Zones to urban centres and this is reflected in the partial

Expenditure Patterns – An average year (2003-04)

In the reference year, the amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varied according to the wealth status of households. The proportion of income spent on food noticeably declined with wealth. Better off households had lower food purchase requirements since the contribution of their own crops was substantial. Poor households, in contrast, spent more than 40% of their total expenditure on food in the reference year.

Expenditure on most other items increased significantly with wealth, most notably expenditure on inputs (mainly fertilizer and seeds), on social services (which includes schooling and medicine), and on clothes.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Household items (HH items) include coffee, salt, soap, and kerosene, while 'other' includes non-staple foods such as meat, tax, social obligations and ceremonies.

Hazards

The livelihood zone is subject to a number of hazards, some of which undermine food security every year, while others threaten food security in some years more than others. The main hazards affecting the zone are:

Hailstorms and frost. Hailstorms during the *kremt* season and frost in November occur periodically and affect all types of crops. While beans and peas are severely affected by both events, frost damages all types of crops indiscriminately.

An increase in staple food prices. Poor households are especially vulnerable to an increase in staple food prices given their dependence on the market for food and their relatively limited purchasing power. The most common scenario is for staple food prices to increase as a result of local crop failure, but it is also possible for staple prices to increase independently of local production, e.g. if there is crop failure in the areas that normally supply food to the zone.

Gurage-Siltie Highland Enset and Barley Livelihood Zone

Response Strategies

Households pursue a number of strategies in order to cope with a hazard affecting food security. The main strategies for households in the Gurage-Siltie Highland Enset and Barley Livelihood Zone are as follows:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has strict limits if the sale of productive animals (i.e. oxen and/or adult females of reproductive age) is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is less of an option for the poor, who may only be able to sell a small number of additional poultry in difficult times.

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. Much will depend upon the pattern of food access in recent years, since enset is a relatively slow-growing plant and it can take several years for stocks to regenerate once reserves have been run down in a crisis year. When households expand consumption in a bad year, they consume immature enset, harvesting enset a year before the ideal age for consumption. This has a negative effect on the consumption pattern in subsequent years, possibly until the end of the next growth cycle of enset (5-6 years).

Increased out-migration There is a long-standing tradition of migration of youths from Gurage and Siltie Administrative Zones to various urban centres in the country. In a bad year, this option is intensified, as local agricultural employment opportunities are minimal.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding food purchases in a bad year. Households reported reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling. This may not be the only reason school attendance declines in a bad year, however. Children may also be pulled out of school to earn income through casual labor or to help at home while other family members are out working.

Indicators of Imminent Crisis

Season **Month** **Indicator**

Dry	Jan	Pest infestation of enset (most probably but not necessarily in this month)		
Belg season	Feb			
	March			
	April		Late or absence of belg rains (important for long-cycle highland crops)	
Dry	May		Late or absence of kremt rains (important for long-cycle highland crops)	
Meher season	Jun			
	July			
	Aug			Hailstorms or excessive rainfall in July and August
	Sept			
Dry	Oct		Frost	
	Nov			
	Dec			High grain prices during the harvest and post-harvest periods

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, staple food prices, and frost and hailstorms.

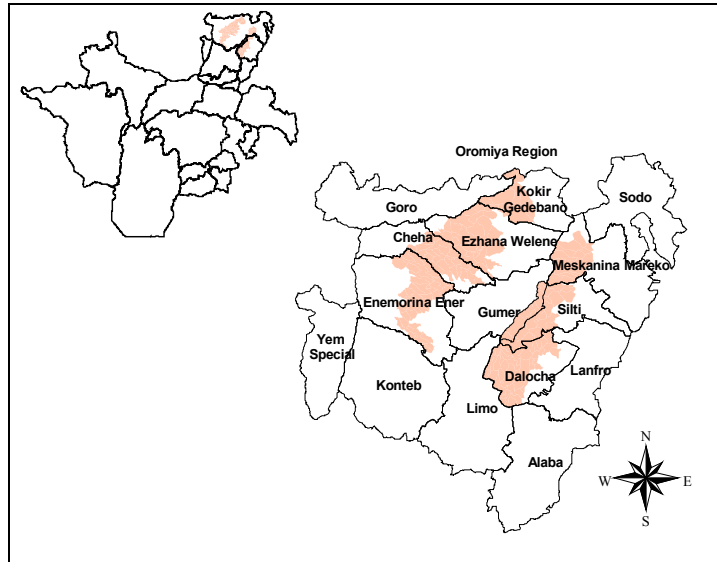
SNNPR Livelihood Profile

Gurage-Siltie Midland Enset and Chat Zone

June 2005¹

Zone Description

The Gurage-Siltie Enset and Chat Livelihood Zone covers the midland (*woina dega*) areas of Gurage and Siltie Administrative Zones, including parts of Edja, Enemor and Ener, Cheha, Endegegn, Mehur Aklil, Kokir, Meskan, Silti, Azernet Berbere and Dalocha woredas. It is located on the eastern and western escarpments of the Gurage/Siltie mountains. The landscape varies from undulating alongside the highlands to gentle gradients and plains in the areas adjacent to the lowlands. The mid-altitude zone offers a unique climatic opportunity for the cultivation of a wide variety of crops. As the moisture and other climatic requirements of different types of crops vary, abnormal conditions do not damage all crops to the same extent, which decreases the vulnerability of the zone to climatic hazards.



This is a relatively food secure livelihood zone that rarely experiences drought and historically has not received food aid. However, cash incomes are quite low, which is unusual for an area that is known for cash crop production, and the population is partly dependent on remittances from household members working in urban areas. Furthermore, future livelihoods are under pressure from rapid population growth and shrinking landholdings.

The Enset and Chat Livelihood Zone is one of the most densely populated areas of the country, with some spatial variation: the eastern part of the zone (Meskan, Silti and Dalocha) is less densely populated than the western part (Kokir, Mihur Aklil, Edja, Cheha and Enemor and Ener). The amount of cash generated through the sale of crops and livestock is limited by small landholdings per household and a lack of grazing land for animals. With an ever-increasing rural population, landholdings are increasingly unable to support the population. The migration of youths to urban areas in search of non-farm employment is the main strategy employed as a response mechanism to the problem of population pressure. Migrants engage in a wide range of income-generating activities including small-scale trading, shop keeping, shoe-cleaning, domestic labor, and construction. However, it is becoming increasingly difficult for migrant laborers to find gainful employment in urban areas, suggesting that strategies are required to diversify incomes, stimulate local agricultural production and marketing, and control population growth.

Although the Omo (west) and Awash (east) Rivers either originate or cross the livelihood zone, there is a lack of clean drinking water for humans and of water generally for livestock in the entire livelihood zone throughout the year.

The main cultivation season is dependent on the *kremt* rains and rainfed agriculture is the main economic activity. *Belg* rainfall is also important for the growth of perennial and long-cycle crops. Enset and chat are the major food and cash crops respectively.

A new tax imposed on chat sales in 2003-04 has discouraged traders from Addis Ababa and nearby big towns from making large-scale chat purchases in this livelihood zone. Although the local government has made some changes to the tax recently, farmers are reluctant to keep on producing chat in the traditional manner and there are reports that some farmers are shifting their land from chat to grain production.

The livestock population is limited by the small amount of grazing land. One of the balancing mechanisms between insufficient pasture and increasing numbers of livestock is the frequent sale of male cattle. Sale of livestock is one of the most important sources of cash income for better off and middle households.

¹Fieldwork for the current profile was undertaken in June 2005. The information presented refers to September 2003-August 2004 (EC Meskerem 1995 to Nehase 1996), a relatively good year by local standards (i.e. a year of above 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 2010).

Market access is generally good. The livelihood zone is located between two major roads. It is connected to the Addis-Jimma and Addis-Arba Minch asphalt roads by all weather subsidiary roads. Numerous all-weather gravel roads also connect the woreda towns within and outside the livelihood zone.

Markets

The importance of different markets is determined by their sphere of influence, their specialization in terms of the type of commodities available, and the volume of trade. The small local markets (*guilt*) are held every day and supply small quantity of items consumed on a daily basis to local consumers. The main woreda markets include Mehal Amba (Kokir), Hawariat (Mihur Aklil), Emdibir (Cheha), Gunchire (Enemor and Ener), Dinkula (Endegegn) and Wurabe (Dalocha). The woreda markets are held once or twice a week and encompass larger geographic area within their sphere of influence that may stretch beyond the woreda boundaries. These are markets for grains, livestock and industrial goods.

The biggest markets, Wolkite (west) and Butajira (east), absorb substantial amounts of the local agricultural produce and also serve as a transit for incoming and outgoing goods. The main cash crop sold by all wealth groups is chat. The sale of livestock is also important, especially for better off and middle households. Addis Ababa is the final destination market for most of the chat and livestock produced in the zone.

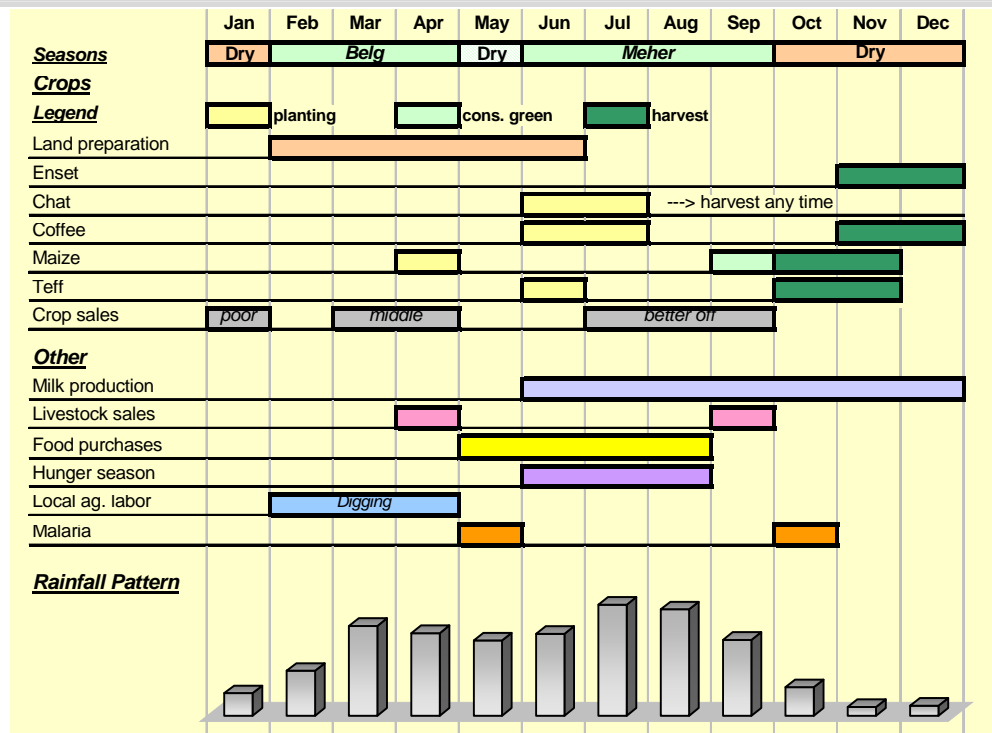
The Addis Ababa to Jimma (west) and Addis Ababa to Arba Minch (east) roads are the major supply lines for imports and exports.

Seasonal Calendar

The livelihood zone has two relatively discrete rainy seasons: the *belg* rains from February to April and the *kremt* rains from June to September.

Most land preparation takes place from the start of the *belg* rains through the start of the *kremt* rains, with crops being planted at the start of the *kremt* rains. The cultivation of teff is particularly labor intensive, with land requiring at least four plowings before planting.

There are no specifically *belg*-dependent crops. The *belg* rains are important for the availability of water for humans and livestock as well as for pasture. It is also important for the growth of perennial crops such as chat and coffee.



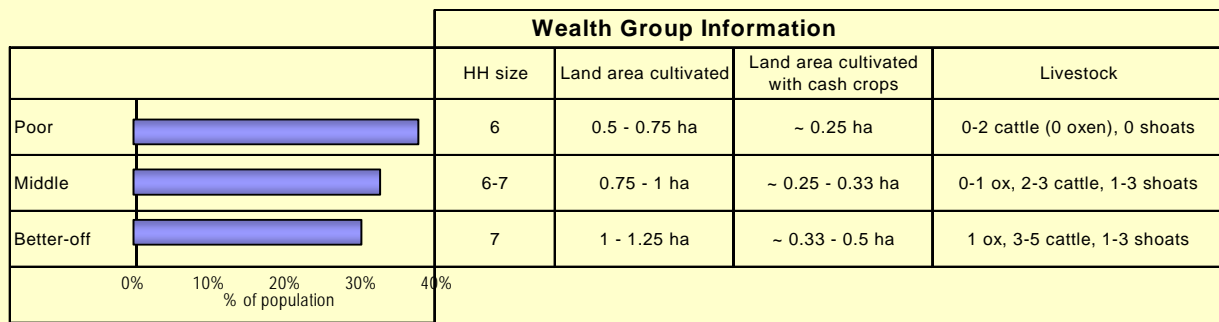
Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Food purchases peak in the months running up to the start of the green maize harvest – the annual ‘hunger’ season. This is also a period when livestock sales are high, as households sell animals in order to obtain cash to purchase food. Livestock are also sold during the main holiday periods.

The main dry harvest period begins in October and continues through December. Enset can be harvested at any time, but most harvesting occurs during November - December.

Malaria is worst during the rainy season, and particularly in May and October, affecting labor availability at household level during these important months in the agricultural calendar.

Wealth Breakdown

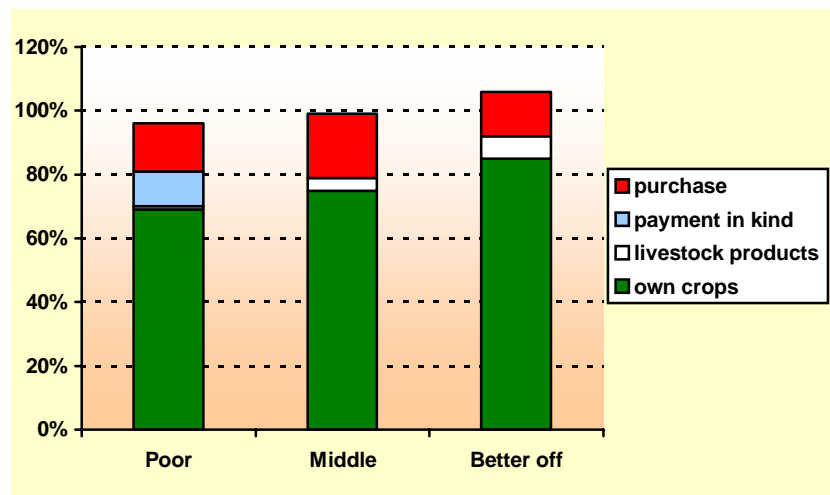


Wealth in the Gurage-Siltie Enset and Chat zone is determined by the size of land and number of cattle owned by households. The ownership of relatively large number of animals separates the better off from the other wealth groups in terms of the amount of cash they can generate on an annual basis.

Sources of Food – An above average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). With the exception of 'payment in kind', which is relevant only to poor households, the other sources of food were similar for all wealth groups. However, the relative contribution of each option varied by wealth group.

In the reference year, better off households covered more than 80% of their annual food requirements from own crops. They consequently depended less on the market than the other wealth groups to make up the balance of their food needs.



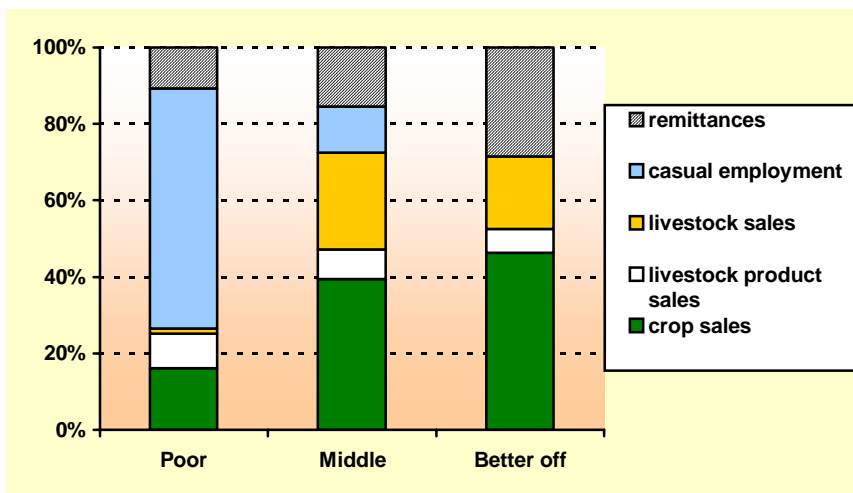
In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

The contribution of livestock products (milk, butter and meat) was positively related with wealth status, reflecting the livestock holdings of the different wealth groups.

'Payment in kind' represents the meals that daily laborers obtain when they are engaged in casual agricultural work for better off households. Meals are provided in addition to the cash paid on a daily basis.

Own crop production was made up almost entirely by enset and maize. The main foods that households purchase were maize, kocho (poor households only), beans and meat (middle and rich households only).

Sources of Cash – An above average year (2003-04)



This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (September 2003 – August 2004). Better off households earned roughly three times that of poor households.

The assets available to each wealth group largely determine the differences in the amount of cash earned. While better off and middle households mainly generated their income from the sale of crops, livestock and livestock products, poor households relied largely on casual employment and remittances.

The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	700 - 1100	1500 - 2400	2500 - 3200

Most of the income from crop sales was generated from chat production (all wealth groups) and teff production (middle and better off wealth groups).

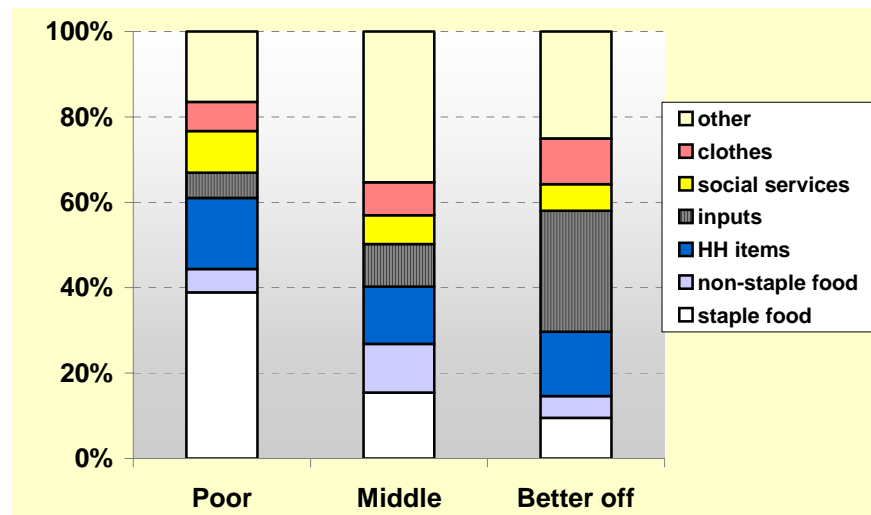
Employment (local and migratory) and remittances were the major sources of income for poor households. There is a long-standing tradition of migration of youths from Gurage and Siltie Administrative Zones to urban centres and this is reflected in the partial dependence of all wealth groups on remittances. In addition to the cash transfer, remittances also take place in the form of gifts in kind, including clothing, school supplies for younger siblings, kerosene and slaughtered meat for Arefa and Meskel (the major holidays of the year for Muslims and Christians respectively).

Expenditure Patterns – An above average year (2003-04)

In the reference year, all wealth groups purchased similar commodities, but the amount of cash spent varied considerably depending on the quality and quantity of items as well as the time of purchase. In general terms, poor households spent more on staple food.

Expenditure on most other items increased significantly with wealth, most notably expenditure on inputs (livestock drugs, fertilizer, seeds and agricultural labor), on social services (which includes schooling and medicine), and on clothes.

Household items (HH items) include coffee, salt, soap, and kerosene, while 'other' includes tax, social obligations and ceremonies.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The Gurage-Siltie Midland Enset and Chat Livelihood Zone is subject to a number of hazards that may result problems at household level. The main hazards that have affected the zone in recent years are:

Pest infestation. Enset production has been affected by pests in the last few years. Reduced production has forced households to purchase additional food, which is difficult for poor households. In addition, coffee, which is produced for household consumption and as a means of additional cash income in years of good production, is affected by coffee berry disease.

Tax imposition. The tax imposed in 2003-04 on chat entering Addis Ababa has discouraged traders from Addis and

nearby towns from large scale chat trading and has also reduced the price that farmers receive and their overall income levels. Although the local government has made some amendments to the tax laws recently, farmers are reluctant to keep on producing chat in the traditional manner².

Competition for employment. The migration of significant numbers of youngsters to the major urban areas of the country is an important source of income in this livelihood zone. Recently, however, there has been severe competition for work as the number of migrants and the employment opportunities in the urban areas are incompatible. City government decrees prohibiting street trading have also affected street vendors, particularly in Addis Ababa, where most of the migrants are concentrated.

Response Strategies

Households respond to hazards in a variety of ways. All wealth groups **increase the sale of livestock** and **reduce expenditure on non-essential items** in bad years, to the extent that this is possible. In addition to these strategies, there is **increased migration** to urban areas in bad years and poor households attempt to intensify the amount of **local casual work** that they do, although both of these strategies are constrained by the available demand for labor. Households also resort to the **consumption of immature enset** when times are particularly bad, but this strategy can negatively affect longer-term food security.

In order to cope with the specific hazards mentioned above, the introduction of **pest-resistant varieties of enset** from Sidama and other enset growing areas has been the only solution found so far. Farmers have taken two approaches to coping with the tax of chat: they are themselves **transporting chat** to Wolkitie and Butagira for sale (whereas previously traders used to purchase directly from them in bulk) and some farmers are **converting their fields from chat to cereal production**. Instead of migrating to urban areas for employment, laborers have started to look for more **agricultural employment locally**, both for better off farmers and on commercial plantations.

Indicators of Imminent Crisis

Season Month Indicator

Dry	Jan	Pest infestation of enset (most probably but not necessarily in this month)
Belg season	Feb	
	March	
Dry	April	Lack of pasture and water for livestock due to failure of <i>belg</i> rains
	May	
Meher season	Jun	Late start of rains
	July	Uneven distribution and inadequate amount of rainfall
	Aug	Uneven distribution and inadequate amount of rainfall
	Sept	Delayed green maize harvest
Dry	Oct	High cereal prices during the harvest and immediate post-harvest period
	Nov	
	Dec	High cereal prices during the harvest and immediate post-harvest period

The graphic presents the likely sequence of indicators in the lead up to a food security crisis. There is a range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, staple food prices, and pasture and water availability.

² There were reports that some farmers were shifting their land from chat production to grain cultivation.

SNNPR Livelihood Profile

Gurage-Siltie Enset and Teff Livelihood Zone

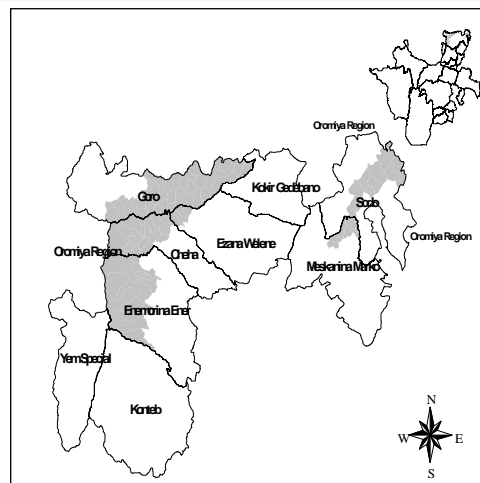
June 2005¹

Zone Description

The Gurage-Siltie Enset and Teff Livelihood Zone includes most of the dry midland (*woina dega*) and upper lowland (*kolla*) areas of Sodo, Edja, Cheha, Enemor/Ener, Kebena and Abeshge woredas of Gurage Administrative Zone. The landscape is generally flat and the elevation ranges from 1500-2000 meters above sea level.

Due to its moderate population density and relatively fertile soil, this livelihood zone has historically been self sufficient in crop production and food secure. However, the population has increased to the point where the existing agricultural land can no longer support additional people. Although there is a large expanse of unsettled and uncultivated land, the population density is high in the settled areas.

Trypanosomiasis and the government's prohibition of the expansion of cultivation to areas previously set aside for resettlement were the main reasons for the confinement of people to a very specific area. The recent expansion of agricultural land to previously unsettled and uncultivated areas is part of the effort to deal with the current scarcity of land.



The livelihood zone is located within the Omo River drainage basin. The Wabi River flows through the livelihood zone throughout the year, draining into the Gibe and then the Omo River. Drinking water is obtained from shallow wells and tributaries of the Wabi River. There is a shortage of clean drinking water for humans and of water generally for livestock throughout the year.

The livelihood zone is the habitat of wide variety of indigenous plant species, the most widespread of which is acacia. Eucalyptus has played an important role in preventing excessive deforestation and preserving the remaining areas of indigenous woodland.

Annual total rainfall is about 900 mm per year. The *kremt* rains are more important than the *belg* rains in this livelihood zone, and are essential for the cultivation of teff, chickpeas, and the oilseed *noug* (niger seed). *Belg* rainfall is also important for the cultivation of long-cycle crops, of which the most important is maize. The agricultural cycle lasts for a year beginning with land preparation in January and ending with threshing in December.

The main food crops are enset, maize (most of which is consumed green), chickpeas and sorghum. Subsidiary food crops such as taro, yams and *gomen* (cabbage) are also cultivated. The main cash crops are teff and *noug*. Minor cash crops include chat, coffee and onion, which are grown in some but not all villages. Cattle and goats are the main types of livestock kept by villagers in this area.

Traditionally, the land was prepared by hand using a *wunet* (hoe). Nowadays, ox plows are also used, especially for teff and *noug*, which require careful land preparation. Ox ownership is a significant determinant of wealth in the area. There is a shortage of oxen in the livelihood zone, partly due to trypanosomiasis, which is a significant problem in most parts of the livelihood zone and greatly limits grazing areas. Recently, plowing by tractor has been introduced, particularly to bring virgin land into cultivation. Tractors are rented from the woreda agricultural office and from local service cooperatives.

Market access is generally good. The livelihood zone is traversed by the Addis-to-Jimma asphalt road, and there are numerous secondary all-weather gravel roads connecting the woreda towns.

It is common for men and women aged 14-20 years to migrate out of the livelihood zone to find work in urban areas such as Addis Ababa, Dire Dawa, Nazareth and the major towns in SNNPR. Various types of casual employment are sought, including shop keeping, shoe cleaning, domestic labor, construction – whatever is available. Migrants tend to stay away the whole year. Their motive is to support the household at home, while at the same time reducing the number of mouths to feed. A significant negative side effect of this strategy is the loss of a secondary school education.

¹Fieldwork for the current profile was undertaken in March 2005. The information presented refers to August 2003-July 2004 (EC Nehase 1995 to Hamle 1996), a relatively average year by local standards (i.e. a year of 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 2010).

Markets

Markets are classified at least into three different levels in this livelihood zone. The smallest market places (*guilt*) serve a small number of people within villages and only supply a limited number of goods in small quantities. These markets function every day throughout the week.

The woreda centres are the main markets for both grains and livestock. Most household demands are supplied in a sufficient quantity in these markets and people rarely have to travel to bigger markets to purchase unavailable goods. The woreda markets are Emdibir (Cheha woreda), Gunchire (Enemor and Ener), Meskan (Buta Jira), Wolkite (Abeshge and Kebena) and Sodo (Sodo).

The largest market, Wolkitie, absorbs substantial amounts of the local agricultural products and also serves as a transit for incoming and outgoing goods. The main cash crop sold by all wealth groups is teff. The sale of livestock is also an important source of cash income, particularly for the better off and middle households. The main destination markets for teff and livestock are Wolkitie, Butajira and Addis Ababa.

The Addis Ababa-Jimma road is the major supply line for imports and exports. The woreda towns within the livelihood zone are connected to this road and interconnected with each other and with other livelihood zones by good quality all-weather roads. The new Addis-Wolkitie tarmac road has also made trade interaction between this livelihood zone and Addis Ababa more efficient than ever before.

Seasonal Calendar

The two rainy seasons are the *belg* rains, which fall between March and May, and the *kremt* rains, which fall between June and September. Most land preparation work occurs in the months before the start of the *meher* season and most crops are planted with the start of the rains.

Although enset planting and harvesting periods are marked in the diagram, enset takes 4-6 years to mature. While it is often eaten before full maturity, it is not possible to plant an enset stem and eat from it within the same agricultural year.

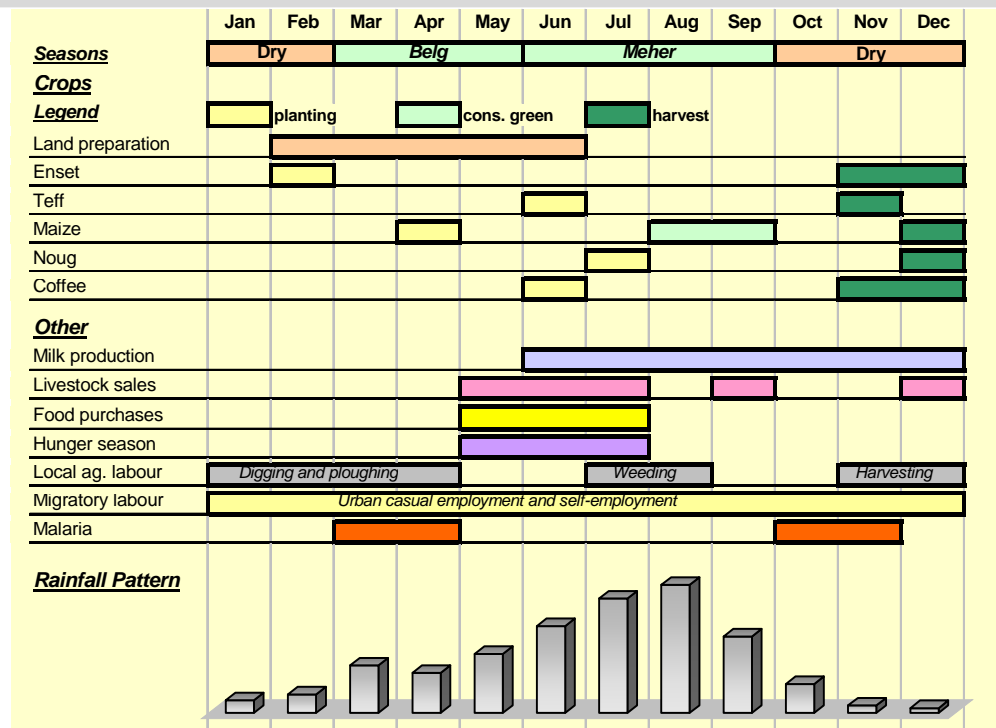
In most years, the hunger season lasts for three months from May, when

the main season crops run out, until the end of July, when maize is mature enough for green consumption. This is the period when households try to make up their food deficit through purchasing food from the market.

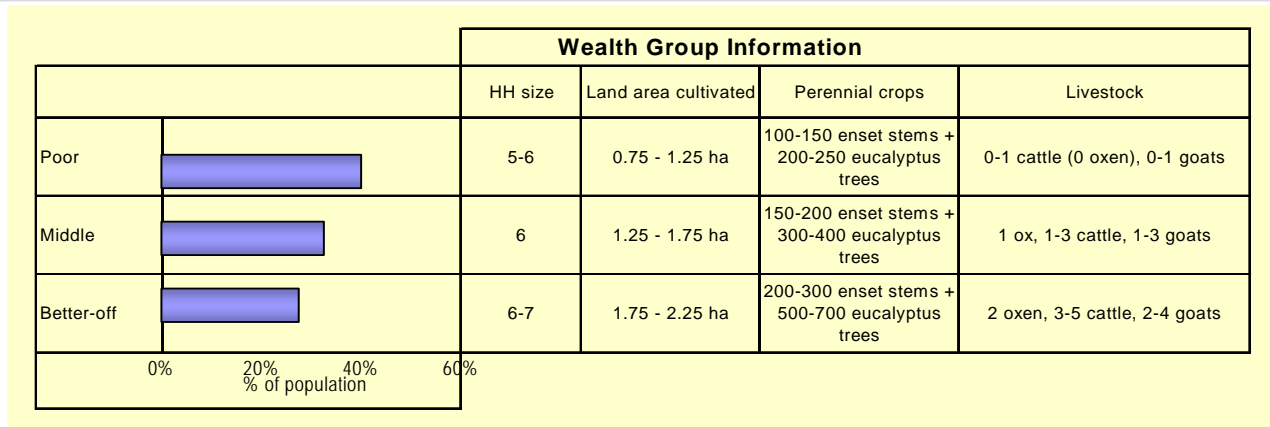
While urban employment provides an important source of income for all wealth groups throughout the year, local labor provides a limited income source for poor households on a seasonal basis. Local labor opportunities are available at specific times of the year when better off households require additional labor: in January to April (digging), July and August (weeding) and November and December (harvesting). Enset processing is an activity for women in the dry season (November to January). Most kocho is prepared at this time of year and is then stored underground to ferment until consumed. Non-farm employment in urban areas is available throughout the year.

Goats are generally sold when prices are high, particularly during Christian and Muslim festivals, although sales during the hunger season are also common. Oxen are often sold after the plowing season, when the requirement for oxen is minimal.

Malaria is a problem throughout the year, but is worst in the rainy seasons and the beginning of the dry seasons.



Wealth Breakdown



Wealth in the Gurage-Siltie Enset and Teff Livelihood Zone is determined by two key factors: the number of livestock and the size of land owned by different households. Better off households differ from other wealth groups in both asset and crop production levels. Through their ownership of a pair of oxen, they are able to plow their relatively large landholdings in a timely manner and as a result obtain more production than the other wealth groups. They also use more agricultural inputs, such as fertilizers and improved seeds. The ownership of relatively large herd size ensures access to livestock products for household consumption and serves as a source of cash income. Poor households, in contrast, are characterized by small land and livestock holdings. This may explain why many poor households depend on better off households for employment. Middle households fall between these two groups.

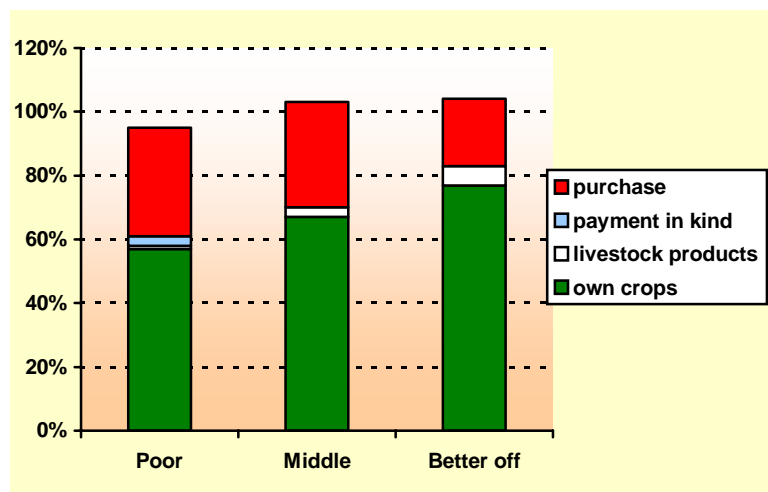
Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004).

August represents the start of the consumption year because that is when the green maize harvest starts, marking the end of the annual hunger season.

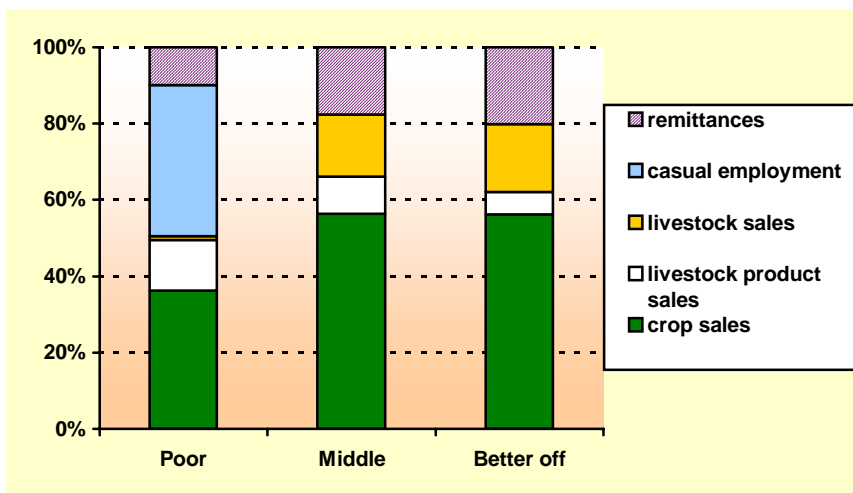
With the exception of 'payment in kind', which is specifically relevant to poor households, the sources of food were similar for the three wealth groups. However, the relative contribution of each option varied across the wealth groups. The main trend across the wealth groups was for consumption of own crops and own livestock products to increase with wealth and for food purchases to decline.

Overall, the better off and middle groups covered over 100% of their minimum food energy needs in the reference year, while the poor consumed between 90%-95% of minimum needs.



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

Sources of Cash – An average year (2003-04)



This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (August 2003 – July 2004). Better off households earned almost three times that of poor households.

The middle and better off groups relied almost entirely on crop and livestock sales income, supplemented by remittances from family members working in urban areas. In addition to these sources, poor households obtained significant income from casual agricultural work for better off households ('casual employment' in the graph).

The most important crop sold by all wealth groups was teff,

The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	900 - 1000	1500 - 1900	2400 - 3000

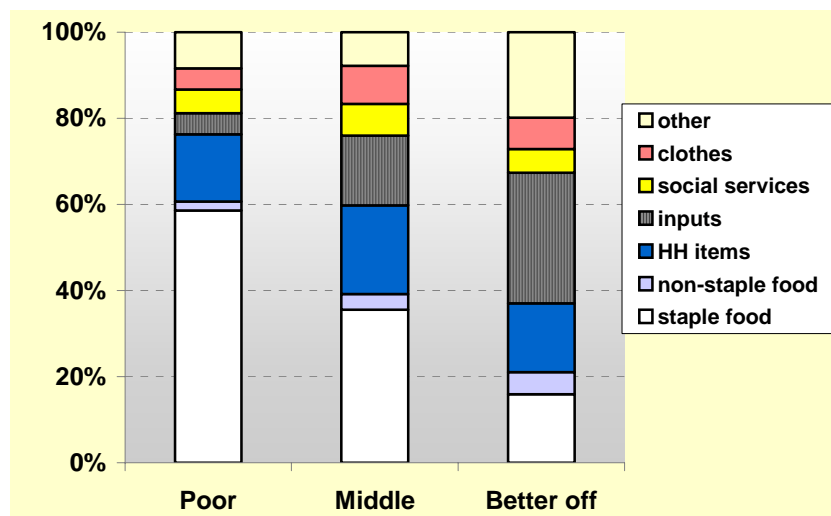
supplemented by small amounts of *noug*. Middle and better off households also sold eucalyptus trees.

There is a long standing tradition of migration of youth from Gurage and Siltie to urban centres and this is reflected in the partial dependence of all wealth groups on remittances. In addition to the cash transfer, remittances also take place in the form of gifts in kind – clothing, school supplies for younger siblings, kerosene and slaughtered meat for Arefa and Meskel (the major holidays of the year for Muslims and Christians).

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varied significantly by wealth group. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased.

Better off households had the lowest food purchase requirements, since they relied heavily on their own crop production as a source of food. For poor households, staple food purchase took the highest proportion of the annual total expenditure, at almost 60%.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

'Inputs' include seeds, tools, fertilizer, livestock drugs, and payment for labor. The jump in expenditure on inputs for the better off represents additional expenditure on all of these items, but on fertilizer and agricultural labor in particular. Only the better off pay for agricultural labor.

Hazards

The Gurage-Siltie Enset and Teff Livelihood Zone is subject to a number of hazards that may result problems at household level. The main hazards affecting the zone are:

Erratic rainfall. Because the rate of evapotranspiration is very high in this hot, lowland area, the moisture requirement for crops is also high. Delayed onset, early cessation or insufficient quantity or distribution of *belg* or *kremt* rains reduces crop production.

Animal disease. Trypanosomiasis is the most serious animal disease in this livelihood zone. It causes animal

deaths, reduces milk production, and restricts grazing areas.

Response Strategies

Households respond to drought-induced crop failure in a variety of ways. All wealth groups **increase the sale of livestock** and **reduce expenditure on non-essential items**, to the extent that this is possible. In addition to these strategies, there is **increased migration** to urban areas in bad years and poor households attempt to intensify the amount of **local casual work** that they do. Households also resort to the **consumption of immature enset** when times are particularly bad, but this strategy can negatively affect longer-term food security.

Recognition of the importance and uses of **veterinary services** as opposed to traditional medication practices has significantly reduced livestock death since the major outbreak of trypanosomiasis (*gendi*) in 2001. Although trypanosomiasis is not totally eradicated, reduced animal deaths due to improved veterinary services has enhanced peoples' confidence to expand their agricultural and grazing land to previously uninhabited areas. This is a long-term strategy to improve their food security.

Indicators of Imminent Crisis

Season Month Indicator

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Dry	Jan	High cereal prices during the harvest and immediate post-harvest period
Belg season	Feb	
	March	Failure of <i>belg</i> rains
	April	Unusually severe outbreak of malaria
Dry	May	Unusually severe outbreak of malaria
	Jun	Late start of <i>kremt</i> rains
Meher season	July	Uneven distribution and inadequate amount of rainfall
	Aug	Uneven distribution and inadequate amount of rainfall
	Sept	Delayed start of green maize harvest
	Oct	Unusually severe outbreak of malaria
Dry	Nov	
	Dec	High cereal prices during the harvest and immediate post-harvest period

The graphic presents the likely sequence of indicators in the lead up to a food security crisis. There are several indicators for the livelihood zone, including those related to rainfall, staple food prices, and harvest timing. There are certain problems that are not time specific. Trypanosomiasis is prevalent throughout the year but gets worse during the dry season. Malaria is also a problem throughout the year, but the maximum prevalence occurs during the dry seasons.

SNNPR Livelihood Profile

Gamo Gofa Enset and Barley Livelihood Zone

August 2005¹

Zone Description

The Gamo Gofa Enset and Barley Livelihood Zone is a mountainous and densely populated zone that includes the wet *woina dega* and *dega* agro-ecological zones² of Gamo Gofa Administrative Zone. It covers most of Chencha and Dita woredas and parts of Gofa Zuria, Boreda, Daramalo, Bonke, Kemba and Arbaminch Zuria woredas. Most of the rural population in this zone is self-sufficient in food, but a small percentage of households are chronically food insecure.

The livelihood zone has bimodal rainfall, with maximum rainfall occurring in the months of April and July. The two rainy seasons are locally called *geba* (from February to May) and *silla* (from June to October). Temperatures range from 10°C – 25°C and the rate of evapo-transpiration is low. Most of the land in this livelihood zone is cultivated and the area covered by large trees, bushes and shrubs is limited.

Many indigenous tree species³ have been cleared over time, as farmers have extended their cultivated land, and some species are now at risk.

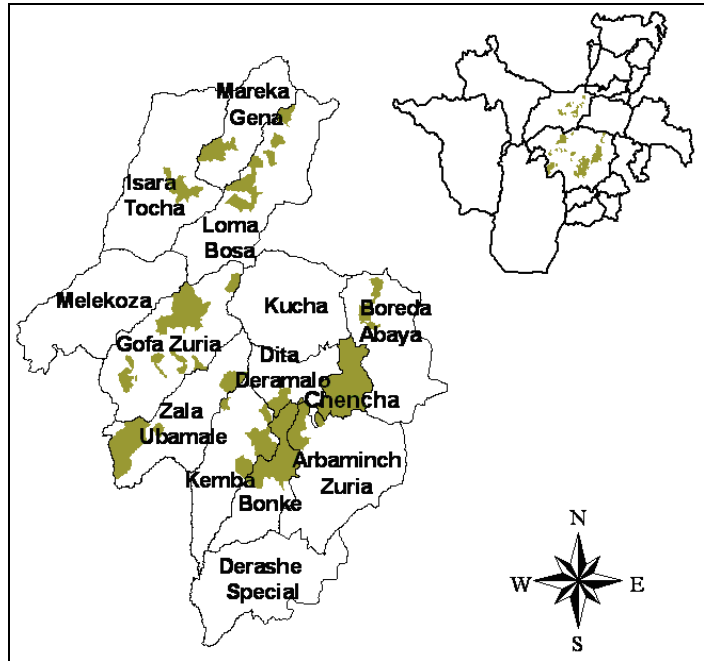
There are artificial forests of bamboo and eucalyptus trees.

The livelihood zone is crossed by perennial rivers such as the Shaye, Baso, Ghina and Ergino that flow in a southeasterly direction. There are also plenty of seasonal rivers, but no irrigated cultivation is practiced in the zone. There is extensive run off during the rainy season, which results in soil erosion, landslides, the destruction of roads and bridges, and flooding in the low-lying neighboring areas.

The agricultural system is mixed farming. Households grow enset, barley, wheat, sweet or Irish potatoes (but usually not both), pulses (horse beans, peas and haricot beans) and small amounts of maize. Maize and haricot beans are primarily planted for green consumption and are the only crops that are inter-cropped. Farmers do not have any pure cash crops, but they sell some of their food crops. All crop production is rainfed. Those who own oxen use them for plowing their fields, while those who do not generally cultivate by hand.

Cattle, sheep, horses, mules, donkeys and chickens are reared in this livelihood zone, but the types of livestock owned vary considerably from one wealth group to the next. Due to a lack of grazing land, households use a 'cut and carry' system for feeding their livestock.

Households obtain most of their cash income from crop sales, livestock and livestock product sales, and, in the case of very poor and poor households, casual employment. The opportunities for casual employment include local agricultural work, local urban work and migratory work to places such as Arbaminch and Mirab Abaya (where cash crops dominate), and Wolayita (for urban work). Weaving, petty trade and firewood sales are supplementary income sources.



¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to June 2003 – May 2004 (EC Sene to Ginbot 1996), a relatively average year by local standards (i.e. a year of 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 2010).

²Altitudes range from 2200-3200 meters above sea level.

³These include *hyginia abissinica* (kosso), *podocarpus* (zigba) and *juniperus procera* (abesha tid).

Markets

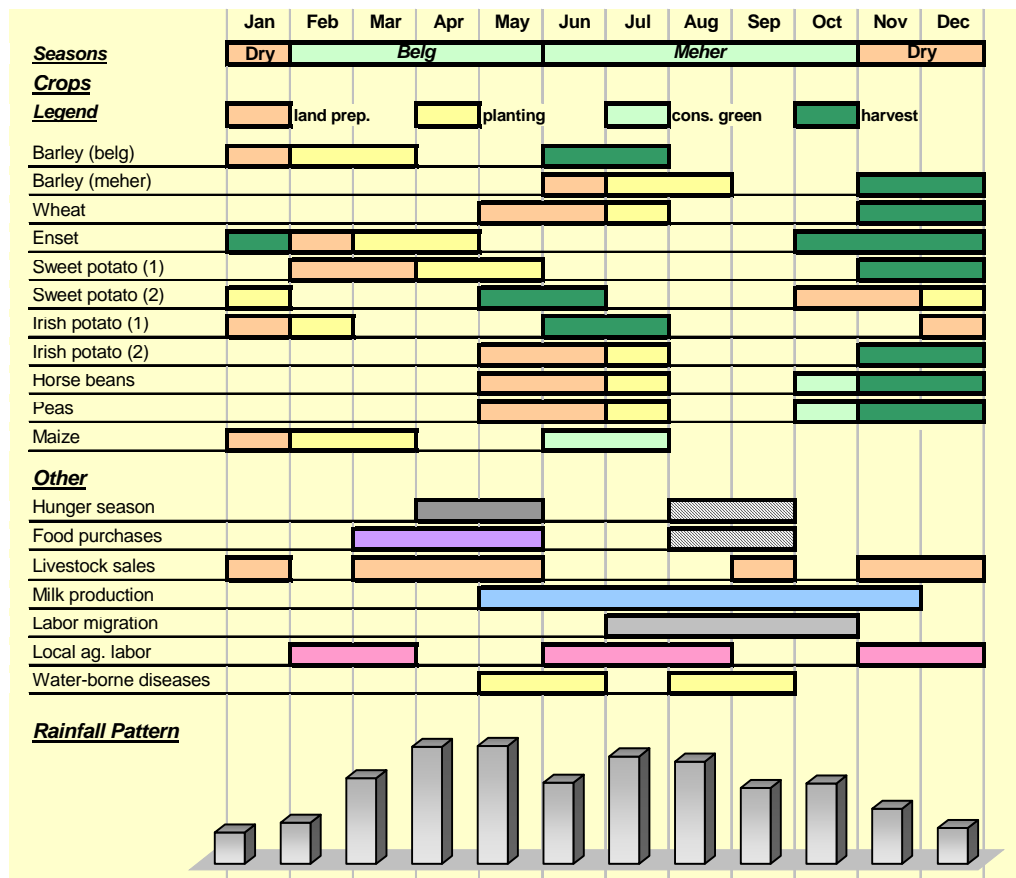
Market accessibility is generally poor in this livelihood zone due to poor state of the roads, most of which are only suitable for dry-weather transportation and are crossed by seasonal rivers. Better off households use horses, mules and donkeys for transport, but seasonal rivers often cannot be crossed during the rainy season and it is difficult to get to market. During the dry season, there is better access to markets. Apart from the state of the roads, the livelihood zone is distant from major urban markets and major transport routes in the region. As a result, the prices of the goods that households sell tend to be low and the prices of the goods that they purchase tend to be high.

The main local markets are Gerese, Gezeso, Ezo, Chench, Dorze, Zefine, Zadha, Bulki, Sawula and Lote, which are woreda and large kebele towns. The items exported from the zone include cattle, sheep, hides, milk, butter, wheat, horse beans, peas, and Irish potatoes. These crops, livestock and livestock products are first sold in small kebele markets and are then traded in the main local markets before finally being transported to major urban centres such as Arbaminch, Wolayita, Awassa and Addis Ababa.

The main staple foods imported into the zone are maize and either Irish potatoes or sweet potatoes. Different parts of the livelihood zone produce Irish and sweet potatoes, so areas that produce sweet potatoes import Irish potatoes and vice versa. Maize is imported from the surrounding Gamo Gofa Maize and Root Crop Livelihood Zone. When there is a scarcity of maize from this area, it is imported from Shashamene, Alaba and Wolayita. Potatoes are imported from Arba Minch and Wolayita.

Seasonal Calendar


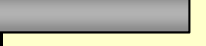

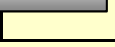
There are two distinct cropping seasons in this livelihood zone. Enset, maize and first season barley and Irish potatoes are planted during the *belg* season. Wheat, pulses and second-season barley and Irish potatoes are planted during the *meher* season. There is another planting period for sweet potatoes in December – January. The main harvest period is November – December, at the end of the *meher* season. *Belg* season crops are harvested in June – July, except for maize, which is only available in its green form at this time. Enset can be harvested at any time, but the main period for harvesting is the long dry season from October – January.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

There are two hunger seasons. The first occurs in April – May, before green maize and other *belg* season crops become available. The second hunger season occurs in August- September, in between the two harvest periods, primarily affecting poor households since they do not produce enough from the *belg* season to carry them through to the *meher* harvest. This second hunger season is particularly significant when the *belg* crops fail. Food purchases peak during the hunger seasons and livestock sales are also common at this time. Livestock sales during the November – January period are usually to repay credit for agricultural inputs and taxes.

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		4-6	~ 0.25 ha	0 mature enset stems, 0 eucalyptus trees, 0 bamboo trees	1 <i>yerbee</i> cow, 0-2 sheep
Poor		5-7	~ 0.5 ha	5-15 mature enset stems, 1-10 eucalyptus trees, 10-30 bamboo trees	0-1 plow ox, 1-2 cattle, 2-4 sheep
Middle		6-8	~ 0.75 ha	15-25 mature enset stems, 20-40 eucalyptus trees, 50-150 bamboo trees	1 plow ox, 3-5 cattle, 4-6 sheep
Better-off		8-10	~ 1 ha	30-50 mature enset stems, 50-150 eucalyptus trees, 150-250 bamboo trees	2 plow oxen, 5-7 cattle, 5-7 sheep, 1 equine
0% 10% 20% 30% 40% % of population					

As in most other parts of SNNPR, wealth at household level is determined by a combination of land and livestock holdings. As a result of the high population density in this livelihood zone, landholdings per household are quite small, rarely exceeding one hectare. Middle and better off households own all of the types of livestock reared in the zone. In contrast, very poor households rarely own more than a couple of sheep and a few chickens. Poor households typically own 1-2 cattle in addition to this, which differentiates them from the very poor.

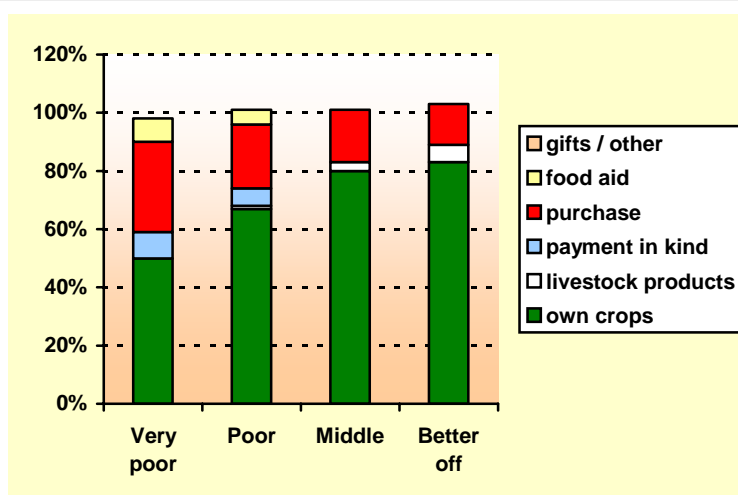
Very poor households obtain access to cattle through an arrangement known as *yerbee*, by which a better off household gives a cow to a very poor household to keep and feed. In exchange, the very poor household keeps half of the milk produced and half of the offspring.

The ownership of plow oxen is an important determinant of wealth, as it allows farmers to till the land properly and in a timely manner. Two middle households, who typically own 1 ox each, often pair up for cultivation, using the oxen on alternate days. Poor households obtain the use of oxen in exchange for working for better off households, or, more commonly, cultivate by hand.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Gamo Gofa Enset and Barley Livelihood Zone for the period June 2003 – May 2004, which was a fairly average year. June represented the start of the consumption year because this was when the green maize harvests started, marking the end of the annual hunger season.

The contribution of own crop production increased with wealth. Very poor households obtained about half of their food needs from their own crop production, whereas better off households obtained over 80% in the reference year. The contribution of livestock products (primarily milk and butter) also increased with wealth and was only significant for middle and better off



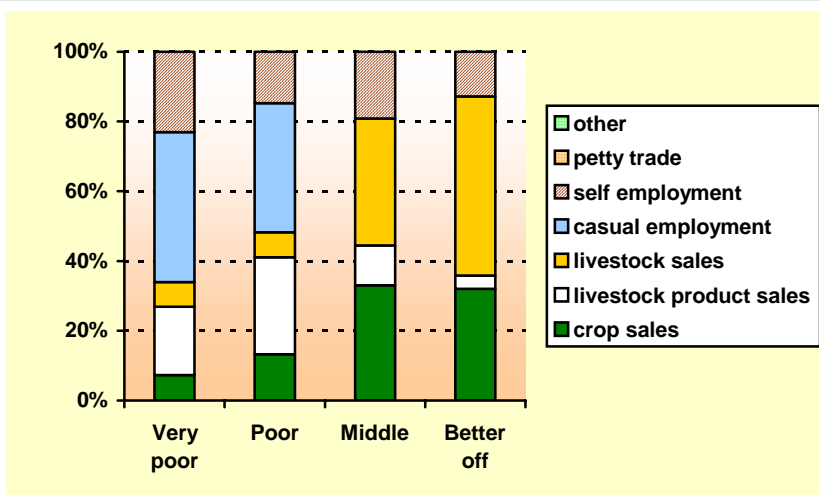
Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

households since other wealth groups tended to sell rather than consume these high-value items.

Households made up any gap in food through a combination of purchase and ‘payment in kind’ (which means working directly for food). Maize, *kocho* and potatoes made up the bulk of purchases for very poor and poor households. ‘Payment in kind’ generally took the form of meals paid to laborers on the days that they worked for the better off locally or meals eaten by migrant laborers while away from home.

Very poor and poor households, which made up roughly half the population, received small quantities of relief food in the reference year.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	800-1100	800-1200	1250-1750	1750-3000

The graph presents the sources of cash income for households in different wealth groups in the Gamo Gofa Enset and Barley Livelihood Zone for the period June 2003 – May 2004.

Very poor households earned roughly ETB 800-1100 in the reference year, compared to ETB 1750-3000 for better off households. In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

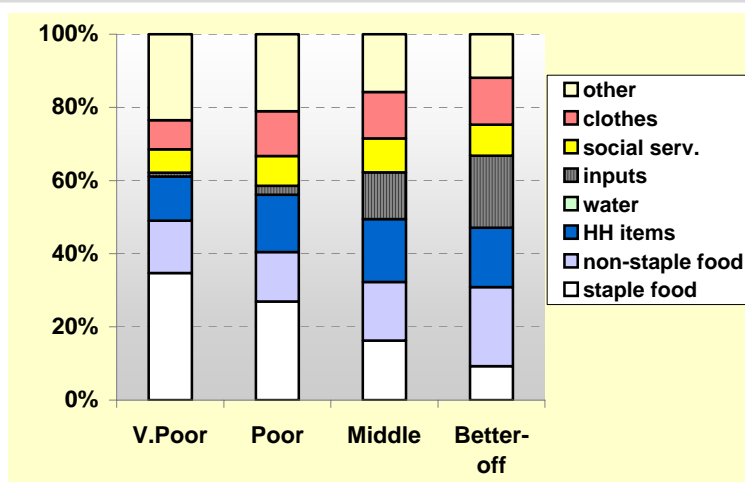
Very poor households obtained the bulk of their cash income from casual employment, including both local and migratory work. Poor households also obtained income from these sources.

Most households engaged in an ‘other’ income-generating activity in the reference year. For very poor and poor households, these tended to include firewood sales, weaving (which was often in the form of remittances from relatives weaving in Addis Ababa and elsewhere) and petty trade. Middle and better off households also obtained income from trading activities and weaving, but generally not from firewood sales.

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period June 2003 – May 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. About 30-40% of very poor household income went toward the purchase of staple food, compared with about 10% in the case of the better off. Expenditure on most other items increased with wealth in the reference year (in absolute terms).

The category ‘household items’ included coffee, salt, soap, kerosene and grinding. ‘Other’ included tax, social obligations, festivals, ceremonies, local drinks and savings. ‘Inputs’ included livestock drugs, fertilizer, seeds, and, in the case of middle and better off households, hired agricultural labor. ‘Social services’ included spending on education and health.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This livelihood zone is subject to a number of periodic and chronic hazards.

Erratic rainfall is a periodic problem in the zone and can include a late start to the rains and/or an uneven distribution

Gamo Gofa Enset and Barley Livelihood Zone

of rainfall. A late start to the *belg* rains is especially significant, resulting in an extended and more severe hunger season than usual by delaying the green maize and bean harvest. Unseasonal or excessive rain can also be a problem at certain times of year, particularly at harvest time.

Crop pests and diseases are a chronic problem in the zone, of which the most detrimental are aphids (affecting pulses).

Very poor and poor households are especially vulnerable to an **increase in staple food prices** given their dependence on the market for food and their relatively limited purchasing power. The most common scenario is for staple food prices to increase as a result of local crop failure, but it is also possible for staple prices to increase independently of local production, if there is crop failure in the areas that normally supply the Enset and Barley Livelihood Zone.

A slow-onset hazard that is worsening with time is **land degradation**, which results from deforestation and increased cultivation in the zone (which is in turn caused by population pressure). Soil erosion and landslides are possible consequences.

Response Strategies

Households pursue a number of strategies in order to try and cope with a hazard affecting food security, some of which have negative consequences. These include:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has limits if the sale of productive animals is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. However, there are strict limits to this strategy if households are to avoid depleting their reserves or consuming immature stems, thus reducing future production. Only better off households have mature enset in reserve in most years.

Increased out-migration in search of casual labor. Men from poorer households migrate out of the zone every year in search of casual employment. In a bad year, more migrants leave, and they leave earlier in the season.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling. This may not be the only reason school attendance declines in a bad year, however. Children may also be pulled out of school to earn income through casual labor or to help at home while other family members are out working.

Increased local income-generating activities. Very poor and poor households do more local casual work, petty trade and firewood sales in bad years. Daily wages and profit rates are often lower in bad years, so this means that able-bodied household members have to intensify the number of days per week that they work. The increased sale of firewood is a particularly damaging strategy in an area that already suffers from deforestation and land degradation.

Indicators of Imminent Crisis

Season **Month** **Indicator**

Dry	Jan	High cereal prices in harvest and post-harvest period	
Belg season	Feb		
	March		Late start to <i>belg</i> rains
	April		Insufficient rainfall during key month in agricultural calendar
Dry	May		
Meher season	Jun		Late start to <i>kremt</i> rains
	July		Delayed green harvest. Presence of butterflies in July - September
	Aug		Insufficient rainfall during key month in agricultural calendar
	Sept		
Dry	Oct		Presence of aphids in October damage pulses at flowering stage
	Nov		Unseasonal rains damage harvest. Delay or failure of meher season production
	Dec		High cereal prices in harvest and post-harvest period

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, the timing of harvests, and staple food prices.

SNNPR Livelihood Profile

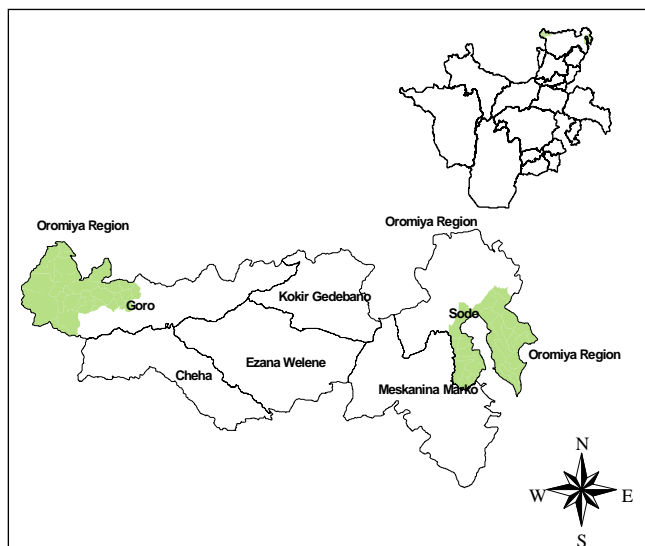
Gurage Lowland Maize and Teff Zone

August 2005¹

Zone Description

The Gurage Lowland Maize and Teff Livelihood Zone is a food secure area where household food production and cash incomes are high compared to many other areas of SNNPR. The favorable features of this zone include fertile soils, low population density, large landholdings, good market access and reliable rainfall. The zone is split into two separate geographical areas, located in the eastern and western lowlands of Gurage Administrative Zone, and includes parts of Abeshige and Sodo woredas. These two areas have many similar livelihood features, including the importance of maize and teff, and the similarity of wealth group characteristics (including land and livestock holdings) and food and cash income sources.

The main differences between these two areas are the markets that they use (Kella and Meki in the east and Dalge and Walge in the west), the ethnic composition of the population (original inhabitants in the east and settlers² in the west), and some of the supplementary cash crops (wheat in the east and pepper in the west).



The landscape is generally flat and the elevation ranges from 1000 – 1500 meters above sea level, falling in the *kolla* agro-ecological zone. Acacia trees and savannah grassland dominate the vegetation of the livelihood zone. The eastern part of the zone falls in the Rift Valley drainage system, while the western part falls in the Omo Valley drainage system. The major rivers are the Meki River in the east and the Ghibe River and its tributaries (Wabe, Walga, Kulit and Darge) in the west. Only the Kulit River is used for irrigation. Water is relatively plentiful in this livelihood zone, for both humans and livestock, but clean drinking water is a problem.

Rainfall in this zone is relatively reliable. Both rainy seasons are important in this livelihood zone. *Belg* rainfall is important for the cultivation of long-cycle crops, of which the most important are maize and sorghum. Short-cycle crops (teff, wheat, haricot beans and pepper) are planted at the start of the *kremt* rains. The agricultural cycle lasts for almost a year beginning with land preparation in February and ending with threshing in December - January.

Mixed farming is the main livelihood pattern. The main food crops are maize, sorghum, haricot beans and chickpeas. The main cash crops are teff, maize and either wheat or pepper depending on location. Other less important crops include sugarcane, papaya, mango, avocado, guava, lemon and coffee. Cattle, goats, sheep and donkeys are reared in this livelihood zone and oxen are crucial for plowing the large areas of land that households cultivate. Trypanosomiasis is a major problem for livestock in the western part of the zone.

There is no labor migration out of the zone, but members of poor households do agricultural work locally for better off farmers.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to September 2003 - August 2004 (Meskerem 1996 to Nehase 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

²Settlers originally and voluntarily originated from Kembata in 1976 and then from Amhara Region (Menz, Jiru and Sayint) in 1977-78. Their number significantly increased during the forced resettlement program of 1984-85 when settlers were brought from Tigray, Wolayita, Wollo and North Shewa.

Markets

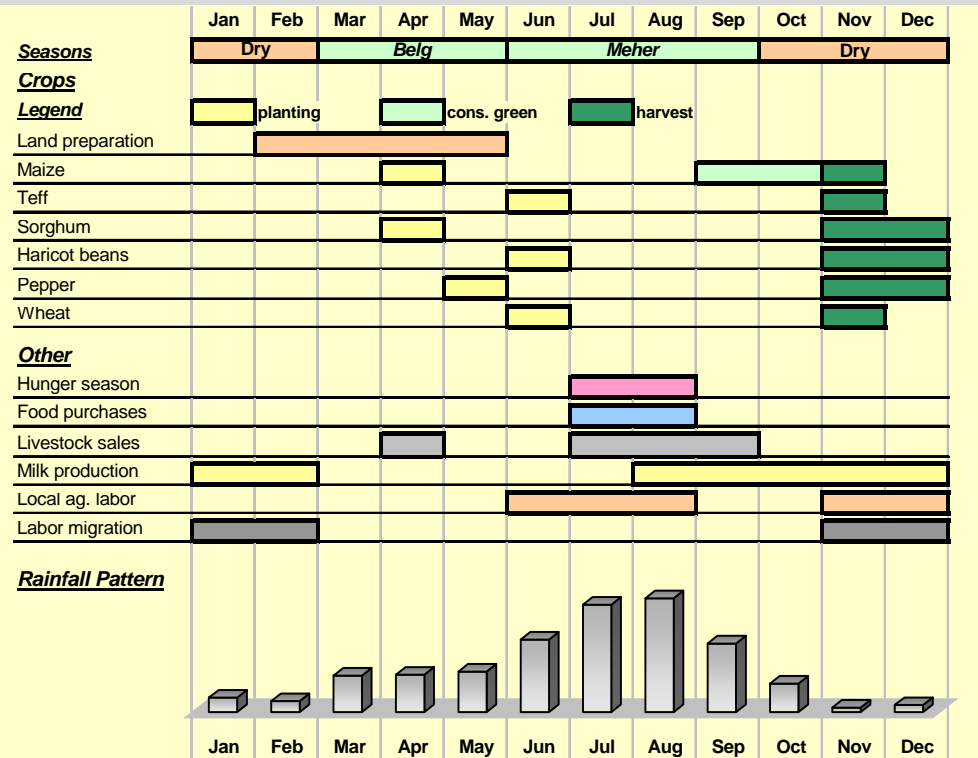
Market access is generally good due to the presence of all-weather roads to local and external markets. The main markets for the eastern portion of the livelihood zone are Kella (in Sodo woreda) and Meki (in Oromiya Region) and for the western portion are Dalge and Walge (in Abeshige woreda).

The main cash crop sold by all wealth groups is teff. The sale of livestock is also an important source of cash income, particularly for the better off and middle households. The main destination markets for teff, wheat, pepper and livestock are the urban centres in Gurage and beyond (up to Addis Ababa).

Seasonal Calendar

Long-cycle crops (maize and sorghum) are planted in the middle of the *belg* rainy season. Short-cycle crops are planted at the beginning of the *kremt* rainy season. Green maize harvesting starts in September, and this marks the end of the annual hunger season. All crops are harvested in November and December.

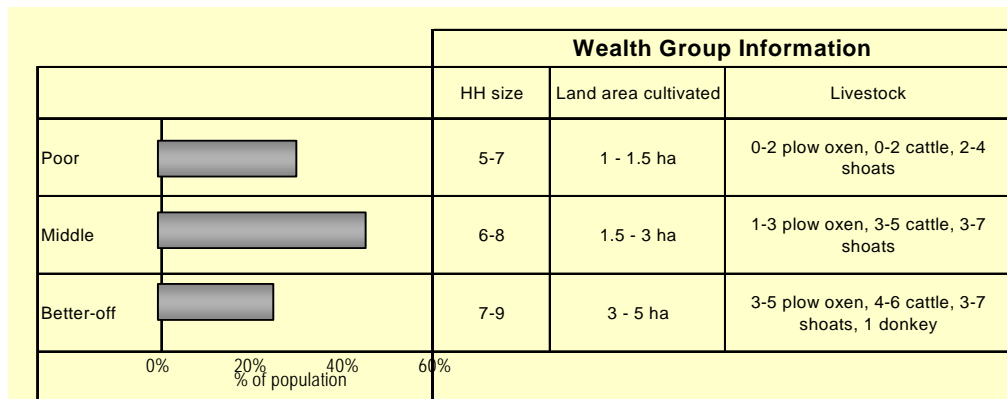
Milk production peaks during the *kremt* rains and continues through the long dry season, with cattle feeding on crop residues in addition to any pasture that might be available. Livestock sales are most important during the hunger season (when households need cash) and during the periods of high demand (particularly the holiday months



Malaria and trypanosomiasis are problematic throughout the year.

Wealth Breakdown

Wealth in the Gurage Lowland Maize and Teff Livelihood Zone is determined by two key factors: the size of land and the number of livestock owned by different households. Landholdings are large in this livelihood zone compared to other parts of SNNPR. The ownership of plow oxen is also more widespread than in other zones, with some poor households owning oxen. Poor households that do not own oxen usually work for middle or better off households in exchange for oxen usage. The former practice of poor households renting oxen for a year in exchange for 2 quintals of crop or ETB 200 is gradually becoming uncommon, mainly due to the impact of trypanosomiasis.

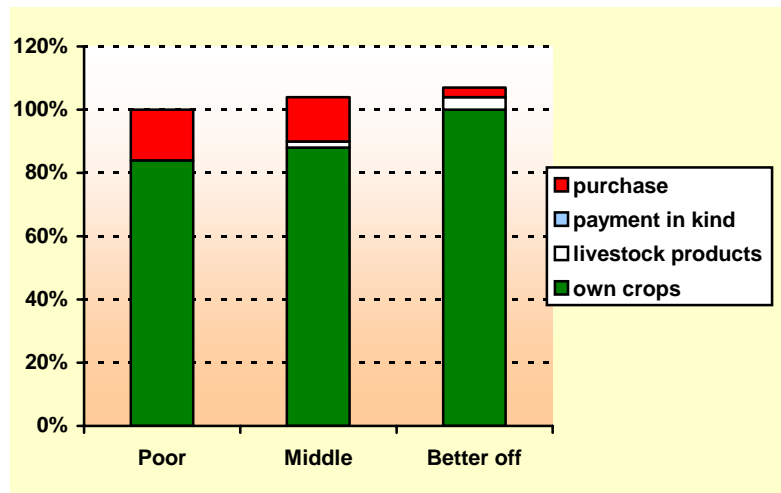


Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). September represented the start of the consumption year because that was when the green maize harvest started, marking the end of the annual hunger season. The hunger season does not hold as much significance in this livelihood zone as in less food secure livelihood zones.

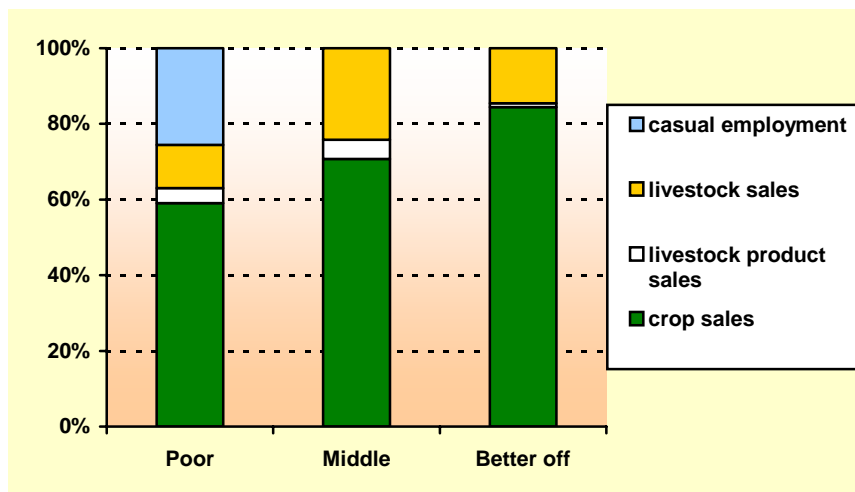
The sources of food were similar for the three wealth groups, but the relative contribution of each option varied slightly. The main trend across the wealth groups was for consumption of own crops and own livestock products to increase with wealth and for food purchases to decline.

The main crops consumed were maize, sorghum and haricot beans. The main foods purchased were maize, sorghum and meat.



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

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,000-2,000	2,000-4,000	4,000-10,000

This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (September 2003 – August 2004). Better off households earned almost five times that of poor households.

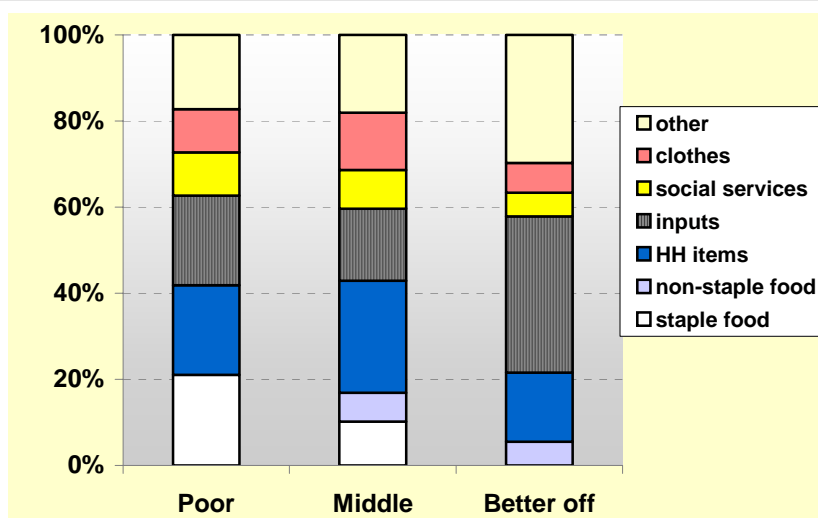
The middle and better off groups relied entirely on crop and livestock sales income, supplemented by a small amount of income from livestock product sales. In addition to these sources, poor households obtained significant income from casual agricultural work for better off households ('casual employment' in the graph).

The most important crops sold by all wealth groups were maize and teff, supplemented by pepper or wheat depending on location.

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varies significantly by wealth group. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased.

'Inputs' included seeds, tools, fertilizer, livestock drugs, and payment for labor. The jump in expenditure on inputs for the better off represented additional expenditure on all of these items, but on fertilizer and agricultural labor in particular. Only the better off paid for agricultural labor.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

The category 'household items' included coffee, salt, soap, kerosene, grinding and utensils. 'Other' included tax, social obligations, ceremonies, savings and investment in livestock. The category 'social services' included spending on education and health.

Hazards

The Gurage Lowland Maize and Teff Livelihood Zone is subject to a number of hazards that may result problems at household level. Rain failure is rarely a major problem, but the main hazards affecting the zone are:

Flooding. The landscape is generally flat and susceptible to flooding, particularly at times of excessive precipitation. Flooding is more common in the eastern than the western part of the livelihood zone. However, the flooding usually does not persist for a long period and thus does not cause much damage to crops. It does, however, contribute to malaria prevalence, a hazard mentioned below.

Livestock disease. Trypanosomiasis is the most serious livestock disease in western part of this livelihood zone and has negative effects on household food sources, cash income and expenditure. It directly causes animal deaths, reduces milk production and forces households to purchase large amounts of drugs. Furthermore, although pasture is abundantly available, the high prevalence of trypanosomiasis has deterred the ownership of large numbers of livestock and has also deterred the expansion of agricultural land because of limited oxen ownership. A potential vehicle for asset creation and increased incomes is unavailable to households in the zone, despite the high cash income levels from crop sales that could be invested in livestock.

Malaria. Malaria is the leading cause of morbidity in this livelihood zone. The flat landscape, perennial swamps and high temperatures enable mosquitoes to breed and malaria to be spread throughout the year. The disease does not only affect labor availability at household level (potentially resulting in lost food and income), it also forces households to spend money on medication.

Response Strategies

Households respond to hazards in a variety of ways. When hit by a bad year, all wealth groups **increase the sale of livestock** and **reduce expenditure on non-essential items**, to the extent that this is possible. In addition to these strategies, poor households attempt to intensify the amount of **local casual work** that they do.

In an attempt to avoid **malaria**, which is a chronic problem, households settle outside the flood plains, in slightly higher areas. To avoid **trypanosomiasis**, they similarly avoid keeping their animals in the lowest altitude areas and also keep their livestock numbers small.

Indicators of Imminent Crisis

Season **Month** **Indicator**

Dry	Jan	<p>Late start of belg rains delays planting of long-cycle crops (maize and sorghum)</p> <p>Insufficient rainfall affects maize and sorghum</p> <p>Late onset of kremt rains delays planting of teff and other short-cycle crops</p> <p>Flooding in lowlands</p> <p>Insufficient or erratic rainfall affects all crops</p> <p>High cereal prices in harvest and post-harvest period indicates poor harvest</p> <p>High cereal prices in harvest and post-harvest period indicates poor harvest</p>
Belg season	Feb	
	March	
Dry	April	
	May	
Meher season	Jun	
	July	
	Aug	
	Sept	
Dry	Oct	
	Nov	
	Dec	

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There are several indicators for the livelihood zone, including those related to rainfall, flooding, staple food prices, and harvest timing. There are certain problems that are not time specific. Trypanosomiasis is prevalent throughout the year but gets worse during the dry season. Malaria is also a problem throughout the year, but the maximum prevalence occurs during the dry seasons.

SNNPR Livelihood Zone

Gamo-Gofa Maize and Root Crop Zone

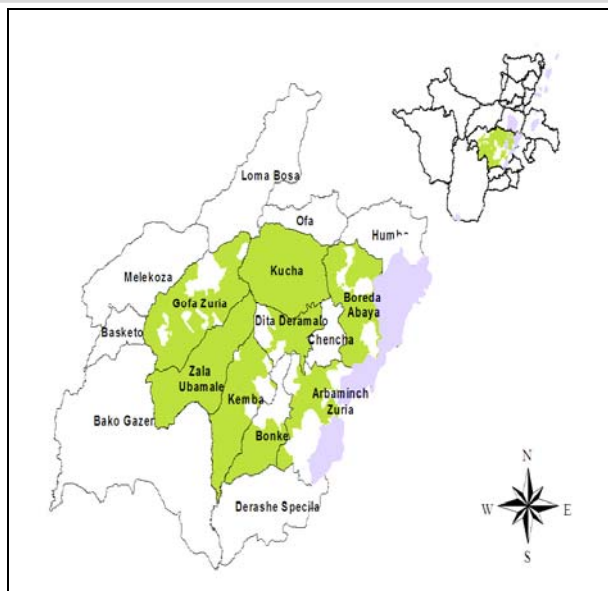
June 2005¹

Zone Description

This is a highly food insecure livelihood zone, due chiefly to rainfall problems frequently affecting maize (which is the main food crop); land shortage; trypanosomiasis endemic in most of the area; and poor roads and market access. In addition, the poor coverage of services, including schools and clinics, is a serious problem in this zone.

Gamo-Gofa Maize and Root Crop Livelihood Zone comprises the best part of seven woredas in Gamo Gofa Administrative Zone. These are Gofa Zuria, Kucha, Boreda, Mirab Abaya, Arba Minch Zuria, Chench, Dita, Daremallo, Kemba, Binke, & Zala woredas. The ecology is midland (*woina dega*) and upper lowland, with altitudes of about 1300-1800 meters above sea level and a hilly or undulating topography. There is sparse natural vegetation where land is not in farm use.

There are two distinct rainy seasons: the smaller one is the *belg*, in February and March. The main rains are in the *meher* season from July to September. The maize cycle



straddles both seasons, whilst teff is a shorter cycle crop depending only on the *meher*, and therefore offers an important 'second chance' for those who can grow it when the *belg* season fails. Sweet potatoes are a particularly important crop, because two harvests per year can be got, with the principal one in the dry season of November-January; but the second, smaller harvest breaks the annual 'hunger' period in May-June. Beyond that there is substantial consumption of green maize until the mature maize harvest from September. The staple foods are in order of amount consumed: maize, enset, sweet potatoes, taro, teff and yams. The dual dependency on cereals and perennial/root crops offers some insurance against at least moderate rain failure, since maize is more susceptible than either root crops or enset to long breaks between showers and/or overall moisture deficit.

There is poor soil fertility, and high population density leading to relatively small holdings of arable land. Even middle wealth households usually have little more than 1 hectare, and this cannot compare in productive potential to the same amount of land in other moister and more fertile zones. Lack of grazing and fodder as well as trypanosomiasis affect oxen production, so that only the better off and middle wealth group households who own all the plow-oxen are able to till the land efficiently, whilst others have to wait their turn to borrow teams of oxen. Even for middle and better off households, the high prices of inputs, especially chemical fertilizers and improved seed, coupled with a lack of agricultural credit facilities, limit agricultural productivity. Not more than 20% of farmers purchase such inputs.

Against this background of chronic production problems, rain failure of some degree is a frequent occurrence, including periodic drought. In the last five years, food aid for poorer people has been a regular feature. Enset as a perennial offers a store of food, but it is a store which takes 4 or more years to fill: when trees are cut one part of the store is evidently lost for as many years as it takes for a replacement to grow. In an area of such frequent food stress, there is a high tendency for people to go beyond the long-term sustainability of the stand of enset stems. The sign is the absence of mature stems, meaning that immature stems may well also be progressively cut. The land may then be used for annual crops, but an important food security store is lost.

Most households possess goats (there are fewer sheep) and poultry, but livestock numbers are modest amongst all households: even the better off are not serious herders, possessing only a handful of cows and their young. However, they do possess up to two teams of oxen, and this gives them not only draft power for their own land but the potential to

¹ Fieldwork for the current profile was undertaken in June 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

profit from lending out a team to ox-less farmers in return for labor on the ox-owner's land, or a share in the borrower's harvest and fodder from residues. The need to find scarce grazing and mainly to hand-feed cattle with fodder means that keeping even small numbers of cattle requires real labor. So often does watering, since water sources are scattered and scarce in the dry months. There is an arrangement called *yerbee* whereby very poor and poor households care for one or two cows, sometimes other animals, for better off farmers. In return they are allowed some or all of the milk and an agreed share in surviving progeny. The benefit for the herder is clear, as is the incentive to keep the animals in good shape as milk producers and as successful breeders. For the livestock owner this may represent an opportunity-cost calculation about the alternative use of labor within his family; it may also to some extent represent a kind of helping hand to very poor neighbors or kin.

The main cash-earner in the zone is maize, for those with some surplus but also for those whom pressing obligations force to sell part of their meagre crop immediately after harvest when prices are relatively low; the same people will then have to purchase maize at higher prices later in the year. Coffee is the one pure cash crop of any importance, but numbers of bushes maintained are modest, partly because of land shortage, partly because this is not the most favourable environment for coffee production.

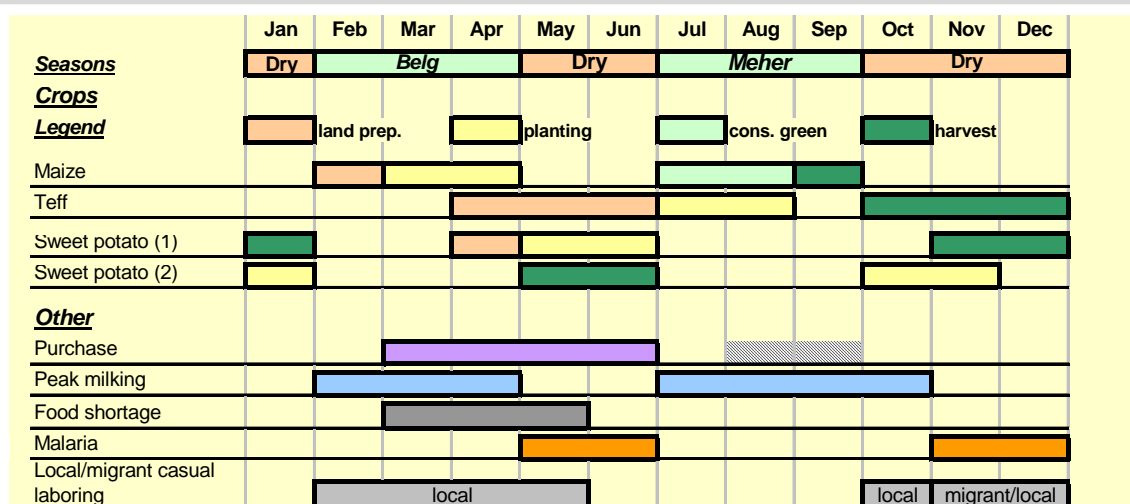
There is insufficient labor demand within the zone's localities to answer the cash needs of poor and very poor households, and a good number of people even in normal years go on work migration, notably on state farms in Jinka, Awash, Shashamene and Ziway, from which they may return after three months with ETB 200-300 in their pocket. Some people travel to work in gold mining at Dodola in southern Oromiya.

Markets

Poor market access is the most general situation for households around the zone. This is because of a modest and poor-quality road network and the remoteness of much of the population in the hills of this difficult terrain. The zone is a comparatively modest exporter of produce: mainly maize and some teff, and coffee and butter, but very few livestock. Staples and livestock/livestock products are more actively traded within the zone, including sweet potatoes and enset in prepared forms. The external markets to which produce goes are in Wolayita or the big regional collection market of Shashamene, especially in the maize harvest months of October to December. There is some fattening of cattle for sale, and Addis Ababa is a market for these especially during religious festival times, via Wolayita.





In the lean months, grain comes in from Gumayde, and from Basketo in the Special Woredas and Melekosa woreda within Gamo Gofa Administrative Zone. The zone also functions for these latter, as well as South Omo Administrative Zone, as an intermediate market area for produce from those isolated woreda passing through to bigger markets. Within the zone there are usually three market days per week at the bigger markets and in addition two further days of localised markets in the vicinity of kebeles where much petty trading is done. Within the zone the main markets are at Sawla, Selam Ber in Kucha, Arba Minch town, Tocha in Boreda, and in Zala woreda.

Seasonal Calendar



The calendar shows the annual cycle, which does not affect enset as a perennial. Enset can be cut and prepared all year round, although it cannot be instantly consumed because the preparation mostly requires fermentation for up to three months. The second sweet potato harvest is crucial as it comes in the lean, dry months of May and June. If there is a sweet potato shortage, then enset is the next recourse. Poor and very poor household members may leave for migrant work in November, if they cannot find local harvest work. Given the small land they cultivate, and their propensity to consume much of the maize green, their own mature maize harvest can be collected by other family members.

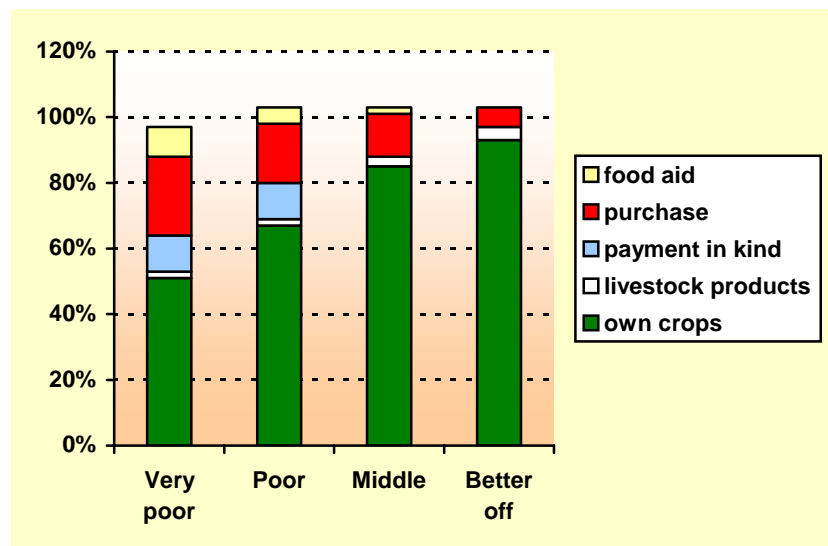
Wealth Breakdown

		Wealth Group Information				
		HH size	Land area cultivated	Perennial crops	Livestock	Other
Very Poor		3-5	0.25 - 0.5 ha	5 coffee bushes, 25 immature enset trees	0-1 goat	2 cows on <i>yerbee</i> , 4 hens
Poor		4-6	0.5 - 1 ha	10 coffee bushes, 40 immature enset trees	2 - 4 goats, 1 cow	1 cow on <i>yerbee</i> , 4 hens
Middle		5-7	1 - 1.5 ha	20 coffee bushes, 10 mature enset trees, 50 immature enset trees	4 goats, 2 - 3 cattle, 1 ox	6 hens
Better-off		6-8	2 - 2.5 ha	40 coffee bushes, 15 mature enset trees, 75 immature enset trees	6 goats, 5 cattle, 2 - 4 oxen	1 donkey, 6 hens
0% 10% 20% 30% 40% % of population						

**Yerbee* is a system whereby a poor person cares for livestock of a better off person, and in return is allowed some or all of the milk and a share in the progeny.

Sources of Food – An average year (2003-04)

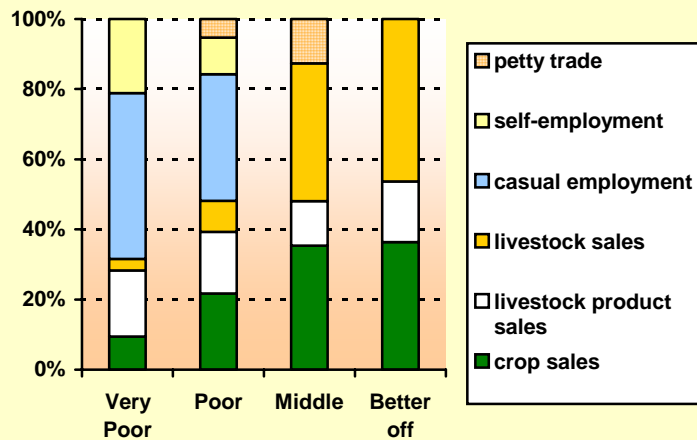
Even in a relatively average production year, the reference year of 2003-04, fewer than one in five of households – namely the better off – were able to obtain sufficient staple food from their land. In the case of the better off, purchases were of preferred foods, including for instance extra teff and meat. At the other end of the scale, for the very poor, especially, food aid filled a near 10% gap in terms of their calorie requirement. They were unable to obtain more than half of their requirement from the fields, in their case, as with the poor, more from root crops than from maize. From their *yerbee* cows they obtained only about 1% of their calories from skimmed milk, which however is a good source of animal protein: the fat went to making butter for sale. The very poor and poor respectively obtained a substantial amount of their requirement from casual employment. Payment in kind, which made up a part of this, can be convenient where people are isolated from markets or when grain prices are seasonally high.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.

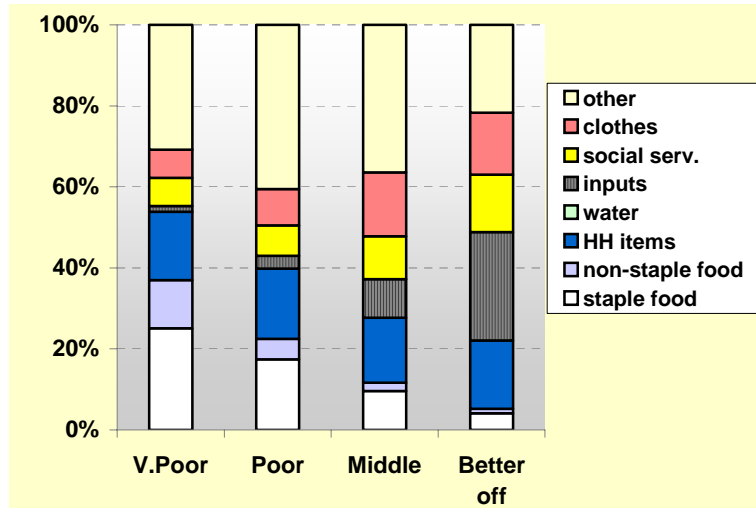


Annual income (ETB)	600-800	800-1400	1500-2300	2300-3000

The reference year of 2003-04 was climatically average, and it is striking that no wealth group made even half of their earnings from crop sales – a hint in itself of underlying food insecurity. The year was average for livestock as well, and both the better off and middle households obtained the largest proportion of their income from livestock sales. Milk production would have been somewhat more than usual. One striking element of the graphic is the sales of dairy products by poorer people – largely in the form of butter. This should not be exaggerated – the absolute cash value of such sales by the better off was nearly four times that of the sales by poor and very poor people. Nevertheless, these sales do usually form an important part of the earnings of the poorer households, and are mainly the result of the *yerbee* system described earlier, which is a form of redistribution of livestock benefits within the community. Self-employment in this case means essentially collecting and selling firewood and fodder grasses.

Expenditure Patterns – An average year (2003-04)

In the reference year, expenditure on staple food clearly followed inversely the trajectory of the proportion of food obtained from own crops – see the food sources graph above. The proportion of expenditure would be significantly higher for the very poor and poor if they hadn't received substantial payment in kind for casual work. Agricultural inputs formed the biggest proportion of the expenditure of the better off, and it is somewhat surprising that the result does not show more clearly in the sources of cash income graph above. But it is true that they look to coffee for a part of their income, and this was not a good year for coffee production. It is notable that household items (HH) are a big cost for all households; they include coffee, salt, soap, and kerosene, while 'other' includes tax, social obligations and ceremonies. The middle and better off households spend proportionately as well as absolutely more than the others on 'social services' which include school and medicine costs. The relatively poor coverage with these services is likely to mean extra expenditure for instance on keeping children in town where there is a school and on travel to centres for other services.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

Frequent rainfall problems both in absolute amount and in distribution over the season.

Pest damage maize and root crops, including

Trypanosomiasis which constantly reduces cattle numbers and condition

Market price fluctuations: especially hikes in maize prices (including grain imported from other areas suffering drought or other problems) during the purchasing months from March; steep dips coffee selling prices in response to world market movements have had an effect, but the zone is only a very moderate coffee producer

Malaria: endemic and highly prevalent especially in the months immediately after the rainy seasons; epidemic outbreaks of a virulent form have caused unusually high mortality in some years

Response Strategies

There is a clear difference in how different wealth groups are able to respond to acute hazards which reduce production. **The middle and better off sell more livestock**, including young cattle. Sales of milking cows and oxen are only done in extreme need. **Increased dependence upon profits from petty trade** is another recourse, but it is of limited scope since it requires considerable effort and in bad years there is less trade activity and a smaller margin of profit.

The very poor and poor have minimal livestock assets of their own, so that if they sell animals they can easily finish their entire holding. **Increased casual work** is a first option, but local conditions may reduce the demand for agricultural labor. Other local possibilities are few: **increased firewood and grass sales** are possible but limited by demand for the wood and availability of collectible grasses and field residues in bad year. **Some people take credit** if they have the trust of better off neighbours or kin. Otherwise, people must look **increased work migration** to state farms as far away as Awash, or to bigger towns, or for some to the gold mining area in southern Oromiya.

Indicators of Imminent Crisis

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Dry	Jan	High market price of staple cereals
Belg season	Feb	Late onset of belg rains: poor/delayed land preparation; delayed maize sowing
	March	Delayed maize germination
	April	Poor rainfall distribution: poor maize germination and growth
Dry	May	Lack of moisture for maize; pest incidence
	Jun	
Meher season	July	Late onset of meher rains; poor rainfall; stalk borer on maize; poor land preparation for teff
	Aug	Late teff sowing; delay of green maize for consumption
	Sept	Poor rain for maize maturing
Dry	Oct	Excess rain at maize harvest; occurrence of sweet potato butterfly
	Nov	Excess rain at maize and teff harvest; occurrence of sweet potato butterfly
	Dec	High market price of staple cereals

The amount and distribution of rainfall is the crucial indicator of coming problems for crops: very early warning can come from poor land preparation for sowing cereals. Pest infestation is an important intermediate to late indicator.

SNNPR Livelihood Profile

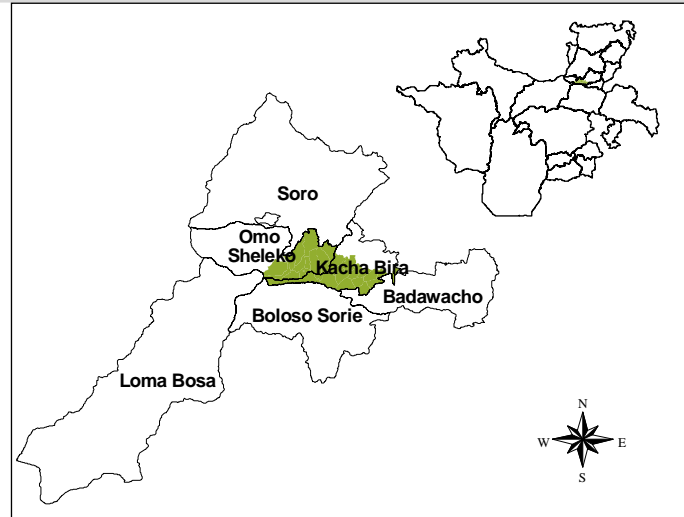
Hadero Ginger Livelihood Zone

March 2005¹

Zone Description

Limited landholdings, soil infertility, repeated years of drought, and declining livestock holdings have together resulted in increased poverty in this livelihood zone. Although the zone is sparsely populated in terms of crude density, there is a shortage of cultivable land. This shortage has contributed to the overuse of land and a continuous decline of soil fertility. Coupled with frequent dry spells and declining livestock ownership, the zone has become an area of acute and chronic food insecurity and in recent years has sought food aid regularly.

The Hadero Ginger Livelihood Zone is found in Kembata Tembaro Administrative Zone of SNNPR. The Administrative Zone is made up of four woredas, namely Omo Sheleko, Kacha Bira, Kedida Gamela and Angacha. The Hadero Ginger Zone is found in the two contiguous woredas of Omo Sheleko and Kacha Bira. This zone extends south to Boloso Sore woreda of Wolayita Administrative Zone.



The zone consists of rugged terrain and vast areas of unproductive land that do not support the cultivation of crops due to poor soil. Agro-ecologically, the zone stretches from *kolla* (lowland) to *woina dega* (midland). The major food crops grown are maize, haricot beans and sweet potato. In recent years, there has been a gradual shift of emphasis from cereal crop production to root crop production (i.e. from maize to sweet potatoes), to the extent that sweet potatoes are now the most important food crop.

The major income earners for households in this livelihood zone are ginger and coffee. However, the continuous dry spell is affecting coffee production and farmers are increasingly relying on ginger production for their cash income. Although ginger is susceptible to wide price fluctuations, it is drought resistant and a significant income earner in most years.

Self-employment and labor migration are additional sources of income for very poor and poor households. The return from labor migration, however, depends on the production performance of the employers in the destination livelihood zone. Self-employment includes timber, grass and firewood sales.

Cattle and goats are the main livestock types reared in the livelihood zone. There is a form of agreement for sharing cattle (and sometimes goats) whereby poor households care for the livestock of the rich in return for the skimmed milk and a share of the offspring. As a result of this type of agreement, all households in the zone keep cattle.

Despite poor roads within the zone, market access is good due to the geographical location of the zone, which is proximate to major roads and market centres.

¹Fieldwork for the current profile was undertaken in February and June 2005. The information presented refers to the consumption year from July 2002 to June 2003 (or Hamle 1994 – Sene 1995 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

Markets

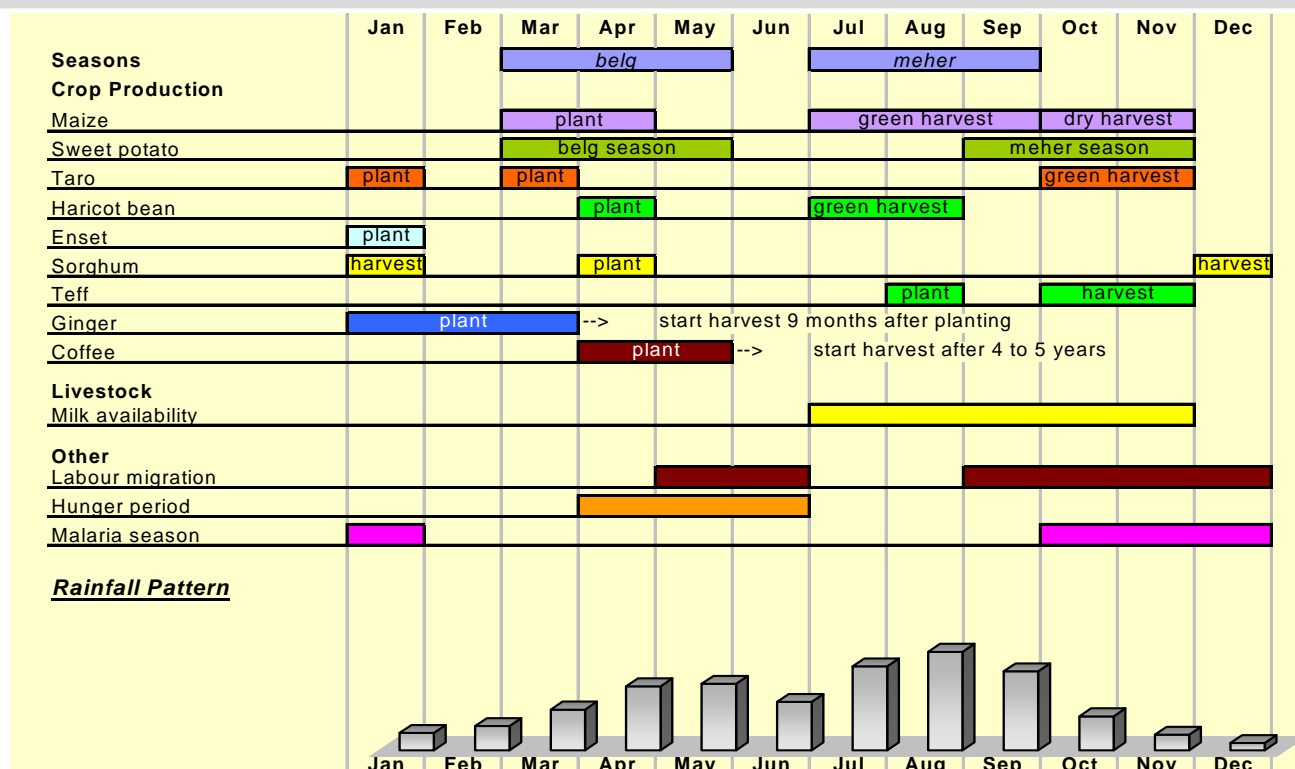
The zone is an exporter of cash crops, mainly ginger and coffee. The major market for ginger is Hadero, the second town of Kacha Bira woreda. Before reaching this town, however, there are smaller village markets from which local traders collect ginger. After accumulation and a certain level of drying in Hadero, the ginger is taken to Addis Ababa or Moyale.

Coffee is sold wet to private pulpers in Kacha Bira or dry to private traders. The final destination for coffee is the Addis Ababa central market. The poor in this zone mostly sell wet coffee to local pulpers and earn very little income, whereas the pulpers make a significant profit after preliminary processing.

Staple foods like maize and wheat are imported in most years from neighboring Alaba Special Woreda and Hossana Administrative Zone.

Although the feeder roads are poor, market access for this livelihood zone is relatively good due to the physical proximity of the zone to major towns and transport routes.

Seasonal Calendar



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

The zone has two rainy seasons: the *belg* rains from March to May and the *kremt* rains from July to October. The period before the start of the *belg* rains is used for land preparation for most crops and the *belg* rains are used to plant both short and long cycle crops. The performance of the *belg* rains is therefore crucial to the annual crop production of the zone.

Maize is planted in March and April and harvested green in July to September or dry in October to November.

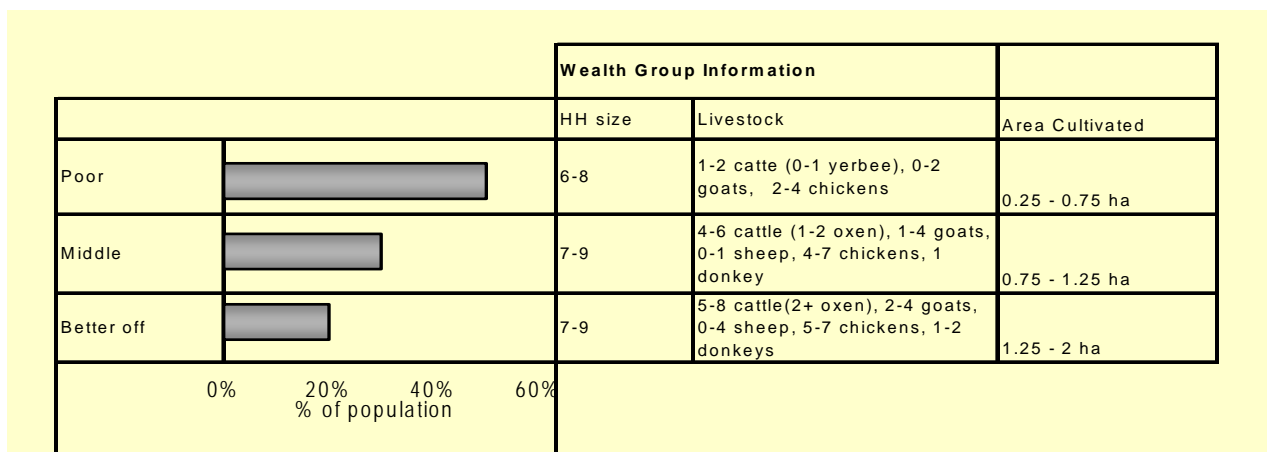
According to informants, in recent years maize is largely consumed green by most households. The same is true for haricot beans, which are planted in April and consumed green in July and August. Sweet potatoes are produced twice a year, in March to May and in September to November, and are nowadays the major food crop for most households.

Ginger is planted in January to March and harvesting usually starts from November. Although ginger reaches maturity nine months after planting, it can stay in the ground for 3-4 years, improving in quantity and quality the longer it is left in the ground. Most households cannot afford to wait very long, however, and only better off households can wait to harvest when the market price is attractive.

The planting period for coffee and enset is indicated in the graphic. These crops take several years to mature and cannot be harvested within the same agricultural year.

The months before the harvest of green maize are the peak hunger months. The peak periods for malaria are from April to mid June and from September to October.

Wealth Breakdown



The major determinants of wealth in the Hadero Ginger Livelihood Zone are the number of cattle owned (including oxen) and land area cultivated. The poor in this zone have no oxen whereas the middle and better off households have 1 to 2 oxen and 2 or more oxen respectively.

Wealth status has implications in terms of access to food and income. Better off households rent in land and also draw labor from the poor in exchange for plow oxen. As a result, they are able to cultivate larger areas of land, produce more food and cash crops, and earn more income. Their livestock also act as a direct source of income through sales. In contrast, poor households usually rent out land and cultivate the remaining plot by hand or by plow oxen accessed through an exchange for their labor. This generally means that they cultivate only small areas and plant late. The poor keep livestock through an agreement called *yerbee* with better off households, whereby the products and offspring are shared.

Generally there are three major wealth groups: better off (15-25%), middle (25-35%) and poor (45-55%). The poor wealth group is large and can be subdivided into the very poor (15-25%) and the poor (25-35%). The majority of very poor households is resource poor and mainly depends on income earned through the labor of able-bodied household members. A small proportion of households in the very poor wealth group are aged and destitute and live by the mercy of relatives and neighbors.

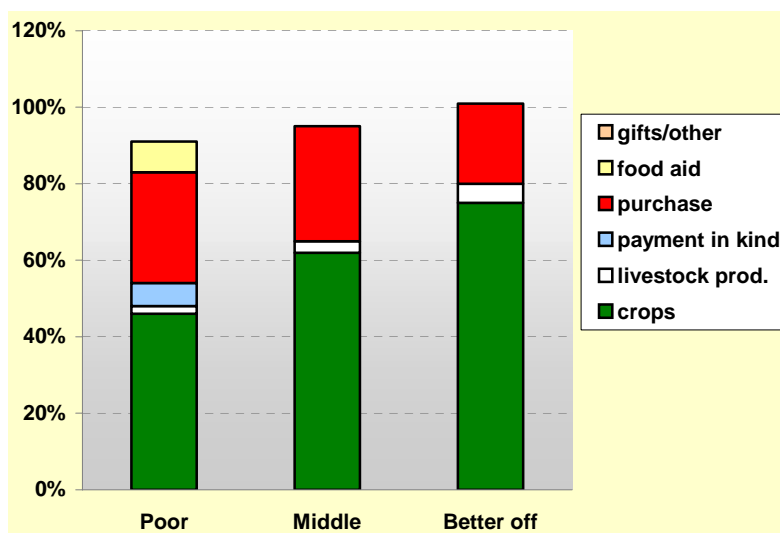
The following sections present household sources of food and cash income and expenditure patterns, by wealth group, for the reference year (July 2002-June 2003), which was a year of average production.

Sources of Food: An average year (2002-03)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2002-2003). July represented the start of the consumption year because that was when the green maize harvest started, marking the end of the annual hunger season.

Total food intake increased with wealth in the reference year. The contribution of own crop and livestock production also increased with wealth, while the contribution of purchase, labor exchange and food aid decreased with wealth.

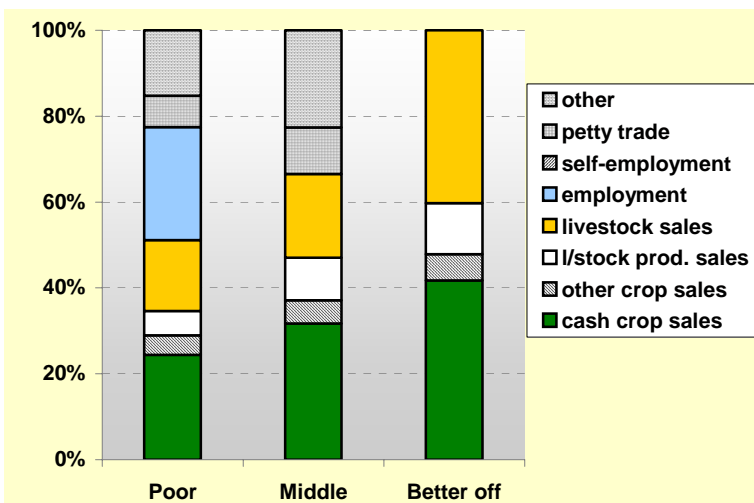
Poor households obtained just over 90% of their total food needs during the reference year. Most of the food was obtained from their own crop production and from staple purchase. Food aid contributed about 10%, while livestock production contributed 0-5% of food intake for this wealth group. Livestock production consisted mainly of milk, with insignificant amounts of meat consumed. The most important food source for middle and better off households in the reference year was own crop production, followed in importance by staple purchase and livestock products.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash: An average year (2002-03)

The graph provides a breakdown of total cash income according to income source.



Annual income (ETB)	1,200-2,000	1,800-2,600	2,500-3,000

The main cash income source for the poor was casual employment, which included both local casual work for better off households and migration. Migration was to the nearby Alaba-Mareko Pepper Livelihood Zone or to the distant sugar plantation areas such as Wonji, Metahara, Fincha and other places in Oromiya and Afar. 'Other' sources of income for this group included timber, grass and firewood sales.

This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (July 2002 – June 2003). Compared to other zones in SNNPR, the income levels of the different wealth groups are quite similar, with better off households typically earning less than double that of poor households.

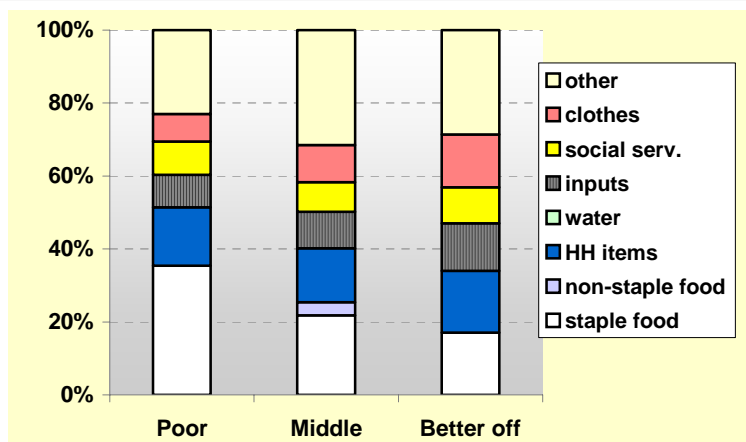
Livestock and crop sales were sources of income for all wealth groups, with the income from these sources increasing with wealth.

Cash crop sales (of ginger and coffee) contributed 30-45% of the total income of middle and better off households in the reference year. Livestock sales were the second most important source of income for these wealth groups, supplemented by livestock product sales (mainly butter) for both groups and by small amounts of petty trade and self-employment for middle households.

Expenditure Patterns: An average year (2002-03)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The most obvious difference between the wealth groups is the percentage of expenditure on staple food, which declined with wealth in the reference year. Expenditure on most other items increased with wealth, including expenditure on inputs (including livestock drugs, seeds and fertilizer), clothes and social services (including schooling and medicine).

The category 'household items' included coffee, salt, soap, kerosene and grinding, while 'other' included tax, social obligations and ceremonies.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The major hazards experienced by households in the ginger zone are drought, livestock disease and malaria. **Drought** has occurred most frequently in recent years, resulting in crop failure and loss of livestock assets. In drought years, farmers tend to harvest large quantities of ginger. However, excess supply and poor quality due to early harvest result in a lower return for farmers since the price declines in such years.

Various types of **livestock diseases** are prevalent in the zone, but trypanosomiasis is the leading disease affecting all types of livestock throughout the year.

Malaria is a chronic problem that threatens the lives of many people and necessitates annual expenditure on medicines. It can also contribute to labor shortages at household level at key points during the agricultural season.

Response Strategies

When faced with reduced crop production as a result of hazards, households in this zone have a number of response strategies. These strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock and excessive exploitation of forest resources, to more neutral strategies such as the collection of wild foods.

One strategy that is commonly employed in bad years is to **reduce non-essential expenditure**. Households reported reducing expenditure on clothes, grinding, relish and other non-staple items in bad years.

All wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, the **collection of wild foods** for food and forest products to generate income expands in bad years. **Livestock sales** also expand in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock.

Labor migration outside the zone is common in bad years. However the search for work outside the zone is only possible if the recipient zones have performed better and can accommodate the increased number of migrants. Some middle households join poor households in exploiting this strategy.

Relief food has been used as a response strategy by government and NGOs. However, this strategy, if used excessively, may have potentially negative effects in terms of destroying the community's own efforts to respond to crises. Furthermore, this type of response does not offer solutions to the real problems of the zone, which require permanent solutions through the implementation of long-term food security and safety net programs.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry	Feb	Lack of showers for <i>belg</i> season land preparation
Belg season	Mar	Long periods without rain at critical stages of rainy season -->
	Apr	Increased migration of household members in search of casual work -->
	May	Excessive firewood sales in March - June
Dry	Jun	Lack of rain for <i>meher</i> season land preparation
Meher season	Jul	Lack of or delayed green maize harvest. Lack of rain for <i>meher</i> planting
	Aug	
	Sept	Early migration of large numbers of people in search of casual work -->
Dry season	Oct	High staple food prices during and after maize harvest -->
	Nov	High staple food prices during and after maize harvest -->
	Dec	
	Jan	

There are a number of key indicators of crisis to monitor for this zone, including those related to rainfall, staple food price changes, timing of planting and harvesting, and rates and timing of out-migration.

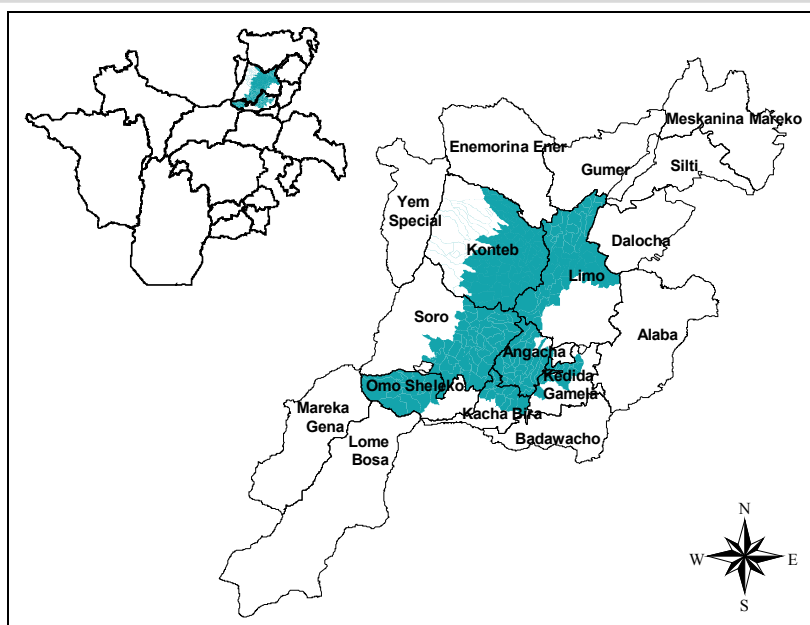
SNNPR Livelihood Profile

Hadiya-Kembata Cereal and Enset Zone

August 2005¹

Zone Description

The Hadiya-Kembata Cereal and Enset Livelihood Zone is a densely populated but food secure area of Hadiya and Kembata Tembaro Administrative Zones. It includes most of Misha, Lemo, Duna, Soro, and Angacha woredas and parts of Gibe, Kacha Bira and Kedida woreda. With altitudes ranging from 1900 – 2800 meters above sea level, most of the zone falls in the wet midland (*woina dega*) and highland (*dega*) agro-ecological zones and rainfall is relatively reliable. This livelihood zone has historically been self-sufficient in terms of crop production and households are generally food secure. However, the population is expanding rapidly and this may place future food security in doubt as landholding sizes per household, which are already small, shrink further.



The zone is divided into two sub-zones in this profile, based on differences in the amounts of major crops produced. Production of most crops tends to be higher in the part of the livelihood zone that falls in Hadiya. The topography of the zone is a mixture of mountains, hills and plains. The vegetation coverage is moderate, dominated by enset and eucalyptus trees.

The agricultural system is mixed farming. Households grow enset, wheat, potatoes, barley, beans and peas. Maize is a very minor crop, grown only to provide a small amount of green consumption in July and August. Since there are no pure cash crops in the zone, all of these crops are both consumed and sold. Enset is the main food crop and wheat is the main crop sold for cash. Those households that own oxen use them for plowing their fields, while those who do not mainly work for others in exchange for the use of their oxen. The soils are not particularly fertile and crop production depends on fertilizer usage (for all crops except enset). The expense of fertilizer is the main issue that concerns households in this livelihood zone.

Cattle, sheep, and equines (donkeys, horses and mules) are reared in this livelihood zone, but the types of livestock owned vary considerably from one wealth group to the next. Due to a lack of grazing land, households tend to keep small numbers of animals and use a zero grazing system for feeding their livestock.

Households obtain most of their cash income from crop sales, livestock and livestock product (butter) sales, and, in the case of very poor and poor households, casual employment. The opportunities for casual employment include local agricultural work for better off households (particularly during the planting and harvesting seasons), local urban work, and migratory work in state farms in Matara, Wonji and Fincha and in the neighboring Alaba – Mareko Lowland Pepper and Maize Livelihood Zone. One member of very poor and poor households tends to migrate for 2-4 months every year, particularly during the August – October hunger season.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to November 2003 - October 2004 (Hidar 1996 to Tikimt 1997 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

Markets

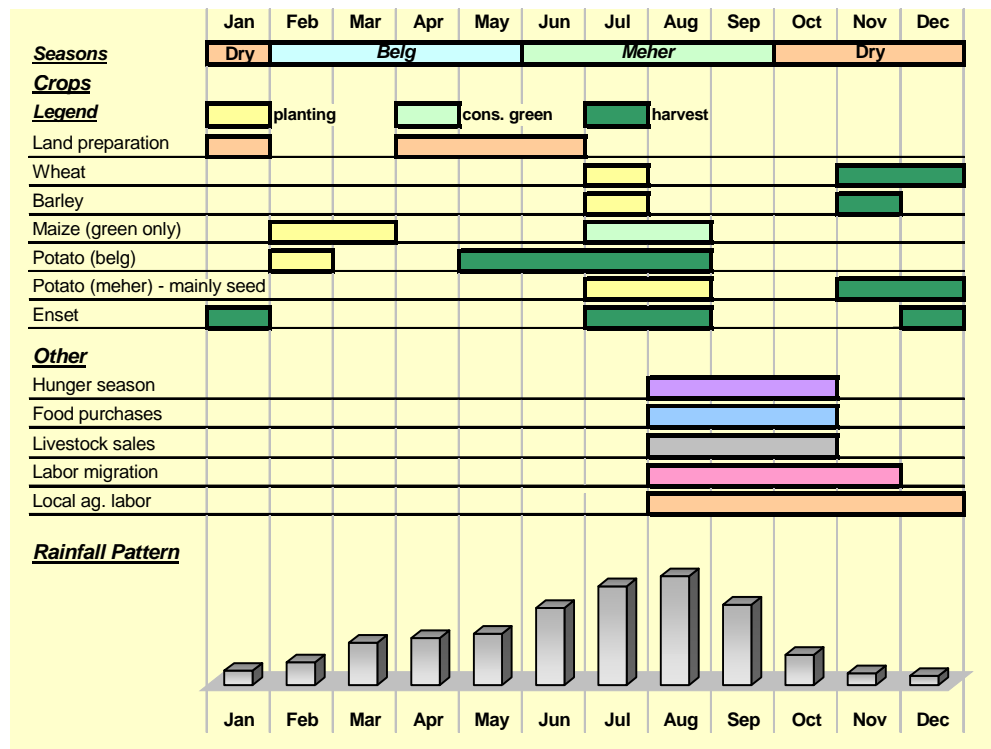
Market accessibility in this livelihood zone is only moderate. Most of the roads in the zone are not all-weather roads. There are some particularly high areas that are difficult to reach by vehicle, resulting in difficulties in marketing produce. Small kebele markets are scattered throughout the zone, but the main markets are in Hossana, Durume, Hadero, Shinshicho and Angacha towns and operate twice per week.

Wheat, beans, peas and potatoes are the main crops exported from the livelihood zone. Wheat is sent to factories in Hossana and Addis Ababa and then marketed in urban areas throughout the country. Maize is the main crop imported into the livelihood zone, mostly from Alaba. Livestock and livestock products are generally sold for local consumption and are not exported from the zone.

Seasonal Calendar

The most important production season in this livelihood zone is the *meher* season. The *kremt* rains for this season typically start in early June and end towards the end of September. The *belg* season is less important and in recent years has tended to start late (in March rather than in January).

During the *belg* season, the planting of maize and potatoes are the main activities. All other crops are planted during the *meher* season. The main harvesting period starts in November, marking the end of the hunger season and the start of the consumption year.







Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

As a result of the high altitude of this livelihood zone, malaria and other diseases are not common, but minor outbreaks occur in isolated areas in September – October.

Kembata Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		5-7	0.1 - 0.5 ha	10-20 mature enset stems, 10-20 eucalyptus trees	0-1 cattle, 0-1 sheep
Poor		5-7	0.25 - 0.75 ha	20-40 mature enset stems, 20-40 eucalyptus trees	0-2 cattle, 1-2 sheep
Middle		6-8	0.75 - 1 ha	40-60 mature enset stems, 50-100 eucalyptus trees	1 plow ox, 2-4 cattle, 1-3 sheep, 1 equine
Better-off		7-9	1 - 1.5 ha	75-125 mature enset stems, 100-150 eucalyptus trees	2 plow oxen, 3-5 cattle, 2-4 sheep, 1 equine
0% 10% of population 20% 30% 40%					

As in most other parts of SNNPR, wealth at household level is determined by a combination of land and livestock holdings. The perennial crops (particularly enset) available to households are another, related, determinant. Middle and better off households own all of the types of livestock reared in the zone. In contrast, very poor households rarely own more than a couple of sheep and a few chickens. Most poor households own 1-2 cattle in addition to this, which differentiates them from the very poor.

The ownership of plow oxen is an important determinant of wealth, as it allows farmers to till the land properly and in a timely manner. Two middle households owning 1 ox each, often pair up for cultivation, using the oxen on alternate days. Very poor and poor households who do not own an ox obtain the use of oxen in exchange for working for better off households.

Sources of Food – An average year (2003-04)

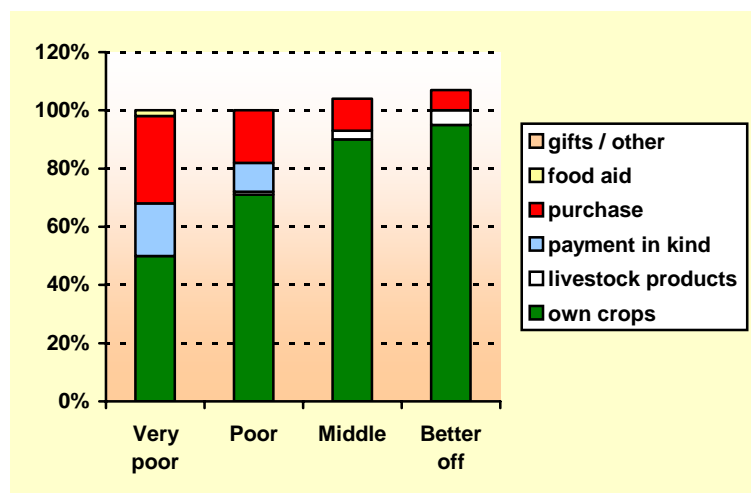
The graph presents the sources of food for households in the Kembata Sub-Zone for the period November 2003 – October 2004, which was a fairly average year. November represented the start of the consumption year because this was when the main harvest started, marking the end of the annual hunger season.

The contribution of own crop production increased with wealth. Very poor households obtained about half of their food needs from their own crop production, whereas better off households obtained 90-100% in the reference year. The contribution of livestock products (primarily milk and butter) was small, but also increased with wealth.

Households made up any gap in food through a combination of purchase and 'payment in kind' (which means working directly for food).

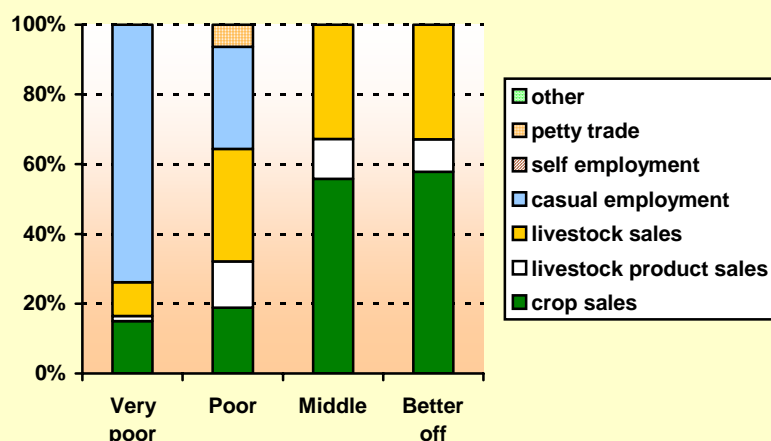
Maize and *kocho* (processed enset) made up the bulk of purchases for very poor and poor households. Middle and better off households purchased small quantities of maize and teff, more out of preference than need (since they also sold large quantities of wheat and other crops). 'Payment in kind' generally took the form of meals paid to laborers on the days that they worked for the better off locally or meals eaten by migrant laborers while away from home.

Very poor households in some kebeles received small quantities of relief food in the reference year.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	500-1000	1000-1500	1500-2500	3000-4500

The graph presents the sources of cash income for households in different wealth groups in the Kembata Sub-Zone for the period November 2003 – October 2004.

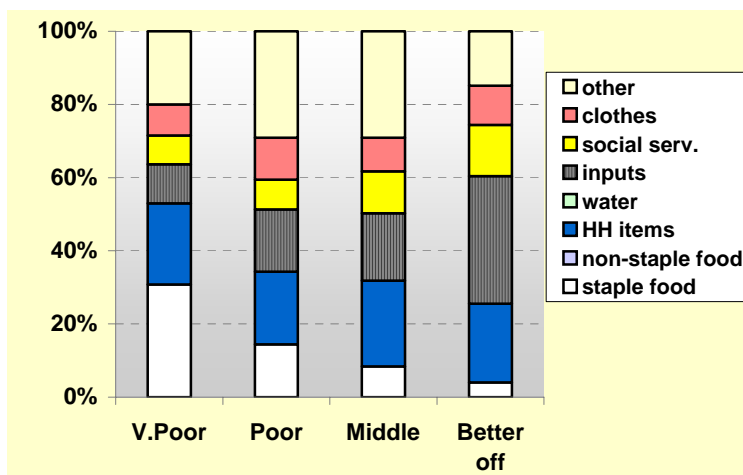
Very poor households earned roughly ETB 500-1,000 in the reference year, compared to ETB 3,000-4,500 for better off households. In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

Very poor households obtained most of their cash income from casual employment, including both local and migratory work. Poor households also obtained cash income from this source and from small-scale petty trading.

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns during the reference year. Compared to many other livelihood zones in SNNPR, the percentages of expenditure on staple food are low and on inputs are high.

The most obvious differences between the wealth groups in this livelihood zone are the percentages of expenditure on staple food and inputs. About 30% of very poor household income went toward the purchase of staple food, compared with almost nothing in the case of the better off. Expenditure on all other items increased with wealth in the reference year, in absolute terms. In particular, better off households spent about ETB 1,000-1,500 on inputs (including fertilizer and agricultural labor), while poorer households spent about ETB 50-100.







The graph provides a breakdown of total cash expenditure according to category of expenditure.

The category 'household items' included coffee, salt, soap, kerosene and grinding. 'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs, fertilizer, seeds, and, in the case of better off households, agricultural labor. 'Social services' included spending on education and health.

Hadiya Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		4-6	0.25 - 0.5 ha	10-20 mature enset stems, 10-30 eucalyptus trees	0-1 cattle, 0-2 sheep
Poor		5-7	0.5 - 0.75 ha	20-40 mature enset stems, 30-70 eucalyptus trees	0-1 plow ox, 1-2 cattle, 1-3 sheep
Middle		6-8	0.75 - 1.25 ha	30 - 70 mature enset stems, 100-200 eucalyptus trees	1-2 plow ox, 2-4 cattle, 2-4 sheep, 1 equine
Better-off		7-9	1.5 - 2 ha	60-100 mature enset stems, 200-400 eucalyptus trees	2 plow oxen, 4-6 cattle, 3-5 sheep, 1 donkey, 1 horse or mule
0% 10% of population 20% 30% 40%					

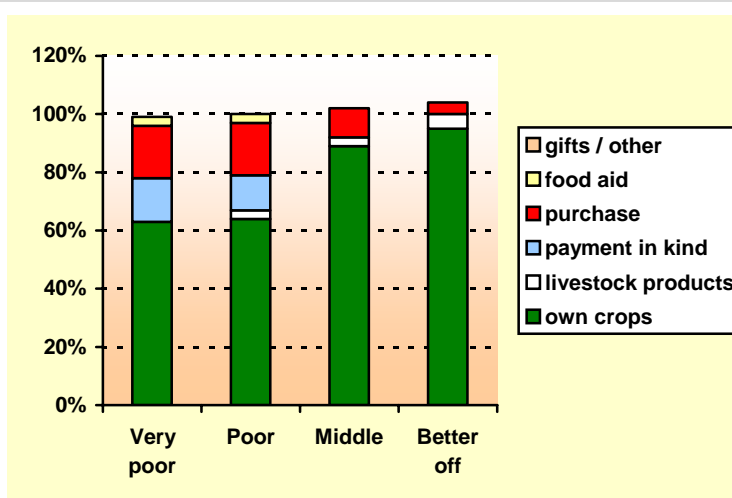
The wealth breakdown for this sub-zone is very similar to that of the Kembata Sub-Zone. Wealth at household level is determined by a combination of land and livestock holdings. The main differences between the sub-zones are that better off households cultivate slightly larger areas of land (partly because they rent in land from poorer households), own slightly more cattle, and own substantially more eucalyptus trees in the Hadiya Sub-Zone.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Hadiya Sub-Zone for the same reference year, November 2003 – October 2004, which was a fairly average year.

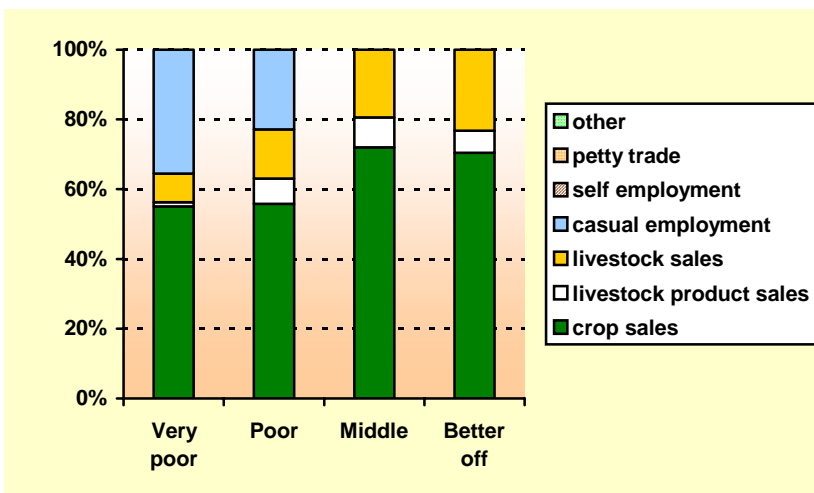
The contribution of own crop production increased with wealth. Very poor households obtained about 60-65% of their food needs from their own crop production (which was more than their counterparts in Kembata), while better off households obtained 90-100% in the reference year. The contribution of livestock products (primarily milk and butter) also increased with wealth. In contrast, the contribution of purchased food decreased with wealth.

Very poor and poor households had two additional food sources: payment in kind (working directly for food) and relief food.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	1000-1500	1250-1750	2000-3000	4000-5000

The graph presents the sources of cash income for households in different wealth groups in the Hadiya Sub-Zone for the period November 2003 – October 2004. Incomes in this sub-zone are higher than in the Kembata Sub-Zone, mainly because incomes from crop sales are higher. Households in this sub-zone produce and sell more wheat, beans and enset.

In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

Very poor households obtained a large part of their cash income from casual employment, including both local and migratory work, but a much smaller proportion than in the Kembata Sub-Zone. Poor households also obtained cash income from this source.

Expenditure Patterns – An average year (2003-04)

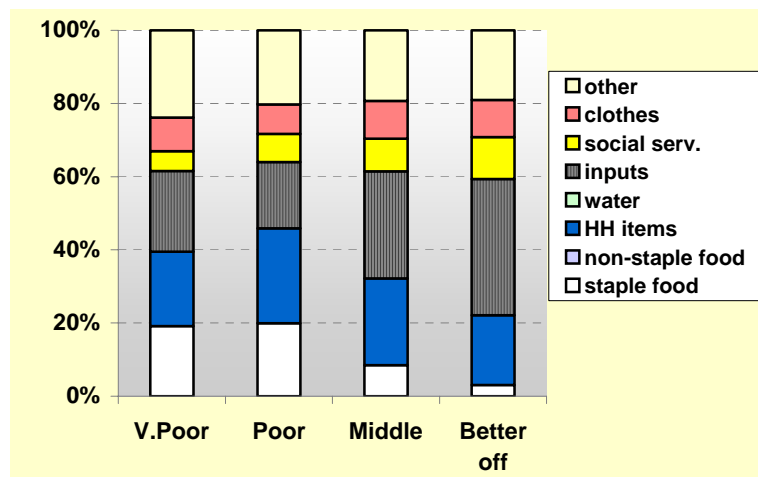
The graph presents expenditure patterns during the reference year and shows a similar pattern of expenditure as in the Kembata Sub-Zone.

The most obvious differences between the wealth groups in this livelihood zone are the percentages of expenditure on staple food and inputs. About 20% of very poor and poor household income went toward the purchase of staple food, compared with less than 5% in the case of the better off. Expenditure on all other items increased with wealth in the reference year, in absolute terms. In particular, better off households spent about ETB 1,500 on inputs (including fertilizer and agricultural labor), and even poorer households spent about ETB 250-300.

The category 'household items' included coffee, salt, soap, kerosene and grinding.

'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs, fertilizer, seeds, and, in the case of better off households, agricultural labor. 'Social services' included spending on education and health.

The graph provides a breakdown of total cash expenditure according to category of expenditure.



Hadiya- Kembata Cereal and Enset Livelihood Zone (both sub-zones)

Hazards

Serious hazards are rare in this food secure livelihood zone. However, a few minor periodic and chronic hazards deserve mention.

Erratic rainfall is a periodic problem in the zone and can include a late start to the rains and/or an uneven distribution of rainfall. Unseasonal or excessive rain can also be a problem at certain times of year, particularly at harvest time, and can cause landslides. Hailstorms in September can damage crops in pocket areas of the livelihood zone.

Crop diseases are a chronic problem in the zone, of which the most important are enset bacterial wilt and potato blight.

Expensive inputs and the late delivery of inputs (particularly fertilizer) are frequently mentioned problems. Unlike many other livelihood zones in SNNPR, even very poor and poor households use fertilizer in this livelihood zone, as it is essential to the production of all crops except enset.

Response Strategies

Households pursue a number of strategies in order to try and cope with a hazard affecting food security. These include:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has limits if the sale of productive animals is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. However, there are strict limits to this strategy if households are to avoid depleting their reserves and reducing future production. Most households in this livelihood zone have mature enset in reserve in most years.

Increased out-migration in search of casual labor. Men from very poor and poor households migrate out of the zone every year in search of casual labor. In a bad year, more migrants leave, and they leave earlier in the season.

Increased local casual work. Women from the very poor and poor wealth groups seek out more enset preparation work locally in bad years. This type of work is usually more available in bad years, as all households will consume more enset when other crops fail.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry	Jan	Poor rains for potato planting will affect the harvest. High prices for cereals in post-harvest period
Belg season	Feb	Poor rains for potato development will affect the harvest
	March	Poor rains affect maize planting, thereby delaying the green maize harvest
	April	Poor rains delay preparation of land for <i>meher</i> season crops
Dry	May	
Meher season	Jun	Delayed start to <i>kremt</i> rains delays planting of beans and peas
	July	Poor rains affect wheat planting, the most important crop
	Aug	
	Sept	Hailstorms affect production. Early end to <i>kremt</i> rains decreases production.
	Oct	Excessive rainfall during the harvest ripening and drying period
Dry	Nov	Unseasonal rains at harvest time reduce production of beans and peas
	Dec	Unseasonal rains at harvest time reduce production of wheat and barley. High prices for cereals at harvest time.

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a wide range of possible key indicators for the zone, including those related to rainfall, the timing of crop planting and harvesting, and staple food prices.

SNNPR Livelihood Profile

Chamo-Abaya Irrigated Banana Livelihood Zone March 2005¹

Zone Description

The Irrigated Banana Zone is divided into two separate areas. The largest of these is a narrow strip along the main road from the north of Mirab Abaya to the south of Arba Minch. Good roads, access to markets and traders, irrigation, and abundant pastures mean that this zone is better off in normal years than other livelihood zones in the region.

Situated in the lowlands, most parts of the zone receive irrigation from small rivers that flow from the highlands. This, combined with open space and readily available pasture, means that high agricultural yields and livestock production are possible. However, the zone can suffer from extreme dry periods when irrigation becomes difficult, as well as excessive flooding during the rainy season.

In both irrigated and non-irrigated kebeles, maize is the primary food crop, rainfed cotton is a primary cash crop, and livestock production, including the fattening of oxen, is another important income source. Those with irrigated bananas as a cash crop have the additional advantage of being able to feed their livestock with dried banana leaves as supplementary feed if pastures become dry.

The *belg* rains provide an essential green harvest of maize and haricot beans as well as one of two sweet potato harvests. Dry maize is harvested during the *meher* season, beginning in September. Most better off and middle households are able to eat from their own maize production for ten to twelve months of the year and better off households may also produce some surplus. Cotton is harvested from October to December and bananas are harvested every three months.

Stretching from north to south along Lake Abaya and Lake Chamo, the largest portion of the zone is easily reached by a tarmac road which makes access to markets and major towns better than elsewhere in the region. The zone is also an important sink for migratory laborers who come to work in the banana and cotton fields throughout the year.

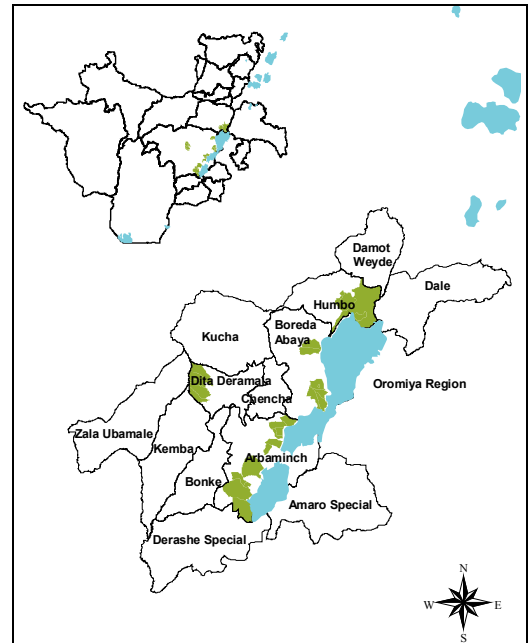
As one drives through this portion of the zone, irrigated banana dominates the roadside view. However, not all kebeles within this area have access to irrigation and therefore wealth and vulnerability can vary widely. For kebeles without irrigation, cotton is the only major cash crop and vulnerability to chronic rain shortage is greater. There may be potential for further development of irrigation in this portion of the zone. However, water source capacity as well as potential impacts on the currently irrigated kebeles would first need to be assessed.

Although the zone is located alongside two major lakes, fishing is not a major source of food or income for the majority of households within the zone.

Despite the presence of a large garment manufacturer in Arba Minch, cotton processing is done outside the zone in Awassa and Addis Ababa. It is then sold to various garment factories, and may again be transported back to Arba Minch. Local processing could potentially allow farmers to sell their cotton at higher prices through direct sales to processing facilities, essentially by-passing intermediaries.

Although the zone is within close proximity of tourist destinations in Arba Minch, to which the tarmac road leads, there are nonetheless few households that benefit from the tourist trade. This is primarily due to lack of tourism development and the fact that, currently, patronage is mostly confined to two hotels and one privately owned wildlife reserve. If developed, community-based tourism could be a potential benefit for the zone.

Silk production projects have recently begun in kebeles throughout the zone. The success of these projects will likely depend on sufficient identification and pursuit of markets.



¹Fieldwork for the current profile was undertaken in February-March 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was an average year. 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 2010).

The second portion of this livelihood zone is located in north-central Gamo-Gofa, mainly in Deramalo woreda and in pocket kebeles of Kucha and Zala woredas. The zone is irrigated by the Masta River; however, poor roads mean reduced market access, and incomes in these kebeles are lower than in the lakeside strip.

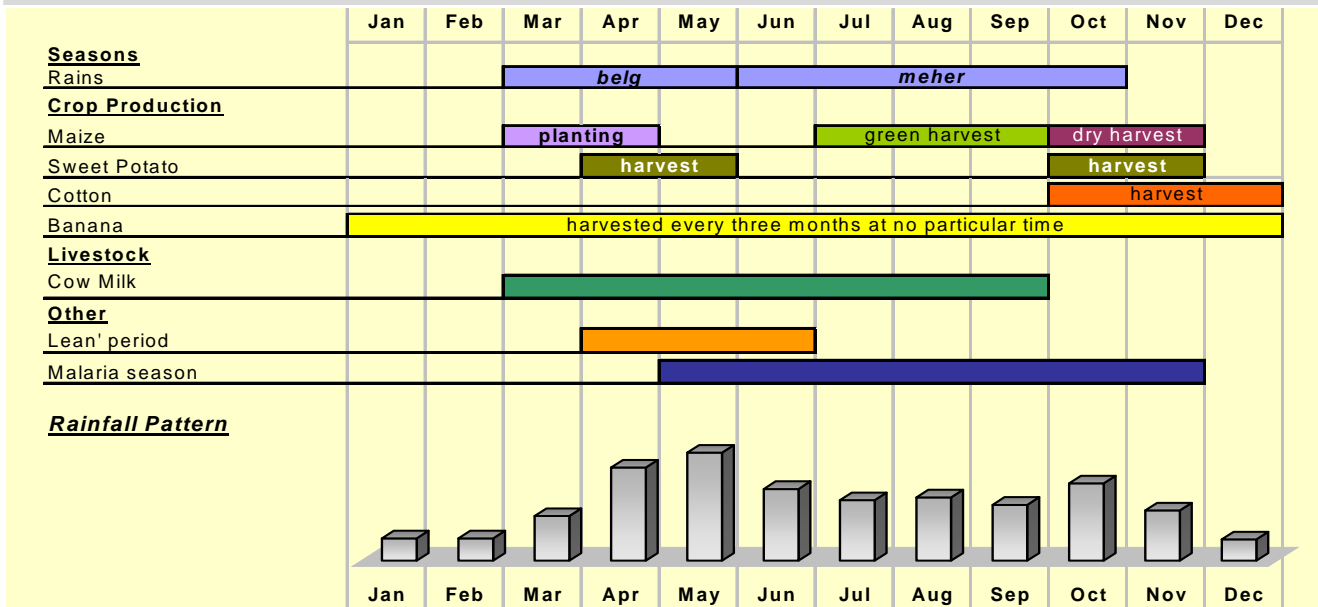
Markets

In the main part the zone, along the lakeside strip, Mirab Abaya, Lante, Arba Minch, and Shelie Mile are the primary markets where households purchase staple foods. Most bananas are sold to traders along the roadside and from there are taken to Addis Ababa. Leftovers are sold in the main food markets or to passing vehicles. Cotton is mainly purchased by traders and transported to processing plants in Awassa and Addis Ababa.

Livestock are sold in all the nearby markets, with the bulk destined for Addis Ababa. Livestock products such as butter and skimmed milk are sold and consumed locally. Cows are the primary givers of dairy products and, while goats and sheep are kept, their dairy production is minimal.

In the zone extension area, Dermallo woreda is connected by a dry weather feeder road to the Sodo-Gofa all-weather road. Travel by vehicle to this woreda during the rainy season is impossible. The major cash crop sold is banana, but maize is also exported in large quantities from this part of the livelihood zone. Unlike the other lakeside area, farmers in this area sell maize immediately after harvest for two reasons: fear of termites and lack of transport during the rainy season.

Seasonal Calendar



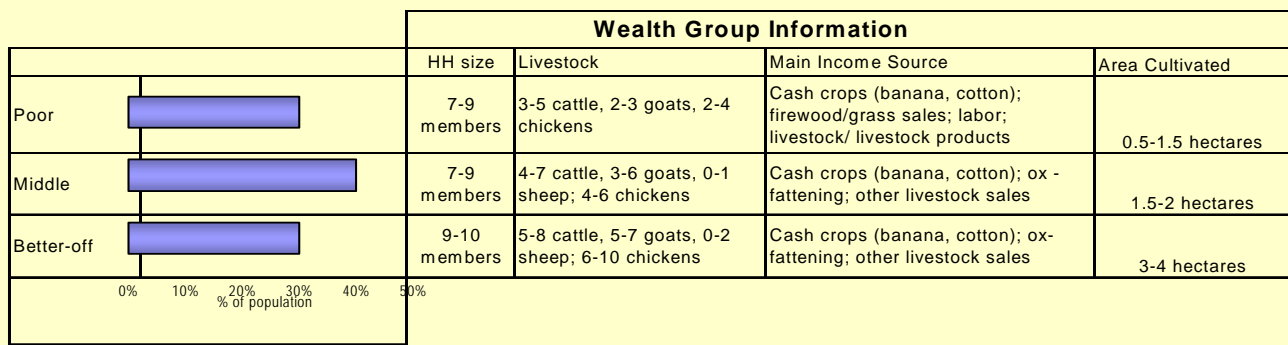
There are two production seasons in this zone, the *belg* and the *meher*. Green maize, sweet potato and green haricot beans are produced during the *belg* and taken from the fields daily for household consumption. Dry maize, a second harvest of sweet potato, and teff are produced during the *meher*. Sorghum is also harvested during the *meher* season in kebeles without irrigation. Banana is harvested four times a year, every three months.

The highest level of milk production occurs during the rainy season, between the end of March and the beginning of September. Milk production can continue in the dry season for up to two months with cows giving roughly half the amount of milk.

Livestock diseases tend to occur from April to early June. If livestock vaccination is not performed, farmers say that widespread epidemics occur.

Local and migratory labor is hired throughout the year for the harvesting of bananas and cotton as well as for land preparation, planting and weeding. The lean season occurs just before the production of green maize.

Wealth Breakdown



Wealth in the zone is determined by a number of factors including the amount of cultivated land and number of livestock a household owns. All wealth groups produce similar crops, with variations in quality and quantity. In kebeles with irrigation, all wealth groups have access to irrigated water. However, poor households badly needing cash may rent out a portion of their irrigated land. Because the poor do not own plow oxen of their own, a method of sharecropping is established whereby better off households plow a portion of poorer households' fields and the harvest is shared evenly between them.

Smaller herd sizes among the poor may be due to the fact that they have less money to spend on livestock investment, drugs and vaccines. Livestock disease is a major hazard in the zone and livestock drugs are essential for maintaining a healthy herd. Because poor households are unable to keep significant numbers of livestock, a system called *yerbee* is practiced between poor and better off households. Through this system a milking cow from the better off household is kept by the poor household and the milk produced is shared between them. The first offspring may be shared or given to the better off household and so on. This practice of sharing animals sometimes extends to goats and oxen as well.

Sources of Food

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004).

The main food crops in this zone are maize and sweet potato. Pulses such as peas, chickpeas and haricot beans and vegetables such as cabbage and *shifaro* (cabbage tree) are supplementary. All wealth groups produce a small amount of teff, which is usually reserved for festivals, particularly Meskel, Easter, and Christmas. They also consume small amounts of fruits (mango, banana, avocado) from their own production.

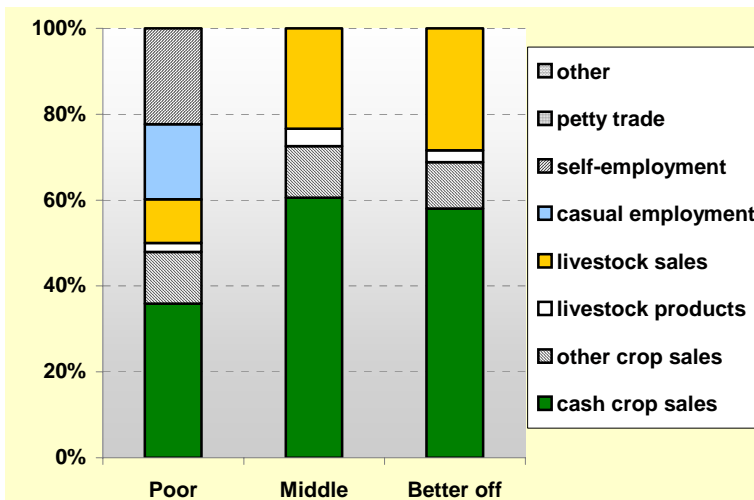
All better off and most middle households are able to eat from their own maize production for twelve months of the year, purchasing supplementary food more by choice than by necessity. The main foods purchased by middle and better off households are kocho and small amounts of pulses and highland grains. Better off households purchase larger quantities of sugar, oil, and meat than middle households.

Poor households are able to eat from their own production for just over half the year and purchase maize for the other half. They also purchase sweet potato for part of the year, but usually do not buy cooking oil and sugar, which are considered luxuries.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1900-2500	3000-4500	5000-6500

crop sales with the sale of agricultural labor, firewood, and grasses. The poor also sold a few smallstock such as chickens and goats.

Middle households earned about one-third of their income from the sale of livestock and livestock products, including an ox, goats, chicken, and butter. Better off households also earned about a third of their income through the sale of livestock and livestock products. Better off households are generally able to hold their livestock longer, in order to sell when the animals are larger and prices are higher.

There was a two-to-three fold difference in cash income levels between poor and better off households in the reference year.²

For all wealth groups, banana and cotton sales (cash crops) were the main sources of income. Land ownership and labor availability determined the quantity of these crops that households in each wealth group were able to grow. Poor households rented out up to half a hectare of irrigated land. Better off households were able to rent land in and hire migratory and local labor for increased production. Middle households did not typically rent additional land but did hire some labor to a lesser degree.

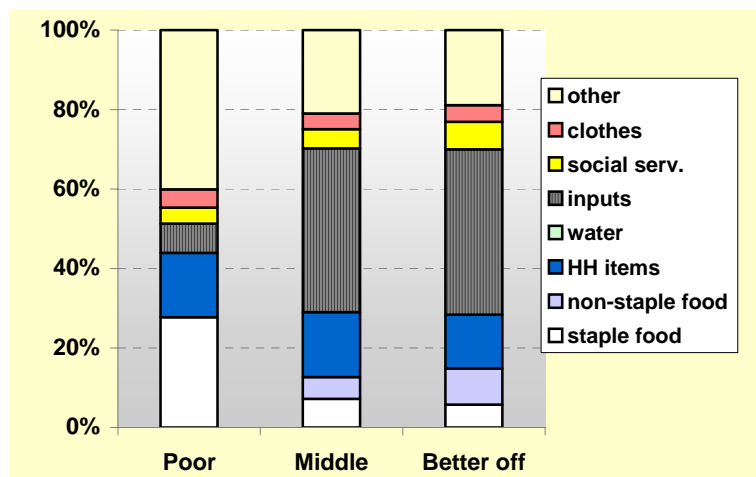
Poor households were less able to afford pesticides for cotton production and were therefore more vulnerable to weevils, which affect the quality of the cotton. This meant they sold their cotton at a lower price. Poor households supplemented their income from

Expenditure Patterns

Roughly 25-30% of poor household income went toward the purchase of staple food in the reference year, compared to less than 10% for middle and better off households and roughly 70% for poor households in very poor livelihood zones of SNNPR.

Expenditure on a number of items increased significantly with wealth, most notably expenditure on inputs (including livestock drugs and agricultural labor) and on social services (which includes schooling and medicine).

The category 'household items' includes coffee, salt, soap, kerosene and grinding, while 'other' includes livestock investment, tax, social obligations and ceremonies.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The main hazards affecting the zone are:

Erratic rainfall. Both irrigated and non-irrigated kebeles are affected by erratic rainfall. Flooding is a chronic problem during the rainy season and can periodically become severe when rainfall is heavy. During severe flooding, the entire food crop as well as cotton may be affected. The banana crop, however, is rarely distressed. Rain shortages are particularly damaging to non-irrigated crops and to livestock. This is a particular problem for non-irrigated kebeles that have neither irrigated land in which to intensify cultivation nor banana leaves to supplement fodder.

² In US dollars, poor households had an annual income of roughly \$230 – 280, whereas better off households had an annual income of roughly \$640 – 700. The exchange rate was about US\$1 = ETB 8.65 in March 2005.

Livestock disease. Livestock disease is a chronic problem for this zone. For those households that are unable to afford livestock drugs and vaccinations, investment in livestock is a difficult venture.

Malaria is another chronic problem in the zone. This means that households spend money for treatment every year and household labor may be stretched during the wet season.

Response Strategies

Households pursue a number of strategies to cope with hazards that affect food security. The main strategies for the Chamo-Abaya Irrigated Banana Livelihood Zone are as follows:

Intensification of crop production. In the event of rain shortage or drought, irrigated land is cultivated intensively for the purpose of producing food crops. Irrigated land may also be shared and cultivated cooperatively among wealth groups.

Sale of livestock. All wealth groups either continue to sell or increase the sale of livestock, regardless of the sale price. This strategy has strict limits if the sale of productive animals is to be avoided.

Switching cultivated crops. Households will switch from long-cycle to short-cycle or early-maturing crop varieties such as haricot beans and sweet potatoes.

Spinning cotton. Women spin cotton for sale in the Mirab Abaya market, earning roughly 7-8 ETB per week.

Increased sale of labor, firewood, and grasses. Poor households search for additional paid labor opportunities and increase the sale of firewood and grasses. Middle households, who typically hire labor may instead search for employment themselves or begin to sell firewood and grass if the severity of the situation demands it.

Reduction of labor employment or compensation. Middle households will eliminate the hiring of labor. Better off households may reduce the amount of labor, reduce the payment for labor, switch payment to meals only, or eliminate labor altogether if the situation is severe.

Borrowing money. Middle households seek loans from better off households. If better off households are unable to give, both the middle and better off may borrow from relatives in towns.

Switching expenditure from non-food to staple food items. All households will reduce expenditure on non-food items such as kerosene, school fees, clothes, grinding, and festivals. Poor households will additionally reduce expenditure on livestock drugs and food purchases other than kocho and salt.

Indicators of Imminent Crisis

A shortage of rain from mid-March through April will seriously affect the production of *belg* crops, namely green maize and sweet potato. Likewise, too much rain in April could lead to flooding, which would destroy both *belg* and *meher* crops, leaving only banana unharmed. The late-onset of rains or no rain from July-August can seriously affect *meher* production.

Season	Month	Indicator
Belg season	Mar	Delayed start of rainy season
	Apr	Long periods without rain at critical stages in rainy season
	May	Or excess rain during the belg season causing flooding
Dry	Jun	
Meher season	Jul	Late onset or no rain
	Aug	High staple food prices during and after maize harvest -->
	Sep	
Dry season	Oct	Low cotton prices during harvest period -->
	Nov	
	Dec	
	Jan	Unusually high maize prices in period January - June -->
	Feb	

A drastic reduction in the price of livestock, particularly fattened oxen, will have the greatest impact on middle and better off households, as livestock sales account for nearly about a quarter of their income. Drastic increases in maize prices from January to the end of June will negatively affect poor households, who purchase six months of maize. The situation will become extremely precarious from mid-April to the end of June, the hunger months. Decreases in the price of cotton will affect all households, but could be particularly damaging in the non-irrigated/non-banana kebeles.

SNNPR Livelihood Profile

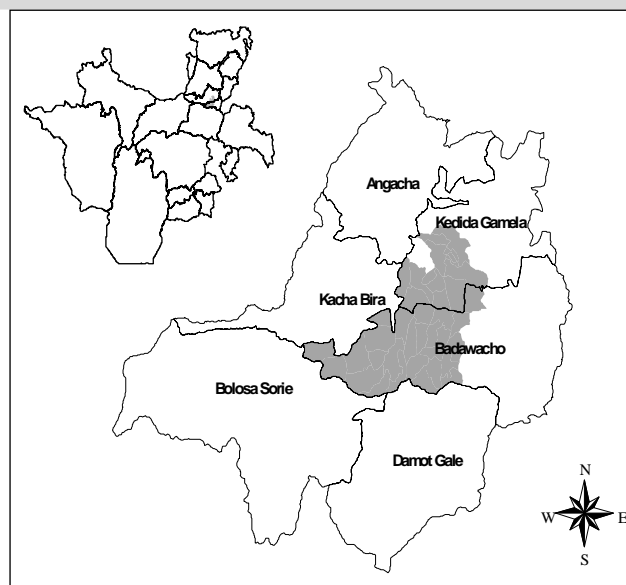
Kedida-Badewacho Coffee Livelihood Zone

June 2005¹

Zone Description

The Kedida-Badewacho Coffee Livelihood Zone is a cash crop producing area that has not experienced serious food insecurity in the recent past. However, over the last few years, food security has been deteriorating due to erratic rainfall and declining soil fertility. It is a mixed farming zone, with households relying on both crop and livestock production.

The livelihood zone is spread over two administrative zones. Kedida is in Kambata-Tambaro Administrative Zone and Badewacho is in Hadiya Administrative Zone. It consists of most of Kedida-Gamela woreda and close to half of Badewacho woreda. It is located in the midland (*woina dega*) at an altitude of between 1500 and 2000 meters above sea level. The landscape is predominantly flat, with moderate vegetation coverage consisting of trees, bush and eucalyptus. It is a densely populated zone, with small farm holdings of moderate soil fertility. Rainfall is divided over two seasons, the *belg* season from January to April and the *meher* season from June to October.



The major *belg* crops are maize, haricot beans, sweet potatoes, and Irish potatoes. The main *meher* crops are wheat, teff, haricot beans, sweet potatoes, and Irish potatoes. The perennial crops are coffee and enset. The primary food source is own crop production, but the very poor and poor increasingly depend on food purchases and payments of food for agricultural labor rendered to the better off to supplement household food consumption. Coffee and teff are the major cash crops. Most income is earned from cash cropping, livestock sales, labor migration, and petty trade. Most farmers have no access to agriculture inputs, except for the better off. Coffee production is chronically affected by the coffee berry disease (CBD), and this lowers income even in good years.

The most commonly owned livestock are cattle and sheep. Land holdings are very low, ranging from 1-2 *timads* for the very poor and poor to 3-6 *timads* for the middle and better off. Livestock holding are also low due to poor pasture availability: there is very little common grazing, and arable land cannot be sacrificed except by the better off, who reserve between 0.25 and 0.5 *timad* for livestock pasture. Livestock sales occur primarily during two seasons: the hunger season when livestock prices are low, and the festival season when prices are high.

The major income sources for all wealth groups are cash crop sales of coffee and teff. Households in the better off and middle wealth groups earn additional significant income from fattened ox sales, cattle sales, and petty trade, while the poor and very poor depend on labor migration and local agricultural casual labor. Local labor and labor migration peak from October to February when there is increased demand for harvesting labor. Labor migration is predominantly to the cotton and sugar state farms and factories in Awash, Metahara and Wenji, and to the neighboring Alaba pepper livelihood zone.

Market access is good in this livelihood zone, with relatively well-maintained roads to all Peasant Associations (PAs). Villagers access the market using mules and on foot, while more established traders use pick-up trucks.

¹Field work for the current profile was undertaken in June 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of 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 2010).

Markets

Most farmers sell their coffee as wet red cherries to coffee pulping stations located in Durame in Kedida-Gamela woreda, Shone in Badewacho woreda, and Shinshicho in Kacha Bira woreda. Coffee producers sell their coffee in these towns and bigger traders transport and sell it to the central market in Addis Ababa after processing. The main market days are Monday, Friday and Saturday, but these are supplemented by petty traders who trade every day except Sundays. October to January is the peak trading period for coffee, while trade is at its lowest between February and June. The peak-volume period price for wet coffee during the 2003-04 season was 1.7 Ethiopian birr (ETB) per kilogram and low-volume period price was 2.5 ETB per kg. The corresponding prices for dry coffee were 3 and 5 birr.

Maize, teff, wheat, enset and root crops are traded in the same main markets as coffee. Maize is imported from the Shone-Kulito maize-producing area, and from Alaba, between March and June. The peak maize production period is from October to December, when prices are very low at about 60 ETB per quintal². The hunger period, when maize is imported, is between March and June, when prices can reach 120 ETB per quintal. The other major products traded are enset and teff, but these are only traded locally.

Access to markets is good and the roads are relatively well maintained in this livelihood zone. Established traders use pick-up trucks to transport their products to the market, while villagers use mules and foot.

Livestock trade is generally limited, but it increases during the hunger season (when households need cash to purchase food) and during the main holidays such as Easter, Christmas, and Meskel (when demand for meat is high, particularly in Addis Ababa). Oxen are sold for about 500 ETB during the hunger season, and 800 ETB during the holiday seasons. Sheep and goats are sold for about 100 ETB in the hunger season and 200 ETB in the religious holiday seasons.

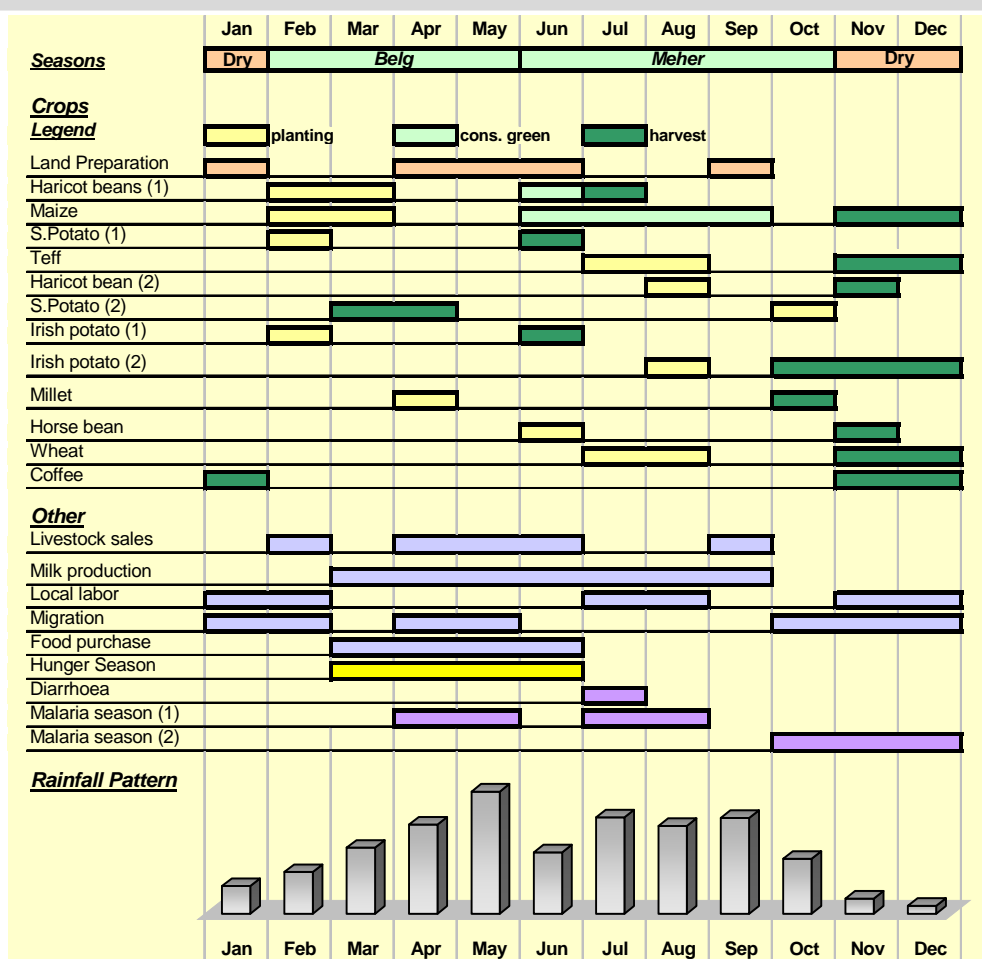
Local labor opportunities are limited, but there is significant migration to state farms and to the Alaba pepper livelihood zone for various agricultural activities such as land preparation and harvesting from October to February.

Seasonal Calendar

The cropping calendar is planned around the *belg* and *kremt* rainy seasons. May, October and November are the three dry months. With the exception of enset, which is a perennial crop, the main food crops in the zone are planted in the *belg* season.

Although some crops become available in June, the consumption year properly begins in July when large quantities of green maize are consumed. Consumption of green maize signals the end of the hunger season, which peaks from March to June. The very poor consume 90% of their maize crop green, leaving a meagre amount for the dry harvest.

The *meher* season crops are teff, wheat, millet, horse beans, and the second crop of haricot beans, sweet potatoes and Irish potatoes. These crops are planted between April and September. The main harvest month for dry maize, and for all *meher*



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

² A quintal of maize is 100 kg.

crops with the exception of sweet potatoes, is November.

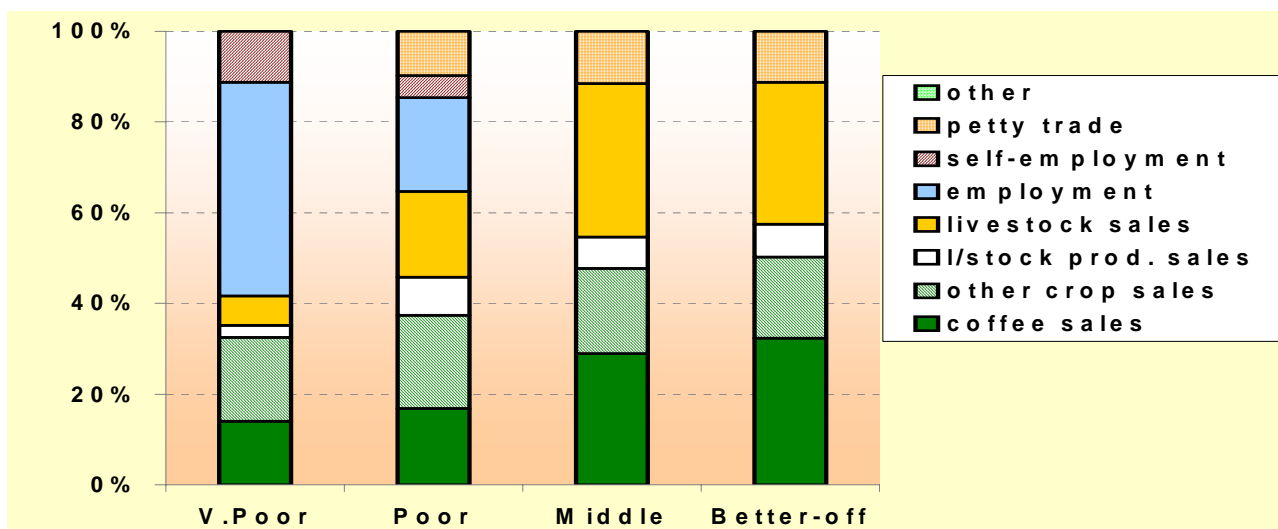
Very poor and poor household members supplement their own production by working for the better off locally, many of whom pay them in grain rather than in cash, particularly during the harvest period. Additionally, they migrate to cotton and sugar state farms and to the Alaba pepper livelihood zone, where they earn cash. The income earned from these activities is primarily used between March and June, when food purchases peak as households try to cope with the hunger season.

Malaria outbreaks occur over two seasons. The first outbreak occurs towards the end of the *belg* season in April, and lasts until the middle of the *meher* rains. The second outbreak starts towards the end of the *meher* rains in October and continues into the long dry spell in November – December. Diarrhoea is also a problem in this zone and is most prevalent during the rainy seasons, especially in July, largely caused by poor quality water.

Wealth Breakdown

Land and livestock holdings are the chief determinants of wealth in this livelihood zone. The amount of land that a household owns determines the amount and variety of food and cash crops that can be cultivated. All wealth groups produce the same food and cash crops, but the better off produce significantly larger quantities. The better off sell coffee, haricot beans, wheat, sweet potato, teff and other root crops, while the poor sell only teff, wheat and coffee. The better off have higher crop productivity because they have oxen for land preparation, use improved seed and fertiliser to boost production, and hire very poor and poor workers to provide additional agricultural labor. Meanwhile, the very poor and poor have to resort to providing labor to the better off to supplement their own crop production. The better off earn about fourteen times more cash than the very poor from coffee.

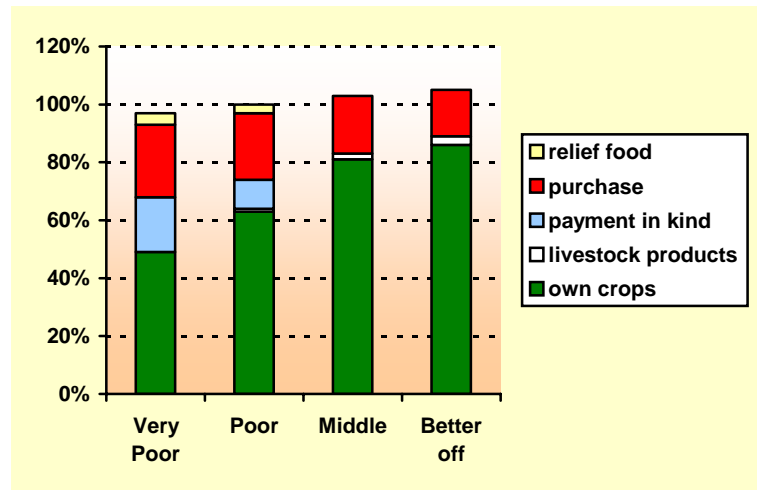
Oxen and cattle ownership boosts the overall well-being of middle and better off households by providing plowing traction, milk and butter for consumption and sale, and income from the eventual sale of animals. Very poor households do not own cattle or oxen and rarely even own a sheep or goat, while better off households typically own 2 oxen, 4-6 cattle (including 1-3 milking cows), and 4-8 shoats³.



³ Shoats = sheep and/or goats

Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of relatively average crop production (2003-04). All wealth groups primarily depended on own crop production for household food in the reference year. The main food crops produced were maize, enset, and sweet potato. Minor contributors were haricot beans, wheat, teff and a variety of root crops such as Irish potatoes, taro and yams. All wealth groups consumed green maize from the start of the consumption year in July. Teff was consumed exclusively by the middle and better off, as the very poor and poor produce this crop entirely for sale. As a result of low crop production, very poor and poor households purchased more food than middle and better off households, and also received a sizeable contribution of grain from labor exchange. The poor and very poor also received a small amount grain as relief from food-for-work activities.



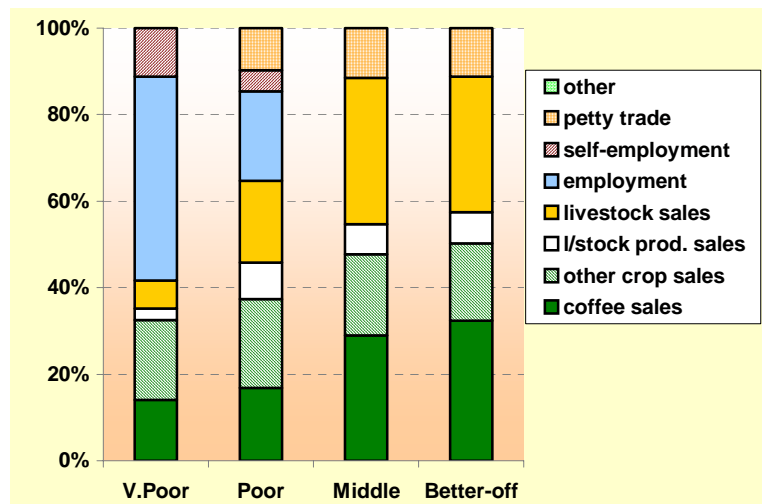
The graph expresses food access as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)

Cash income levels vary considerably between wealth groups. Crop sales, livestock sales, petty trade and labor migration are the most important income sources in the zone. All wealth groups earn significant income from coffee sales. The better variety of coffee bush reaches maturity 3 years after planting, and the inferior variety after 4-5 years. Teff and wheat are also important cash crops for all wealth groups. Teff is a high value crop produced mainly as a cash crop. The very poor are limited in how much they can earn from coffee and other crops because they have limited land. The middle and better off also earn cash from the sale of eucalyptus trees, which are used for house construction.

Cattle and oxen are sold only by poor, middle and better off households. The very poor do not own cattle. The better off sold one fattened ox in the reference year, as did households in the middle income group, but the better off generally got a higher price because they sold a better fed and older animal. These wealth groups also typically sold 1-2 of their own cattle. Livestock product sales include egg and butter sales. Butter is sold only by the wealth groups with cattle. The poor generally sell all their butter because it is a high-value luxury product, while the middle and better off sell roughly three-quarters and half respectively. Eggs have a limited income role. Every wealth group sells shoats and chickens.

Agricultural labor, labor migration and firewood and charcoal sales are income-generating activities for households in the very poor and poor wealth groups. Petty trade is dominated by better off households, but poor and middle households also earn some money from this activity.

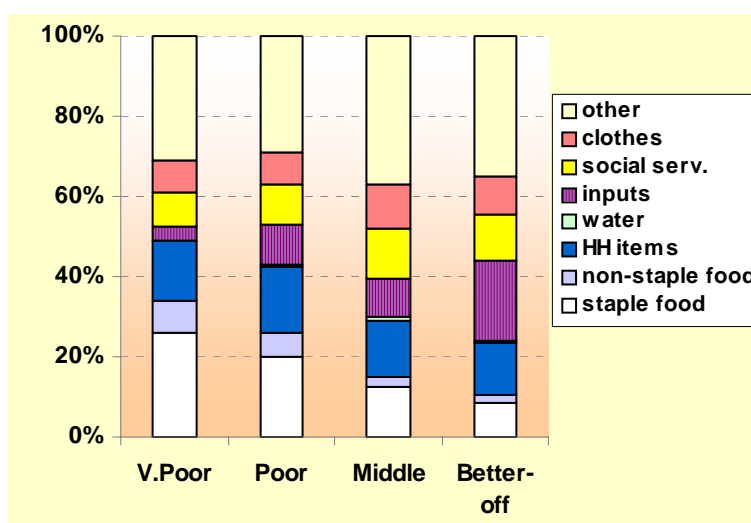


Annual income (ETB)	700-1000	1000-1600	2500-3000	3500-5000
Annual income (ETB)	700-1000	1000-1600	2500-3000	3500-5000

Expenditure Patterns

The graph presents cash expenditure patterns for the period July 2003 – June 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. Roughly 20-30% of very poor income went towards the purchase of staple food in the reference year, compared with less than 10% of better off income. Expenditure on a number of other items increased significantly with wealth, most notably expenditure on inputs (mainly fertilizer and improved seeds), on social services (which includes schooling and medicine), and on clothes.

Household items (HH items) include coffee, salt, soap, kerosene and grinding, while 'other' includes non-staple foods such as meat, tax, social obligations and ceremonies.



Hazards

Most of the hazards in this livelihood zone are chronic problems, for which long-term solutions are required:

Shortage of water. There is a chronic shortage of water for both human and livestock consumption. Villagers usually have to travel long distances to get access to safe drinking water, and occasionally have to purchase it. Coffee processing plants in the vicinity of the zone contaminate nearby rivers and expose both humans and cattle to possible disease. Lack of water for livestock affects the health of cattle and shoats, and lowers overall milk production

Shortage of land and declining soil fertility. Shortage of land is a problem for households in the very poor and poor wealth groups. It affects the amount of food and cash crops they produce, and forces them to resort to local casual employment and labor migration to obtain food and cash income. It also limits the amount of livestock that they can own because of difficulties in finding pasture. Land productivity is constrained by declining soil fertility, which arises primarily from intensive, year-round land use. Limited use of agriculture inputs, which are too expensive for poor households, keeps production low.

High population density. High population density and large household sizes strain the resources available to support households. They also affect long-term prospects for improved well-being as land and livestock, the primary determinants of wealth, are eventually sub-divided among the number of male children in the event of marriage.

Crop diseases and pests. The main cash crop, coffee, is chronically affected by coffee berry disease (CBD). This lowers the quality and amount of coffee produced, consequently lowering incomes and jeopardizing overall household food security. Enset and sweet potato, the major food crops in the zone, are affected by bacterial wilt and butterflies respectively.

High cost of agricultural inputs. There is limited use of agriculture inputs in this livelihood zone primarily because the prices prohibit purchase. This is especially damaging in the failure to buy pesticide for CBD. Access to fertiliser and improved seed would assist in reducing the negative effects of declining soil fertility and productivity.

Malaria and diarrhoea prevalence. These are the major human diseases affecting this livelihood zone. Malaria outbreaks occur at critical stages of both the *belg* and *meher* cropping seasons, with the potential to reduce labor availability for key agricultural activities. Diarrhoea is also common at the beginning of the *meher* season in July. The impact of these diseases is compounded by the lack of reliable health facilities and qualified personnel.

One hazard, below, affects the livelihood zone periodically, threatening food security in some years more than others:

Erratic rainfall patterns. Kedida-Badewacho is a mixed farming and livestock zone, and household livelihoods depend on reliable rainfall. Erratic rainfall affects all agricultural activities, and significantly lowers crop production. Delayed or insufficient rainfall at the start of the *belg* season delays planting and the harvest of green maize, which is important in breaking the hunger season. In contrast, heavy rainfall at the wrong time, for instance at harvest time, can destroy the dry crop.

Response Strategies

People pursue a number of strategies in order to cope with a hazard affecting food security. The main strategies for households in the Kedida-Badewacho Coffee Livelihood Zone are as follows:

Increased livestock sales. This option is more available to the better off and the middle wealth groups than to the very poor and poor. Better off and middle households can generally afford to double their cattle sales in difficult times. The sale of shoats and chicken is doubled by all wealth groups in bad years.

Decrease in non-food expenditure. Non-essential expenditure on clothes, household utensils, kerosene, beer and festivals is reduced in bad years, as more income is expended on food purchases. This becomes a negative response strategy when it extends to items like medical care and education. However, effort is made to limit the extent to which school expenses are reduced. The risk is in the hazard extending long enough to result in school drop-outs and a lack of medical attention in the case of illness.

Increased sale of livestock products. Milk is usually reserved for household consumption. However, in difficult times, milk is sold because it is a high-value item. Egg sales are also increased.

Intensified search for labor opportunities. Poor women increase the amount of onset preparation work that they do for better off households by increasing the frequency and period that they engage in this work. In addition, local agricultural labor activities are pursued for a longer period. Labor migration is engaged in for more months, provided the destination has not also been affected by the hazard.

Increased petty trade and firewood sale activities. Petty trade is done for more months, and more frequently per week. The very poor and poor also intensify firewood collection in the same way, despite the potential negative consequences to the environment and to firewood prices.

Indicators of imminent crisis

Belg season	Jan	Late start of the rainy season delays land preparation and threatens green harvest
	Feb	Poor rains affect land preparation
	March	Poor rains signal poor belg crop and affect flowering of coffee
	April	Butterflies infest sweet potato
Dry	May	Stalk-borer attacks maize crop
Meher season	Jun	Poor input distribution. Delayed green consumption of maize
	July	Stalk-borer attacks maize crop. Heavy attack by coffee berry disease
	Aug	Poor rains affect meher crop. Heavy rain destroy flowered coffee crop
	Sept	Poor rains affect coffee at a critical stage
Dry	Oct	Poor rains affect planting of sweet potato
	Nov	Unexpected heavy rain can destroy harvest. High staple food prices.
	Dec	Unexpected heavy rain can destroy harvest. High staple food prices

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a range of key indicators for the zone, including those related to rainfall, crop disease and pest outbreaks, and staple food prices.

SNNPR Livelihood Profile

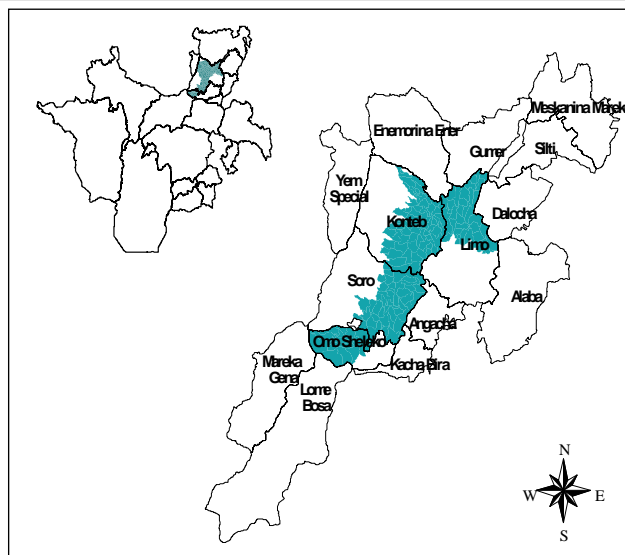
Hadiya-Kembata Cereal and Enset Zone

August 2005¹

Zone Description

The Hadiya-Kembata Cereal and Enset Livelihood Zone is a densely populated but food secure area of Hadiya and Kembata Tembaro Administrative Zones. It includes most of Misha, Lemo, Duna, Soro, and Angacha woredas and parts of Gibe, Kacha Bira and Kedida woreda. With altitudes ranging from 1900 – 2800 meters above sea level, most of the zone falls in the wet midland (*woina dega*) and highland (*dega*) agro-ecological zones and rainfall is relatively reliable. This livelihood zone has historically been self-sufficient in terms of crop production and households are generally food secure. However, the population is expanding rapidly and this may place future food security in doubt as landholding sizes per household, which are already small, shrink further.

The zone is divided into two sub-zones in this profile, based on differences in the amounts of major crops produced. Production of most crops tends to be higher



in the part of the livelihood zone that falls in Hadiya. The topography of the zone is a mixture of mountains, hills and plains. The vegetation coverage is moderate, dominated by enset and eucalyptus trees.

The agricultural system is mixed farming. Households grow enset, wheat, potatoes, barley, beans and peas. Maize is a very minor crop, grown only to provide a small amount of green consumption in July and August. Since there are no pure cash crops in the zone, all of these crops are both consumed and sold. Enset is the main food crop and wheat is the main crop sold for cash. Those households that own oxen use them for plowing their fields, while those who do not mainly work for others in exchange for the use of their oxen. The soils are not particularly fertile and crop production depends on fertilizer usage (for all crops except enset). The expense of fertilizer is the main issue that concerns households in this livelihood zone.

Cattle, sheep, and equines (donkeys, horses and mules) are reared in this livelihood zone, but the types of livestock owned vary considerably from one wealth group to the next. Due to a lack of grazing land, households tend to keep small numbers of animals and use a zero grazing system for feeding their livestock.

Households obtain most of their cash income from crop sales, livestock and livestock product (butter) sales, and, in the case of very poor and poor households, casual employment. The opportunities for casual employment include local agricultural work for better off households (particularly during the planting and harvesting seasons), local urban work, and migratory work in state farms in Matara, Wonji and Fincha and in the neighboring Alaba – Mareko Lowland Pepper and Maize Livelihood Zone. One member of very poor and poor households tends to migrate for 2-4 months every year, particularly during the August – October hunger season.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to November 2003 - October 2004 (Hidar 1996 to Tikimt 1997 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

Markets

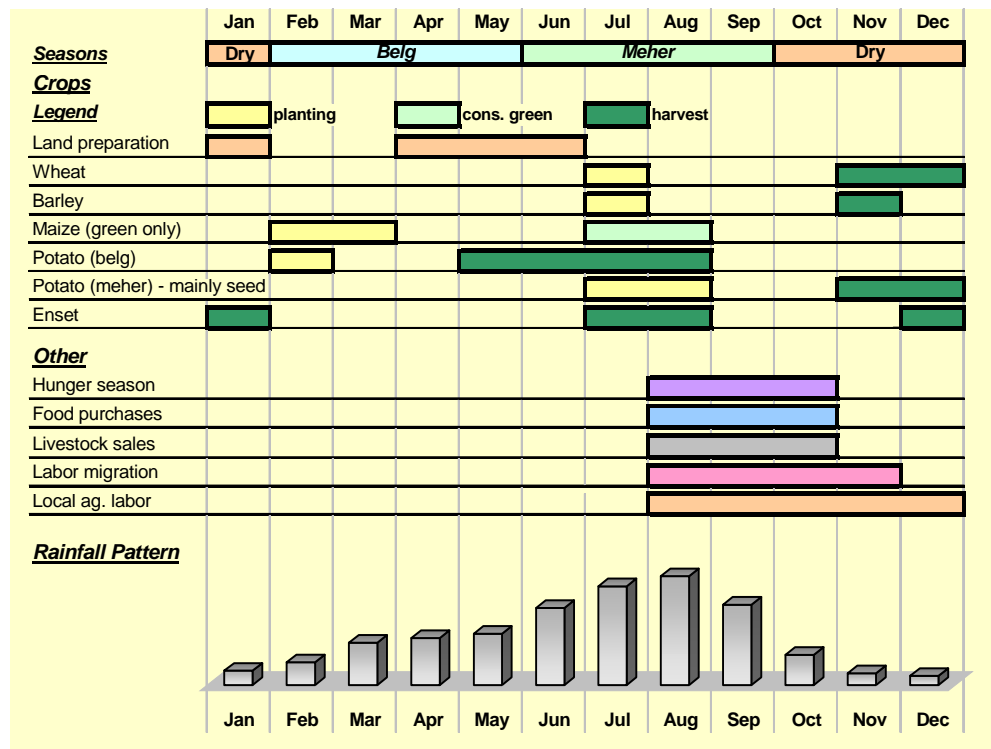
Market accessibility in this livelihood zone is only moderate. Most of the roads in the zone are not all-weather roads. There are some particularly high areas that are difficult to reach by vehicle, resulting in difficulties in marketing produce. Small kebele markets are scattered throughout the zone, but the main markets are in Hossana, Durume, Hadero, Shinshicho and Angacha towns and operate twice per week.

Wheat, beans, peas and potatoes are the main crops exported from the livelihood zone. Wheat is sent to factories in Hossana and Addis Ababa and then marketed in urban areas throughout the country. Maize is the main crop imported into the livelihood zone, mostly from Alaba. Livestock and livestock products are generally sold for local consumption and are not exported from the zone.

Seasonal Calendar

The most important production season in this livelihood zone is the *meher* season. The *kremt* rains for this season typically start in early June and end towards the end of September. The *belg* season is less important and in recent years has tended to start late (in March rather than in January).

During the *belg* season, the planting of maize and potatoes are the main activities. All other crops are planted during the *meher* season. The main harvesting period starts in November, marking the end of the hunger season and the start of the consumption year.







Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

As a result of the high altitude of this livelihood zone, malaria and other diseases are not common, but minor outbreaks occur in isolated areas in September – October.

Kembata Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		5-7	0.1 - 0.5 ha	10-20 mature enset stems, 10-20 eucalyptus trees	0-1 cattle, 0-1 sheep
Poor		5-7	0.25 - 0.75 ha	20-40 mature enset stems, 20-40 eucalyptus trees	0-2 cattle, 1-2 sheep
Middle		6-8	0.75 - 1 ha	40-60 mature enset stems, 50-100 eucalyptus trees	1 plow ox, 2-4 cattle, 1-3 sheep, 1 equine
Better-off		7-9	1 - 1.5 ha	75-125 mature enset stems, 100-150 eucalyptus trees	2 plow oxen, 3-5 cattle, 2-4 sheep, 1 equine
0% 10% of population 20% 30% 40%					

As in most other parts of SNNPR, wealth at household level is determined by a combination of land and livestock holdings. The perennial crops (particularly enset) available to households are another, related, determinant. Middle and better off households own all of the types of livestock reared in the zone. In contrast, very poor households rarely own more than a couple of sheep and a few chickens. Most poor households own 1-2 cattle in addition to this, which differentiates them from the very poor.

The ownership of plow oxen is an important determinant of wealth, as it allows farmers to till the land properly and in a timely manner. Two middle households owning 1 ox each, often pair up for cultivation, using the oxen on alternate days. Very poor and poor households who do not own an ox obtain the use of oxen in exchange for working for better off households.

Sources of Food – An average year (2003-04)

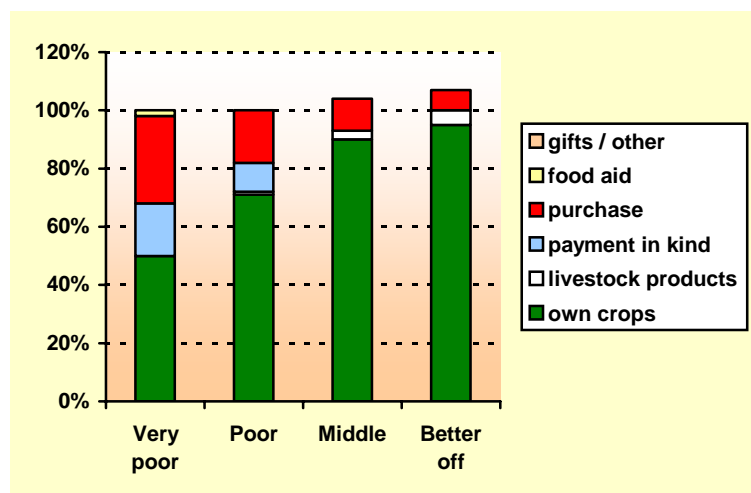
The graph presents the sources of food for households in the Kembata Sub-Zone for the period November 2003 – October 2004, which was a fairly average year. November represented the start of the consumption year because this was when the main harvest started, marking the end of the annual hunger season.

The contribution of own crop production increased with wealth. Very poor households obtained about half of their food needs from their own crop production, whereas better off households obtained 90-100% in the reference year. The contribution of livestock products (primarily milk and butter) was small, but also increased with wealth.

Households made up any gap in food through a combination of purchase and 'payment in kind' (which means working directly for food).

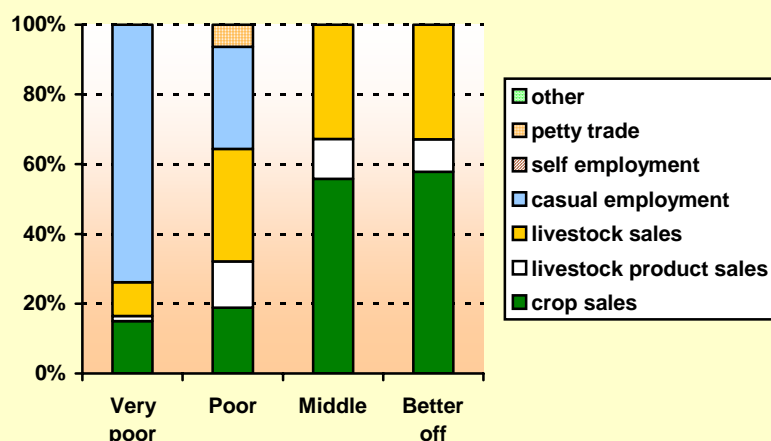
Maize and *kocho* (processed enset) made up the bulk of purchases for very poor and poor households. Middle and better off households purchased small quantities of maize and teff, more out of preference than need (since they also sold large quantities of wheat and other crops). 'Payment in kind' generally took the form of meals paid to laborers on the days that they worked for the better off locally or meals eaten by migrant laborers while away from home.

Very poor households in some kebeles received small quantities of relief food in the reference year.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	500-1000	1000-1500	1500-2500	3000-4500

The graph presents the sources of cash income for households in different wealth groups in the Kembata Sub-Zone for the period November 2003 – October 2004.

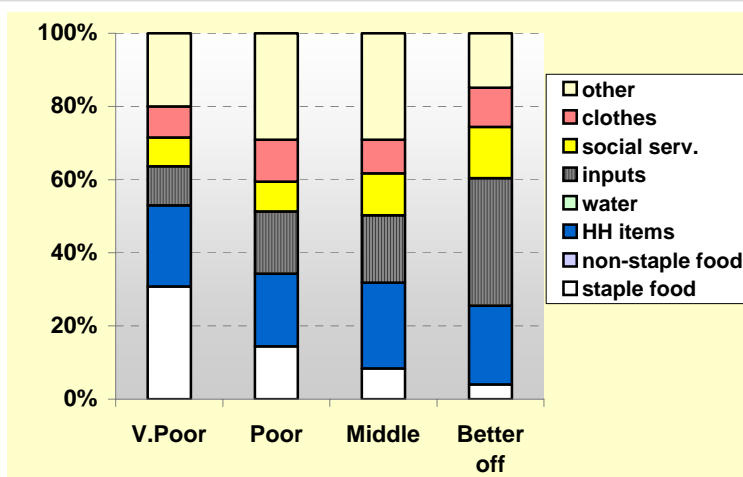
Very poor households earned roughly ETB 500-1,000 in the reference year, compared to ETB 3,000-4,500 for better off households. In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

Very poor households obtained most of their cash income from casual employment, including both local and migratory work. Poor households also obtained cash income from this source and from small-scale petty trading.

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns during the reference year. Compared to many other livelihood zones in SNNPR, the percentages of expenditure on staple food are low and on inputs are high.

The most obvious differences between the wealth groups in this livelihood zone are the percentages of expenditure on staple food and inputs. About 30% of very poor household income went toward the purchase of staple food, compared with almost nothing in the case of the better off. Expenditure on all other items increased with wealth in the reference year, in absolute terms. In particular, better off households spent about ETB 1,000-1,500 on inputs (including fertilizer and agricultural labor), while poorer households spent about ETB 50-100.




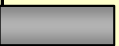


The graph provides a breakdown of total cash expenditure according to category of expenditure.

The category 'household items' included coffee, salt, soap, kerosene and grinding. 'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs, fertilizer, seeds, and, in the case of better off households, agricultural labor. 'Social services' included spending on education and health.

Hadiya Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		4-6	0.25 - 0.5 ha	10-20 mature enset stems, 10-30 eucalyptus trees	0-1 cattle, 0-2 sheep
Poor		5-7	0.5 - 0.75 ha	20-40 mature enset stems, 30-70 eucalyptus trees	0-1 plow ox, 1-2 cattle, 1-3 sheep
Middle		6-8	0.75 - 1.25 ha	30 - 70 mature enset stems, 100-200 eucalyptus trees	1-2 plow ox, 2-4 cattle, 2-4 sheep, 1 equine
Better-off		7-9	1.5 - 2 ha	60-100 mature enset stems, 200-400 eucalyptus trees	2 plow oxen, 4-6 cattle, 3-5 sheep, 1 donkey, 1 horse or mule
0% 10% of population 20% 30% 40%					

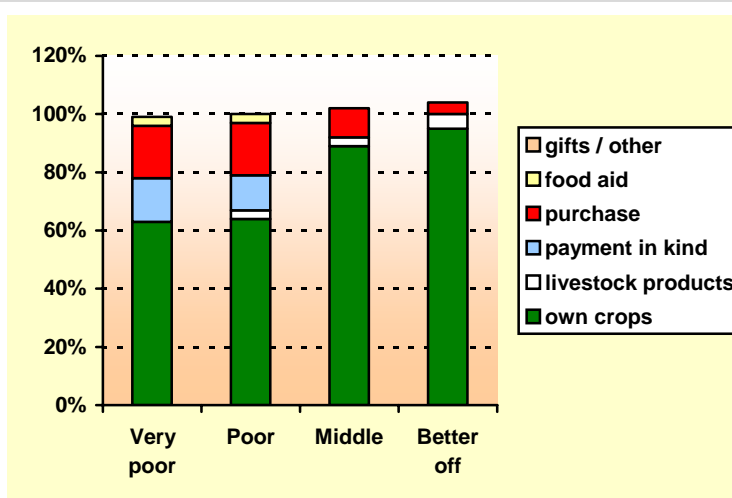
The wealth breakdown for this sub-zone is very similar to that of the Kembata Sub-Zone. Wealth at household level is determined by a combination of land and livestock holdings. The main differences between the sub-zones are that better off households cultivate slightly larger areas of land (partly because they rent in land from poorer households), own slightly more cattle, and own substantially more eucalyptus trees in the Hadiya Sub-Zone.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Hadiya Sub-Zone for the same reference year, November 2003 – October 2004, which was a fairly average year.

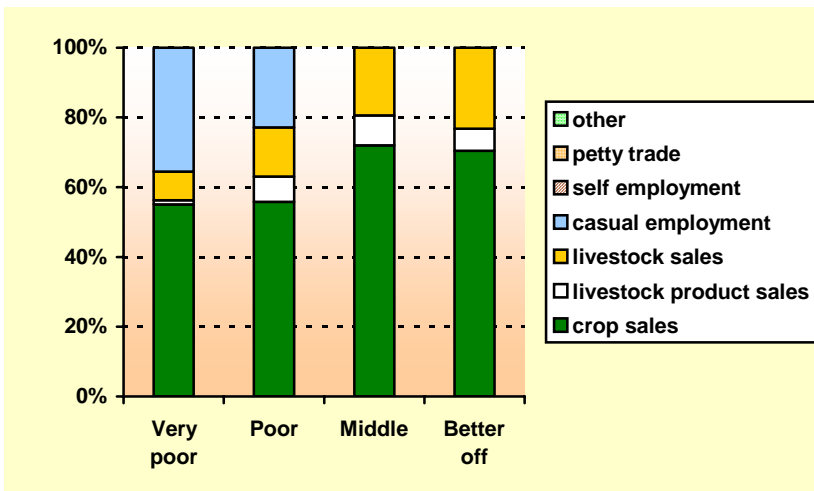
The contribution of own crop production increased with wealth. Very poor households obtained about 60-65% of their food needs from their own crop production (which was more than their counterparts in Kembata), while better off households obtained 90-100% in the reference year. The contribution of livestock products (primarily milk and butter) also increased with wealth. In contrast, the contribution of purchased food decreased with wealth.

Very poor and poor households had two additional food sources: payment in kind (working directly for food) and relief food.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	1000-1500	1250-1750	2000-3000	4000-5000

The graph presents the sources of cash income for households in different wealth groups in the Hadiya Sub-Zone for the period November 2003 – October 2004. Incomes in this sub-zone are higher than in the Kembata Sub-Zone, mainly because incomes from crop sales are higher. Households in this sub-zone produce and sell more wheat, beans and enset.

In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

Very poor households obtained a large part of their cash income from casual employment, including both local and migratory work, but a much smaller proportion than in the Kembata Sub-Zone. Poor households also obtained cash income from this source.

Expenditure Patterns – An average year (2003-04)

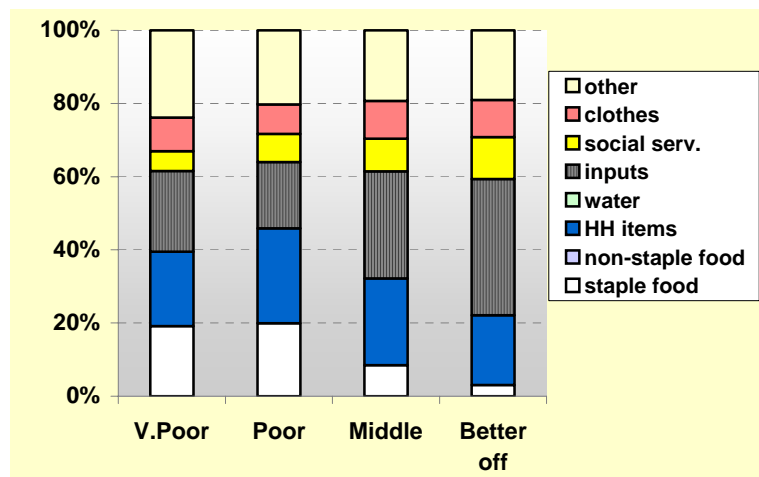
The graph presents expenditure patterns during the reference year and shows a similar pattern of expenditure as in the Kembata Sub-Zone.

The most obvious differences between the wealth groups in this livelihood zone are the percentages of expenditure on staple food and inputs. About 20% of very poor and poor household income went toward the purchase of staple food, compared with less than 5% in the case of the better off. Expenditure on all other items increased with wealth in the reference year, in absolute terms. In particular, better off households spent about ETB 1,500 on inputs (including fertilizer and agricultural labor), and even poorer households spent about ETB 250-300.

The category 'household items' included coffee, salt, soap, kerosene and grinding.

'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs, fertilizer, seeds, and, in the case of better off households, agricultural labor. 'Social services' included spending on education and health.

The graph provides a breakdown of total cash expenditure according to category of expenditure.



Hadiya- Kembata Cereal and Enset Livelihood Zone (both sub-zones)

Hazards

Serious hazards are rare in this food secure livelihood zone. However, a few minor periodic and chronic hazards deserve mention.

Erratic rainfall is a periodic problem in the zone and can include a late start to the rains and/or an uneven distribution of rainfall. Unseasonal or excessive rain can also be a problem at certain times of year, particularly at harvest time, and can cause landslides. Hailstorms in September can damage crops in pocket areas of the livelihood zone.

Crop diseases are a chronic problem in the zone, of which the most important are enset bacterial wilt and potato blight.

Expensive inputs and the late delivery of inputs (particularly fertilizer) are frequently mentioned problems. Unlike many other livelihood zones in SNNPR, even very poor and poor households use fertilizer in this livelihood zone, as it is essential to the production of all crops except enset.

Response Strategies

Households pursue a number of strategies in order to try and cope with a hazard affecting food security. These include:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has limits if the sale of productive animals is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. However, there are strict limits to this strategy if households are to avoid depleting their reserves and reducing future production. Most households in this livelihood zone have mature enset in reserve in most years.

Increased out-migration in search of casual labor. Men from very poor and poor households migrate out of the zone every year in search of casual labor. In a bad year, more migrants leave, and they leave earlier in the season.

Increased local casual work. Women from the very poor and poor wealth groups seek out more enset preparation work locally in bad years. This type of work is usually more available in bad years, as all households will consume more enset when other crops fail.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry	Jan	Poor rains for potato planting will affect the harvest. High prices for cereals in post-harvest period
Belg season	Feb	Poor rains for potato development will affect the harvest
	March	Poor rains affect maize planting, thereby delaying the green maize harvest
Dry	April	Poor rains delay preparation of land for <i>meher</i> season crops
	May	
Meher season	Jun	Delayed start to <i>kremt</i> rains delays planting of beans and peas
	July	Poor rains affect wheat planting, the most important crop
	Aug	
Dry	Sept	Hailstorms affect production. Early end to <i>kremt</i> rains decreases production.
	Oct	Excessive rainfall during the harvest ripening and drying period
Dry	Nov	Unseasonal rains at harvest time reduce production of beans and peas
	Dec	Unseasonal rains at harvest time reduce production of wheat and barley. High prices for cereals at harvest time.

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a wide range of possible key indicators for the zone, including those related to rainfall, the timing of crop planting and harvesting, and staple food prices.

SNNPR Livelihood Profile

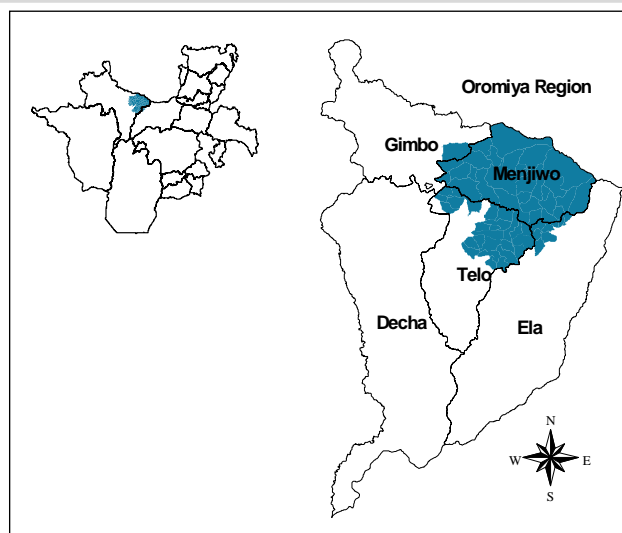
Kaffa Cereal and Enset Livelihood Zone

June 2005¹

Zone Description

Kaffa Cereal and Enset Livelihood Zone is found in the northeastern part of Kaffa Administrative Zone, in Tello, Menjiwo and Decha woredas. It is a fertile and sparsely populated zone, where rainfall is reliable, landholdings are large and households are food secure. However, income levels are low compared to neighboring livelihood zones in western SNNPR, partly due to a lack of market access.

This livelihood zone is one of the most inaccessible in western SNNPR. Most of the kebeles are not accessible by road throughout the year. This limits the options that farmers have to sell their crops and livestock. There are roads under construction that are expected to solve the transportation and communication problems of the zone. However, the construction of some of these roads has already taken more than five years, although the total length does not exceed 100 kilometers.



Altitudes in this zone range from 1000 to more than 3000 meters above sea level, but most of the zone falls between 1500 and 2500 meters above sea level, making it largely a midland (or *woina dega*) livelihood zone. The vegetation of the zone is mostly mountain forests and bamboo trees.

The production of cereal crops (maize, wheat, sorghum, barley and teff), enset, pulses (beans and peas) and livestock (cattle, sheep and horses) are the main economic activities of households in this livelihood zone. Except in limited pocket lowlands, cash crops like coffee and spices are not grown. The main hazards are diseases that affect crops (especially enset) and livestock, and the danger from wild animals that attack both crops and livestock.

Major steps that could be taken to improve the situation of households in the zone are to speed up the construction of roads that is already underway, to develop market infrastructure (such as storage facilities and transportation), and to expand veterinary services.

Markets

The zone is generally inaccessible because of the limited roads available in the woredas that fall in the livelihood zone. Therefore, access to markets for the cereals, pulses and livestock produced in the zone is a major problem. Lack of transportation services and the resulting lack of access to markets force farmers to sell crops at extremely low prices. There are a number of small primary markets inside local kebeles. The main secondary markets are woreda towns. However, due to lack of transportation, no traders collect the produce from these secondary markets to export to major markets in the administrative zone and beyond.

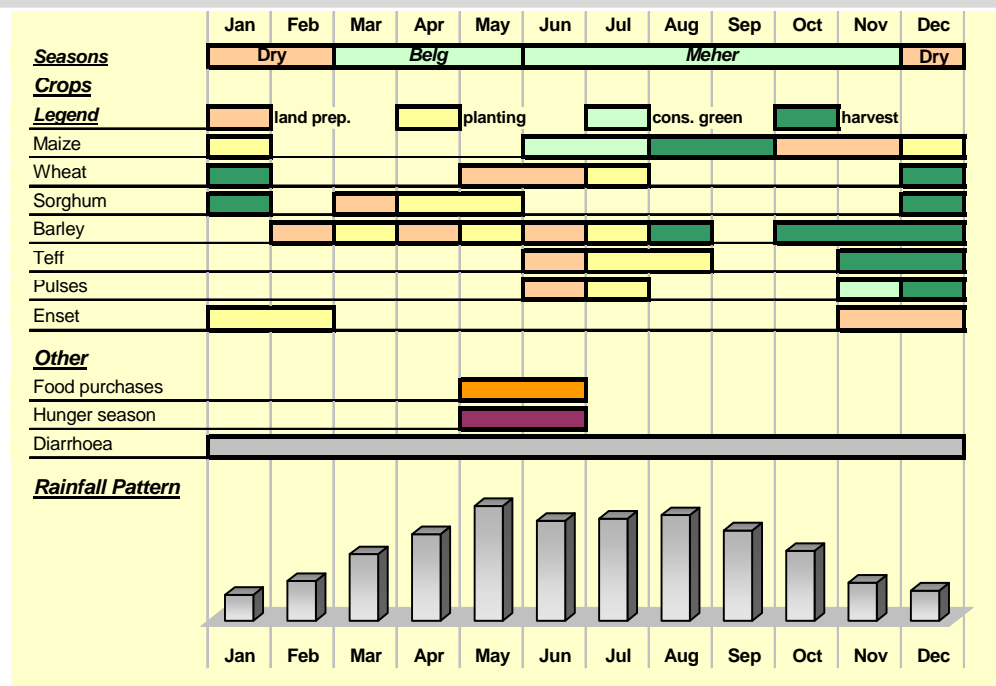
¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively average year by local standards (i.e. a year of average production and rural food security, when judged in the context of recent years). 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 2010).

Seasonal Calendar

Similar to the other livelihood zones in western SNNPR, this zone receives rainfall throughout most of the year, with a marked dry season only for three months (December to February). Most crops are produced only once a year. Maize, however, is produced twice a year, during the *belg* and *meher* seasons. Barley is planted and harvested three times a year, but a good yield is obtained only from the October – December harvest.

Green maize is consumed starting from mid-June in some parts of the zone, but July is the main month of green consumption. Most other crops are harvested from November to January. Enset, the major staple food of the livelihood zone, takes 4-6 years to mature and can be harvested at any time. Therefore, the months shaded on the graph indicate only the peak times for land preparation and planting.

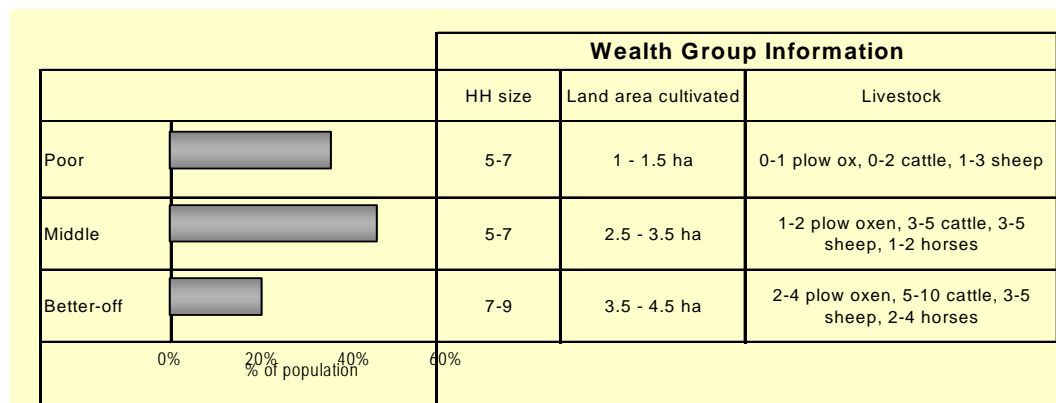
Diseases like diarrhoea and typhoid are reported as the major causes of illness for people in the livelihood zone. The occurrence of these diseases, however, is not related to any specific months of the year.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

The major determinants of wealth at household level in this livelihood zone are the area of land cultivated and the number of livestock owned. The ownership of oxen plays a particularly important role in the ability of households to cultivate large areas of land.



The better off in this zone typically have 2-4 oxen and this enables them to cultivate around 4 hectares of land. Poor households, in contrast, typically own 0-1 ox and must either pair their ox with another household or work for the better off in order to obtain oxen to cultivate their own land in exchange. Since such an agreement requires that the poor work for the better off, they often do not plow their own land at the appropriate time. Coupled with the relatively small area of land that they own, this results in low production.

The food and cash income obtained from livestock are greater for the better off since they own more animals. In addition to the animals that they keep themselves, the better off also benefit from an agreement known as '*adero*', whereby a poor household keeps cows and/or sheep that belong to a better off household in exchange for a share of the milk and offspring.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in different wealth groups in the period July 2003 – June 2004. July represented the start of the consumption year because this was when the green maize harvests started, marking the end of the annual hunger season. The hunger season does not hold as much significance in this livelihood zone as in less food secure livelihood zones.

All wealth groups in this livelihood zone are self-sufficient in terms of food in most years. For better off households, 100% of annual food needs was covered by own crop production in the reference year, whereas poor and middle households obtained 95-100% from this food source.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

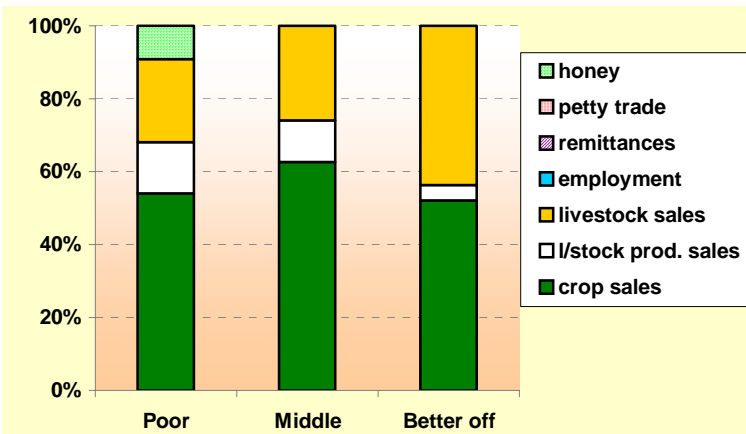
Enset was the most important individual food crop, contributing from 30 to 40% of annual food needs of households in all wealth groups.

Other important crops in this livelihood zone included maize, wheat, sorghum, barley, teff, beans and peas. Maize was widely grown for own consumption, whereas most of the wheat produced was sold.

In line with the number of animals that they own, the contribution of own livestock products (milk, butter and meat) was larger for middle and better off households compared to poor households.

The contribution of purchased food was very small and similar for all wealth groups. Households in this livelihood zone had no need to purchase staple food in the reference year and only purchased small quantities of meat and oil.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of annual cash income according to income source.

Annual income (ETB)	1,000-1,500	2,000-3,000	3,500-4,500

The graph presents the sources of cash income for households in different wealth groups during the reference year. Households in all three wealth groups obtained most of their cash from crop sales, livestock sales and livestock product sales. Poor households supplemented these sources with honey sales.

Viewed in relation to some of the other (cash-crop producing) livelihood zones in western SNNPR, both the total income of households and the income gap between wealth groups were low. Better off households earned about three times that of poor households in the reference year.

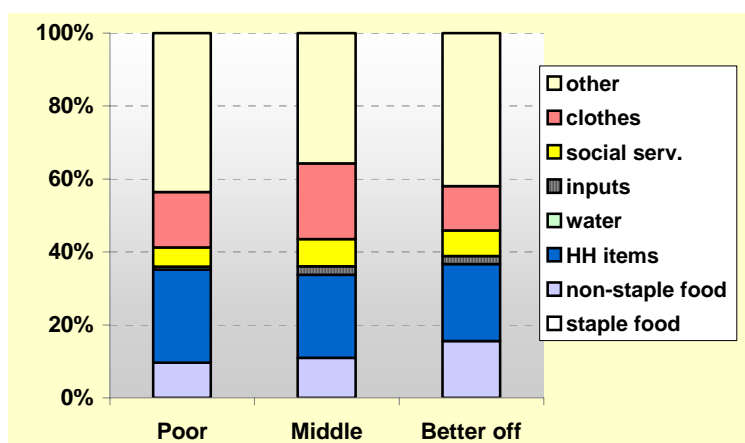
Households in this zone do not grow any cash crops. All of their income from crops comes from the sale of food crops (cereals, pulses and enset).

Unlike most other livelihood zones in SNNPR, poor household members rarely do any local work for cash and there is no migration (either in to or out of the zone).

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category increased with wealth in the reference year (in absolute terms), although the proportion of income spent was similar.

Households did not purchase staple food during the reference year. The category 'household items' included coffee, salt, soap, kerosene and grinding. 'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs and seeds. 'Social services' included spending on education and health.



The graph provides a breakdown of annual cash expenditure according to category of expenditure.

Hazards

This livelihood zone is subject to a number of hazards. Some hazards undermine food security every year (chronic hazards), while others threaten food security in some years more than others (periodic hazards).

Crop diseases and pests reduce crop production. Enset production is affected by bacterial wilt disease and by rodents (such as squirrels). All crops are also subject to damage by wild animals (particularly monkeys).

Household income levels suffer when **market prices** for the crops and livestock that they sell are low. Due to the lack of infrastructure, transportation and markets, there is a persistent problem of low prices for crops and livestock in this livelihood zone.

Although rainfall is generally reliable, the **delayed onset of the rainy season** delays planting and also harvesting, thus prolonging the hunger season for poor households. In contrast, excessively **heavy rainfall during the main harvest** periods can damage crops for all wealth groups. Excessive rain also causes **leaf rust on wheat** and can cause **landslides** in pocket high altitude areas.

Livestock diseases and **wild animals** are serious hazards to livestock production in all years and affect all households regardless of wealth status. One of the most serious livestock diseases in this livelihood zone is African horse disease. Blackleg is also a problem.

Response Strategies

Western SNNPR in general is not an area of food deficit. There is no recorded 'bad year' in recent decades. However, households in this livelihood zone have both potential short-term strategies (which are largely unutilized) and widely practiced long-term strategies to respond to hazards that reduce their food or cash income.

In the short term, the potential strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years in other parts of SNNPR. Households can reportedly reduce expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Generally, all wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, households can **expand livestock sales** and **increase consumption of enset**, but there are strict limits to these strategies if households are to avoid unsustainably depleting their enset reserves and livestock holdings.

In the longer-term, households respond to many of the hazards mentioned above by **adapting their cultivation practices**. Farmers attempt to select resistant species of enset to protect their production from bacterial wilt. They plant enset densely to protect the stems from rodents (squirrels). In addition, they withdraw their children from school to herd livestock and protect crops from wildlife.

Indicators of Imminent Crisis

Season Month Indicator

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Rainy season	March	Delayed start to rainy season delays planting
	April	Outbreak of blackleg (livestock disease)
	May	Outbreak of African horse disease
	Jun	Delayed start to green maize harvest prolongs hunger season
	July	Hailstorms and landslides in high altitude areas
	Aug	
	Sept	
	Oct	Excessive rain causes leaf rust on wheat
	Nov	Excessive rain during harvest period (November - December)
Dry season	Dec	Low price for wheat
	Jan	Low price for wheat
	Feb	

The major problem reported by all informants in the Kaffa Cereal and Enset Livelihood Zone was low prices. People especially fear low demand and low prices for wheat, the main crop that is sold. Low prices for wheat reduce income levels for all households in the zone. Apart from this, bacterial wilt and squirrels damage enset, and livestock diseases like blackleg for cattle and African horse disease for horses and mules limit livestock production. Hailstorms and landslides affect some pocket areas found at higher altitudes in all years. Although heavy rain is the norm in this livelihood zone, excessive rain causes leaf rust on wheat and consequently a decline in production.

SNNPR Livelihood Zone

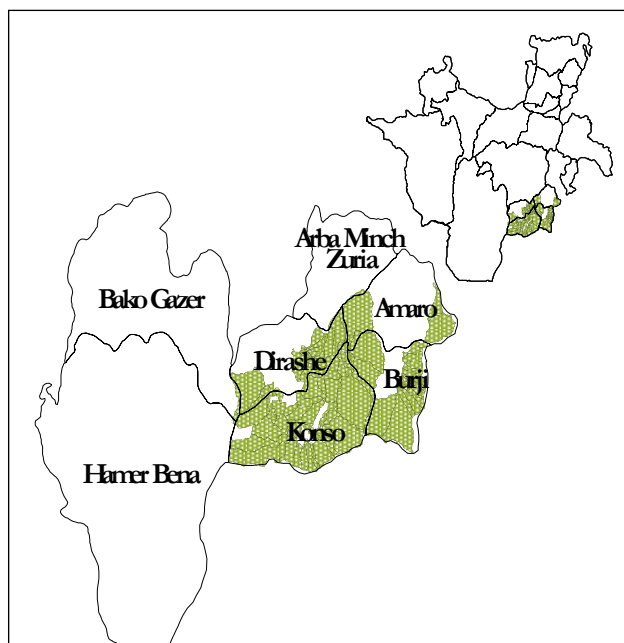
Southern Special Woredas Lowland Cereal Zone

June 2005¹

Zone Description

The Southern Special Woredas Lowland Cereal Zone covers parts of four structurally food deficit woredas. It is a severe moisture stress area that is repeatedly affected by drought and erratic rainfall distribution in both the *belg* and *meher* seasons. Most rivers in this livelihood zone also dry up during the dry season, compounding the problem of water availability.

Poor and very poor households complain that they are not able to produce enough to meet their annual food and cash needs even in a typical year. Nonetheless the livelihood zone is a high potential area, and could be very productive if farmers had access to irrigation as well as assistance in controlling livestock disease, of which the most important is trypanosomiasis. In good years farmers (particularly from the middle and better off wealth groups) are able to produce significant cereal surpluses, and in parts of Derashe woreda they produce a notable surplus even in an average year. Part of this surplus is sold and part stored, although traditional methods of grain storage are subject to losses from rats and pests.



The livelihood zone is located in a flat, lowland region. The basic ecology is acacia scrub. The population is relatively sparse, but land use in cultivated areas is intense and these areas are severely deforested. Trees are often killed by burning. People in the livelihood zone practice sedentary agriculture, cultivating a variety of cereals during both the *belg* and *meher* seasons and keeping small numbers of cattle and goats. The main food crops are maize and sorghum, and the main cash crop is teff. Significant amounts of maize and sorghum are also sold in average and good years. *Helako*, an edible tree leaf, is the main vegetable consumed. It grows best during the dry season and may be consumed for up to ten months of the year.

Grazing land is available around the villages, and in addition to this oxen are fattened for sale by feeding them on crop residues and collected grass.

The majority of villages are located along the main roads, providing market access for most households. Most poorer households therefore participate in such activities as grass and firewood sale, as well as producing and selling *chaka*, a local alcoholic drink. The cutting of firewood has obvious negative effects on the environment, and it is illegal to cut firewood in Amaro woreda. Agricultural labor is also an important source of income for poorer households, and there is some labor migration to Moyale, Hagare Mariam, Arba Minch, and Gomaide, though generally only in bad years.

There are some significant differences in cultivation method between the four woredas. This is mainly because each of the woredas is inhabited by a different ethnic group, and each group has a different tradition of cultivation:

Amaro and Burji: People in these woredas use plow oxen to prepare their land.

Derashe: In this woreda people practice zero tillage cultivation. They believe that ox plowing reduces soil fertility. They also have the tradition of laying sorghum and maize stalks across their fields to decompose, and arrange stones across their land to reduce soil run-off, both of which make plowing more difficult.

Konso: Here cultivation is by hand, as ox plowing weakens the structural integrity of the terraces that are a long-standing feature of this woreda.

¹Fieldwork for the current profile was undertaken in April, May, and June of 2005. The information presented refers to June 2003-May 2004 (EC Sene 1995 to Genbot 1996), an average year by local standards (i.e. a year that was average in terms of 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 2010).

Despite these differences the area can still be considered one livelihood zone as the crops produced, levels of production, topography, rainfall patterns and market access are all similar. The possible exception is part of Derashe woreda, which has higher rainfall, better soils and better crop production than the rest of the livelihood zone.

Note: In Amaro woreda there are a number of newly resettled communities. These were resettled from North Omo (Nachbar Park), Derba Mena, Kereda and Derbadi in 2003-04. They were not covered by the fieldwork for this profile.

Markets

People in this livelihood zone have access to both woreda and local village markets, some of which are as large as the woreda markets.

In an average year the trade in crops, livestock and other products (e.g. firewood) tends to be within the four woredas rather than over longer distances. However, markets are often not centrally located, meaning that some people have to travel long distances to get to market, usually on foot.

Few traders visit the livelihood zone from elsewhere, for a number of reasons. Firstly, the livelihood zone is far from the regional capital and the larger zonal towns. Secondly, the access is seasonal, as road conditions deteriorate during the rains, and thirdly, the supply of grain from the livelihood zone is not consistent or reliable enough to attract larger traders.

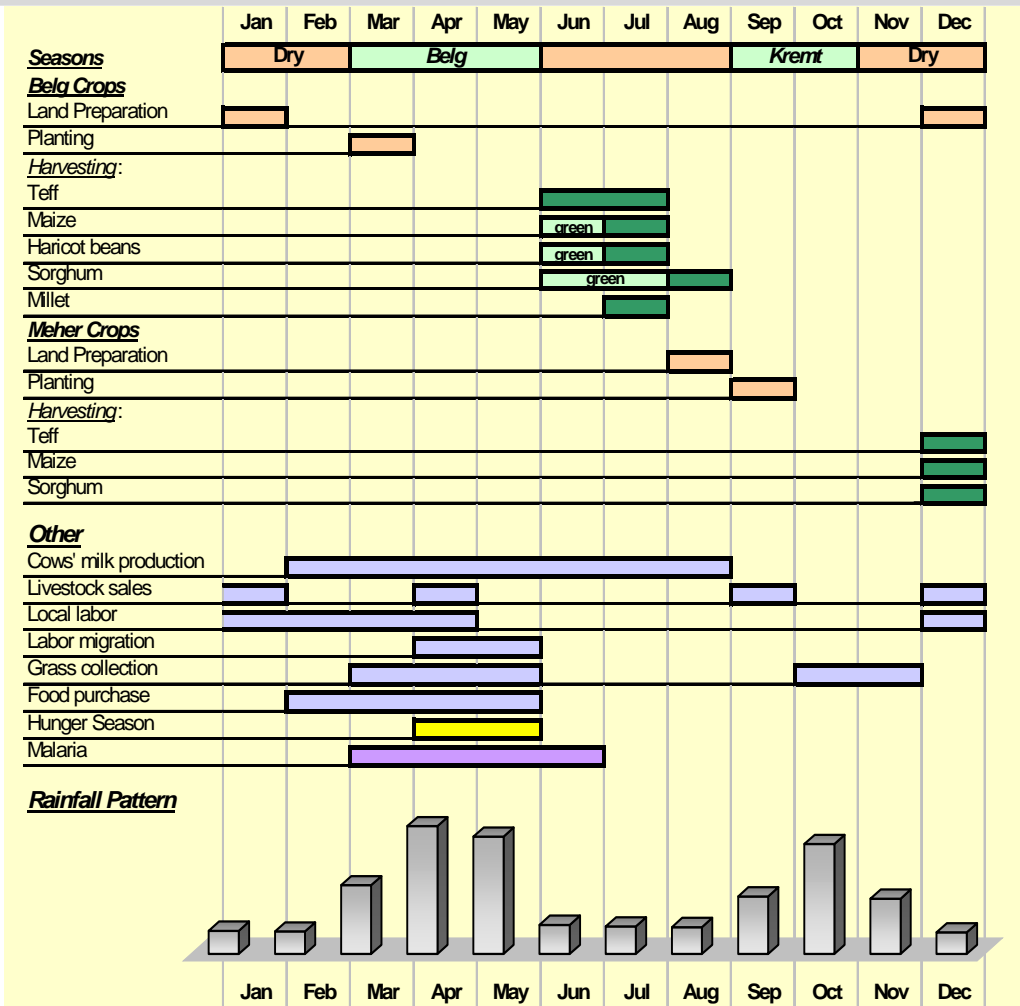
The exception is Derashe woreda, which is the only woreda in this livelihood zone that regularly exports maize, sorghum, and teff. These staple crops are sent to Konso woreda and to North Omo administrative zone. Haricot beans are also exported in small amounts to Moyale in northern Kenya.

In years of low production, sorghum and maize are imported into the livelihood zone from Gedeo zone to Amaro & Burji, and from South Omo and Arba Minch to Konso & Derashe.

Cattle are occasionally exported from Konso to the Kenyan border (Yabello), and small stock are sometimes exported from Konso and Derashe to Arba Minch, Mojo, and Addis Ababa.

Seasonal Calendar

Of the two seasons, *belg* and *meher*, *belg* is the most important, accounting for 70%-80% of total grain (cereal and pulse) production. This is because there is less rainfall during *meher* and farmers therefore do not plant all of their land at that time. Most land preparation is carried out before the start of the *belg* rains, and crops are planted as the rains begin. Maize and haricot beans are generally intercropped. In Konso and Derashe especially, sorghum is harvested twice. In these areas the plants are cut back after the first *belg* harvest, and the roots that are left behind produce new stalks that can be harvested towards the end of the *meher* season.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

The hunger season and staple food prices peak

in the months before the green harvest for maize, haricot beans, and sorghum in June. This is preceded by the main period for livestock sales (December and January), since households need cash to purchase food. Livestock tend to be sold before rather than during the hunger season because their appearance and health is better in December and January and prices are higher. Livestock are also sold during the main religious holiday seasons in April and September.

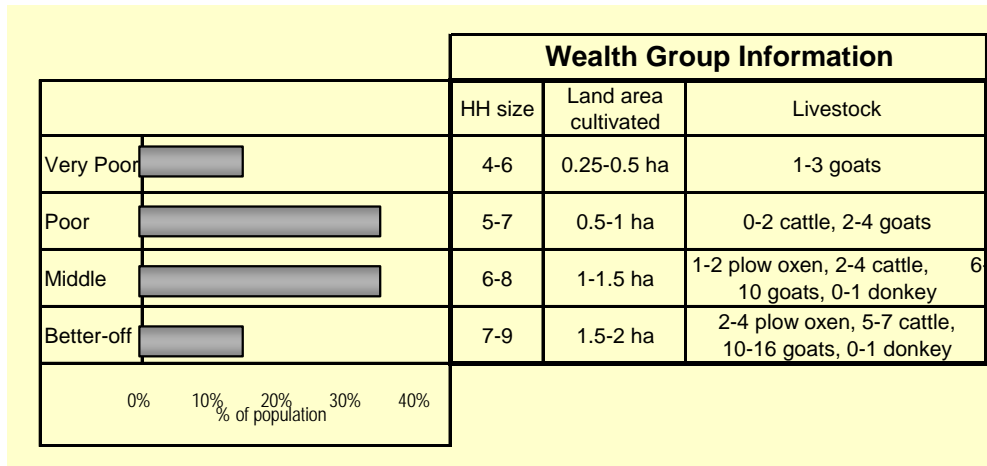
Income sources for poorer households include agricultural labor, firewood and grass sales. The main labor activities are land preparation, planting and weeding, mainly in the *belg* season. Grass collection and sale is undertaken during and just after the rains. Firewood collection and sale is a year-round activity.

Seasonal migration in search of additional agricultural labor is an option in bad years. Typically, younger members of poorer households will migrate in April and May, when work is available in other areas, returning in June to help with the harvesting of local crops.

Malaria is a problem throughout the year, but is worst at the peak of the rains, from March to June.

Wealth Breakdown

Wealth in the livelihood zone is determined primarily by area of land and number of cattle owned. Almost all the land owned is cultivated and it is uncommon for households to rent or sharecrop. Other differences between wealth groups, such as the number of goats, sheep or donkeys, or the type of dwelling, tend to result from differences in these more basic assets.



Land re-distribution during the previous *Derg* regime is an important structural factor that still influences wealth status in the livelihood zone. At that time, better off households had a choice of plot and took the better quality land, whereas the poor were given the least productive land. Since then landholdings have been sub-divided between subsequent generations, but the differences in land quality persist.

The land and cattle owned by middle and better off households enable them to produce more than the poorer groups, with the result that they are relatively food secure. In Amaro and Burji (where ox-plowing is common), ownership of oxen means that land can be prepared for cultivation at the most favourable times. In all parts of the livelihood zone, cattle provide both food (i.e. butter, milk, and occasionally meat) and income (especially from the sale of fattened oxen). The better off are also able to hire agricultural labor, either paying cash or in kind with food and a local alcoholic drink, *chaka*. *Chaka* is made mainly from fermented cereals, and is thick enough to serve as a substitute for meals.

The poor and very poor own less and poorer quality land than the middle and better off. They are also less able to cultivate because they lack labor, oxen (important in Amaro and Burji) and capital (to hire additional labor, rent oxen and plows, purchase improved seeds, etc.).

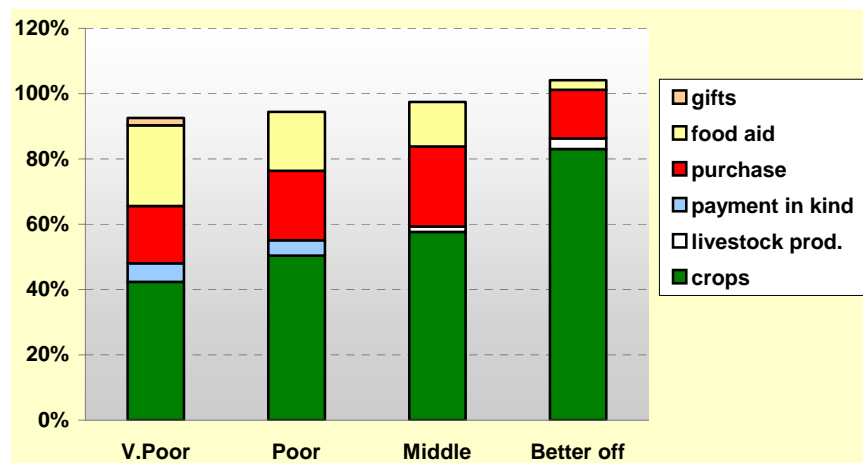
Sources of Food – An average year (2003-04)

The bar graph on the right presents the contributions of various food sources to the average yearly diet for each wealth group in the livelihood zone. The graph covers the period from the green harvest in June 2003 to May 2004, an average year by local standards.

The results suggest that only the better off consumed their full minimum daily food requirements that year. Other wealth groups consumed between 90%-100% of the minimum. This was despite quite a considerable contribution from food aid, which has been provided on a regular basis to the livelihood zone throughout the last five years.

The main trends across the wealth groups were for consumption of own crops to increase with wealth and consumption of food aid to decrease.

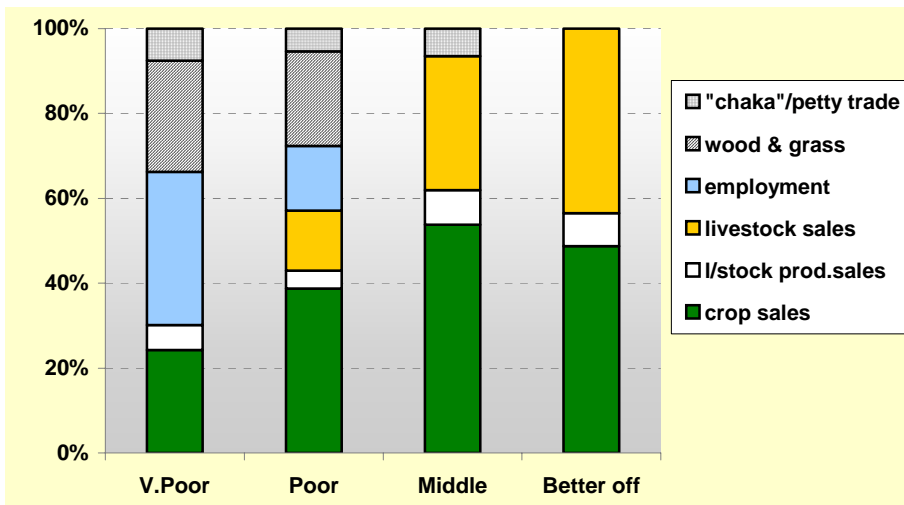
The very poor receive gifts of small amounts of food during the hunger season. In theory these gifts are really loans, but such loans are often forgiven or paid off through agricultural labor.



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

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.



This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year.

The middle and better off groups relied almost entirely on crop and livestock sales income. The most important crop sold was teff, but maize and sorghum also made significant contributions to income. Turning to livestock, the poor sold one to two goats in an average year. In addition to small stock the middle and better off also sold an average of one fattened ox per household per year. A key difference between the middle and better off wealth groups is that the middle often purchase an ox for

Annual income (ETB)	550-750	8000-1000	1,300-1,700	2,000-2,500
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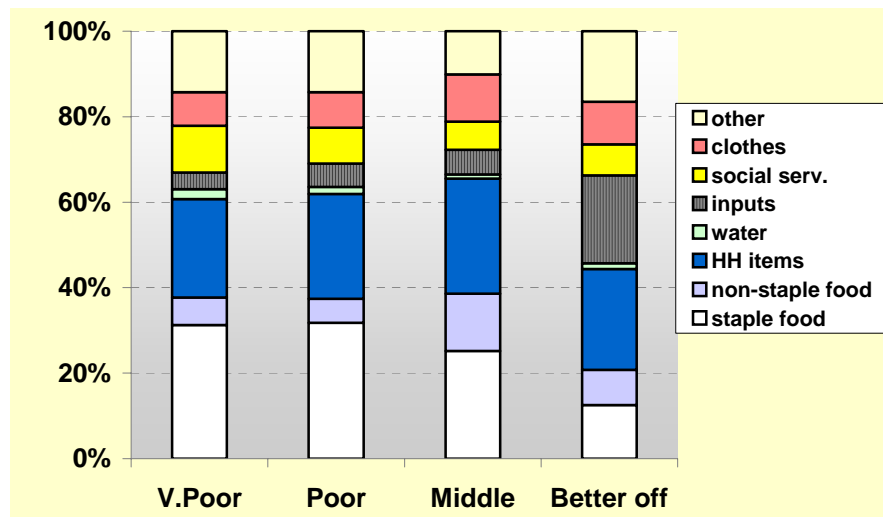
fattening while the better off are able to earn more by fattening one of their own oxen for sale.

The poor and very poor engage in a wide range of economic activities in addition to the sale of crops and livestock. They undertake agricultural labor (land preparation, planting, weeding and harvesting), they sell firewood and grass and they (along with the middle) prepare and sell *chaka*.

Expenditure Patterns – An average year (2003-04)

The graph on the right presents expenditure patterns for the period from June 2003 – May 2004.

In general, total expenditure on each category of item increased with wealth, while the percentage of total expenditure on each category remained relatively constant. The most notable exceptions were staple food and inputs. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased. Expenditure on inputs, on the other hand, increased in both percentage and absolute terms across the wealth groups. Inputs include tools, livestock drugs, and paid agricultural labor.



The graph provides a breakdown of total cash expenditure according to category of expenditure. "HH (household) items" includes salt, soap, and kerosene, "other" includes tax, social obligations and ceremonies, and "social services" includes spending on health and education.

The much greater expenditure on inputs by the better off is mainly explained by expenditure on agricultural labor, an item paid for by only this group.

Hazards

Drought, crop pests, and livestock disease are the major hazards in the livelihood zone. Though drought used to be periodic in this region, it has been fairly regular over the past six years, occurring every other year. Late onset and/or early cessation of rains during either growing season cause crops to dry in the fields and creates favourable conditions for the spread of pest infestations. **Army worm, stock borer, and aphids** are the most common crop pests in the livelihood zone. Irregular rainfall compounds the problem, since wet followed by dry spells promote the hatching and spread of army worms and aphids, among others. When rains are regular, these pests are much less of a problem. For obvious reasons, a failure of *belg* harvests is of much greater significance than a failure of the *meher*.

The most important livestock disease in the livelihood zone is **trypanosomiasis**. It chronically affects all types of domestic livestock, particularly cattle, and is only controlled when there is adequate provision of livestock drugs at affordable prices through government programs. Anti-trypanosomiasis drugs are also available on the market, but at prices that are too high for most households. Trypanosomiasis is a major factor preventing the poor from building up their livestock holdings. Pasteurellosis, black leg, and anthrax are also common in the livelihood zone.

Malaria is a further chronic hazard in this lowland livelihood zone. It has a significant effect on the availability of household labor, limiting food and cash income generation for all wealth groups.

Response Strategies

Households respond to drought-induced crop failure in a variety of ways. All wealth groups **sell less of their staple food crops** (e.g. maize and sorghum) and **sell relatively more of their high-value teff**. All groups also **increase the sale of livestock** and **reduce expenditure on non-food items**, to the extent that this is possible.

In addition to these activities, younger members from poor and very poor households may **migrate in search of labor**. The main destinations are Moyale, Hagare Mariam, Arba Minch, and Gumayde. Most of the work found is agricultural labor, although there is also some mining in Moyale.

The poorer groups also report that they **collect and sell more firewood** in bad years. It is not however clear that this increase in supply will be matched by an increase in demand, in which case prices are likely to fall and the overall effect on income may be negligible. The cutting and selling of firewood has an obvious and observable negative impact on the environment, contributing to the high levels of deforestation that are apparent in much of this livelihood zone.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry Season	Jan	
	Feb	Late onset of rains and/or shortage of rainfall
Belg rains	Mar	Erratic rainfall and/or shortage of rains; Unusually severe outbreak of malaria (Mar-June)
	Apr	People migrating to find labor; Army worm infestation No visible signs of crop growth; Farmers re-sowing
Dry Season	May	Continued pest infestation; Wilted or immature crops; Staple food prices high People migrating to find labor; Distress sales of livestock
	Jun	Consumption of immature crops Staple food prices high and food imported into LZ
	Jul	
	Aug	
Kremt rains	Sep	Shortage of rainfall and/or late onset of rains
	Oct	Erratic rainfall and/or shortage of rains; No visible signs of crop growth Farmers re-sowing
Dry Season	Nov	Poor condition of crops and livestock
	Dec	Poor condition of crops and livestock

The figure indicates the sequence of likely events in the run-up to a food security crisis in the livelihood zone, beginning with a failure of the *belg* rains in February. The timing of some hazards, such as pest infestation, will vary according to the pattern of rainfall in a particular year.

The observation of crop pest infestation, farmers sowing later than expected or re-sowing, migration in search of labor , poor conditions of crops and livestock, and high staple food prices are progressive, observable indications of the onset of drought, and are clear indications of a developing crisis.

SNNPR Livelihood Profile

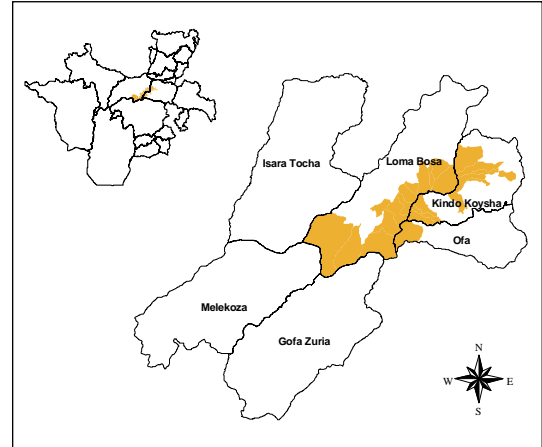
Omo Valley Maize and Sorghum Zone

August 2005¹

Zone Description

The Omo Valley Maize and Sorghum Livelihood Zone is a lowland area that is food secure in most years. It is, however, vulnerable to drought due to a high dependence on crops and livestock as sources of food and income and relatively low cash income levels. The zone includes most of the lowland areas of Kindo Koysha and Offa woredas in Wolayita Administrative Zone and Loma Bosa in Dawro Administrative Zone.

The landscape is not uniform throughout the livelihood zone. While the Wolayita part is characterized by extensive flat land that stretches from the edge of the Omo Valley to the foothills of other adjacent livelihood zones, the Dawro part is highly undulating and stony. The livelihood zone is traversed by the Omo River, the largest river in the region. There are a wide variety of indigenous plant species, the most widespread of which is acacia.



The lowest part of the valley is completely uninhabited due to the high prevalence of malaria and trypanosomiasis (*gendi*). While the fertile soils and abundant vegetation should be conducive to agricultural settlement and animal husbandry, the prevalence of these diseases have severely constrained the potential of this area. For the same reason, although there are expansive unsettled and uncultivated areas, the population density is high in the settled areas.

Total annual rainfall is about 900 mm. The *meher* is the main cultivation season for teff, haricot beans, and sweet potatoes. *Belg* rainfall is also important for the cultivation of long cycle crops, of which the most important are maize and sorghum. The agricultural cycle lasts for a year beginning with land preparation in January and ending with threshing in December. The main food crops are maize, sorghum, haricot beans and sweet potatoes. Subsidiary food crops such as taro and yams are also cultivated. The main cash crop is teff.

Livestock ownership is a major determinant of wealth in the area and cattle and goats are reared. There is a shortage of oxen, however, compared to the availability of land and trypanosomiasis is partly to blame for this.

Local employment opportunities are limited and are generally restricted to agricultural work for better off households. Commercial plantations in Woito (within the Omo Valley) have recently opened a new opportunity for migrant laborers. However, as people are not accustomed to migration, this opportunity is not yet fully exploited.

Markets

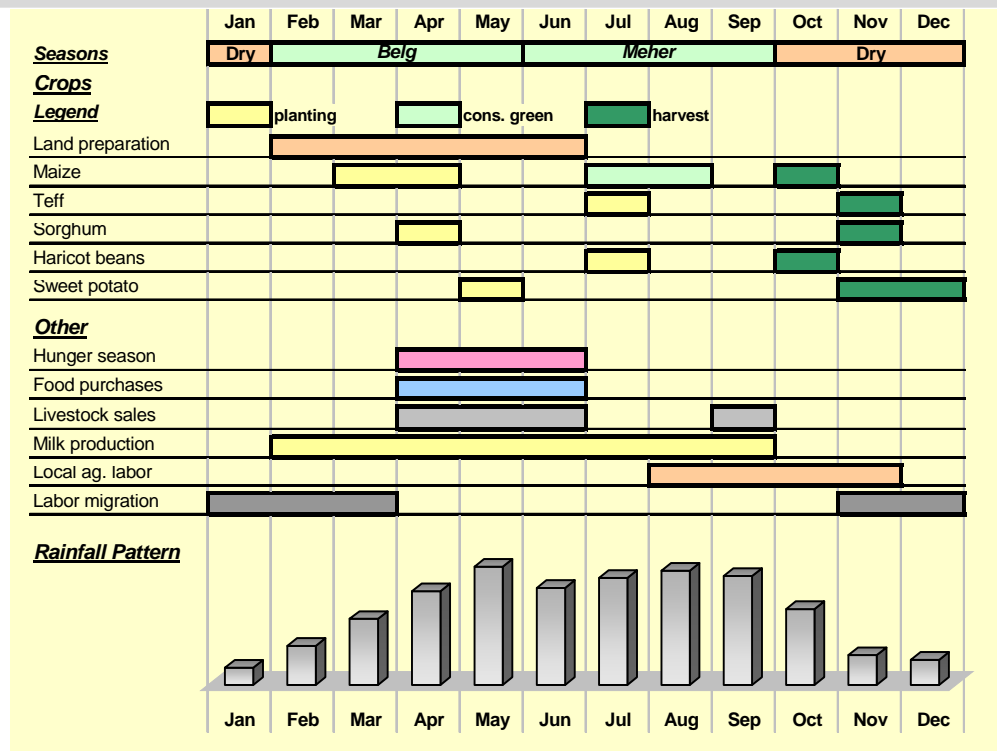
Market access is limited and mainly confined to the emerging small towns along the Sodo-Jimma road. Areas distant from the road have poor market access. The main markets in the livelihood zone are Bele (in Kindo Koysha woreda) and Loma (in Loma Bosa woreda). Trade interaction with external markets was difficult in the livelihood zone in general, and particularly in the Dawro part of the zone, until this road was constructed a decade ago. Apart from local sales, the main destination market for the crops and livestock exported from the zone is Sodo, the largest town in Wolayita Administrative Zone. *Kocho* (the enset 'bread') is imported from the neighboring Maize and Root Crop Livelihood Zones.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to July 2003 - June 2004 (Hamle 1995 to Sene 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

Seasonal Calendar

Long-cycle crops (maize and sorghum) are planted during the *belg* rainy season. Short-cycle crops (including teff and haricot beans) are planted at the beginning of the *kremt* rainy season. Green maize harvesting starts in July, and this marks the end of the annual hunger season. All crops are harvested in October to December.

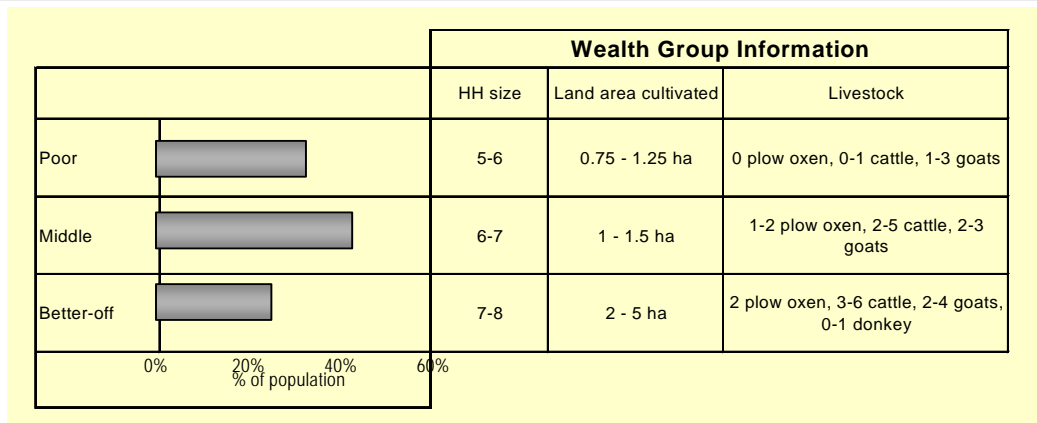
Milk production is worst during the rainy seasons. Livestock sales are most important during the hunger season (when households need cash) and during the periods of high demand, particularly the holiday months of April and September.



Wealth Breakdown

Wealth in the Omo Valley Lowland Livelihood Zone is determined by two key factors: the size of land and the number of livestock owned by different households. Landholdings are quite large in this livelihood zone compared to other parts of SNNPR. The ownership of plow oxen is an important indicator of wealth.

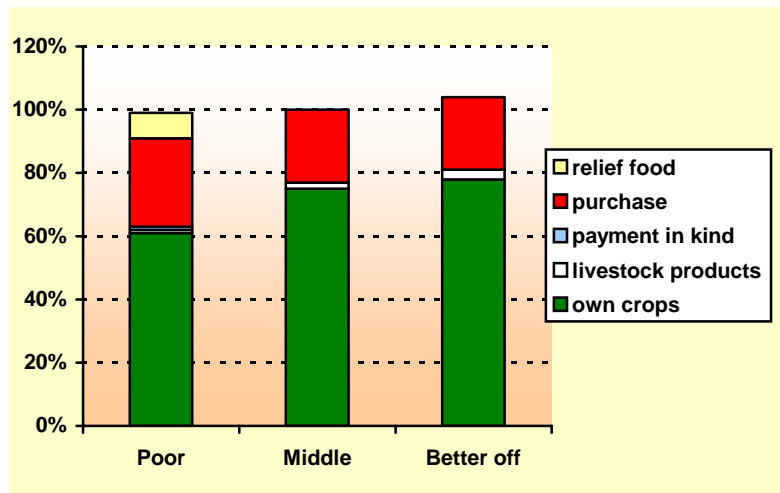
Poor households usually work for middle or better off households in exchange for oxen usage. This means that they often do not cultivate in a timely manner and, consequently, obtain lower yields.



Sources of Food – An average year (2003-04)

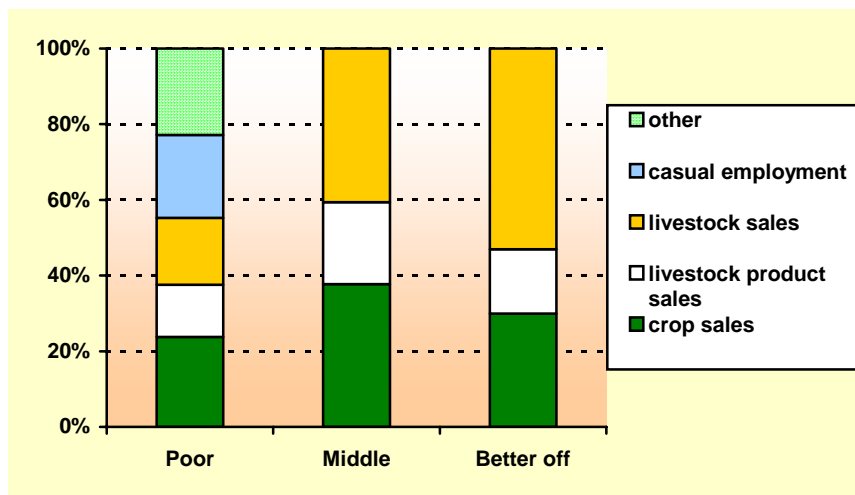
The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). July represented the start of the consumption year because that was when the green maize harvest started, marking the end of the annual hunger season.

The contribution of own crop production to annual food increased with wealth. Although small, the contribution of own livestock products (mainly milk) also increased with wealth. The contribution of purchased food was fairly similar across wealth groups, primarily because poor households received food aid in the reference year, thus reducing their need to purchase food. The main foods purchased were maize, *kocho*, and haricot beans.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	750-1,000	1,000-1,500	1,500-2,500

This bar graph shows the various sources of cash income for each wealth group in the livelihood zone in the reference year (July 2003 – June 2004). Incomes are generally low in this livelihood zone compared to other zones in SNNPR. Better off households earned just over double that of poor households.

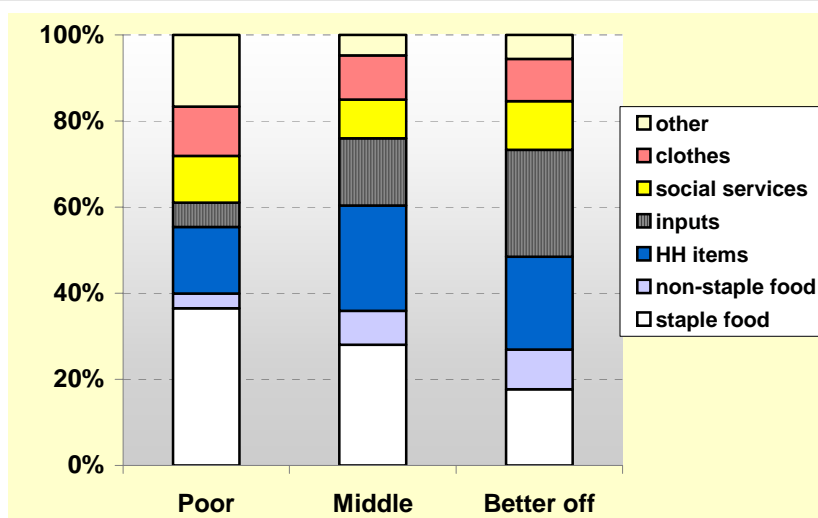
The middle and better off groups relied entirely on crop and livestock sales income, supplemented by a small amount of income from livestock product sales. In addition to these sources, poor households obtained cash income from casual agricultural work for better off households and from 'other' sources, including grass and firewood sales and petty trade.

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varies significantly by wealth group. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased.

'Inputs' included seeds, tools, fertilizer, livestock drugs, and payment for labor. The jump in expenditure on inputs for the better off represented additional expenditure on all of these items, but on fertilizer and agricultural labor in particular. Only the better off paid for agricultural labor.

The category 'household items' included coffee, salt, soap, kerosene, grinding and utensils. 'Other' included tax, social obligations, ceremonies, savings and investment in livestock. The category 'social services' included spending on education and health.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The Omo Valley Maize and Sorghum Livelihood Zone is subject to a number of hazards that may result problems at household level. The main hazards affecting the zone are:

Drought. Rainfall is unreliable in this livelihood zone, particularly in the eastern side of the zone (in Wolayita Administrative Zone). Drought, which can include a late start to the rains and/or an uneven distribution of rainfall, is the single most important cause of acute food insecurity in the zone. A late start to the *belg* rains is especially significant, resulting in an extended and more severe hunger season than usual through the delay of the green harvest of maize.

Livestock disease. Trypanosomiasis is the most serious livestock disease in this livelihood zone and has negative effects on household food sources, cash income and expenditure. It directly causes animal deaths, reduces milk production and forces households to purchase large amounts of drugs. Furthermore, although pasture is abundantly available, the high prevalence of trypanosomiasis has deterred the ownership of large numbers of livestock and has also deterred the expansion of agricultural land because of limited oxen ownership.

Malaria. Malaria is the leading cause of morbidity in this livelihood zone. The disease does not only affect labor availability at household level (potentially resulting in lost food and income), it also forces households to spend money on medication.

Response Strategies

Households respond to hazards in a variety of ways. All wealth groups **increase the sale of livestock** and **reduce expenditure on non-essential items**, to the extent that this is possible, in years of drought. In addition to these strategies, poor household members attempt to intensify the amount of **local casual work** that they do and **migrate** to areas with state farms in search of work.

In response to **malaria**, communities attempt to drain swamps and stagnant water bodies. The purchase of subsidized mosquito nets has been common since last year, but it the continuation of the subsidies and associated low prices is uncertain. In response to **trypanosomiasis**, farmers try to avoid keeping their animals at very low altitudes during April – May, when tse-tse flies breed and the disease is particularly problematic.

Indicators of Imminent Crisis

Dry	Jan	<p>Delayed belg rains delays planting of long-cycle crops</p> <p>Unusually bad outbreak of trypanosomiasis in April - May</p> <p>Delay of kremt rains affects planting of short-cycle crops and development of long-cycle</p> <p>Insufficient or erratic rainfall affects all crops</p> <p>Insufficient or erratic rainfall affects all crops</p> <p>High cereal prices in harvest and post-harvest period indicates crop failure</p> <p>High cereal prices in harvest and post-harvest period indicates crop failure</p> <p>High cereal prices in harvest and post-harvest period indicates crop failure</p>
Belg season	Feb	
	March	
Dry	April	
	May	
Meher season	Jun	
	July	
	Aug	
	Sept	
Dry	Oct	
	Nov	
	Dec	

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There are several indicators for the livelihood zone, including those related to rainfall, staple food prices, and harvest timing. There are certain problems that are not time specific. Trypanosomiasis is prevalent throughout the year, but is worst in April – May. Malaria is also a problem throughout the year, but the maximum prevalence occurs during the rainy seasons.

SNNPR Livelihood Profile

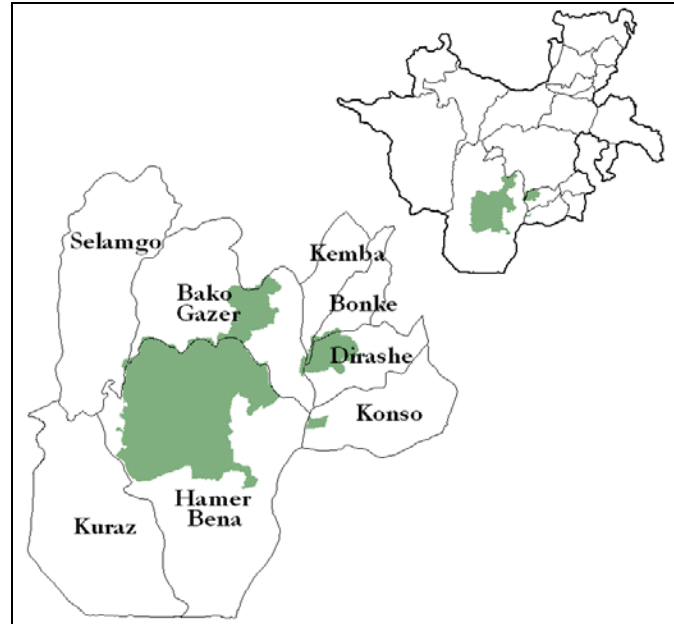
Southern Agro-Pastoral Livelihood Zone

June 2005¹

Zone Description

The most distinctive features of the Southern Agro-Pastoral Livelihood Zone are the significant livestock holdings of the average household and the extent of good grazing land. While livestock and livestock products are relatively plentiful, agricultural production is limited compared to other livelihood zones in SNNPR. This is mainly because sedentary farming is a relatively recent practice for the area. Though there is good agricultural potential if water access were developed, the area's greatest sustainable potential seems to be through continued livestock-focused development.

The livelihood zone covers a large, flat lowland area with extensive bush and shrub cover, and patches of acacia forest in some areas. The latter allows for the collection of both gum and honey. The main rains fall from February to May (the *belg*) and there is a second short rainy season from September to October. The population density is low.



Crop production, livestock production and food purchase all contribute significantly to meeting food consumption needs in this area. In addition to their importance as a source milk, butter and meat, livestock are the main source of cash income in the livelihood zone. The middle and better off wealth groups have relatively large livestock holdings, most of which are cattle and goats. Sheep are also common in some parts of this livelihood zone. Cattle herds are normally divided between the homestead and the traditional grazing areas or *forra*. Most livestock are kept in the *forra*, though households also keep some milking cows, goats, sheep, and a donkey near their home. Livestock migration is common when there is scarcity of pasture and water, as well as when there is epidemic livestock disease. These migrations are generally confined to the woreda, given the often difficult relations between peoples from different woredas, e.g. between Bako Gazer (the Mali people) and Bena Tsemay.

Crop production is entirely rainfed, except in a small number of communities living near to the Weyto river (e.g. in Konso), which practice irrigation. Crops are grown only during the *belg* season. The main crops are sorghum and maize, and these are mainly for home consumption rather than sale. Middle and better off households cultivate their land using plow oxen, whereas the poor cultivate mainly by hand. Crop production is minimal when the rains fail, and people rely heavily on livestock to meet their income and food needs in bad years. One advantage of growing crops is that even if there is no harvest, crop residues can be fed to livestock. This can be especially important in a drought year.

The main constraint to accessing food and income in this livelihood zone is recurrent drought and/or inconsistent rains. These affect all types of production in this livelihood zone. When rains are poor, there is less pasture and fodder, resulting in poor physical condition of livestock and lowered value. There is also less food production from crops, forcing people to sell more livestock and limiting herd growth. Low crop production results in increased food prices, which have a particularly serious effect on people living in this livelihood zone as they rely heavily on the market. Drought or inconsistent rains also cause decreased milk and butter production from livestock, and contribute to increased risk of livestock disease.

Infrastructure in the livelihood zone is poor, and the main roads linking the area to outside markets (especially Arba Minch) become impassable during the rains. This affects the prices of both livestock (for sale) and staple foods (for purchase).

¹Field work for the current profile was undertaken in April, May, and June of 2005. The information presented refers to June 2003-May 2004 (EC Sene 1995 to Genbot 1996), a roughly average year by local standards (i.e. a year of 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 2010).

Water access is a little worse than in neighboring crop-producing livelihood zones as there is less rainfall during the *meher* season. Within the livelihood zone there is access to at least 2 rivers that flow all year, plus a number of seasonal rivers that flow during the wet season.

Markets

Most markets are to be found at woreda level, with only one village level market within the livelihood zone. The main woreda markets are located in Demeka, Key Afer, and Jinka. Jinka, the main market for the region, supplies maize and sorghum to Bako Gazer woreda and to other woreda markets in the livelihood zone.

The main types of livestock sold out of the livelihood zone are oxen and goats. These are transported from Demeka and Key Afer to Jinka, and from Key Afer to Konso and Arba Minch. Butter, honey, and incense are also produced and sold in significant quantities, mainly in woreda markets and for local consumption. Butter prices in this livelihood zone are very low relative to the rest of SNNPR. This is mainly due to the reportedly low quality of the butter and limited access to markets outside the livelihood zone.

People's access to woreda towns markets is relatively good, but the flow of goods from outside the livelihood zone to these markets is often interrupted by the *belg* rains. At this time of year the access roads to Arba Minch are often flooded, affecting both the availability and price of goods. The rainy season coincides with the hunger season, further increasing prices.

Few traders are active in the livelihood zone. Some traders travel from the agricultural areas of Jinka into parts of the livelihood zone to exchange heifers for oxen through barter, as the agro-pastoralists prefer heifers for milk production and agriculturalists prefer oxen for plowing. Additionally, there is the practice of trading three cattle to obtain one gun.

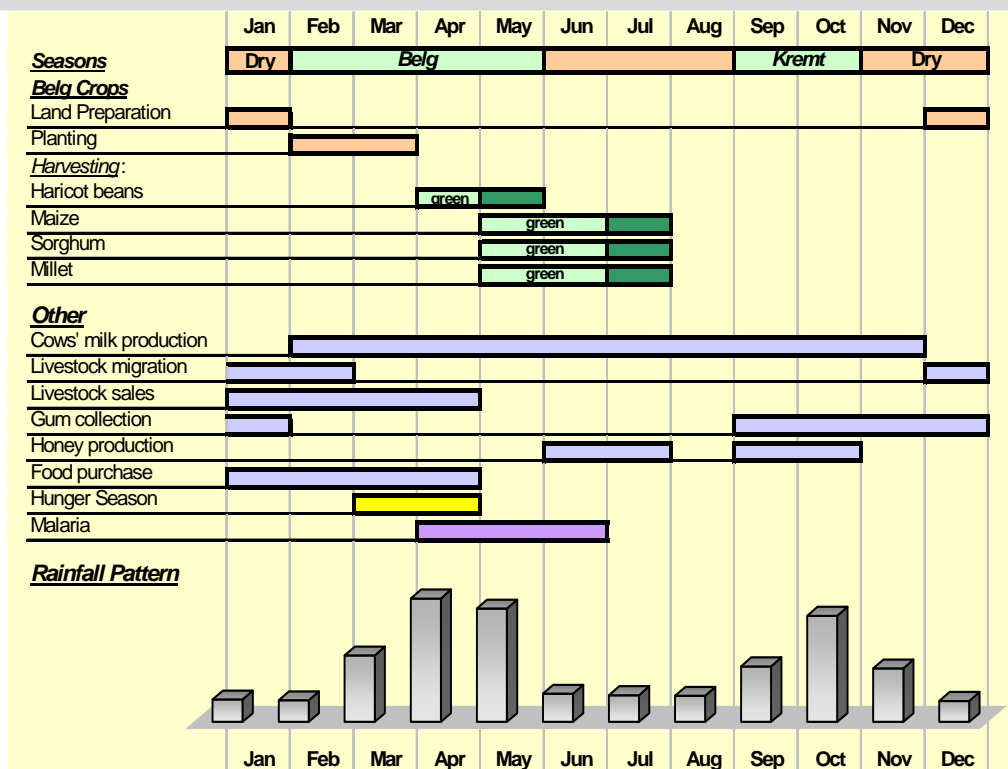
Seasonal Calendar

The livelihood zone has one main rainy season from February-May (*belg* in Amharic) and a season of secondary rains in September-October. Cows in the livelihood zone tend to give birth once every two years, typically in February, and then lactate for approximately 10 months. Milk production is therefore lowest in the dry season months of December and January when water and grazing are in shortest supply. Milking cows are generally kept close to the homestead, while dry animals are kept in traditional grazing areas or *forra*.

In a typical year December to February are the months of seasonal migration, when cattle from the homestead are joined with those in the *forra* and all animals move in search of dry season grazing. Goats and sheep tend to be kept closer to home. Goats are milked in some but not all communities in the livelihood zone, but the contribution to total food energy consumption at household level is minimal.

Crops are planted at the start of the *belg* rains. Maize and haricot beans are generally intercropped, and sorghum, millet are also grown. Small amounts of teff (mainly for sale) are planted by some communities. Rains falling in September and October are essential for re-generating pasture and browse for livestock and water for both human and animal use but are inadequate for crop production.

The hunger season and staple food prices peak in the months running up to the start of the green maize harvest in May. These are the main months for selling livestock, since this is the primary source of cash income for the livelihood zone.

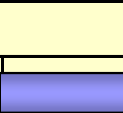
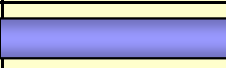



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Malaria is worst following the *belg* rains (from April through June), when there are stagnant pools of water for young mosquitoes to hatch.

Wealth Breakdown

Livestock holdings are the main determinant of wealth in the livelihood zone. All types of livestock are important, but cattle are especially significant since they are a source of milk and butter as well as significant cash income from livestock sales. The loaning of oxen and/or milking cows from better off to poor households (*yerbee* in Amharic) is quite common in the livelihood zone. When a cow is given by a better off person to a poor household, the traditional

		Wealth Group Information			
		HH size	Land area cultivated	Livestock	Bee hives
Poor		4-6	0.25-0.5 ha	0-2 oxen, 3-5 cattle plus 2-4 loaned, 5-15 goats, 0-4 sheep	2-5
Middle		7-9	0.5-1 ha	3-4 oxen, 15-25 cattle, 15-25 goats, 5-15 sheep, 0-2 donkeys	4-6
Better-off		8-12	1-1.5 ha	5-7 oxen, 30-60 cattle, 30-80 goats, 20-30 sheep, 2-4 donkeys	7-9
0% 20% 40% 60% % of population					

practice is to name the animal after its original owner. Poor households can use the milk and butter from these cows, they can sell the offspring in a bad year and they can use the oxen for plowing.

Landholdings are not considered an indicator of wealth in the livelihood zone, as land is abundant and available. Cultivation is however limited by the number of oxen owned and the available labor. Better off households are on average twice as large as poorer households and therefore have more available labor. All wealth groups grow the same types of crops, and all keep hives and produce honey, a important source of cash income for the livelihood zone.

The main constraint for the poor in this livelihood zone is a lack of livestock and the difficulty they face in building up their herds when faced with repeated droughts. A lack of oxen means that the poor are not always able to prepare and plant their land on time, so that their harvests are often lower than they might be. Additionally, they are often forced to sell off this key asset in order to buy food, especially during frequent years of drought.

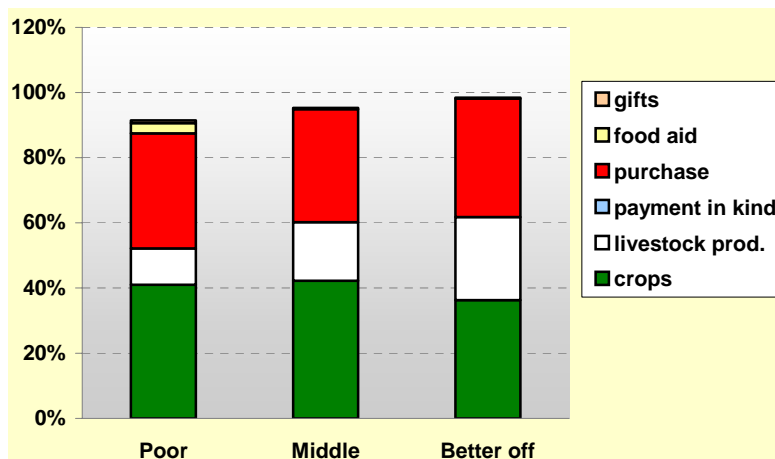
Sources of Food – An average year (2003-04)

The bar chart shows how different food sources contributed to the average yearly diet for each wealth group in an average year (June 2003–May 2004).

Overall, the better off were able to secure almost all of their minimum food needs in an average year, while the poor and middle groups consumed from 90%-95% of their minimum requirements.

Two things are noteworthy. Firstly, the similar pattern of food access for all three wealth groups. Secondly, the relative absence of food aid from the picture (food aid contributed 0%-5% of food needs for the poor, and none for either the middle or the better off).

Crops contributed a similar percentage to



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

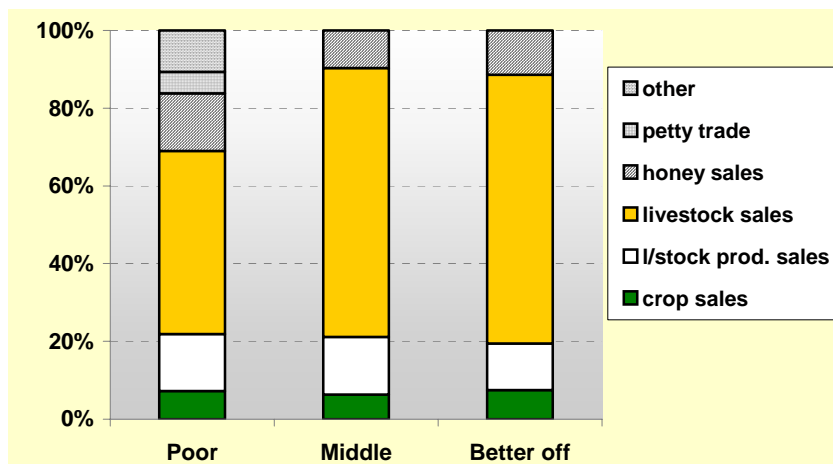
food needs for all three wealth groups. This is mainly because the higher production of the middle and better off is shared between more household members than in the case of the poor (i.e. crop production increases in proportion to household size). The same is not true of livestock production, since per capita livestock holdings increase with wealth (even taking loan arrangements between the poor and better off into account).

The category “livestock products” in the graphic includes milk, butter, and meat from goats and cattle. Cow’s meat consumed in this livelihood zone is almost exclusively from dying animals, as it is culturally frowned upon to kill cattle except in extreme circumstances. Blood is also consumed by people in the livelihood zone, mixed with milk.

Sources of Cash – An average year (2003-04)

This bar graph shows the various sources of income for each wealth group in the livelihood zone in 2003-04.

The graph provides a breakdown of total cash income according to income source.



There are obvious differences in total income but, somewhat unexpectedly, per capita income was relatively similar for all three wealth groups (i.e. the lower absolute income of the poor was almost completely offset by their smaller household size). This suggests that the standard of living is similar for all wealth groups in an average year. However, the ability to cope with shocks to production is very different due to significant differences in livestock holdings among the wealth groups.

Sale of livestock was the single most important source of income for all three wealth groups. Butter and honey were the next most important, followed by limited crop sales (sorghum, maize and teff). The poor also derived small

Annual income (ETB)	1,000-1,200	1,600-2,000	2,000-3,000
Annual income (ETB)	1,000-1,200	1,600-2,000	2,000-3,000

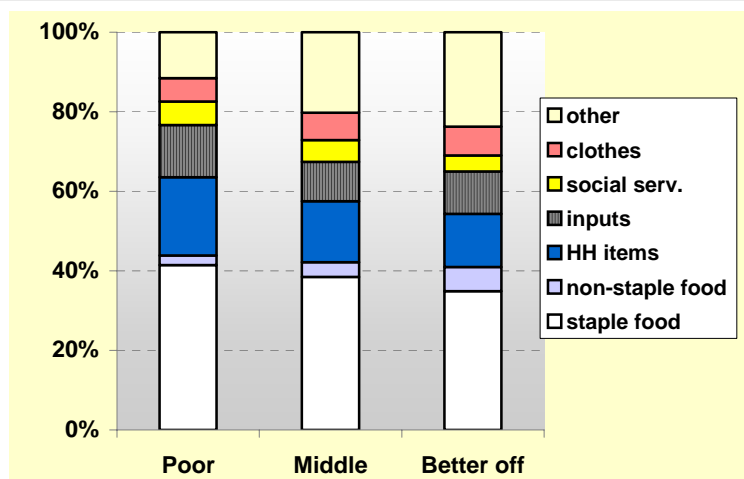
amounts of income from petty trade (i.e. sale of alcoholic drinks) and ‘other’, in this case sale of incense, wood and pots. There is no tradition of paid or communal labor in the livelihood zone.

Expenditure Patterns – An average year (2003-04)

The graph on the right presents the expenditure patterns of different wealth groups in the livelihood zone in 2003-04.

Patterns of expenditure are similar for all three wealth groups, other than a progressive increase in expenditure on ‘other’ as wealth increases. This is largely a reflection of the similar standard of living for each wealth group (see sources of cash section).

‘HH (household) items’ includes salt, soap, and kerosene, ‘other’ includes tax, social obligations and ceremonies, and ‘social services’ includes spending on health and education. The main “inputs” for this livelihood zone are livestock drugs and some purchase of tools.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

For the past five years, **drought** and **irregular rainfall** have been recurring problems for the livelihood zone. This has the effect of reducing the availability of water and grazing, negatively affecting the productivity, health and marketability of the livestock that are central to local livelihoods. Drought and irregular rainfall also have the effect of reducing crop production.

The most common livestock disease in this area, **trypanosomiasis**, has recently been targeted by NGOs and the

government through a program of assistance which may reduce its effects in both the short and long-term.

Malaria is endemic to the livelihood zone and is a major problem affecting labor availability at household level. Labor is required both for crop production and to care for livestock.

Resettlement may pose a threat to local livelihoods in the future. There are currently plans for resettling people from Konso to areas around Mago Park, which may affect access to key grazing areas for people from Bena Tsema woreda. The same grazing areas are also used by people from Hamer woreda during severe drought years, as well as for human migration during especially bad years.

Response Strategies

An **increase in the sale of livestock** is the most common and effective response to drought in the livelihood zone, and is used by all wealth groups. The income derived from livestock sales is used to purchase staple foods. People in the livelihood zone also **slaughter more animals** and **increase the consumption of blood** from cattle during bad years. This helps offset the loss of milk caused by drought. An **increase in gifts of livestock** to poor households is also common in bad years.

Although possibly effective in the short term, increasing the sale and slaughter of livestock can also mean stagnant or declining herd sizes. For the middle and better off this is not a grave problem given their relatively large herd sizes. For the poor, however, it is a significant barrier to the achievement of increased wealth and longer-term food security.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry Season	Jan	Lack of water and fodder; Unusual livestock migration
	Feb	Lack of water and fodder; Unusual livestock migration Low availability of milk
Belg rains	Mar	Rains do not start until March; Delayed planting; Unusual increase in food prices Stunted crop growth (late March); Low availability of milk
	Apr	Erratic and uneven distribution of rainfall; Crop pest infestation Severe outbreak of malaria (Apr-June)
	May	Poor appearance of crops Unusually high sales of livestock (May onwards)
Dry Season	Jun	
	Jul	
	Aug	
Kremt rains	Sep	Poor rains
	Oct	Poor rains; low availability of milk
Dry Season	Nov	Lack of water and fodder
	Dec	Lack of water and fodder; Unusual livestock migration

The above chart illustrates the main indicators of developing crisis in the livelihood zone, beginning with a failure of the *belg* rains in March. These rains should start in February, bringing about an improvement in grazing and milk production. A delay of the rains until March is the first sign of a potential drought developing. A late start to the rains (i.e. March or later) delays planting, which means that green consumption will begin a month or so later than usual, leading to a prolonged hunger season this year, and possible food shortages the next. If by mid- to late March, standing crops are stunted, this indicates below average and/or late crop production. This also contributes to market price increases starting from that time. Erratic and uneven distribution of rains in March and/or April will create favorable conditions for pest infestation, another factor contributing to poor harvests.

Sometimes the *belg* rains are sufficient to produce enough fodder for the year. Poor *belg* rains followed by poor rains in September and October will compound the problem of insufficient fodder leading to unusual patterns of livestock migration from December-February.

SNNPR Livelihood Profile

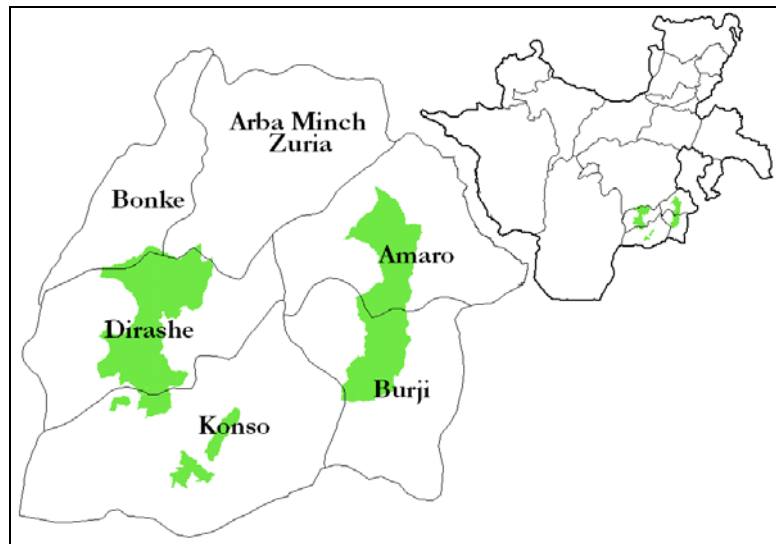
Southern Cereal, Enset, and Root Crop Zone

June 2005¹

Zone Description

The Southern Cereal, Enset, and Root Crop Zone covers a range of agro-ecology from flat lowlands to undulating hills and mountains in the highlands. Overall, this livelihood zone has higher rainfall during its two rainy seasons (*belg* and *meher*) when compared to other zones in the area. River and ground water access is also relatively good.

The population of the livelihood zone is settled in the mid-highlands of Amaro, Burji, Derashe, and Konso woredas. Though people keep their homes in the mid-highlands, they cultivate in lowland areas as well, allowing them to produce a wide range of crops. In normal years, the population relies on cereal production, enset, and cassava to meet the majority of its food needs. When crop production is low, people increase consumption of enset and cassava to help meet any deficits.



Although people grow a variety of crops, landholdings in the mid-highlands are small and much of the land has been over-cultivated and has become infertile. As a result, people in most of the livelihood zone are increasingly shifting towards mixed lowland farming using plow oxen, on land previously used only for grazing. However, lowland areas in the livelihood zone have high rates of malaria and livestock disease exposing the population to increased hazards. Farmers therefore either return home at night or spend only a night or two at their lowland fields before returning home.

The primary mid-highland crops are enset and cassava, whereas sorghum, maize and teff are the major crops produced in the lowlands. Secondary crops include wheat, barley, and vegetables (grown in the mid-highlands) and haricot beans and chick peas (grown in the lowlands). The wide variety of crops produced minimizes the risks associated with poor production from any one crop. Teff is the primary cash crop in this livelihood zone, but additional income is generated from the sale of enset, vegetables and the various grain crops. Little coffee is grown in the livelihood zone as temperatures in the mid-highlands are too low for this.

There is little grazing land in the mid-highlands, and livestock are generally sent to lowland areas, where livestock disease is a much greater problem. The main livestock are cattle and goats, with most households also keeping small numbers of sheep, hens, and a donkey for transportation.

Income in the livelihood zone is primarily from crop and livestock sales. However, due to low levels of surplus production and difficult access to markets for some villages, the average income for each wealth group in this livelihood zone is lower than for other neighboring livelihood zones.

There is some variation in patterns of livelihood between the four woredas:

Amaro and Burji: In these woredas, the terrain is steep and roads are poor, which severely limits market access. Most cultivation is by plow oxen and there is little local wage labor.

Konso: Terracing is a traditional soil conservation practice in Konso as the land in this part of the livelihood zone is very degraded. Oxen are sometimes used for plowing in the lowlands, but cultivation of mid-highland fields is by hand in order to preserve the structural integrity of the terraces. The main difference to other parts of the livelihood zone is that there is no enset in Konso, only cassava. Local wage labor is more common than in Amaro and Burji, and market

¹Field work for the current profile was undertaken in April, May, and June 2005. The information presented refers to June 2003-May 2004 (EC Sene 1995 to Genbot 1996), an average year by local standards in terms of production and rural food security. 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 2010).

access is also better than in these woredas.

Derashe: Soils are less degraded in parts of this woreda than elsewhere in the livelihood zone, and crop production is therefore higher. A system of zero tillage farming is used in the woreda. Local wage labor is more common than in Amaro and Burji, and market access is also better than in these woredas.

Markets

Road infrastructure is the greatest constraint to market access and development for this livelihood zone. This is especially true for Amaro and Burji, which have steep terrain and poor roads. Access to the main woreda town markets is very limited for people living in this livelihood zone in these woredas.

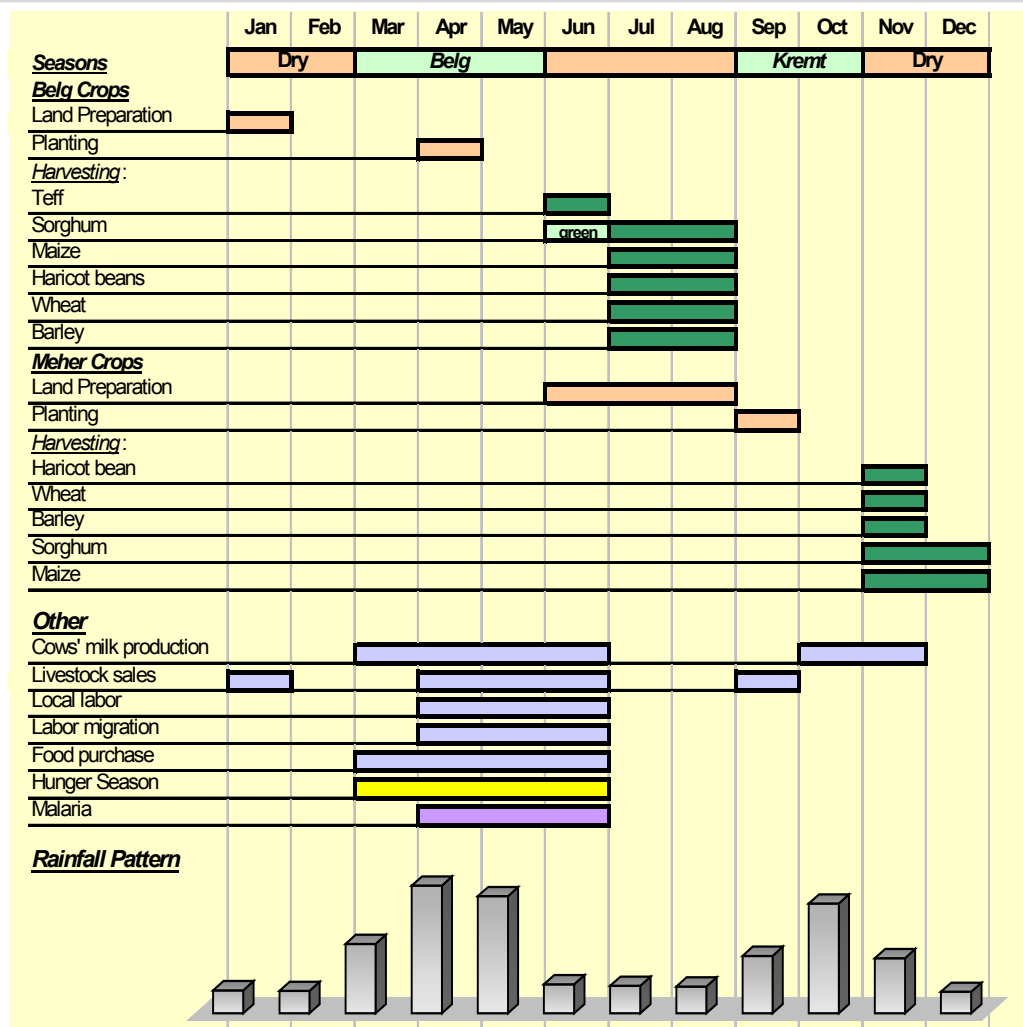
There is little export of local produce out of the livelihood zone due to limited market access. However, there is some sale of staple crops to traders in woreda towns, who then deliver them to outside markets. “Bula” (a product of enset) is sold from Amaro to Dila in Gedeo zone. Wheat is sold from Burji to Hagare Mariam and Yabelo, and sorghum and maize are sold from Derashe to Konso. If local people had better access to markets they would likely produce and sell more wheat, as it brings a higher price than other cereal crops. In turn, they would be able to purchase greater amounts of other staple foods for consumption.

Livestock sale is primarily within the woredas; i.e. in village markets and woreda towns for local use. Around the holiday seasons there are also traders who purchase fattened oxen and take them to Arba Minch, Moyale, Awassa and other major towns.

Maize is imported from Hagare Mariam and Gedeo to Burji and Amaro, and sorghum and maize are imported from Jinka and Arba Minch to Derashe and Konso.

Seasonal Calendar

Food access in the livelihood zone is highly seasonal and depends upon rainfall patterns and crop production. Crops are harvested during both the *belg* and the *meher* seasons. *Belg* production is the more important of the two, accounting for roughly two-thirds of total grain production. Sorghum, maize, teff and wheat are the most important *belg* crops. Sorghum is the most important of the *meher* crops. In most years, seasonal food shortages occur from March (when crop production is exhausted) until sometime in June (when sorghum can begin to be harvested and consumed green). Enset and cassava are harvested in the largest amounts during these hunger-season months.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

As crops run out, households in the livelihood zone turn to increased staple food purchase. Cash income for these purchases is derived from local agricultural labor (poor households) and the sale of livestock (poor, middle, and better off households). The commonest type of labor in the livelihood zone is weeding. In bad years there is also seasonal migration for agricultural labor to Southern Cereal, Enset, and Root Crop Livelihood Zone

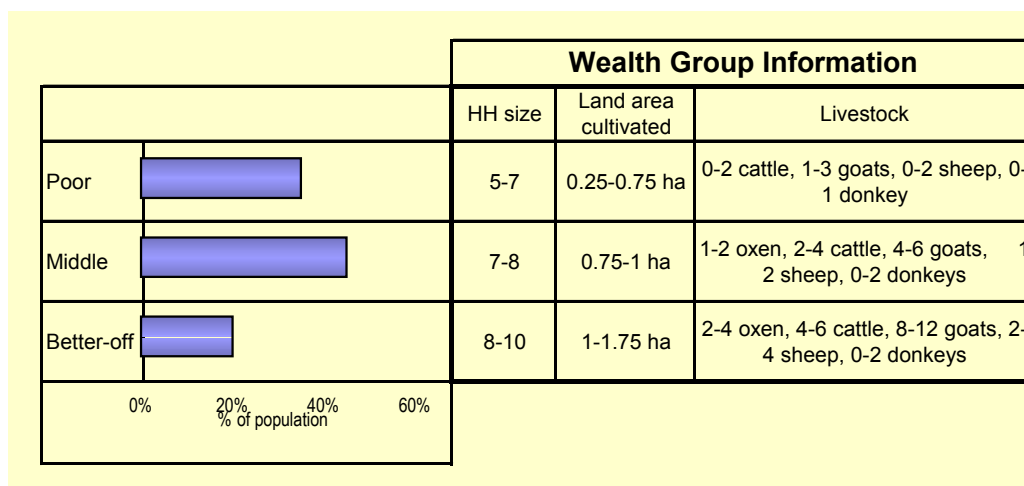
Arba Minch, Gumaide, Moyale, and N. Kenya from Konso and Derashe woredas, and to Hagare Mariam, Moyale and N. Kenya from Burji and Amaro woredas.

Other income generating activities include the preparation of *chaka* - a local alcoholic drink (by all wealth groups), sale of firewood (by the poor) and sale of livestock (the middle and better off). Preparation of *chaka* is a year-round activity whereas sale of firewood tends to increase in the dry season. Livestock are sold during the hunger season and at holiday periods (September for *Meskel* and January for Ethiopian Christmas).

There is less malaria in this livelihood zone than in neighboring livelihood zones, as people live above the malaria line. However, malaria is still a significant problem due to lowland farming and grazing, and peaks at the end of the *belg* rains in April, May, and June, when farming in the lowlands is at its height.

Wealth Breakdown

Livestock holdings are the most significant determinant of wealth in the livelihood zone. Cattle bring in significant income from sales, increase a household's ability to expand cultivation (in areas where plowing is common), and provide cow manure to fertilize



highland farms. Most cattle and oxen are owned by the middle and better off; the poor own few cattle and no oxen. Though land is generally available for cultivation in the lowlands, the area cultivated is limited by the number of oxen owned and the availability of labor at household level, especially in the case of the poor.

Landholding in the mid-highlands is the next most significant difference between wealth groups. The poor have very small mid-highland landholdings relative to the middle and better off groups. This affects the production of drought resistant crops (i.e. enset and cassava). These crops protect mainly the middle and better off wealth groups against drought.

The main reasons the poor remain poor in this livelihood zone are the size and quality of their landholdings, and livestock disease, which hampers their ability to increase their livestock holdings.

Sources of Food – An average year (2003-04)

The bar graph presents the contributions of various food sources to the average yearly diet for each wealth group in the livelihood zone, from June 2003 – May 2004). Overall, the better off and middle groups covered very nearly 100% of their minimum food energy needs in that year, while the poor consumed between 90%-100% of minimum needs.

People in the livelihood zone have received food aid regularly for the last 5 years, and food aid contributed significantly to total consumption for all three wealth groups (roughly 20% of food needs for the poor and 10% for the better off).

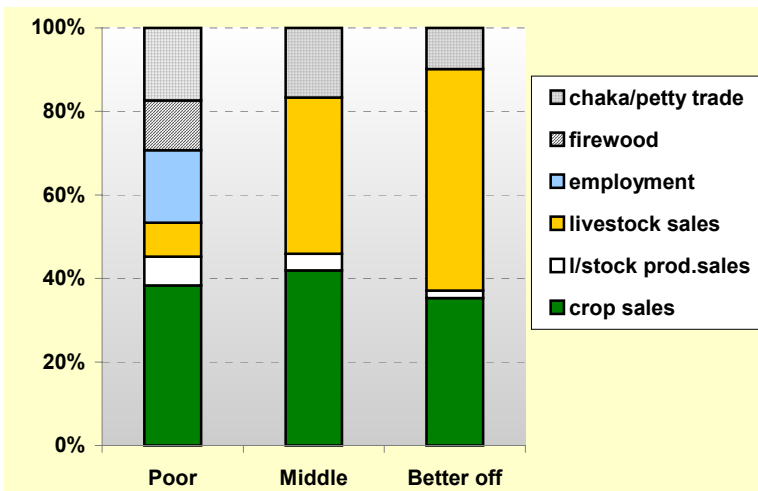
Otherwise the pattern of consumption is much as expected – the contribution of own crops increased with wealth, while food purchases tended to decline.



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

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of total cash income according to income source.



Annual income (ETB)	700-1,000	1,000-1,600	1,500-2,000

when they have prepared their own brew, and buying when they have not. Other income sources for the poor included firewood sales (mainly in Konso and Derashe, which have better market access) and local agricultural labor (mainly weeding).

For the reference year, the graph shows that the middle and better off groups relied very heavily on crop and livestock sales for income, while the poor had a more diverse set of income generating strategies. Most income from crop sales came from teff. Other crops sold in small quantities included haricot beans, sorghum, wheat, and barley. Some coffee and *chat* is also produced and sold in the Konso woreda.

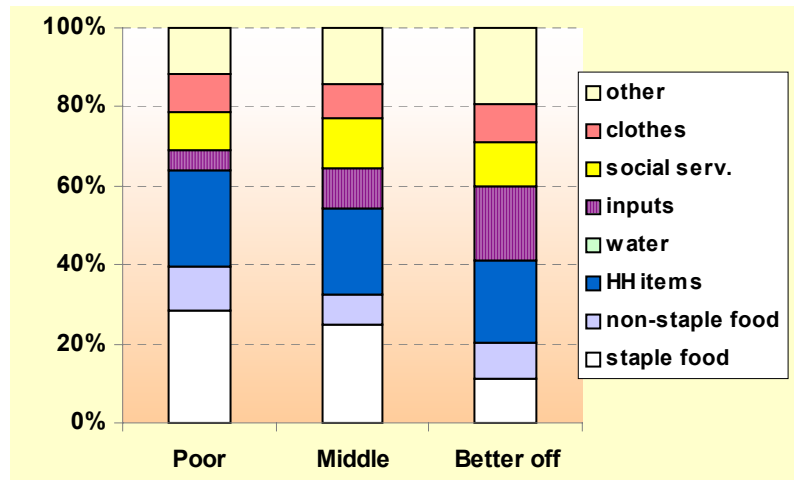
As far as livestock are concerned, the poor sold mainly goats (and eggs) while the middle and better off sold small stock and fattened and sold their oxen.

All three wealth groups produced and sold *chaka*, an alcoholic drink made primarily from cereals. *Chaka* has a thick consistency and is used as a substitute for meals, especially when working in the fields. All three groups seem to both buy and sell *chaka*, presumably selling

Expenditure Patterns – An average year (2003-04)

The graph on the right presents expenditure patterns by wealth group for the period from June 2003 – May 2004.

Absolute expenditure increased with wealth for most items while the percentage of total expenditure on different items tended to remain constant. The three exceptions were staple food, inputs and “other”. Both the poor and middle groups spent more in absolute and percentage terms on staple food purchases than did the better off. Inputs include livestock drugs, tools, plowing, land rental, and paid agricultural labor. The large increase in expenditure on inputs for the better off is mainly accounted for by the significant amount spent by this group on paid agricultural labor.



The graph provides a breakdown of total cash expenditure according to category of expenditure. “HH (household) items” includes salt, soap, and kerosene, “other” includes tax, social obligations and ceremonies, and “social services” includes spending on health and education.

Hazards

The main periodic hazard for the livelihood zone is **drought**. The effects of drought are to some extent cushioned by significant holdings of drought resistant crops – either enset or cassava – the consumption of which is increased in bad years. A secondary problem, often associated with irregular rainfall is that of **crop disease**, especially army worm and aphids.

The main chronic hazard in this livelihood zone is **trypanosomiasis**, mainly affecting cattle. The disease is prevalent in lowland areas, where livestock are often taken for grazing. Livestock drugs are a major expense for all wealth groups in the livelihood zone, especially given their low average incomes relative to other neighboring livelihood zones.

Though not a “hazard” per se, **poor soil fertility** and **lack of access to land** are increasing concerns for the people of the livelihood zone. This affects production levels, cultivation practices, and exposure to both human and livestock diseases, as people become increasingly involved in lowland cultivation and grazing.

Response Strategies

A number of strategies are pursued in response to crop failure, the most common cause of which is drought. A key strategy for all groups is to **increase the harvesting of enset and cassava**, which are drought-resistant crops. Of the two, enset is the most important. Konso stands out among the four woredas as having no enset, only cassava, and it is possible that people in this part of the livelihood zone may be less able to cope with drought than people in the enset growing areas of the livelihood zone. The biggest problem in relying on enset and root crops in bad years is that reserves of these crops can easily be exhausted by repeated drought. This is particularly true for enset, which is a slow maturing crop that takes 4-5 years to reach maturity.

A second strategy pursued by all three wealth groups is to **minimize non-food expenditure** compared to an average year, and to switch available income towards the purchase of staple food. The third important strategy for middle and better off households is to **increase livestock sales**.

This is not an option for the poor, given their low livestock holdings. Instead, the poor, and occasionally the middle, **migrate in search of labor** (mainly agricultural labor) when faced with drought or other severe hazards. People from Konso and Derashe woredas migrate to Arba Minch, Gumaide, Moyale, and Northern Kenya, and people from Burji and Amaro woredas migrate to Hagare Mariam, Moyale and Northern Kenya.

Indicators of Imminent Crisis

Season	Month	Indicator
Dry Season	Jan	
	Feb	Late onset of rains and/or shortage of rainfall
Belg rains	Mar	Erratic rainfall and/or shortage of rains; Food prices above seasonal average
	Apr	People migrating to find casual work; Army worm infestation No visible signs of crop growth; Farmers re-sowing
Dry Season	May	Continued pest infestation; Wilted or immature crops; Staple food prices high People migrating to find casual work; Distress sales of livestock
	Jun	Consumption of immature crops Staple food prices high and food imported into LZ
	Jul	
	Aug	
Kremt rains	Sep	Shortage of rainfall and/or late onset of rains
	Oct	Erratic rainfall and/or shortage of rains; No visible signs of crop growth Farmers re-sowing
Dry Season	Nov	Poor condition of crops and livestock
	Dec	Poor condition of crops and livestock

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis resulting from drought/irregular rainfall. The graphic is best understood by starting in February and following the sequence of events through the calendar year. The timing of some of the hazards, such as pest infestation will vary according to the pattern of rainfall. The observation of pest infestations, farmers sowing later than expected, labor migration, poor conditions of crops and livestock, and unusual price fluctuations are progressive, observable indications of the onset of drought, and are clear indications of developing crisis.

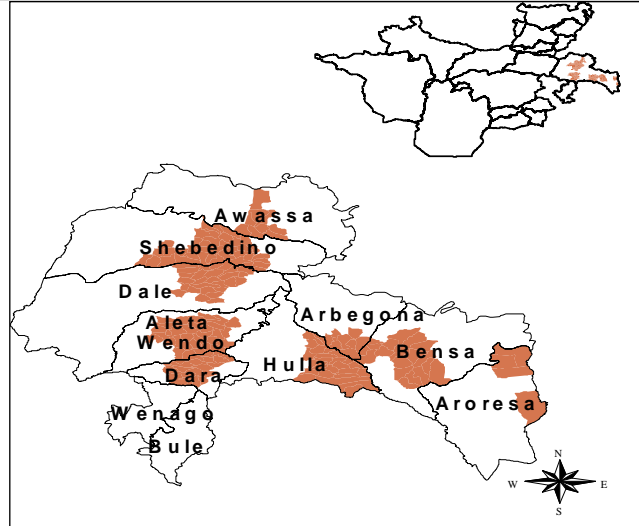
SNNPR Livelihood Profile

Sidama Coffee Livelihood Zone

March 2005¹

Zone Description

The Sidama Coffee Livelihood Zone is a relatively productive midland area that attracts migrant laborers from nearby highland areas during the busy coffee-picking season. The area has its problems, however, the best known of which was the extreme slump in coffee prices in 2002-03, which caused hardship for households in the livelihood zone and beyond. Fortunately, prices have now returned to more favourable levels, but other problems remain: high population density and population growth; landholding fragmentation into smaller and smaller fields (which results in low levels of crop production per household); declining pasture land and livestock holdings; increasingly erratic and insufficient rainfall; and endemic coffee plant diseases. An additional problem is the lack of saving schemes for farmers, many of whom obtain large sums of money during the coffee harvest period.



The Sidama Coffee Livelihood Zone covers the midland (*woina dega*) areas of Sidama Administrative Zone, including parts of Dara, Aleta Wondo, Dale, Shebedino, Awassa, Hulla, Bensa and Aroresa woredas. Altitudes range from 1700 – 2300 meters above sea level. The landscape is characterised by undulating hills and, due to the high population density, most of the land is cultivated. This is a visibly green part of SNNPR, with eucalyptus, fruit and coffee trees prominent throughout the zone and enset stems growing around every house. However, there is no natural forest and very limited communal grazing land.

Rainfall in this livelihood zone is more reliable than in the neighboring maize belt, and falls during two rainy seasons, the *belg* and *kremt* rains. Coffee is the main cash crop and enset is the main food crop, and these are supplemented by small quantities of other rainfed food crops (including maize, sorghum, haricot beans, yams, taro and sweet potatoes) and fruits (including avocado and pineapple). Annual food crops are generally intercropped amongst the coffee and enset plants. As a result, plow oxen are rarely used for cultivation in this livelihood zone; most cultivation is done by hand.

Due to small landholding sizes and the large proportion of land that is dedicated to coffee production, most households do not produce enough food crops to last throughout the year, even in a year of good crop production. Market reliance is therefore quite high in this livelihood zone, suggesting that both cash crop and staple food prices should be closely monitored. One of the reasons why 2002-03 was such a bad year in this livelihood zone was because low coffee prices, and resulting low household income levels, coincided with high maize prices (which were partly caused by drought in the neighboring Sidama Maize Belt Livelihood Zone).

Market access is generally good in this livelihood zone, with a major tarmac road passing through the zone and all-weather roads feeding into it. In addition, major urban markets for crops and livestock are nearby.

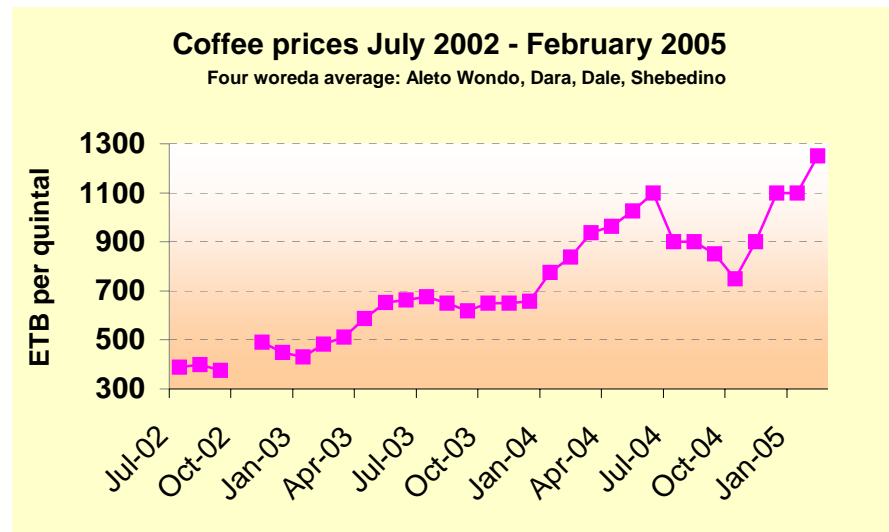
Cattle are the most important type of livestock in this livelihood zone. Grazing land is in short supply, however, so cattle are generally raised using a 'zero-grazing' system, whereby animals are kept close to the homestead and are fed crop residues and collected (or purchased) grass.

¹Fieldwork for the current profile was undertaken in February-March 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was a mixed type of year: coffee production was poor, coffee prices were average and food crop production was average. 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 2010).

Labor migration is relatively uncommon, but poorer households do resort to this income-generating option in bad years. In normal years, poor households find casual work locally, including agricultural work for better off farmers and daily labor in the pulping stations during the coffee harvest season.

Markets

Farmers sell their coffee in two forms: wet red cherries and dry cherries. Wet coffee is sold during the harvest season (September to December) to cooperatives or to private investors who own pulping stations. Private investors pay farmers for their coffee by the kilo upon delivery of the coffee. Cooperatives also pay on delivery but generally pay another small payment to their members later on (also by kilo), once the annual profits of the cooperative are clear. The coffee is processed locally at the pulping stations (which involves pulping, fermenting, washing, drying and sorting) and is then transported to the central market in Addis Ababa. Roughly 70-80% of the coffee sold by farmers in this livelihood zone is sold in its 'wet' form, which results in the best quality coffee for export.



The remaining coffee is dried by farmers and sold from January onwards, also to cooperatives and private traders. Following grinding, this coffee is sold to the central market in Addis Ababa. Although wet coffee generally brings in more money, dry coffee acts as a saving mechanism for farmers because it can be sold at any time. However, poorer farmers do not sell dry coffee because they cannot afford to wait until January to sell their coffee.

The coffee prices received by farmers within the livelihood zone are determined by the world market for coffee and have little to do with local production conditions each year. The graph above illustrates very clearly the change that has been observed in coffee prices over the last three harvesting seasons. Farmers describe the prices they obtained in late 2002 as 'bad' and the prices obtained in late 2004 as 'good'; prices in late 2003 were fairly average.

Fruits and tree products are the other main exports from the livelihood zone. These are generally sold to local traders who sell on to Awassa, Addis Ababa and other large towns along this route.

Staple foods are imported into the livelihood zone. *Kocho* (a form of prepared enset) is imported mainly from the neighboring Gedeo Administrative Zone. *Kocho* is cheapest during the main harvesting period from November to February and most expensive from April to July. After July, *kocho* prices tend to stabilise as a result of the local green maize harvest and reduced demand.

Maize is imported from the main maize-producing areas of the country via Addis Ababa and Shashamene. When the neighboring Sidama Maize Belt Livelihood Zone has a year of good production, this is also a source of maize for the coffee zone. Maize prices generally fluctuate from 70-80 birr per quintal at harvest time to 150 birr per quintal during the annual hunger period.

Markets are held in the woreda towns and the larger peasant associations once or twice a week (often on a five-day schedule), usually in the afternoons and evenings. These are major events in the local calendar and many people are involved in the trade of food and non-food items (often on a very small scale) and of livestock.

The main destination markets for livestock include Awassa, Dilla, Shashamene and Addis Ababa. The peak periods for the sale of livestock are the annual hunger period (April to June), when households need cash, and the main religious holidays (Meskel and Christmas), when demand is high.

Seasonal Calendar

The two rainy seasons are the *belg* rains, which fall from March to May, and the *kremt* rains, which fall from July to early October. Most land preparation work occurs in the months before the start of the *belg* rains and most crops are planted with the start of the rains. Annual food crops are generally intercropped amongst the coffee and enset plants.

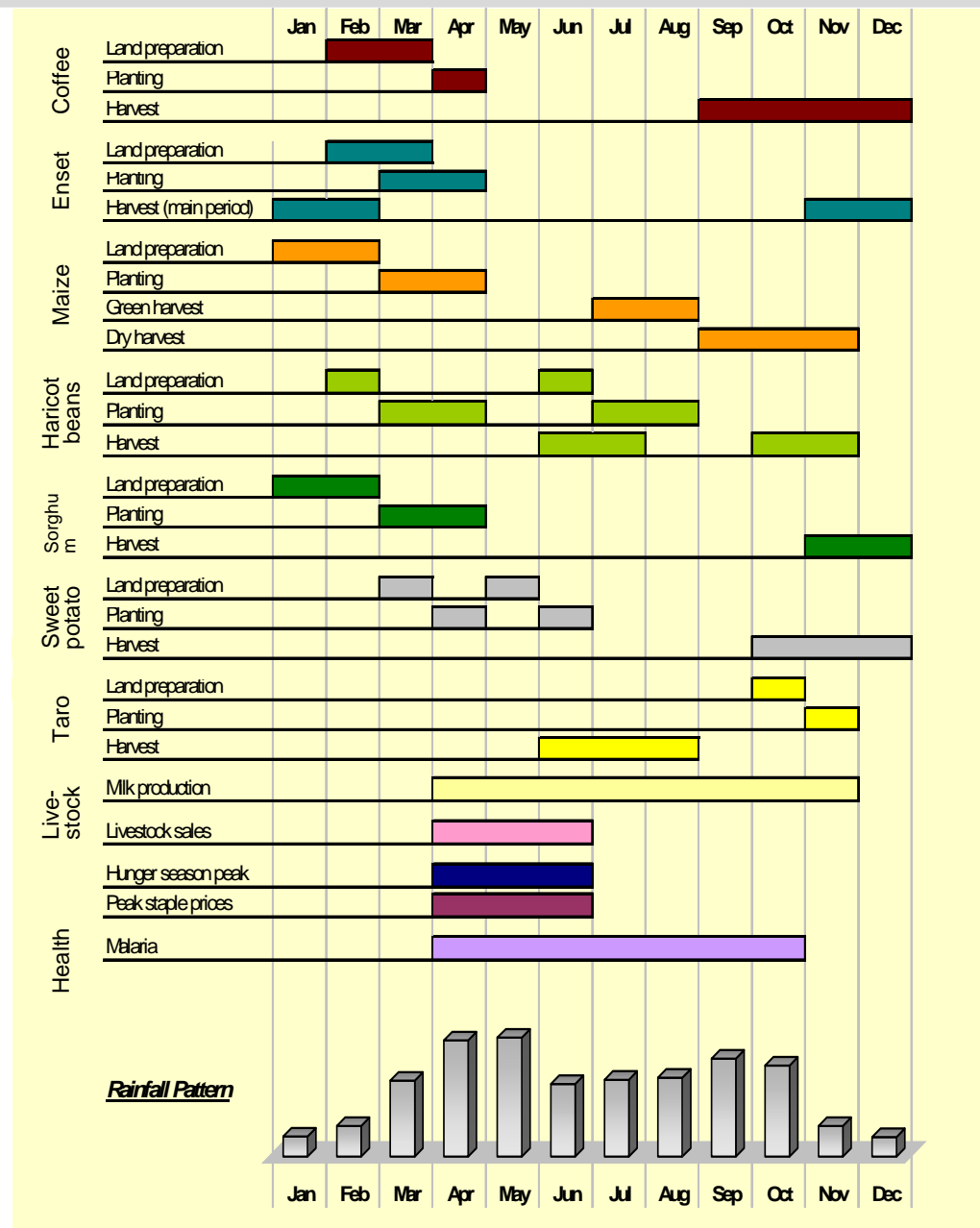
Although enset planting and harvesting periods are illustrated to the right, enset takes 4-6 years to mature. While it is often eaten before full maturity, it is not possible to plant an enset stem and eat from it within the same agricultural year (as might be suggested by the graphic).

This is also true for coffee, which is planted in the *belg* season, but takes 3-4 years to reach maturity and can then produce for decades. The main coffee harvesting period is October to December, but there are some variations from one area to the next depending on altitude. Lower areas

tend to harvest early, starting in September, while higher areas can harvest as late as January. Farmers in lower areas complain that the early prices for wet red cherries are normally less than the mid-season or late-season prices.

The hunger season and staple food prices peak in April – June, the months running up to the start of the green maize harvest. This is also the main period for livestock sales, since households need cash to purchase food at this time.

Although much less prevalent than in the neighboring maize belt livelihood zone, malaria occurs throughout the year, but is worst from April to October. Other diseases tend not to show a distinct seasonal pattern.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

	Wealth Group Information			
	HH size (per wife)	Land area owned	Cultivated with coffee	Livestock
Very poor	5-7	~ 0.25 ha	Small area mixed crops	0 cattle, 0 shoats, 0 donkey
Poor	5-7	0.25 - 0.5 ha	0.125 - 0.25 ha	0-2 cattle, 0-1 shoat, 0-1 (0) donkey
Middle	6-8	0.75 - 1.25 ha	0.5 - 0.75 ha	2-4 cattle, 0-3 (2) shoats, 0-1 (1) donkey
Better-off	8-10	1.5 - 2+ ha	~ 1 ha	4-8 cattle, 0-4 (3) shoats, 1 donkey

0% 20% 40%
% of population

Wealth in the Sidama Coffee Livelihood Zone is determined primarily by the number of cattle and the area of land that a household owns. Other characteristics (such as the number of sheep or goats² owned or the type of housing inhabited) tend to result from these more basic characteristics. There is little difference between land areas owned and land areas cultivated in this livelihood zone because land rental and sharecropping between households are not common. Households that own relatively large areas of land also tend to have large areas planted with mature coffee and enset.

Better off households have a larger household size than the other wealth groups because they attract additional dependents (usually the children of poorer relatives who work as domestic laborers) and because they tend to be older, more mature households. Very poor and poor households, in contrast, are often younger families that started off with small landholdings when their parents' land was subdivided. Because their landholdings are small, the able-bodied members of very poor and poor households spend most of their time engaged in casual labor and petty trade.

Sources of Food: A year of poor coffee production (2003-04)

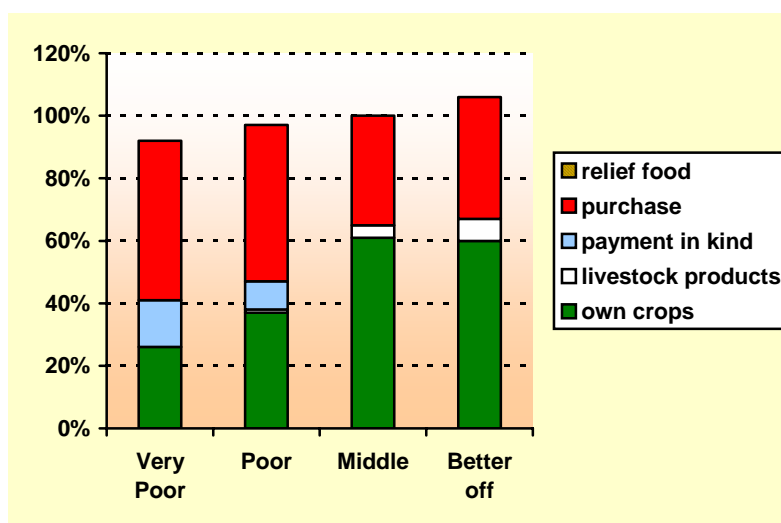
The graph presents the sources of food for households in the Sidama Coffee Livelihood Zone for the period July 2003 – June 2004. Food is presented as a percentage of 2100 kilocalories per person per day for the 12-month period starting with the 2003 green harvest. In most areas of this livelihood zone, this was a fairly average year for food crop production. July represents the start of the consumption year because this is when green maize is consumed, marking the end of the annual hunger season.

The contribution of own crop production generally increased with wealth, although something of a mixed picture was obtained for better off households. Some better off households produce large

quantities of food and are able to eat from their own production for most of the year. Other better off households concentrate on coffee production and only produce enough food crops for part of the year. An average picture is presented above for the reference year: although better off households did produce more food crops than middle households, they also had a much larger household size, which resulted in the contribution from own crops being quite similar. The contribution of livestock products (primarily milk) increased with wealth.

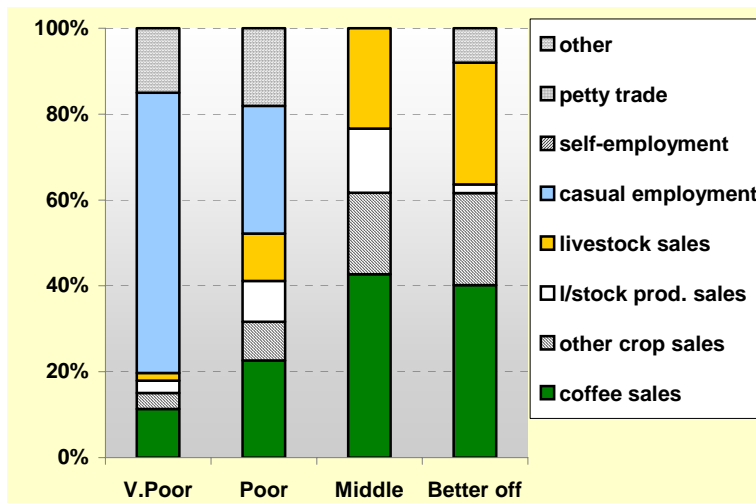
Relief food distributions were rare in this livelihood zone in the reference year. Households made up any gap in food through a combination of purchase and labor exchange (which means working directly for food). Maize was the cheapest source of calories and made up the bulk of purchases for very poor and poor households, supplemented by small quantities of *kocho* (processed enset) and haricot beans. Labor exchange was more common for very poor than for poor households and generally took the form of meals provided by better off employers.

Very poor and poor households were unable to fully cover 100% of their minimum food energy needs in the reference year.



² In the lower areas of the livelihood zone, goats are more common; in the higher areas, sheep are more common. In general, however, shoat ownership is less common than cattle ownership.

Sources of Cash: A year of poor coffee production (2003-04)



The graph presents the sources of cash income for households in different wealth groups for the period July 2003 – June 2004. This was a year of relatively poor coffee production and, therefore, relatively low income was obtained from this source.

In general, the contribution of income from crops and livestock increased with wealth. These were the main income sources for middle and better off households, while casual labor was the most important source for the very poor.

Better off households earned almost three times that of very poor households, despite the fact that very poor households were extremely busy in the reference year. Many very poor households had two members engaged in casual work and petty trade every day in an effort to make ends meet.

Annual income (ETB)	1000-1600	1300-2000	1500-2500	3000-4500

Across all wealth groups, approximately 65-75% of crop sales income was obtained from coffee in the reference year. The balance of crop sales came from sales of fruits, sugarcane, eucalyptus poles, and, in the lower part of the zone, chat.

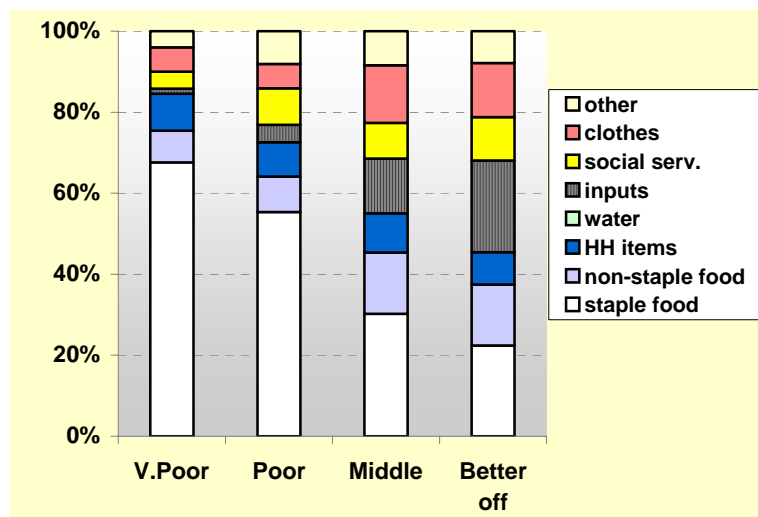
In contrast with the reference year, income from coffee in the current year (2004-05) is high because it is a year of bumper coffee production and high coffee prices. As a result, very poor and poor households may do less casual labor and middle and better off households may sell less livestock, particularly cattle, in the current year.

Expenditure Patterns: A year of poor coffee production (2003-04)

The graph presents expenditure patterns for the period July 2003 – June 2004. Since this was a year of poor coffee production, incomes were relatively low in this year and expenditure was therefore squeezed to a certain extent.

The most obvious difference between the wealth groups is the percentage of expenditure on staple food. Almost 70% of very poor household income went toward the purchase of staple food, compared with less than 25% in the case of the better off.

The category ‘household items’ includes salt, soap and kerosene. ‘Other’ includes tax, social obligations, ceremonies and savings. Expenditure on most items (except staple food) increased with wealth.



The category ‘social services’ includes spending on education and health. Better off households spent a large amount of money on schooling, and were the only wealth group that could afford to send their children to schools outside the livelihood zone in the reference year.

Expenditure on agricultural inputs varied significantly by wealth group. Better off households spent a considerable amount of money employing agricultural labor.

Hazards

The Sidama Coffee Livelihood Zone is subject to a number of hazards, some of which undermine food security every year, while others threaten food security in some years more than others. The main hazards affecting the zone are:

Shortage of rain and drought: According to key informants, rainfall has been declining in recent years and this has affected crop and livestock production, particularly in the lower parts of the zone. Although drought affects annual

food crops more than it affects enset, enset production has also been gradually declining as households have been forced to consume immature stems to cope with problems in recent years.

Hail and frost: These are possible hazards in April and May and can have a devastating effect on coffee production.

Crop diseases: The main complaints for farmers are coffee berry disease and coffee wilt disease (or tracheomycosis). The former reduces coffee production and, with the current emphasis on organic production, there is little that farmers can do to control it. In the case of the latter, the only solution is to uproot and burn the coffee tree and then replant, with obvious consequences in terms of lost production.

Fluctuating coffee production: Coffee has a natural cycle, with periodic bad years occurring independently of climatic or pest conditions. If one year is good, then farmers automatically expect the next year to be less good. This is something that must be incorporated into household budgeting and planning.

Fluctuating international coffee prices: Coffee prices are determined on the international market and there is little that farmers can do to protect themselves from this. The serious problems that emerged in 2002-03, when coffee prices reached historical lows, underscore the relevance of this hazard to this livelihood zone.

Increased staple food prices: Most households in this livelihood zone depend on the market for food purchases, making them vulnerable to increased staple food prices. Since most staple food is imported into the livelihood zone, particularly during the hunger period, the most common scenario is for prices to increase when there is crop failure in the areas that supply the coffee livelihood zone.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards. These vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years. Households reported reducing expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Since the reference year was a bad year for coffee production, this strategy was partly employed.

All wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, **livestock sales expand** in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock, but even for them this strategy has strict limits if the sale of productive animals is to be avoided.

Migration of individual household members in search of employment outside the livelihood zone is a strategy for poorer households in bad years. Workers migrate to productive areas of Awassa woreda, particularly around Wondo Genet, where work is relatively plentiful and well paid in the period March – October. Although the reference year was a bad year for coffee production, few households had to resort to labor migration to make ends meet because other aspects of the year (e.g. coffee prices and food production) were relatively normal.

Very poor and poor households do **more local casual work and petty trade** in bad years. Daily wages and profit rates are often lower in bad years, so this means that able-bodied households members have to intensify the number of days per week that they work. Since the reference year was a bad year for coffee production, this response strategy was largely exhausted, with household members working six days per week throughout much of the year.

The **increased consumption of enset** is a bad year strategy for all households, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production. Only better off households have mature enset in reserve in most years.

Indicators of Imminent Crisis

The main indicators of approaching crisis include a delayed start of the rainy season or long periods without rain at critical stages of the rainy season. If these are followed by some of the indicators mentioned in the dry season section, then serious consequences can be expected at household level.

Season	Month	Indicator
Belg season	Mar	Delayed start of rainy season
	Apr	Long periods without rain at critical stages in rainy season --> Frost or hail during April - May reduces coffee production
	May	
	Jun	
Jul		
Meher season	Aug	High staple food prices during and after maize harvest -->
	Sep	Low coffee prices and low wage rates during the harvest period -->
	Oct	
	Nov	
Dec		
Dry season	Jan	Rainfall in December is bad for coffee production
	Feb	Migration of household members in search of casual work -->

SNNPR Livelihood Profile

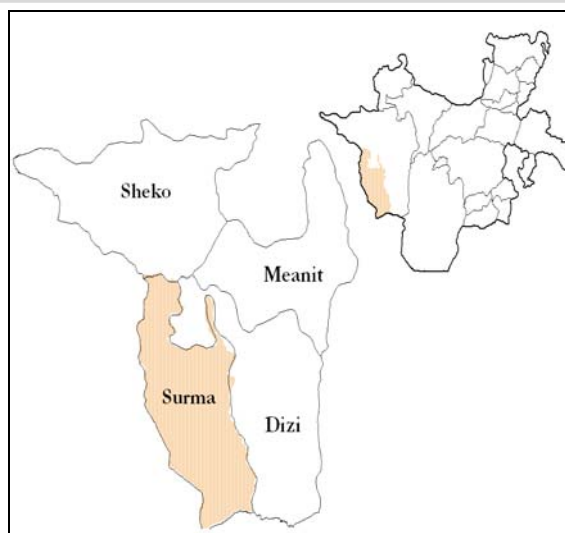
Surma Agro-Pastoral Livelihood Zone

August 2005¹

Zone Description

The Surma Agro-Pastoral Livelihood Zone is remote, sparsely populated, and food secure. Households keep large herds of livestock, in addition to practising rainfed cultivation. As in the rest of Western SNNPR, rainfall is reliable in this livelihood zone and drought is unknown. The zone includes the whole of Surma woreda and the neighboring areas of Maji and Bero woredas in Bench Maji Administrative Zone. The zone is bordered to the south and west by Sudan, to the north by the Acobo River and Bero woreda, and to the east by Maji woreda.

The Surma groups known as Tirma, Chagi and Zilmamo occupy most of the livelihood zone. Neighboring Maji and Bero woredas are settled by the Dizi ethnic group. The Dizi practice mixed farming and are increasingly being pushed to the northeast by the Surma, who raid periodically for livestock and crops. The Surma, in turn are being pushed north and northeast by the Bume, a pastoralist group that straddles the borders between Ethiopia, Sudan and Kenya. Ethnic conflict and insecurity are one of the major hazards affecting the livelihood zone.



Altitudes range from lowland (*kolla*) to dry midland (*woina dega*). The topography consists of undulating hills and plains that are covered by bush and grassland, with scattered trees. Grazing land is communal and relatively plentiful. The zone has many permanent rivers and seasonal streams. Most of the permanent rivers are located in the north and northeast of the livelihood zone. Households that are settled in these areas do not have to move with their livestock in search of water in the dry season. In contrast, households that are settled in the south and southwest of the livelihood zone move northeast during the dry season in search of water, when the seasonal streams in that area dry up. The Bume ethnic group often raid during this period, when there are large movements of livestock.

The zone is agro-pastoral, but the pastoralist way of life is dominant. Households live together and share resources in common. They have significant livestock numbers per household, and livestock sales are the main cash income source for all wealth groups. The types of livestock reared in the zone are cattle and goats. Donkeys, horses and mules are not reared for transport, although the climate is not prohibitive. Items that need transportation (market purchases, for example) are simply carried, despite the long distances involved.

There is one long rainy season, from late January to October or November, which households use to cultivate maize, sorghum, sweet potatoes, cassava and beans. Cultivation practices are simple: the land is cleared of bush or crop residues and seeds are scattered. Very little weeding is done and key informants had great difficulty in estimating the size of land that they cultivate.

Households obtain their food from market purchase, own crop production and own livestock products (in that order of importance). Livestock provide milk, butter, meat and blood, in addition to being the main source of cash income. Supplementary sources of cash income for all wealth groups are honey and gold sales. Cash crop production and casual work are relatively unknown cash income sources in this livelihood zone.

Gold is panned throughout the year both inside the livelihood zone and in four areas of neighboring Bero woreda. A large number of ethnic groups (including those from as far away as Amhara and Tigray) congregate in this area to pan for gold. Security is problematic, so most men and boys travel to these areas in groups. Buyers are ubiquitous and estimating income levels from this source is difficult.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to June 2003 - May 2004 (Sene 1995 to Ginbot 1996 in the Ethiopian calendar), an average year by local standards (i.e. a year of 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 2010).

Markets

Market access is poor. There are no well-developed roads or markets within the livelihood zone. The main markets for the zone are located at Jeba and Maji towns in neighboring Bero and Maji woredas. This is where people from this livelihood zone go to sell livestock and purchase food and other essential items. Traders also purchase livestock within the livelihood zone directly and then take them to Bero or Maji woredas or to Dima (in Gambella Region) for sale.

The Surma people try to avoid selling their cattle in order to maintain their herd sizes. When they do sell a mature or old animal, they usually replace it with one or two smaller cattle.

The poor state of road infrastructure (only dry-weather roads), combined with scarce transport services, leads to extreme fluctuations in prices seasonally. Particularly during the hunger season, pastoralists face high prices for cereals and obtain low prices for their livestock and livestock products.

Seasonal Calendar

This livelihood zone has one long rainy season that is relatively reliable. Land preparation for crops occurs in December - February, with planting of maize and sorghum in January - February and March respectively. The green maize harvest starts in June and the dry harvest of both cereal crops occurs in August - October. Beans are harvested earlier.

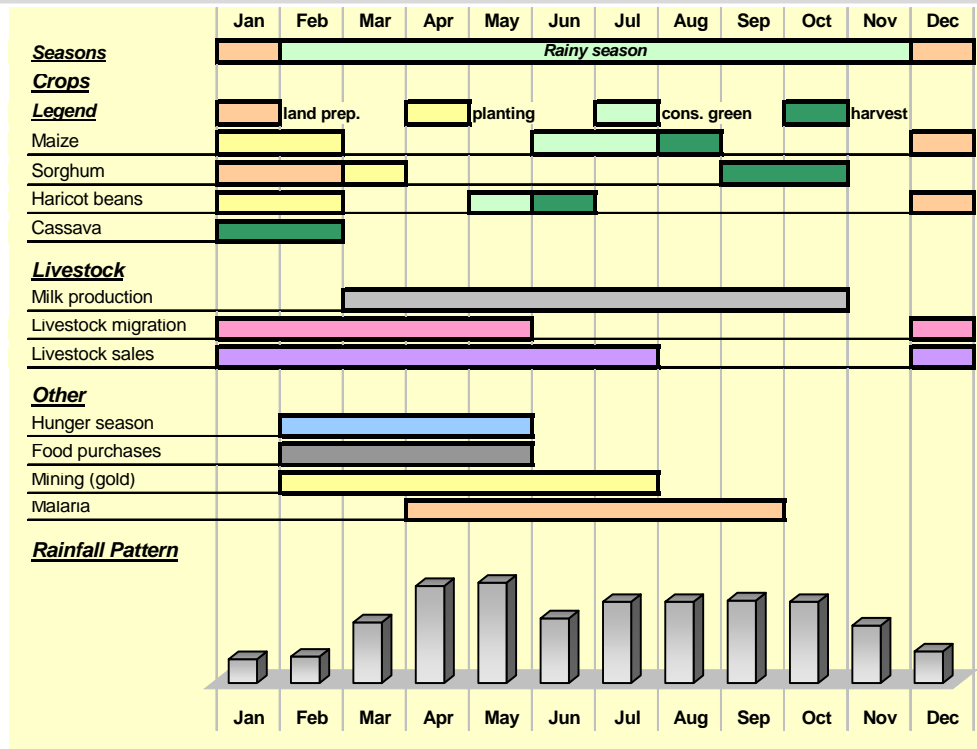
Livestock births are unplanned and can occur at any time of the year. Milk is most available during the wettest months of the year, when pasture is plentiful.

The hunger or 'lean' period of the year is determined by the timing

of crop production rather than by livestock production and occurs in the months leading up to the green maize harvest, when food is in short supply. Households tend to purchase food during this period, with income from the sale of livestock. Although livestock are sold throughout the year, the main period for livestock sales is December to July, with February - May as the peak months for sale.

Wild food consumption occurs throughout the year, with households gathering and consuming various wild leaves, seeds and fruits. July - August is the time when food is plenty and this is when the 'Donga' games take place. Young men attempt to attract wives with their performances during the games, but a good performance cannot make up for a lack of cattle for a dowry.

Malaria is the most problematic human disease in this livelihood zone and can occur throughout the year. It peaks during the wet season.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

Wealth in the Surma Agro- Pastoral Livelihood Zone is determined primarily by livestock holdings. Although all livestock used to be owned by the clan leaders, nowadays all households own their own cattle and goats. Other factors, such as the area of land that a household cultivates, are secondary to this. Indeed, key informants were unable to estimate land areas.

	Wealth Group Information	
	HH size	Livestock
Poor	5-6	10-15 cattle, 15-25 goats
Middle	6-8	20-30 cattle, 25-35 goats
Better-off	7-9	30-50 cattle, 40-50 goats

0% 10% 20% 30% 40% 50%
% of population

Compared to many pastoralist areas, the difference in wealth between poor, middle and better off households is relatively narrow in this livelihood zone. This is reflected in their patterns of food and cash income sources, below, which are also quite similar.

Polygamy is common amongst better off households in this livelihood zone, reflecting the fact that dowries are paid in cattle.

Sources of Food – An average year (2003-04)

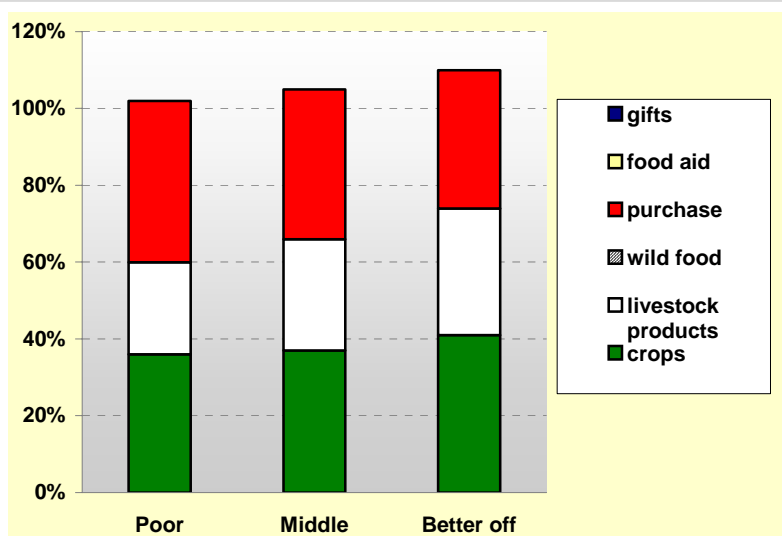
The graph presents the sources of food for households in the Surma Agro-Pastoral Livelihood Zone for the period June 2003 – May 2004, which was an average year.² June represented the start of the consumption year because that was when the green maize harvest started, marking the end of the annual hunger season.

The contribution of own crop production increased slightly with wealth in the reference year. The main crops produced were maize, sorghum, cassava and beans.

The contribution of livestock products (milk, butter, meat and blood) increased with wealth and was large compared to many livelihood zones in SNNPR.

Food purchases made a fairly similar contribution across wealth groups. The main foods purchased were maize, sorghum and a local drink made from these cereals.

All households collected and consumed wild foods, mainly wild yams, green leaves, seeds and fruits. Their contribution was difficult to quantify.

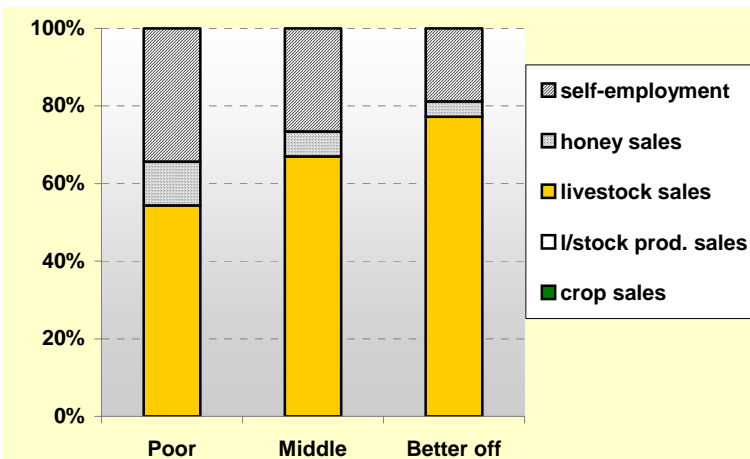


Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

² Good years are common in this livelihood zone, so an 'average' year is actually quite good in terms of crop and livestock production.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



Annual income (ETB)	750-1250	1250-1750	2000-3000

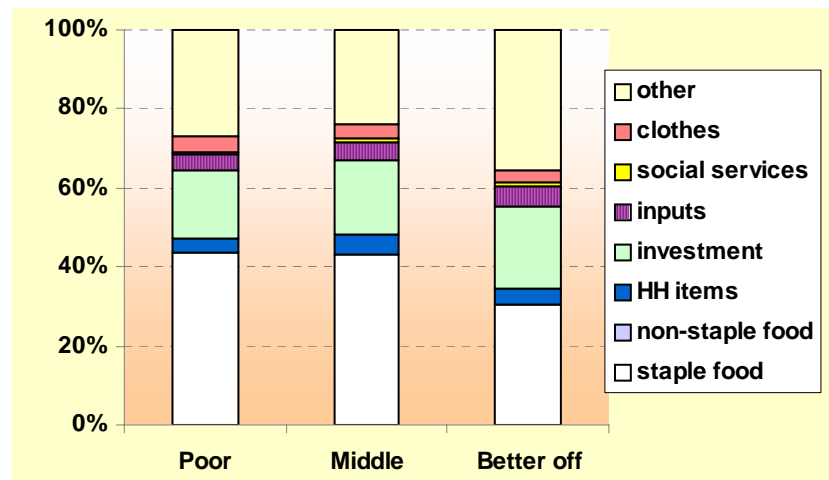
The graph presents the sources of cash income for households in different wealth groups for the period June 2003 – May 2004. Households in all wealth groups obtained most of their cash income from livestock sales. Better off households typically sold 2-3 cattle, middle households sold 1-2 and poor households sold 1 in the reference year. The number of goats sold was much higher than this, ranging from two to ten animals sold. Livestock prices are high in this livelihood zone compared to the other pastoralist areas of southern SNNPR.

Supplementary income sources in the reference year for all wealth groups were honey sales and gold mining. Gold is mined mostly in neighboring Bero woreda and quantifying the cash earned from this source was difficult (and could be higher than indicated).

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for different wealth groups in the reference year. Expenditure on staple food decreased with wealth. Although expenditure on the other categories as a proportion of total spending was reasonably similar across the wealth groups, the absolute amounts spent on each category increased with wealth.

The category 'household items' included coffee, salt and soap. 'Other' included social obligations, ceremonies, and savings. The category 'social services' included spending on health only. Very few children attended school in this livelihood zone in the reference year. 'Investment' represented the purchase of livestock (particularly heifers).



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The main hazards that affect the zone are conflict, livestock diseases and malaria.

Conflict occurs in two forms. The Bume raid from the south and loot livestock from the Surma. In turn, Surma youths raid livestock and crops from the neighboring Dizi and Meanit. A climate of insecurity prevails.

Livestock diseases (including pasteuriosis, blackleg, rinderpest, CBPP and foot and mouth disease) are a problem in this zone. Pasteuriosis occurs particularly in October – December and blackleg during the rainy season. Households obtain drugs either from the government veterinary service in Kibish (the main town of Surma woreda), a missionary group located in Tulgit, or illegally from pastoralists in South Sudan.

Malaria during the rainy season is another chronic hazard that affects health and labor availability at household level.

Market shocks are a periodic problem, primarily caused by crop failure in neighboring areas, which result in increased cereal prices for pastoralists independent of conditions in the pastoralist livelihood zone. Poor terms of trade (of livestock to cereals) are an annual occurrence during the rainy season, when access to markets is difficult.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards. The main strategy for obtaining cash to purchase food is **increased livestock sales**. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock. All households also have the option of **reducing non-essential expenditure** on items such as coffee and clothes in order to **spend more money on staple food**. Households **consume more wild foods** during bad years. Finally, poor households can seek out increased **gifts of food and cash** from better off households. The latter is known as *yela* and anyone who has a problem can expect to receive assistance from relatives or friends.

Indicators of Imminent Crisis

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Dry	Jan	
Rainy season	Feb	Late onset of rains delays planting
	Mar	Heavy rains encourage weed growth that reduces production -->
	Apr	Heavy rains affect access to markets and terms of trade deteriorate -->
	May	Dry spell reduces production of beans and maize
	Jun	Delayed green maize harvest
	Jul	
	Aug	Delayed or reduced harvests in August - October
	Sep	
	Oct	
	Nov	
Dry	Dec	Conflict as a result of raids while moving in search of water

The graphic presents the likely sequence of indicators in the lead up to a year of reduced production. There is a wide range of key indicators for the zone, including those related to rainfall, conflict, staple food and livestock prices, and the timing and quantity of harvests.

SNNPR Livelihood Zone

Sidama-Gedeo Highland Enset & Barley Zone

June 2005¹

Zone Description

The Sidama-Gedeo Highland Enset and Barley Livelihood Zone is relatively food secure, with no history of food aid distributions. The area is known for its high quality enset production and export. Households have large reserves of mature enset and face only one major hazard to their production: wheat rust. This disease has caused a trend for farmers to replace wheat with maize, even though maize is less suited to high altitudes. Households in all wealth groups obtain the majority of their food from their own crop production and the majority of their cash income from crop and livestock sales. A relatively small percentage of income is spent on the purchase of staple foods, and this expenditure is partly by choice, as households prefer to purchase food when they have adequate cash, thus saving their enset reserves for the future. The main issues that concern households in this livelihood zone relate to long-term development rather than quick-onset crises. These include the expense of fertilizer, lack of appropriate improved seeds, poor road infrastructure (which affects market access), and the lack of electricity and clean water.

The Sidama-Gedeo Highland Enset and Barley Livelihood Zone covers the highland (*dega*) agro-ecological areas of Sidama and Gedeo Administrative Zones, including parts of

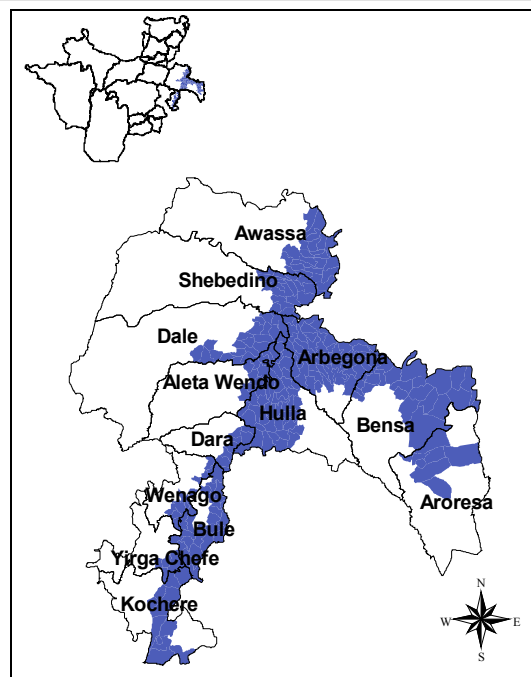
Awassa, Shebedino, Hulla, Arbegona, Bensa, Aroresa, Bule and Kochere woredas. The topography is hilly, with slope percentages ranging from 5-20%. Altitudes range from 2100 – 3200 meters above sea level and this keeps temperatures quite low throughout the year. Vegetation cover is very sparse, and the soil type is mainly clay loam of brown colour. The zone has many permanent streams and rivers, such as the Logita and the Ererte. Population density is moderate compared to the neighboring midland coffee-producing areas, at about 350 people per square kilometer.

The agricultural system is mixed farming. Enset, barley, wheat, horse beans, peas and maize are the main food crops, in descending order of importance. Shallots (locally called *kitel shinkurt*), cabbage (kale) and garlic are the major cash crop in the zone. Although some farmers cultivate by hand, most use animal traction. The main livestock types reared are cattle, sheep, and horses. Most farmers have their own grazing land and generally keep more livestock than in the adjacent livelihood zones. This is partly because of larger landholdings, partly because there are waterlogged areas that can only be used for grazing, and partly because rainfall (and therefore pasture) is relatively plentiful during most of the year. During May and June, the two months when pasture and crop residues are less available locally, there is seasonal migration of livestock to the valleys bordering Arsi and Bale Administrative Zones of Oromiya Region.

The zone has sand and rock mining along the major rivers during the dry seasons and in the months with relatively low rainfall. Woreda officials reported that there is potential for mineral extraction, however this is not currently a major source of income for households living in this livelihood zone.

Apart from the highland area of Arbegona woreda, market accessibility in the zone is poor due to the absence of all-weather roads.

Local casual work is regarded as a humiliating activity in this community. As a result, poor households avoid working locally and instead migrate to neighboring coffee-producing areas at harvest time or to the gold mining area of Shakiso when they need cash income. Better off households use communal labor to cultivate their fields at peak periods, providing food and drink to those who participate.



¹ Fieldwork for the current profile was undertaken in June 2005. The information presented refers to October 2003-September 2004 (Tikimt 1995 to Meskerem 1996 in the Ethiopian calendar), an average-to-above-average year by local standards (i.e. a year of average-to-above-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 2010).

Markets

The road conditions in this livelihood zone are generally poor and this affects market exchanges. Most communities point out that they are far from major urban centres and from tarmac roads and that connections to neighboring woredas are difficult. This means that farmers obtain lower prices for their produce than they might otherwise. There are two local market days every week in most parts of the zone.

The main items exported from the zone are *kocho* (produced from enset), barley, horse beans, shallots, cabbages, garlic and livestock. *Kocho* is sold to the main woreda towns in this and neighboring livelihood zones and to major urban centres like Dilla and even Addis Ababa. Barley and pulses are sold to Dilla, Yirgalem and to local markets. Shallots, cabbages and garlic are sold from woreda market towns to Dilla, Awassa and Shashamene. Livestock follow a similar route, sometimes making it as far as Addis Ababa.

The main items imported into the zone are maize and household items like salt, soap and the like. Maize is supplied to local markets by traders from nearby maize-producing livelihood zones.

Seasonal Calendar

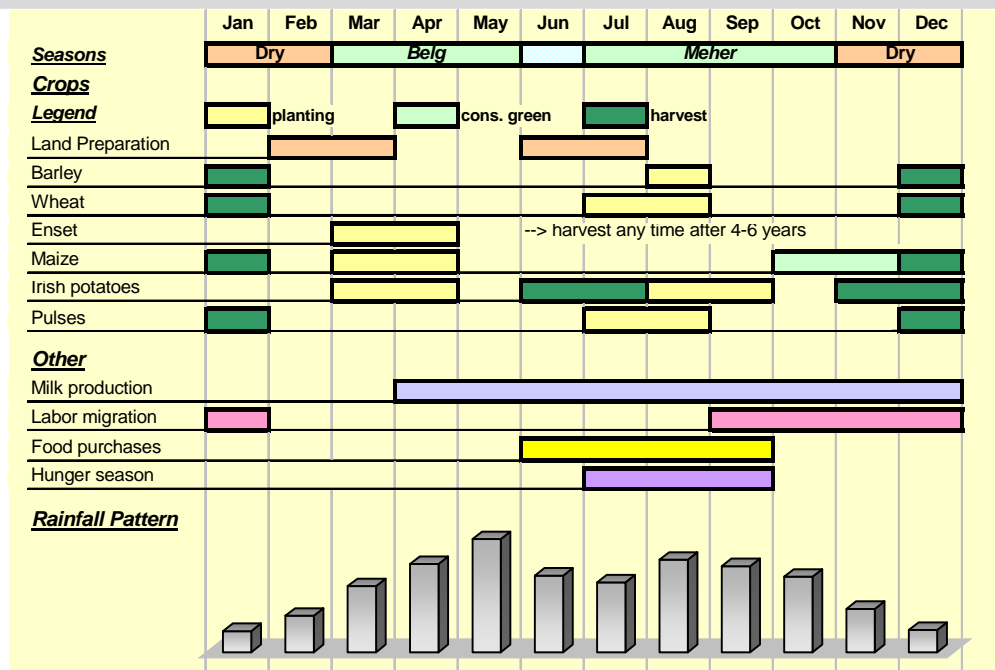
The two rainy seasons are the *belg* rains, which fall from March to May, and the *kremt* rains, which fall from July to October.

There is less rain in June, which is a hot and sunny month.

Maize and enset are planted during the *belg* rains, while barley, wheat and pulses are planted during the *kremt* rains.

The harvest period for most crops is December – January, although enset can be harvested at any time.

The hunger season falls in July to September, the months running up to the start of the green maize harvest. Local agricultural labor is not common in this livelihood zone, but poor households seeking cash migrate to neighboring coffee-producing areas during the September – January harvest period.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

	Wealth Group Information			
	HH size	Land owned	Perennial crops	Livestock
Poor	6-8	0.25 - 0.75 ha	50 - 150 mature enset stems	1-3 cattle; 1-3 sheep; 0-1 horse; 2-4 hens
Middle	8-10	0.75 - 1.25 ha	200 - 500 mature enset stems; 50 - 110 eucalyptus trees	4-6 cattle; 2-6 sheep; 0-2 goats; 1-3 horses; 3-5 hens
Better-off	10-12	1.5 - 2.5 ha	600 - 800 mature enset stems; 100 - 200 eucalyptus trees	8-12 cattle; 4-10 sheep; 0-4 goats; 2-4 horses; 3-5 hens

0% 20% 40% 60%
% of population

Wealth in the Sidama-Gedeo Highland Enset and Barley Livelihood Zone is determined primarily by the area of land and the number of cattle that a household owns. Households that own large areas of land also tend to have large areas planted with mature enset stems, although all households in this livelihood zone have large amounts of mature enset compared to other, less food secure, areas of SNNPR. Livestock holdings are somewhat higher than in neighboring livelihood zones.

Sidama-Gedeo Highland Enset & Barley Livelihood Zone

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households during the period October 2003 – September 2004. October represents the start of the consumption year because that is when the green maize harvest begins, marking the end of the annual hunger season.

The contribution of both own crop production and own livestock production (milk and meat) to annual food requirements increased with wealth. In contrast, food purchases declined with wealth. The main foods purchased were maize, *kocho*, meat and vegetable oil. Households could purchase less *kocho* by harvesting more of their own enset stems, but often they chose to purchase when they had cash in order to reserve their own enset for the future.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

The ‘payment in kind’ category in the sources of food graph above represents the food that poor migrant laborers consumed while they were away from home.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,600-2,100	2,500-3,500	4,000-6,000
Annual income (ETB)	1,600-2,100	2,500-3,500	4,000-6,000

The graph presents the sources of cash income for households in different wealth groups for the period October 2003 – September 2004. The contribution to annual income of crops and livestock increases with wealth. These were the main income sources for all three wealth groups in the reference year.

Poor households supplemented their income from own production with labor migration to neighboring coffee-producing areas at harvest time, earning 400-600 ETB per household from this source in the reference year.

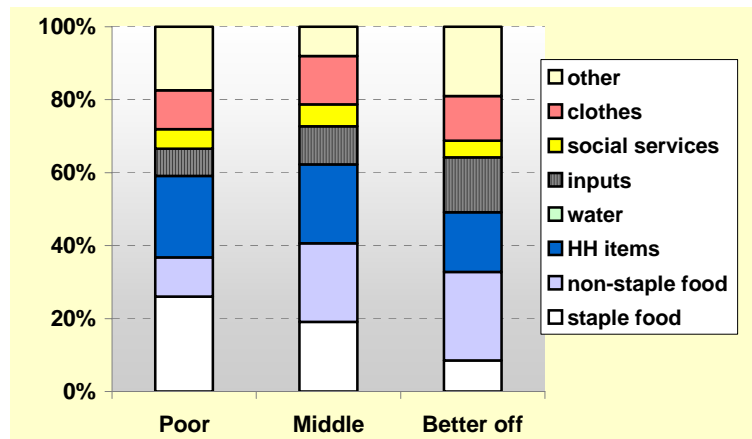
All three wealth groups cultivated the same crops, only in different quantities. The main crops sold included maize, *kocho*, wheat, barley, pulses, shallots and cabbage. Most of the income obtained from livestock product sales was from the sale of butter.

Firewood sales and other forms of self-employment are not common in this livelihood zone

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period October 2003 – September 2004. Expenditure on staple food declined as a proportion of income as wealth increases. All wealth groups spent a relatively small percentage of their income on staple food compared to other livelihood zones in the region.

The category ‘household items’ includes salt, soap and kerosene. ‘Other’ includes tax, social obligations, ceremonies and savings. ‘Social services’ includes spending on education and health. Expenditure on most items (except staple food) increased with wealth in the reference year.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This is a relatively food secure livelihood zone, which has experienced few serious hazards in the past. Rainfall is generally plentiful and reliable. However, **wheat rust** is a problem every year and is causing farmers to reduce the amount of wheat that they plant, replacing it with maize, due to the unavailability of rust-resistant wheat-variety seed. **Bacterial wilt disease** in onset is another hazard that threatens long-term food security.

Response Strategies

Households in this livelihood zone have not developed a wide range of strategies to cope with hazards because the hazards they face are relatively few. However, the common strategies that are available in other livelihood zones are also applicable here and represent the strategies that individual households employ when they face a crisis.

These vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in difficult times. Households can reduce expenditure on clothes, kerosene, meat, ceremonies and other non-staple items.

All wealth groups attempt to expand their food and income sources that are less directly affected by a particular problem. For example, **livestock sales expand** in difficult times. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock, but even for them this strategy has strict limits if the sale of productive animals is to be avoided.

The **increased consumption of enset** is a strategy for all households, but there are limits to this if households are to avoid depleting their reserves and reducing future production.

Labor migration to less affected areas is another possible response strategy, particularly for poor households.

Indicators of Imminent Crisis

Although rainfall is relatively reliable in this livelihood zone, its delay would indicate an impending problem, as would long periods without sufficient rain at critical stages in the agricultural calendar. Other indicators of future difficulties include the delayed provision of or unusually high prices for agricultural inputs at the start of the main *meher* season. The extent of the wheat rust infestation in October – November is also an indicator of future prospects for that crop. Bacterial wilt disease can affect enset at any time and, if unusually severe and widespread, could signal a crisis in the livelihood zone.

Season Month Indicator

Belg season	Mar	Delayed onset or insufficient belg rains (March - May)
	Apr	
	May	
Meher season	Jun	Delayed onset or insufficient krent rains (June - October)
	Jul	Delayed provision and high prices of agricultural inputs (June - July)
	Aug	Unusually high maize prices and low livestock prices (June - October)
	Sep	Widespread wheat rust infestation (October - November)
	Oct	
Dry season	Nov	Delayed green harvest of maize and beans
	Dec	
	Jan	Failure of meher season dry harvest (December - January)
	Feb	

SNNPR Livelihood Profile

Sidama Maize Belt Livelihood Zone

March 2005¹

Zone Description

Once sparsely populated and considered to be food secure, the Sidama Maize Belt has been facing difficulties in recent years due to a combination of interrelated problems. These include population growth, declining landholding sizes, deforestation, land degradation, declining soil fertility, erratic and insufficient rainfall, and dependency on relatively expensive agricultural inputs that require regular and adequate rainfall for production. These problems need to be tackled in a comprehensive manner if increased destitution and food aid dependency are to be avoided. The livelihood zone would benefit from long-term programs to address population growth, deforestation and land degradation; from the provision of appropriate, affordable and timely agricultural inputs; and from short-term emergency relief assistance only in years of poor crop and livestock production. Widespread dry season water shortages in this livelihood zone also need to be addressed.



The Sidama Maize Belt covers the lowest areas of Sidama Administrative Zone, including parts of Awassa, Dale, Aleta Wondo, Dara, Bensa and Aroresa woredas, and most of Boricha woreda. Although described by many officials as lowland or *kolla*, it technically falls into the borderline area between the *kolla* and *woina dega* agro-ecological zones, with altitudes in the range of 1400 – 1700 meters above sea level. Average annual rainfall is in the range of 700-1200mm per year and falls during two rainy seasons, the *belg* and *kremt* rains (see seasonal calendar on next page).

The landscape varies between undulating hills and plain. As recently as one generation ago, the area was covered by acacia forest, but these days it is increasingly bare. Very few rivers cross this livelihood zone, so the population largely depends on man-made ponds and shallow wells for water for both humans and livestock. These tend to dry during the period December - February, making water availability a major problem.

Farmers describe themselves as *belg*-dependent, since the *belg* rains in March – April are key for the production of maize, the main crop, which is planted only once per year. Other food crops such as haricot beans, sweet potatoes and teff can be planted twice per year, during each rainy season. When the *belg* rains are poor and maize production fails, farmers intensify the area planted with these short-maturing crops during the subsequent *meher* season in order to compensate for the lost maize. Enset is grown as a perennial food crop in most parts of the livelihood zone, but it is less important here than in the neighboring midland and highland areas of Sidama. The main cash crops vary from one part of the livelihood zone to another, but include coffee, chat and chilli peppers. Land preparation methods include both hand cultivation and, for some better off households, plowing with oxen.

Livestock are important and cattle, goats and donkeys are the main livestock types reared in the Sidama Maize Belt. Cattle and goats are often kept in the lower and more remote areas of the livelihood zone, where pasture and browse are more readily available. Donkeys are essential for the transport of water and firewood and for trading.

Market access is relatively good in this livelihood zone, as it is bordered to the east by a major tarmac road and the feeder roads are mostly of all-weather quality. In addition, major urban markets for crops and livestock are relatively nearby. There is no tradition of labor migration out of this livelihood zone and poor households tend to find casual work locally in most years. This work includes agricultural labor, enset processing, and the collection of water and firewood for better off households. However, compared to the neighboring midland coffee livelihood zone, poor households in the maize belt were inactive in the reference year, only working when they had to, which was primarily when their own crops and food aid were unavailable.

¹Fieldwork for the current profile was undertaken in February 2005. The information presented refers to the consumption year from July 2003 to June 2004 (or Hamle 1995 – Sene 1996 in the Ethiopian calendar), which was a relatively average year by local standards (i.e. a year that was neither especially good nor especially bad in terms of 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 2010).

Markets

Market access in the Sidama Maize Belt is generally good due to the proximity of a tarmac road, all-weather feeder roads and nearby major urban centres. There are numerous local markets spread throughout the zone.

In years of average or good production, maize is exported from the livelihood zone through local traders to nearby towns and livelihood zones and to Awassa. Coffee is sold 'wet' to cooperatives and private pulpers or 'dry' to private traders. Its ultimate destination, after processing, is the central coffee market in Addis Ababa. Chat is purchased by traders and taken in the direction of either Moyale/Borana or Awassa/Addis Ababa. Chilli peppers are grown in the maize belt areas of northern Boricha and Awassa woredas. The main markets for peppers are Awassa and other major towns, including Addis Ababa.

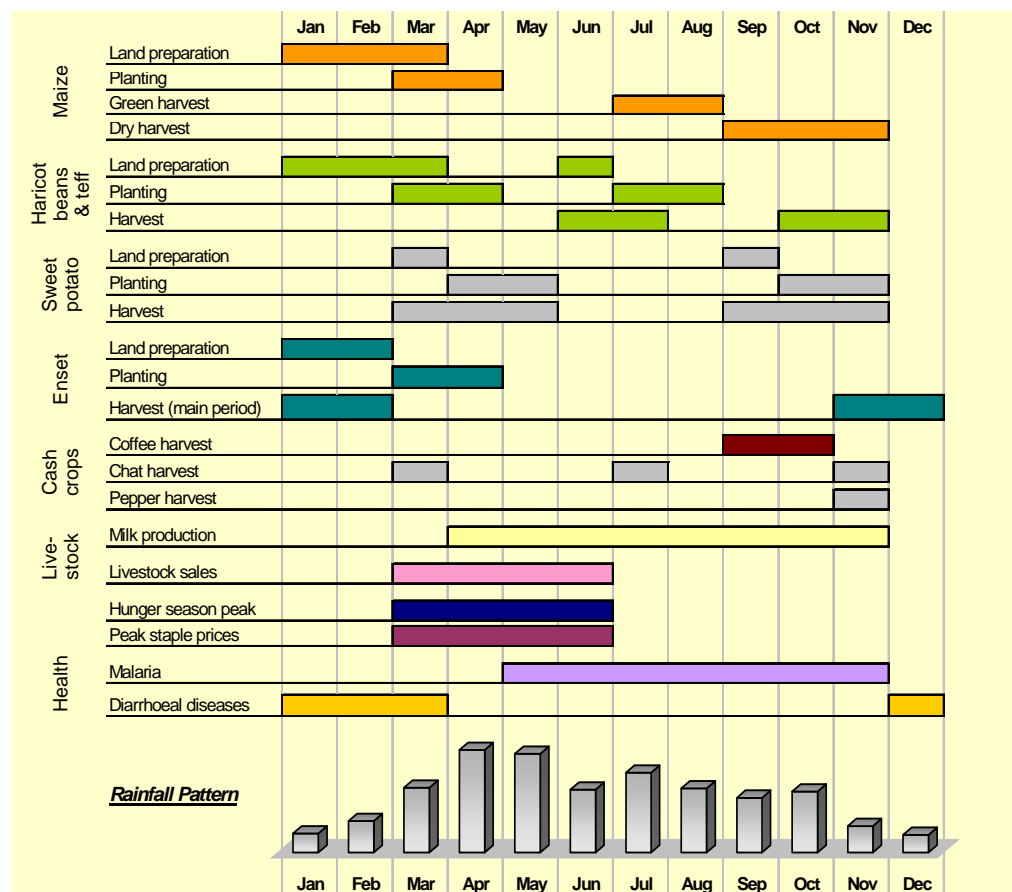
The markets for livestock from this livelihood zone include the woreda towns and the nearby regional urban centres of Awassa and Dilla. Livestock products like milk, butter and eggs are mostly sold in local markets for local consumption.

Staple food is imported into the livelihood zone in bad years, when traders bring maize from the major maize producing areas of Alaba, Shoa, and Oromiya via Shashamene, Awassa and the main woreda towns. Maize prices generally fluctuate from about ETB 80-100 per quintal during normal years to about ETB 150 in bad years.

Seasonal Calendar

The two rainy seasons are the *belg* rains, which fall from late February – May, and the *kremt* rains, which fall from late June to early October. Most land preparation work occurs in the months before the start of the *belg* rains and most crops are planted with the start of the rains². Maize and haricot beans are generally intercropped.

Although enset planting and harvesting periods are marked in diagram below, enset takes 4-6 years to mature. While it is often eaten before full maturity, it is not possible to plant an enset stem and eat from it within the same agricultural year. This is also true for coffee, which is planted in the *belg* season, but takes 3-4 years to reach maturity



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

and can then yield berries for decades.

The hunger season and staple food prices peak in the months running up to the start of the green maize harvest. This is also the main period for livestock sales, since households need cash during these months to purchase food.

Malaria occurs throughout the year, but is worst from May to November. Due to the shortage of water in this livelihood zone during the dry season, diarrhoeal diseases are most common from December – March.

² Maize is planted slightly later in Awassa woreda and the northern part of Boricha woreda (April) than in other parts of the Sidama Maize Belt (March). Harvests are also slightly later in these woredas.

Wealth Breakdown

	Wealth Group Information		
	HH size (per wife)	Land area owned	Livestock
Very poor	5-7	0.25 ha	0 cattle, 0-2 shoats, 0 donkey
Poor	5-7	0.25 - 0.5 ha	1-2 cattle, '2-6 shoats, 0-1 donkey
Middle	6-8	0.75 - 1.25 ha	3-9 cattle, 2-7 shoats, 1 donkey
Better-off	8-12	1.5 - 2+ ha	10-20+ cattle, 5-15 shoats, 1-2 donkeys

0% 20% 40%
% of population

Wealth in the Sidama Maize Belt is determined primarily by the number of cattle owned and the land area owned (and cultivated). Other characteristics (such as the number of goats, sheep or donkeys owned or the type of housing inhabited) tend to result from these more basic characteristics. There is little difference between land areas owned and cultivated in this livelihood zone since it is uncommon for households to rent or sharecrop land.

Very poor and poor households own and cultivate limited land areas and have limited access to improved seeds and fertilizer. The main distinguishing feature between very poor and poor households is ownership of cattle and other livestock, with very poor households rarely owning any livestock at all.

Better off households tend to be larger than other types of household for two reasons. First, they can support more people and therefore tend to attract relatives from poorer households. It is quite common for very poor or poor households to send a child to live with, and work for, their better off relatives. In this way, better off households are able to send their own children to school and still have enough labor around the house for cultivation, enset processing (which is very labor intensive), and fetching firewood and water. Second, better off households tend to be more 'mature', which means that the household head tends to be older, has had more time to accumulate large numbers of children and may be polygamous. Very poor and poor households, in contrast, are often younger families that started off with small landholdings when their parents' land was subdivided.

Sources of Food – An average year (2003-04)

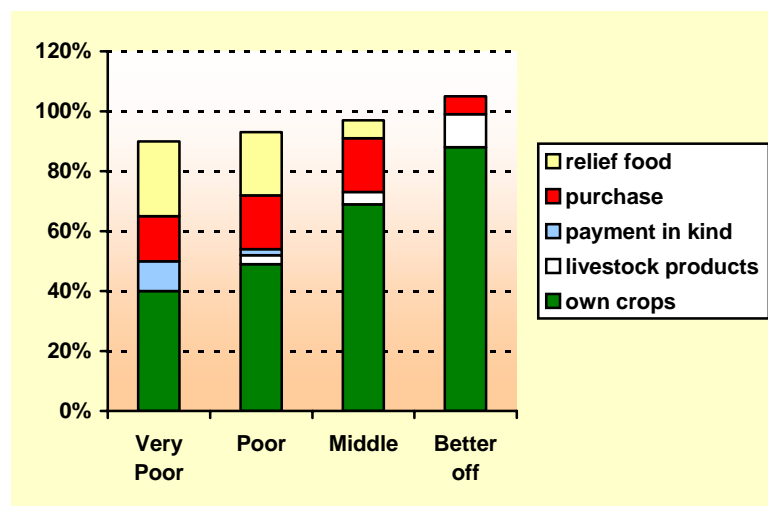
The graph presents the sources of food for households in the Sidama Maize Belt for the period July 2003 – June 2004. Food is presented as a percentage of 2100 kilocalories per person per day for the 12-month period starting with the 2003 green harvest. In most areas of the livelihood zone, this was a fairly average year.

The contribution of own crop production increased with wealth. Very poor households obtained 35-45% of their food needs from their own production, whereas better off households obtained 85-95% in the reference year. The contribution of livestock products (primarily milk) also increased with wealth.

In contrast, the contribution of relief food decreased with wealth, which suggests that targeting is working to a certain extent.

What was surprising, however, was the large amount of relief food that was distributed in the reference year, which was not a particularly bad year. The main explanation for this was that the previous year (2002-03) was a very bad year and some of the relief was distributed with the aim of 'recovery'.

Households made up any gap in food through a combination of purchase and labor exchange (which means working directly for food). Maize was the cheapest source of purchased calories and made up the bulk of purchases for very poor and poor households, supplemented by small quantities of *kocho* (processed enset) and haricot beans. Labor exchange was more common for very poor than for poor households and generally took the form of meals paid to



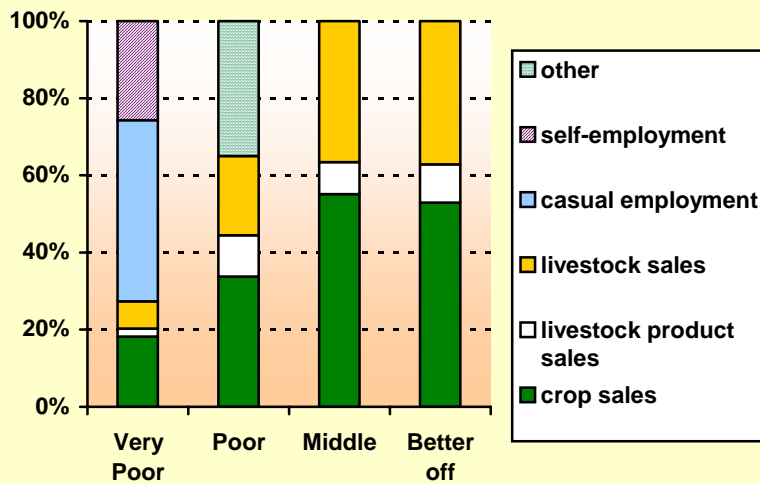
Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

laborers on the days that they worked for the better off. Indeed, for many very poor households, the meals were as important as the cash payment at the end of the working day.

Very poor and poor households are unable to fully cover 100% of their minimum food energy needs in most years.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



The graph presents the sources of cash income for households in different wealth groups in the Sidama Maize Belt for the period July 2003 – June 2004.

Very poor households earned roughly ETB 800-900 in the reference year, compared to ETB 3500-4800 for better off households.³ In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a very similar pattern of income sources, their actual income levels varied quite significantly, with middle households earning less than half that of better off households.

Very poor households obtained the bulk of their cash income from casual labor and firewood sales ('self-employment' in the graphic). Casual labor was obtained locally from better off

households and included agricultural labor, enset processing, and firewood and water collection. Firewood sales were a separate income source, with the firewood often obtained from distant locations and transported manually or on a borrowed or rented donkey. Poor households also obtained income from these sources, but the actual source (casual labor versus firewood) varied from one household to the next and has been categorised under 'other' in the graphic above.

Some households in each wealth group engage in trading activities (larger or smaller scale depending on the wealth group). However, in no wealth group was this a common enough activity to include in the general pattern of cash income sources for the reference year.

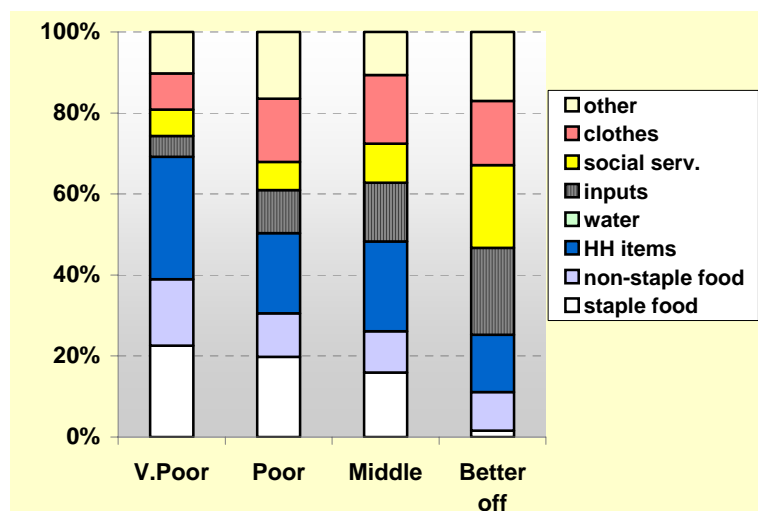
Expenditure Patterns – An average year (2003-04)

The graph presents the expenditure patterns of households in the Sidama Maize Belt for the period July 2003 – June 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food.

The category 'household items' includes salt, soap, grinding and kerosene. 'Other' includes tax, social obligations, ceremonies, investment in livestock and savings. Expenditure on most items increases with wealth.

The category 'social services' includes spending on education and health. Better off households spend a large proportion of their income on schooling, and are the only wealth group that can afford to send

children to schools outside the livelihood zone. Although primary schools are reasonably accessible within the livelihood zone, high schools are only available in the main woreda towns and this requires spending on accommodation and food in addition to the expected fees and stationery. Most households cannot afford this. Indeed, even primary schooling is beyond the means of most very poor households, who tend to only send one or two of their



³ In US dollars, poor households had an annual income of roughly \$100, whereas better off households had an annual income of roughly \$500. The exchange rate was about US1 = ETB 8.65 in February 2005.

children to school.

Expenditure on agricultural inputs varies significantly by wealth group. Better off households can afford improved seeds, fertilizer (DAP and urea), and livestock drugs. They may cultivate using plow oxen and can afford to employ labor during the peak agricultural seasons. Very poor and poor households, in contrast, mainly use inferior seeds⁴ and cannot afford adequate quantities of fertilizer.

Hazards

The main hazard that affects the zone is **drought**, which results in crop failure and increased staple food prices. Drought used to be an irregular occurrence in this livelihood zone, but has recently become quite common, occurring every other year since 2000. **Livestock diseases** are a chronic hazard, with trypanosomiasis leading the complaints of farmers in all areas of the livelihood zone except Boricha and Awassa woredas. **Malaria** during the rainy season and **water shortages** during the dry season are another two chronic complaints that affect health and labor availability at household level.

Response Strategies

When faced with reduced crop production as a result of drought, households in this zone have a number of response strategies. These strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies such as the intensified cultivation of teff and haricot beans during the *meher* season.

One strategy that is commonly employed in bad years is to **reduce non-essential expenditure**. Households reported reducing expenditure on clothes, grinding, kerosene and other non-staple items in bad years.

All wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, **livestock sales expand** in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock.

Migration of individual household members in search of employment outside the livelihood zone is a strategy for poorer households in bad years. Women tend to migrate with their children to the main enset-producing areas and work in return for meals. The success of this strategy partly depends on the extent to which neighboring zones are also affected by the hazard (or a different hazard) in a particular year. For very poor and poor households that don't migrate to other livelihood zones, intensified firewood sales is the main response strategy.

Relief food has been used as a response strategy by outside organizations. However, this strategy, if used excessively, may have potentially negative effects in terms of destroying the community's own efforts to respond to crises. Furthermore, this type of response does not offer solutions to the real problems of the zone, which require longer-term strategies.

Indicators of Imminent Crisis

The main early warning indicators include a delayed start to the rainy season or long periods without rain at critical stages during the rainy season. If these are followed by some of the indicators mentioned in the dry season section, then serious consequences can be expected at household level.

Season	Month	Indicator
Belg season	Mar	Delayed start of rainy season
	Apr	Long periods without rain at critical stages in rainy season -->
	May	
	Jun	
Meher season	Jul	Delayed start of green maize harvest
	Aug	High staple food prices during and after harvest -->
	Sep	
	Oct	
Dry season	Nov	High staple food prices during and after harvest
	Dec	Increased livestock sales and low livestock prices after harvest
	Jan	Migration of women to main enset-producing areas to work
	Feb	

In terms of longer-term indicators, villagers expect the main *belg* season to be good or bad depending on when the previous *kremt* rains ended. If the rains ended in October, then people expect the next *belg* to be good. If they ended in November-December, then they expect the next *belg* to be poor.

SNNPR Livelihood Profile

South Omo Crop Livelihood Zone

September 2005¹

Zone Description

The South Omo Crop Livelihood Zone is a food secure area of SNNPR that supplies neighboring pastoral and agro-pastoral livelihood zones with cereals, particularly maize. It includes Gelila and Bako Gazer woredas of South Omo Administrative Zone and is bordered to the west by the Mago National Park, to the south by pastoralist groups, to the north by the Basketo-Melo Coffee Livelihood Zone and to the east by Gamo Gofa Administrative Zone. The Ari ethnic group lives in this area.

Altitudes range from 1300 – 2800 meters above sea level, but the majority of the population lives in midland (*woina dega*) areas. These areas are now widely settled and cultivated, with only scattered trees remaining. The highland (*dega*) areas of the zone are relatively sparsely populated and forested. Most of the highland kebeles are inaccessible, due to a lack of feeder roads.

Rainfall in this livelihood zone is bi-modal, falling during the *belg* and *kremt* rainy seasons, and is relatively plentiful and reliable compared to many other parts of the region.

The livelihood pattern is mixed farming. The main food crops are maize, barley, enset, beans, yams, sweet potatoes, sorghum, taro and cassava. In addition to selling some of these food crops, middle and better off households produce and sell some coffee. All crop production is rainfed and coffee, enset and mangoes are often intercropped. Those who own oxen use them for plowing their fields, while those who do not generally work for others in exchange for oxen usage. Cattle, sheep and horses are reared in this livelihood zone.

The vast majority of households produce enough staple food for their annual requirements in most years. Staple food purchase is minimal, even by poor households. Households obtain their cash income from crop, livestock and livestock product (mainly butter) sales, supplemented by a small amount of casual work or firewood sales in the case of the poor.



Markets

Market access is good throughout the year for households living in Bako Gazer woreda. In addition to the main markets at Jinka and Gazer, there are numerous markets at kebele level scattered throughout the woreda and connected by all-weather roads. The situation is different in Gelila woreda, particularly during the rainy season, as many of the roads in this woreda are dry-weather only. The main markets in this woreda are Aykesimi and Arfaro.

In addition to the urban population of these two woredas, there is plenty of demand for the crops produced in this livelihood zone from nearby agro-pastoralists and pastoralists. The livelihood zone includes the main market centres for these populations, where crops and livestock are sold and exchanged.

¹Fieldwork for the current profile was undertaken in September 2005. The information presented refers to July 2003-June 2004 (Hamle 1995 to Sene 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

Seasonal Calendar

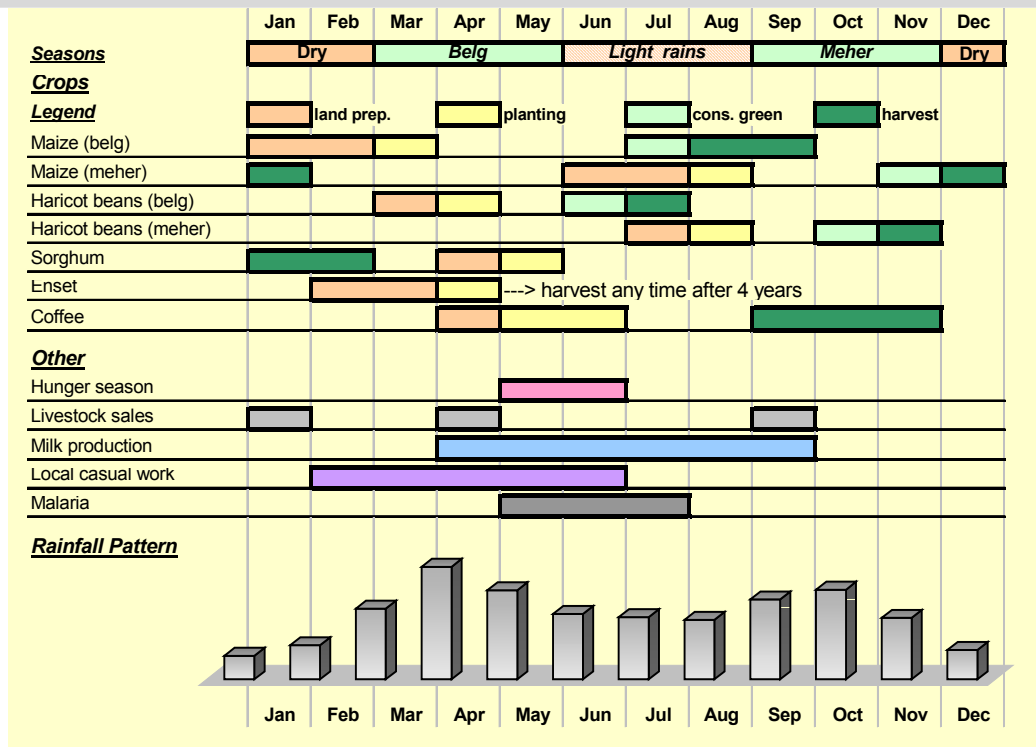
The two rainy seasons are the *belg* rains, which fall from March to May, and the *kremt* rains, which fall from September to November. Some rainfall also occurs in June – August, but this period is usually known for light rainfall. Maize and haricot beans are cultivated twice per year, while most other crops are only planted once.

To the extent that there is a hunger or ‘lean’ season in this food secure zone, it occurs in May and part of June, before green maize and green

haricot beans become available. This is when some households may have to purchase food. Harvest periods are scattered throughout the year and enset can be harvested at any time.

Most local casual work occurs in the period February – June (land preparation and planting work) but this is not a very common practice in this livelihood zone. Livestock are sold throughout the year, but particularly during the months of high demand (because of holidays).

Malaria peaks in the months of May to July, affecting health and labor availability at household level.



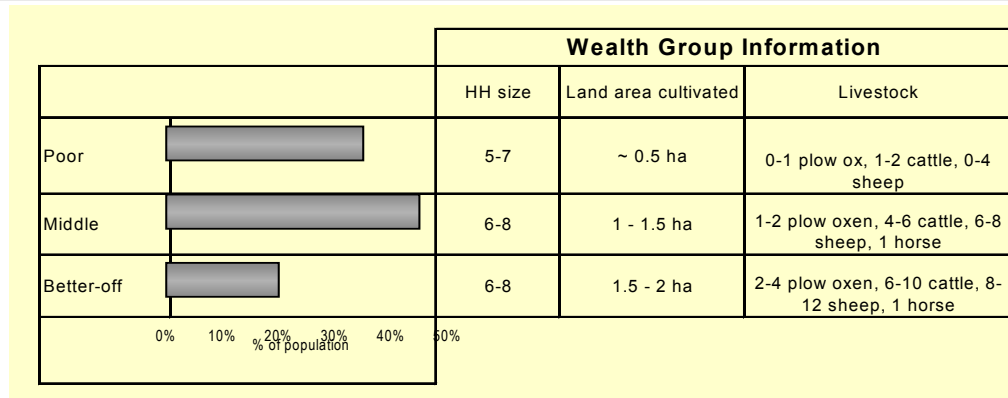
haricot beans become available. This is when some households may have to purchase food. Harvest periods are scattered throughout the year and enset can be harvested at any time.

Most local casual work occurs in the period February – June (land preparation and planting work) but this is not a very common practice in this livelihood zone. Livestock are sold throughout the year, but particularly during the months of high demand (because of holidays).

Malaria peaks in the months of May to July, affecting health and labor availability at household level.

Wealth Breakdown

Wealth in the South Omo Crop Livelihood Zone is determined by a combination of land and livestock holdings. Oxen are particularly important indicators of wealth because they enable households to cultivate large areas of land.

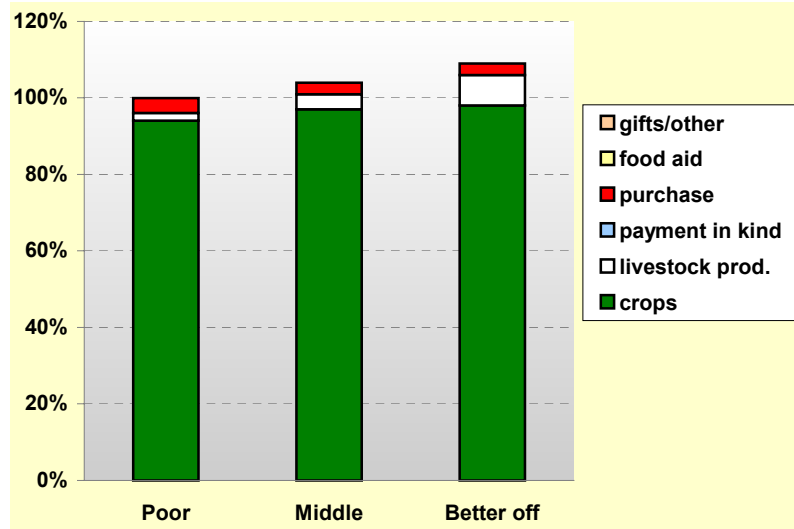


Even if a household does not own much land, it can rent in land from other households provided it owns oxen. There is a practice of land renting or sharecropping in this livelihood zone and the land areas mentioned above reflect this. Poor households typically rent out about a quarter of a hectare to better off households, usually in return for a share of the crop rather than for cash. If the better off household provides all inputs and labor, then they usually retain two-thirds of the harvest. If the poor household provides some of the labor, then the split is usually equal.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the South Omo Crop Livelihood Zone for the period July 2003 – June 2004. July represented the start of the consumption year because this is when the green maize harvest started, marking the end of the annual ‘lean’ season.

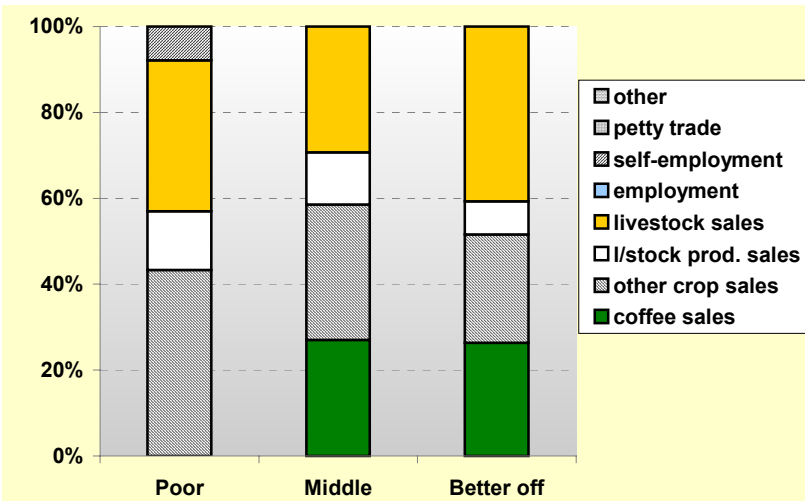
The contribution of own crop production increased slightly with wealth, but in general terms most households were self-sufficient in staple food. Only some poor households purchased very small quantities of staple food in the reference year. All households purchased meat and vegetable oil.



The contribution of own livestock production (milk and meat) is small, but increased with wealth because richer households typically have a larger number of milking animals.

Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



The graph presents the sources of cash income for households in different wealth groups in the period July 2003 – June 2004. The sale of cash crops (mainly coffee), food crops (mainly maize), livestock (cattle and sheep) and livestock products (butter) were the main cash income sources for all three wealth groups.

Poor households supplemented their income from own production with small amounts of firewood sales or casual work for better off households.

Better off households earned almost four times that of poor households in the reference year.

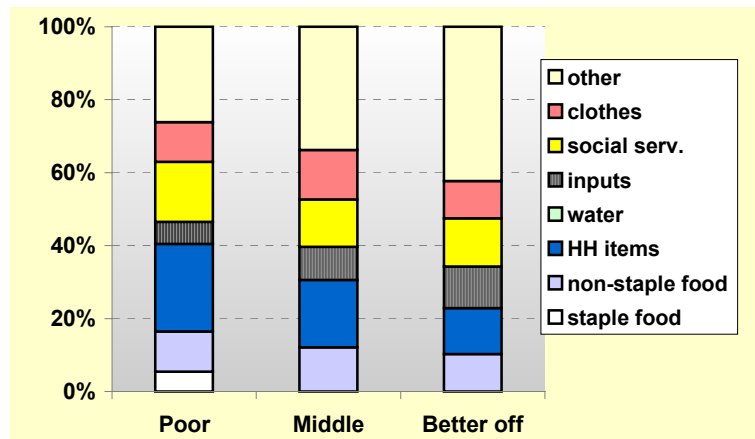
The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	700-1,100	2,000 – 2,500	3,000-4,000

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for different wealth groups in the reference year. Only poor households spent small amounts of money on staple food in the reference year. Expenditure on all other items increased with wealth, at least in absolute cash terms.

The category 'household items' included salt, soap, kerosene and grinding. 'Other' included tax, social obligations, ceremonies and savings. The category 'social services' included spending on education and health. 'Inputs' included livestock drugs, seeds and a small amount of expenditure on casual labor (only for the better off).



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This is a relatively food secure livelihood zone, which has experienced few serious hazards in the past and has not received relief assistance. Rainfall is generally plentiful and reliable. However, the following hazards are worth noting:

Livestock diseases: Diseases like trypanosomiasis, blackleg and anthrax affect livestock in the livelihood zone, reducing milk production, causing deaths and forcing households to spend money on livestock drugs.

Crop pests: Birds can be a problem at harvest time, particularly for sorghum.

Delayed or excessive rainfall: Although unlikely to have the same impact as a drought in many other parts of SNNPR, delayed rainfall forces farmers to plant late (or to replant) and therefore delays the harvest period, stretching the 'lean' season. At harvest time, excessive rain can damage crops and reduces overall production levels.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards that reduce their food or cash income. These vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in difficult times. Households reported reducing expenditure on clothes, kerosene, meat, ceremonies and other non-staple items.

All wealth groups attempt to expand their food and income sources that are less directly affected by the hazard. For example, **livestock sales expand** in bad years. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock.

Poor households seek out **more local casual work or sell more firewood** in bad years. Daily wages and firewood prices are often lower in bad years, so this means that able-bodied households members have to intensify the number of days per week that they work.

The **increased consumption of enset** is a bad year strategy for all households, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production.

Indicators of Imminent Crisis

Although rainfall is reliable in this livelihood zone, its delay would indicate a delay to the green maize and bean harvests and a lengthening of the hunger season. A period with excessive rain at critical stages in the agricultural calendar can also reduce yields. Other indicators of reduced food or cash income include low coffee prices and crop pests.

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Belg season	Mar	Delayed start of rainy season
	Apr	
	May	
Light rains	Jun	Delayed green haricot beans harvest
	Jul	Delayed green maize harvest
	Aug	Excessive rain during dry maize harvest
Meher season	Sep	Excessive rain during dry maize harvest
	Oct	Low coffee prices
	Nov	Low coffee prices
Dry season	Dec	Birds destroy sorghum harvest
	Jan	
	Feb	

SNNPR Livelihood Profile

South Omo Pastoral Livelihood Zone

August 2005¹

Zone Description

The South Omo Pastoral Livelihood Zone is a remote, livestock-dependent area, inhabited by five tribes: the Hamer, Mali, Benna, Tsamay, and Erbo. The zone is found in the basin of the Rift Valley, bordered to the east and west by the Kuttume Mountains. It stretches through parts of four neighboring woredas of South Omo Administrative Zone: Bakogazar, Bannatsamay, Hamer and Kuraz. The zone is crossed by the Waito River and numerous dry seasonal rivers that originate in the Kuttume Mountains and drain down to the valley basin in the wet season.

This livelihood zone is distinguished by its *bereha* (semi-arid rangeland) climate, with low and erratic annual rainfall, low altitudes and warm temperatures. Temperatures range from 16 C⁰ in the coolest months of the year (April – early June) to 30 C⁰ in the hottest months (January – late March). The soils are

predominantly sandy in the valley basin. The soil texture grows increasingly stony towards the mountains, gradually gaining slope and leaving pastoral farming in the valley basin. The vegetation is a complex mix of acacia trees, bushes and shrubs that are common in lowland areas of Ethiopia (including Somali and Afar Regions).

The mountains surrounding this livelihood zone have dangerous slopes and this renders them of little use for grazing purposes, particularly for large ruminants, and also limits farming to the valley plains. The rainfall shed from the mountains provides seasonal gravity irrigation to crops in the valley basin. However, although currently small, an increasing number of gullies can threaten future production if left uncurbed. As the number and the depth of these gullies grow, they tend to drain out water that previously would have been spread widely, resulting in moisture stress for crops and pasture.

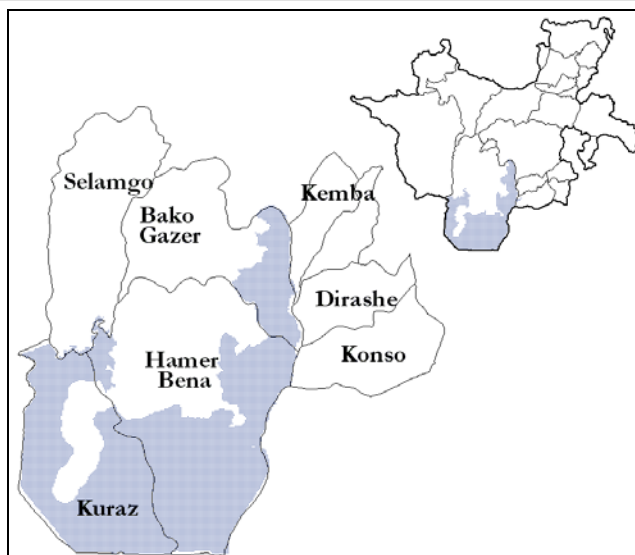
The livelihood zone is sparsely populated. Most villages are located at the foot of the mountains in relatively elevated positions in order to minimize exposure to malaria, the main killer disease in the livelihood zone.

The main rainfall and production season stretches from March to June. Although the rains are normally characterized by poor intensity and erratic distribution, they enable pastoral households to grow small quantities of sorghum and maize.² The showers that occur in September – November are important only for the regeneration of browse for goats (not for crop production and grazing).

The main livestock species reared in this livelihood zone are goats, cattle and sheep, in that order of importance. Donkeys are used as pack animals, providing transportation in rural areas. A traditional and extensive livestock rearing system is practiced in the livelihood zone.

The main food sources for households in this livelihood zone are market purchase, livestock products (milk, meat and blood) and own crops. Various varieties of wild foods are also consumed, both in normal and bad years, across all months of the year. Livestock and livestock product sales generate the bulk of cash income, supplemented by honey sales. Cash crop production and casual work are relatively unknown cash income sources in this livelihood zone.

Migration patterns are different in normal years and bad years. In normal years, livestock movements start in early July and livestock generally stay near their areas of origin. In bad years, however, they migrate to different grazing areas



¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to April 2003-March 2004 (EC Miazia 1995 to Megabit 1996), a below average 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 2010).

² A small number of Hamer woreda pastoralists grow crops twice a year: once during the rainfed season that is common throughout the livelihood zone and again along the banks of the Waito River later in the year using flood recession cultivation.

both inside and outside the zone livelihood zone, including towards the Waito River, Mago National Park and areas near Borana. During such years, migration often starts before the end of the usual rainy season months.

The causes of acute food insecurity in this livelihood zone include drought and market shocks. The latter tend to occur when there is crop failure in the neighboring agricultural and agro-pastoral livelihood zones, which results in increased cereal prices for pastoralists. A number of human diseases (including malaria, respiratory infections and water-borne diseases) and livestock diseases (including trypanosomiasis, pasteurolosis, blackleg and anthrax) also periodically cause problems in this livelihood zone, reducing labor availability at household level and livestock production.

Markets

Market access is generally poor in this livelihood zone, characterized by poor and thinly distributed roads, a lack of transportation and market information, and long distances to major markets. As a result, the prices of the goods that households sell tend to be low and the prices of the goods that they purchase tend to be high.

The main markets in the livelihood zone are located at Dimeka, Key-Afer and Beraile. While the first two are *woreda* towns, the third is at *kebele* level. There are also important markets outside the livelihood zone, particularly in Jinka and Kakko. These weekly markets act as outlets for livestock sales and inlets for the purchase of food and essential non-food items for pastoralists. Kebele-level markets, in contrast, serve more of a social function than an economic one, acting as a place for people to gather (usually with drinks they have brought themselves), socialise and share information. The purchase and exchange of cereals, livestock and livestock products at these small markets is limited.

There are three main trade routes for livestock. The first trade route for both cattle and goats originates in Key-Afer and travels through Konso and Arba Minch, sometimes reaching Nazareth and Addis. The second route was developed more recently and involves exporting cattle from Key-Afer through Konso to Moyale. The final trade route starts at Key Afer, passes through Jinka, and ends in Goffa.

Butter and honey are important income sources for pastoralists. These are marketed through Key-Afer to Jinka. Poor processing and handling during production result in quality problems and extremely low prices.

Imported items, such as sorghum, maize and essential non-food commodities, are supplied from Jinka market through Key-Afer. The cereals originate from the South Omo Farming Livelihood Zone (in Gazar and Gelila woredas) and from Arba Minch, particularly in bad years. Coffee husks (*shuforo*) are another major expense for all households and they are supplied from Hagare Mariam in Oromiya Region.

A barter exchange system (livestock for cereals) is widely practiced in the livelihood zone, increasing in application during bad years and worsening the terms of trade for pastoralists. This is a reflection of the poorly developed market in the area.

The poor state of road infrastructure (only dry-weather roads), combined with scarce transport services, leads to extreme fluctuations in prices seasonally. Particularly during the hunger season, pastoralists face high prices for cereals and obtain low prices for their livestock and livestock products. The absence of large-scale traders of local origin to facilitate the inflow of basic staple cereals and the outflow of livestock and livestock products is an important constraint. Even the district-level traders that are locally considered to be large-scale lack financial capital and storage facilities.

Seasonal Calendar

The heaviest rains of the year usually occur in April – May, with some showers in June to mark the end of the season. The performance of these rains determines the success of both livestock and crop production for the year. The September – November rains are usually less intense and poorly distributed. They are therefore less important and crops are not planted in this period. However, they are important for the regeneration of livestock feed, particularly browse for goats, the dominant livestock species in this livelihood zone.

The main calving period is in March, at the start

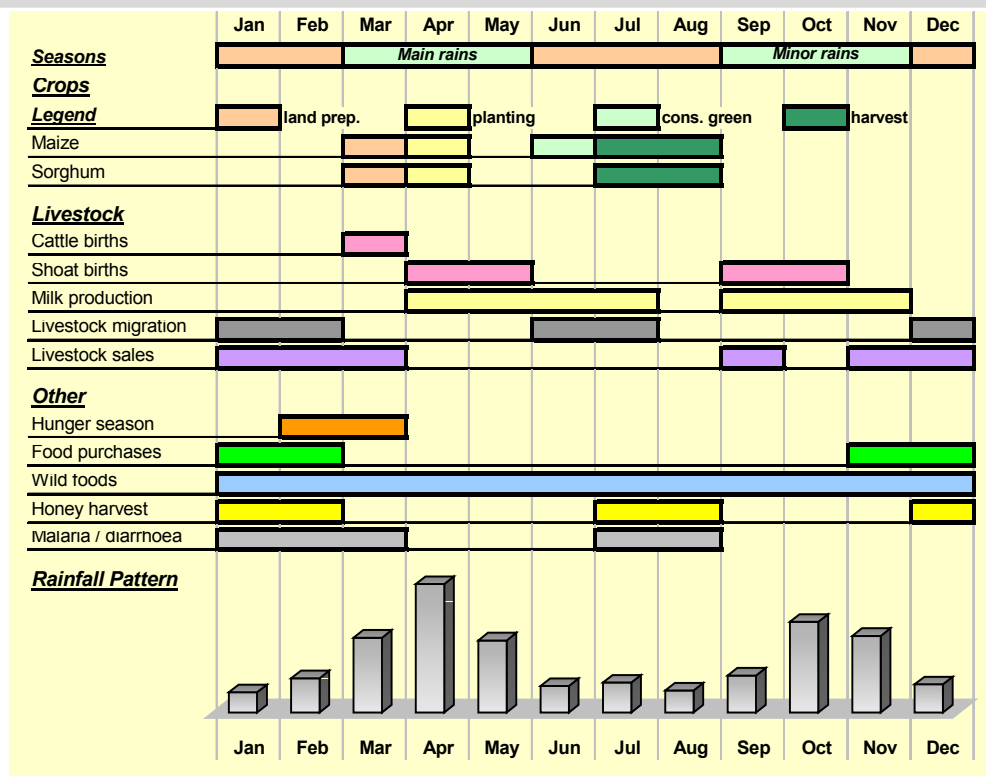
of the main rains. Milk production generally begins in early April and continues consistently to the first month of the short dry season, when it declines. Production levels rise again during the September – November rains. Goats and sheep are born in two main periods: those that were conceived during the main rains are born during the following minor rains and vice versa. When the rains are adequate, livestock do not migrate far from the home settlements. During drought years, however, they migrate to the Waito River, Mago National Park and areas closer to Borana, usually during December – February and June – July.

Land preparation for crops occurs in March, with planting of maize and sorghum in the following month. There is no inter-cropping and plow oxen are used for preparing the land for planting. The green maize harvest starts in June and the dry harvest of both crops occurs in July – August. The dry harvest of maize is usually small because much of the crop is eaten green and because it is planted in smaller quantities.

The hunger or 'lean' period of the year is determined by the timing of livestock production rather than by crop production and occurs in the months leading up to the main rains, when food for both humans and livestock is in short supply. Households tend to purchase food in the months leading up to this period, with income from the sale of livestock. Although livestock are sold throughout the year, the main period for livestock sales is November – February, with January – February being the most important period for sales. Sales decline in March because prices tend to be low, both because of the oversupply of the previous months and because livestock body condition is poor at the end of the long dry season. Many pastoralists also sell livestock in September, but these are market-driven sales rather than need-driven, because demand and prices are high throughout Ethiopia at that time of year (due to the Meskel festival).

Wild food consumption occurs throughout the year, with households gathering and consuming various wild leaves, seeds and fruits. Honey is harvested during the dry seasons and particularly in July – August and December – February.

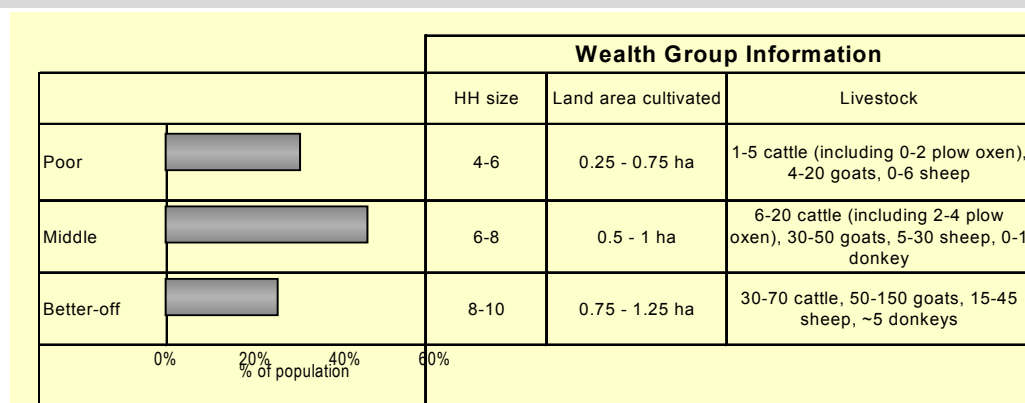
Malaria is the most problematic human disease in this livelihood zone and can occur throughout the year. However, although mosquitoes breed during the wet season, the disease peaks during the dry seasons. Diarrhoea also peaks during the dry seasons, when sanitation and personal hygiene deteriorate due to reduced access to water.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

Wealth in the South Omo Pastoral Livelihood Zone is determined by livestock holdings, particularly goat and cattle holdings. Other factors, such as the area of land that a household owns and cultivates, are secondary to this.

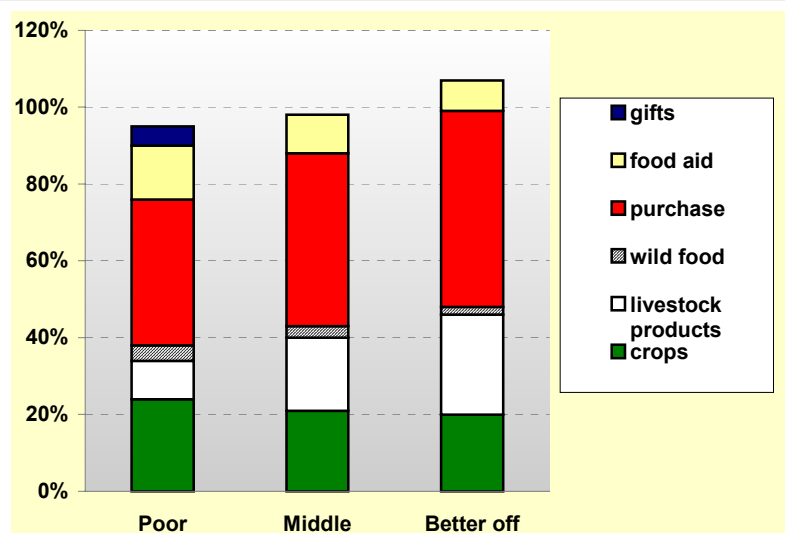


The basic household asset and insurance against food shortages in this livelihood zone is livestock. Poor households are caught in a cycle that leaves them with small herds that provide little protection from food insecurity when hazards strike. If a few satisfactory years occur in succession (unusual in recent years), herd growth occurs. However, increased livestock mortality during drought, combined with increased livestock sales to finance essential food and non-food items, depletes the herd again and offsets the small gains made during good years.

Sources of Food – A below average year (2003-04)

The graph presents the sources of food for households in the South Omo Pastoral Livelihood Zone for the period April 2003 – March 2004, which was a below average year. April represented the start of the consumption year because that was when milk production during the main rainy season started, marking the end of the annual hunger season.

Unusually, the contribution of own crop production decreased slightly with wealth in the reference year. This was partly because household sizes increase significantly with wealth and partly because middle and better off households spent more time tending their livestock than their crops, whereas the poor had more time for this activity. The main (indeed the only) crops were sorghum and maize.³



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

The contribution of livestock products (milk, butter, meat and blood) increased with wealth and was large compared to many livelihood zones in SNNPR, as one would expect when comparing a pastoral zone with mixed farming zones.

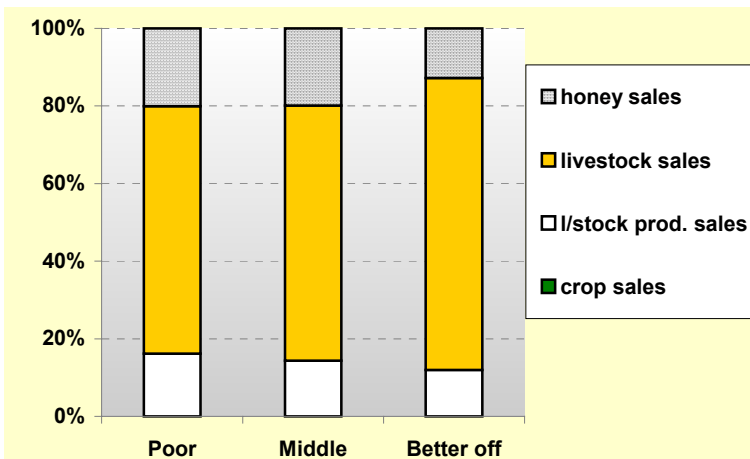
The percentage of food purchase was large and fairly similar across wealth groups. The main foods purchased were sorghum and maize.

All households received food aid in the reference year and collected and consumed wild foods, mainly wild green leaves, seeds and fruits. In addition, poor households received gifts of cereals from better off households.

³ There is some variation in the importance of these two crops. For the Hamar and Tsamay pastoralists, sorghum is the most important crop and maize is less important, mostly consumed green. In contrast, for the Benna pastoralists, maize is more important than sorghum.

Sources of Cash – A below average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



Annual income (ETB)	750-1250	1250-1750	2000-3000

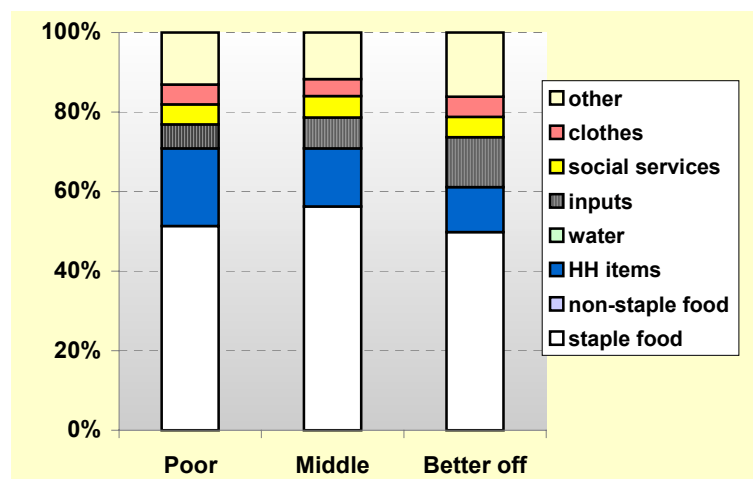
The graph presents the sources of cash income for households in different wealth groups for the period April 2003 – March 2004. Households in all wealth groups obtained most of their cash income from livestock sales. Better off households typically sold two cattle and middle households sold one in the reference year. Poor households try to avoid selling cattle, but typically sell one every two years (unless the situation is desperate). The number of shoats (sheep and goats) sold was much higher than this. Livestock prices are generally low in this livelihood zone compared to other pastoralist areas of Ethiopia, particularly compared to Somali Region.

Supplementary income sources in the reference year for all wealth groups were butter (livestock product) and honey sales.⁴

Expenditure Patterns – A below average year (2003-04)

The graph presents expenditure patterns for the period April 2003 – March 2004. Although expenditure on each category as a proportion of total spending was reasonably similar across the wealth groups, the absolute amounts spent on each category increased with wealth.

The category 'household items' included large quantities of coffee and small quantities of salt and soap. 'Other' included tax, social obligations, ceremonies, savings and investment in livestock. The category 'social services' included spending on health only. Very few children attended school in this livelihood zone in the reference year. Expenditure on clothes was low compared to other livelihood zones in SNNPR.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The main periodic hazard that affects the zone is **drought**, which results in crop failure, increased staple food prices, reduced livestock production and reduced livestock prices (due to poor body condition). **Livestock diseases** (including trypanosomiasis, pasteurolosis, blackleg and anthrax) are a chronic hazard, leading the complaints of farmers in all areas of the livelihood zone. **Malaria** during the rainy season is another chronic hazard that affects health and labor availability at household level. **Market shocks** are a periodic problem, primarily caused by crop failure in the neighboring agricultural and agro-pastoral livelihood zones, which results in increased cereal prices for pastoralists independent of conditions in the pastoralist livelihood zone.

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards, particularly to drought. The first priority during drought is the survival of livestock, so household members **migrate with their animals** in pursuit of better water and pasture conditions (primarily towards the Mago and Waito Rivers and to areas near Borana). The main strategy for obtaining cash to purchase food is **increased livestock sales**. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock. All households also have the option of **reducing non-essential expenditure** on items such as coffee and clothes in order to **spend more money on staple food**.

⁴ It is worth noting that honey production is higher in the Mali pastoralist area than in other parts of the livelihood zone.

However, expenditure on such items is already quite minimal in this livelihood zone so this is a limited strategy. Households **consume more wild foods, meat and blood** during bad years. The increased consumption of meat occurs because slaughter is increased (usually of animals that are suffering from the drought conditions), and animals that have died are also consumed in this area (which is dangerous if they have died from anthrax). In addition, more animals are bled during bad years in an effort to make up for reduced milk production. Finally, poor households seek out increased **gifts of food and cash** from better off households.

Indicators of Imminent Crisis

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Rainy season	April	Significant delay or failure of main rains
	May	Early cessation or poor distribution and intensity of main rains
	June	Delayed or failed green maize harvest
Dry season	July	Poor sorghum and maize dry harvests and honey harvest in July - August
	Aug	Severe outbreak of malaria in July - August
Rainy season	Sept	Significant delay or failure of minor rains
	Oct	Early cessation or poor distribution and intensity of minor rains
	Nov	Early migration of livestock to distant areas indicates unfavourable food security situation
Dry season	Dec	Extensive livestock migration to distant areas during December - February
	Jan	Unusually high prices for cereals during December - February
	Feb	Abnormally high supply of livestock to market and low livestock prices in Dec - February
	Mar	Increased livestock mortality and unusually low calving rate

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, livestock production and mortality, livestock migration, staple food and livestock prices, the timing and quantity of harvests, and malaria outbreaks.

SNNPR Livelihood Profile

Salamago Pastoral Livelihood Zone

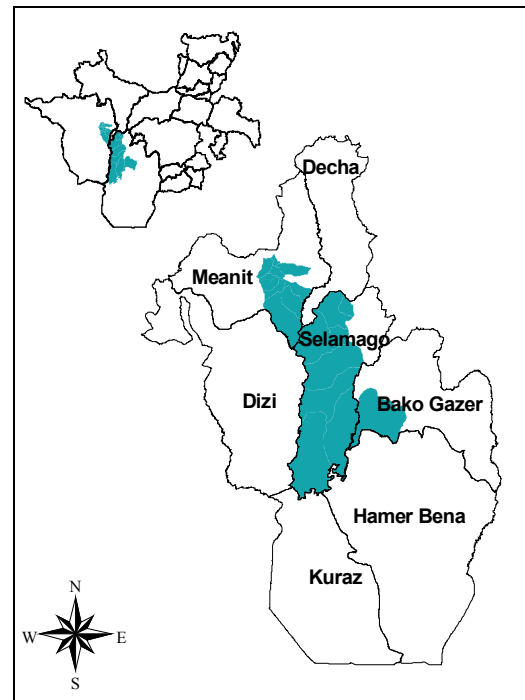
August 2005¹

Zone Description

The Salamago Pastoral Livelihood Zone is a relatively food secure, livestock dependent area, inhabited by two main tribes: the Bodi and Mursi. It is a remote zone, characterized by poor infrastructure in every sense – markets, roads, transportation, health facilities, veterinary services, schools, and clean drinking water are all inadequate. Drought is relatively rare in this livelihood zone, but is extremely damaging when it occurs, partly due to low asset levels amongst poor households and partly due to the lack of alternative income options beyond livestock, livestock product and honey sales.

The Salamago pastoral livelihood zone falls in the lowland (*kolla*) areas of Salamago woreda, which is part of South Omo Administrative Zone. The livelihood zone is bordered by the Omo River to the south, the South Omo Farming Livelihood Zone to the northeast, the Mago National Park to the east and Bench Maji Administrative Zone to the west.

The landscape consists of flat grazing plains with plenty of long and thick grass. Some seasonal rivers like the Gurra, Hanna and Arab and Gio run through the livelihood zone, all flowing from *woina dega* (midland) agro-pastoral areas in the north down to the Rift Valley in the east. The soils are predominantly clay loam. As a typical pastoral livelihood zone, the land is scarcely populated.



The main rains fall from March to June and determine the success of both livestock and crop production for the year. Minor rains fall in September and October, but these are only important for the regeneration of pasture and browse rather than for crop production. The main livestock species reared are cattle and goats, with sheep ownership limited to the better off and in very small numbers. Cattle are the most important species. Shifting rainfed cultivation is practiced in the main rainy season (March- June). In addition, small but important fields are planted on the banks of the Omo River using flood-recession farming during October– December.

Market purchase, livestock products (milk, butter, meat and blood), and crop production are the main sources of food for households in this livelihood zone. Wild foods are available throughout the year and are different varieties and quantities are consumed in normal and bad years. Livestock sales (of cattle and goats) are the main source of income for all groups, followed by honey sales in the case of the poor and livestock product sales in the case of the middle and better off. Cash crop production and casual work are relatively unknown cash income sources in this livelihood zone.

Livestock migration takes place only in bad years following the drying of local rivers. The migration is in search of water sources and usually in the direction of the Omo River, which is relatively nearby. There is rarely a shortage of pasture in this livelihood zone. In normal years, seasonal population and livestock movements occur due to the practice of cultivating along the Omo River (not because water or pasture are unavailable).

The main causes of periodic food insecurity in this livelihood zone include erratic rainfall, market shocks (when crops fail in the livelihood zones that supply the pastoralists with cereals), human and livestock diseases, crop pests and insecurity (ethnic clashes between the Bodi and Mursi).

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to March 2003-February 2004 (Megabit 1995 to Yekatit 1996 in the Ethiopian calendar), an average year by local standards (i.e. a year of 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 2010).

Markets

Market access is very difficult due to long distances, poor roads and lack of transportation (no pack animals). This has resulted in low prices for the things that pastoralist households sell in this livelihood zone – livestock, livestock products and honey. The absence of pack animals places a particular burden on women since they are responsible for transporting water, food and other items purchased in urban areas. Women usually carry these items on their backs, sometimes walking for days.

The main roads in this livelihood zone are seasonal and this affects the prices of livestock (low) and basic cereals (high), particularly during the rainy season. The main market is at woreda level (Hanna). There are two main markets outside the livelihood zone, namely Dimme and Jinka, which are important for cereal supply. Jinka, Basketo and Sawla are important as trade outlets for livestock. A bartering system is often practiced for the exchange of livestock for food and for the exchange of livestock for other types of livestock (e.g. males for productive females).

On a typical market day, pastoralists supply livestock products (butter and milk), honey and livestock for sale (and bring along local drinks for their own consumption), while cereals (maize and sorghum) are mostly supplied from neighboring agricultural areas in Dimme and Bakogazar woredas. The main non-food commodities available during a market day include tobacco, coffee husks, salt and small quantities of soap, utensils and tools.

Seasonal Calendar

The heaviest rains of the year usually occur in March – May. The performance of these rains determines the success of both livestock and rainfed crop production for the year. The September – November rains are usually less intense and poorly distributed. They are therefore less important and rainfed crops are not planted in this period. However, they are important for the regeneration of browse and pasture.

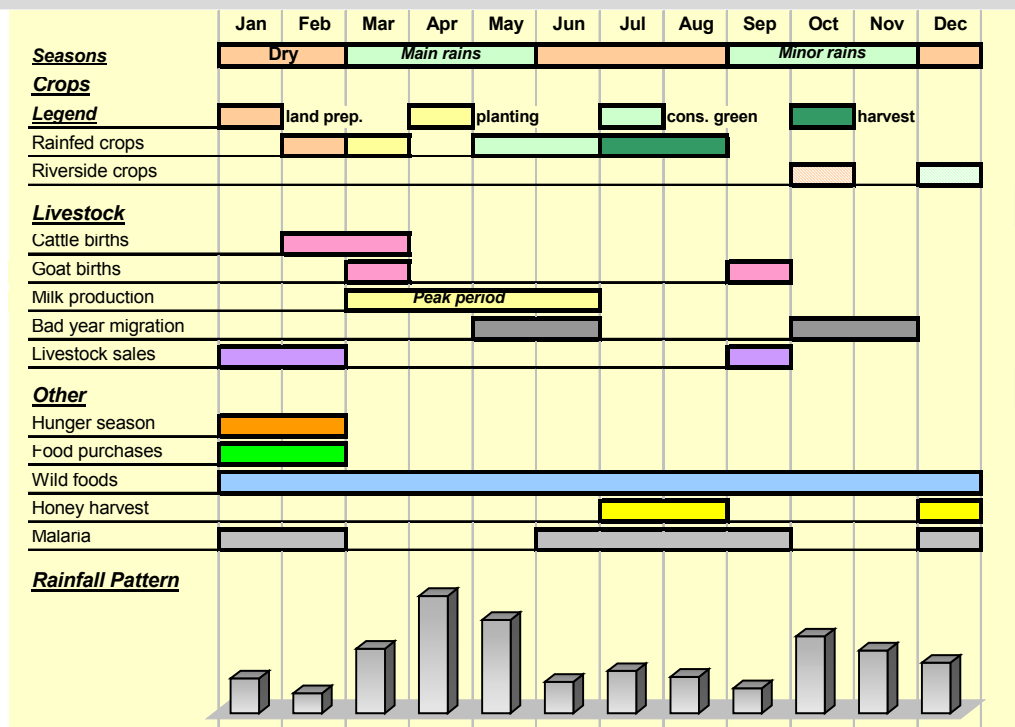
The main calving period is in late February to early March, just before the start of the main rains. Milk production generally begins in

March and continues consistently to the first month of the short dry season, when it declines. Production levels rise again during the September – November rains. Goats are usually born in March, but are not milked. When the rains are adequate, livestock do not migrate far from the home settlements. If the main rains fail, however, they migrate towards the Omo River in search of water, usually during May - June and October - November. Pasture is rarely a problem in this livelihood zone and shortages only occur if there are two successive years of drought.

Land preparation for rainfed crops occurs in February, with planting of maize and sorghum in the following month. There is no inter-cropping and plow oxen are not used for preparing the land for planting. The green maize harvest starts in May and the dry harvest of both crops occurs in July – August. The dry harvest of maize is usually small because much of the crop is eaten green. The second crop season is planted along the banks of the Omo River. Households move towards this area in October for a short season of flood recession farming. Land preparation and planting occur in October and the green and dry harvest both occur in December. Because it is hot and dry at this time of year, crops mature quickly.

The hunger or ‘lean’ period of the year is determined by the timing of livestock production rather than by crop production and occurs in the months leading up to the main rains, when food for both humans and livestock is in short supply. Households tend to purchase food during this period, with income from the sale of livestock. Although livestock are sold throughout the year, the main period for livestock sales is January – February, when pastoralists need

Salamago Pastoral Livelihood Zone



Source of rainfall data: USGS satellite imagery, estimated long-term average.

cash to purchase food. Livestock prices tend to be low at this time of year both because supply is high and because livestock body condition can be poor during the dry season. Many pastoralists also sell livestock in September, but these are market-driven sales rather than need-driven, because demand and prices are high throughout Ethiopia at that time of year (due to the Meskel festival).

Wild food consumption occurs throughout the year, with households gathering and consuming over 15 varieties of wild leaves, seeds and fruits. Honey is harvested during the dry seasons and particularly in July – August and December.

Malaria is the most problematic human disease in this livelihood zone and can occur throughout the year. However, although mosquitoes breed during the wet season, the disease peaks during the dry seasons. Diarrhoea also peaks during the dry seasons (particularly in January – February), when sanitation and personal hygiene deteriorate due to reduced access to water.

Wealth Breakdown

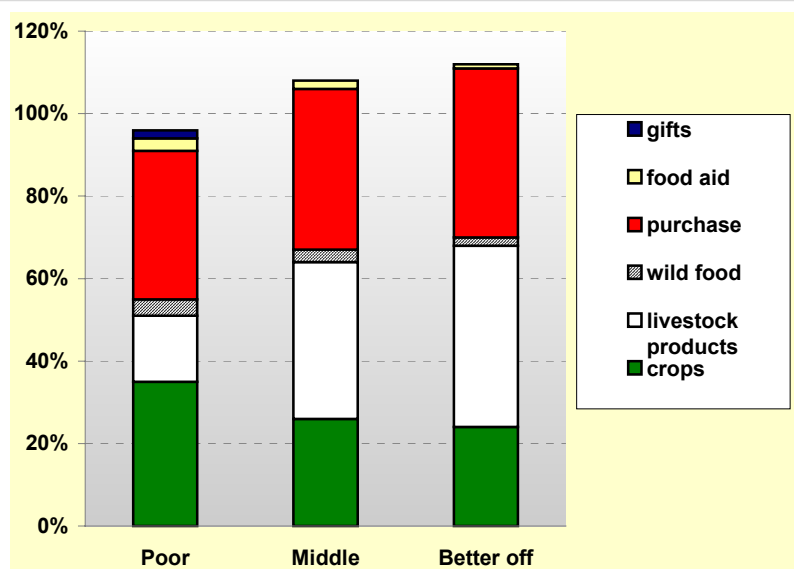
Wealth in the Salamago Pastoral Livelihood Zone is determined by livestock holdings, particularly cattle and goat holdings. Other factors, such as the area of land that a household owns and cultivates, are secondary to this.

	Wealth Group Information		
	HH size	Land area cultivated	Livestock
Poor	4-6	0.25 - 0.75 ha	4-6 cattle, 3-5 goats
Middle	6-8	0.5 - 1 ha	20-50 cattle, 10-35 goats
Better-off	8-10	0.75 - 1.25 ha	60-110+ cattle, 20-50 goats, 0-10 sheep

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Salamago Pastoral Livelihood Zone for the period March 2003 – February 2004, which was an average year. March represented the start of the consumption year because that was when milk production during the main rainy season started, marking the end of the annual hunger season.

Unusually, and despite the differences in land area cultivated, the contribution of own crop production decreased with wealth in the reference year. This was partly because household sizes increase significantly with wealth and partly because middle and better off households spent more time tending their livestock than their crops, whereas the poor had more time for this activity. The main (indeed the only) crops were sorghum and maize.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

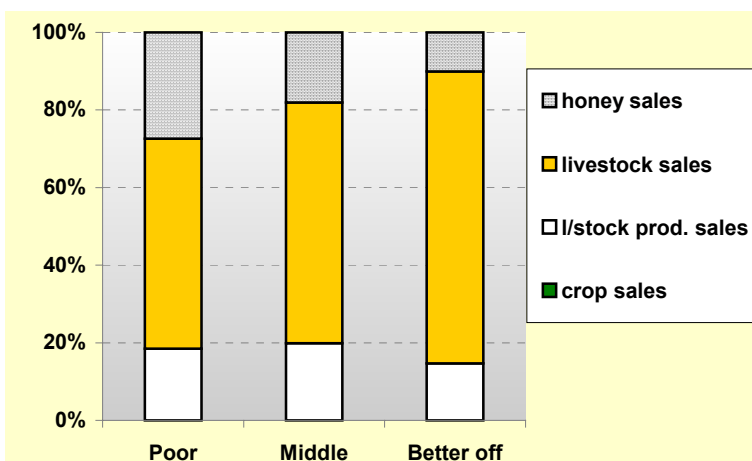
The contribution of livestock products (milk, butter, meat and blood) significantly increased with wealth and was large compared to many livelihood zones in SNNPR, as one would expect when comparing a pastoral zone with mixed farming zones.

The percentage of food purchase was large and fairly similar across wealth groups. The main foods purchased were maize and sorghum.

All households received small quantities of food aid in the reference year and collected and consumed wild foods, mainly wild green leaves, seeds and fruits. In addition, poor households received small quantities of gifts of cereals from better off households.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



Annual income (ETB)	700-1300	1400-2000	2000-3000

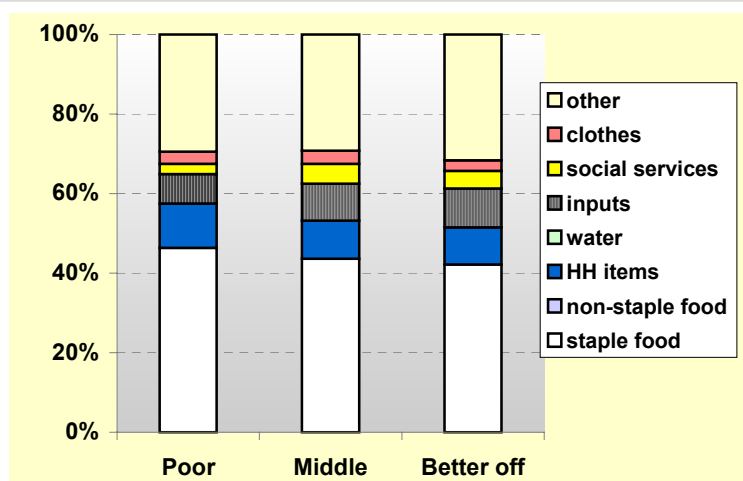
The graph presents the sources of cash income for households in different wealth groups for the period March 2003 – February 2004. Better off household income levels were more than double that of poor households in the reference year. Households in all wealth groups obtained most of their cash income from livestock sales. Better off households typically sold two cattle, while middle and poor households sold. The number of goats sold was higher than this, ranging from two to five animals sold. Livestock prices are generally low in this livelihood zone compared to other pastoralist areas of Ethiopia, particularly compared to Somali Region.

Supplementary income sources in the reference year for all wealth groups were livestock product (milk and butter) and honey sales.

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period March 2003 – February 2004. Although expenditure on each category as a proportion of total spending was quite similar across the wealth groups, the absolute *birr* amounts spent on each category increased with wealth.

The category 'household items' included coffee, salt and soap. 'Other' included tax, social obligations, ceremonies, savings and investment in livestock. The category 'social services' included spending on health only. Very few children attended school in this livelihood zone in the reference year. 'Inputs' included livestock drugs and small amounts of seed and crop inputs. Expenditure on clothes was low compared to other livelihood zones in SNNPR.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The main periodic hazard that affects the zone is **drought**, which results in crop failure, increased staple food prices (particularly when neighboring farming livelihood zones are also hit), reduced livestock production (primarily through water scarcity and increased competition for pasture when pastoralists migrate in from the South Omo Pastoral Livelihood Zone) and reduced livestock prices (due to poor body condition). A lack of *kremt* rains in highland areas can also affect this livelihood zone, since the second crop season depends on the flooding of the Omo River. **Livestock diseases** (including trypanosomiasis, blackleg, anthrax and pasteurulosis) are a chronic problem, leading the complaints of farmers in all areas of the livelihood zone. **Malaria and diarrhoea** during the dry seasons are additional chronic problems that affect human health and labor availability at household level. The consequences of these diseases are exacerbated by the lack of health services in the zone. **Market shocks** are a periodic problem, primarily caused by crop failure in the neighboring agricultural and agro-pastoral livelihood zones, which results in increased cereal prices for pastoralists independent of conditions in the pastoralist livelihood zone. **Poor marketing opportunities** for pastoralist products are a chronic complaint, resulting in low prices for livestock, livestock products and honey. **Crop pests**, such as stalk borer, reduce crop production in some years. **Insecurity** (in the form of ethnic clashes between the Mursi and Bodi) is another hazard that affects this livelihood zone and can occur at any time of year, resulting in deaths, livestock looting and reduced pastoral mobility (and therefore reduced access to grazing areas).

Response Strategies

Households in this livelihood zone have a number of strategies to respond to hazards, particularly to drought. The first priority during drought is the survival of livestock, so household members **migrate with their animals** in search of water, primarily towards the Omo River. The main strategy for obtaining cash to purchase food is **increased livestock sales**. Obviously, wealthier households are in a better position to exploit this strategy since they own more livestock. All households also have the option of **reducing non-essential expenditure** on items such as coffee and clothes in order to **spend more money on staple food**. However, expenditure on such items is already quite minimal in this livelihood zone so this is a limited strategy. Related to this is the postponement of weddings and other ceremonies in bad years to avoid slaughtering animals that could be marketable. Households **consume more wild foods, meat and blood** during bad years. The increased consumption of meat occurs because slaughter is increased, usually of animals that are suffering from the drought conditions, and animals that have died are also consumed in this area. In addition, more animals are bled during bad years in an effort to make up for reduced milk production. Finally, poor households seek out increased **gifts of food and cash** from better off households.

Indicators of Imminent Crisis

Season Month Indicator

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Main rainy season	Mar	Significant delay or failure of main rains. Failure to plant crops.
	Apr	Shortage or failure of rains. Crop diseases and pests affect crops (stalk borer).
	May	Early cessation of rains.
Dry season	Jun	Delayed or failed green maize harvest. Malaria outbreak in June - August.
	Jul	Failure of crop harvests. Abnormally large numbers of livestock supplied to market.
Rainy season	Aug	Failure of honey harvest in July - August. Outbreak of livestock diseases.
	Sept	Poor distribution and intensity of minor rains.
	Oct	Lack of sufficient flooding on Omo River to cover recession farming areas.
Dry season	Nov	Extensive livestock migration because of lack of water.
	Dec	Unusually high prices for cereals during December - February. Failure of riverside crops.
	Jan	Abnormally high supply of livestock to market and low livestock prices in Dec - February.
	Feb	Low livestock prices combined with high cereal prices. Outbreak of human diseases.

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, livestock production, livestock migration, staple food and livestock prices, crop pests, the timing and quantity of harvests, and malaria outbreaks. Civil insecurity is another important hazard that can occur at any time of year.

SNNPR Livelihood Profile

Sheka Cereal and Enset Livelihood Zone

August 2005¹

Zone Description

The Sheka Cereal and Enset Livelihood Zone is found in the midland (*woina dega*) and highland (*dega*) areas of Sheka and Kaffa Administrative Zones, in Masha, Anderacha, Syalem, Gesha and part of Gewata woredas. It is a fertile and sparsely populated zone, where rainfall is reliable, land and livestock holdings are large, and households are food secure.

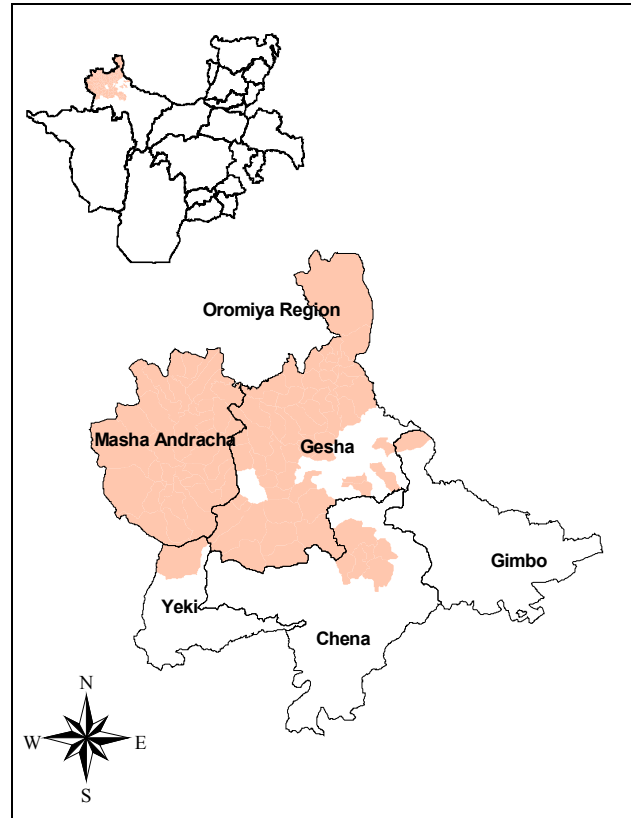
The vegetation of the zone is forested, with the density of the forest cover declining with altitude. There are over thirty permanent streams in the livelihood zone that offer a plentiful water supply for people and livestock and the potential for irrigation and power generation. There are a number of private tea and coffee plantations in the area that use irrigation, but smallholder farmers practice rainfed cultivation.

The main livelihood pattern is mixed farming. The production of cereal crops (maize, teff and small amounts of wheat), enset, pulses (beans and peas), livestock (cattle, goats, sheep and horses) and honey are the main economic activities of households in this livelihood zone. Cash crops are not grown and fertilizer is not used. Livestock are owned in large numbers in this livelihood zone and oxen are used for cultivation.

The main hazards are excessive rainfall, diseases that affect crops (especially enset) and livestock, and the danger from wild animals that attack both crops and livestock.

However, overall household food security is rarely threatened by these hazards.

The private tea and coffee plantations located in the livelihood zone offer the opportunity of casual work for households in the area, but residents of the Sheka Cereal and Enset Livelihood Zone rarely need to avail of such work. Most of the labourers migrate into the area to work on the plantations from northern Ethiopia and other parts of SNNPR. Unlike other parts of western SNNPR, migrant workers rarely settle permanently in the area.



Markets

Market access varies from quite good to poor in this livelihood zone. Households living along the main roads connecting Gore, Tepi and Bonga have relatively easy access to markets within and outside the zone, while those living away from the roads have more difficult access, particularly during the rainy season (which is most of the year). The latter rely on horses to transport their crops to market on poor feeder roads.

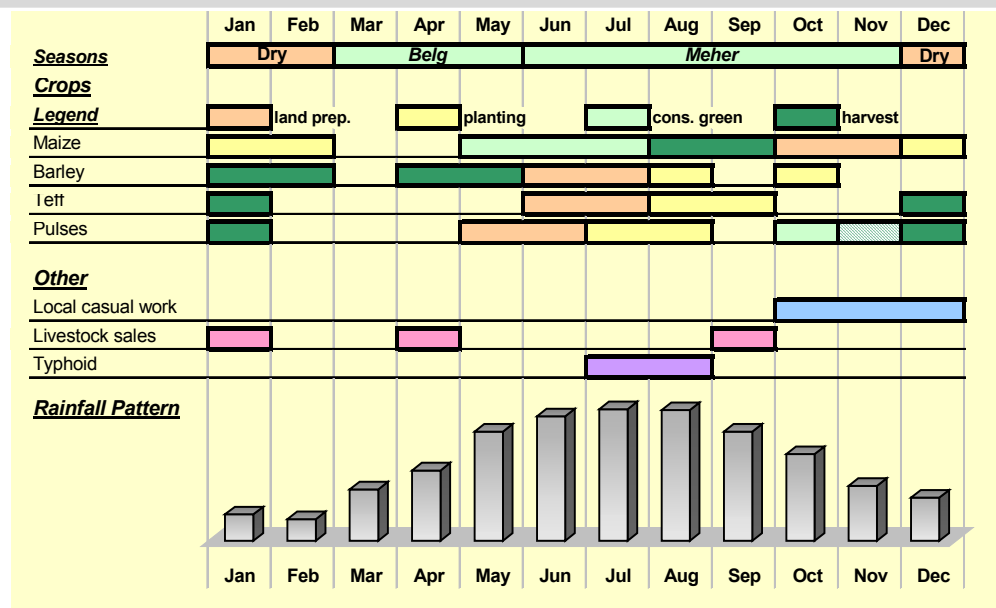
The main woreda towns are the major internal markets within the livelihood zone. Beyond the livelihood zone, there are major markets to the south and north. To the south, cash-crop producing farmers in the Western Coffee and Spices Livelihood Zone demand cereals and pulses to a certain extent, as do the large numbers of migrant laborers working on plantations. To the north, a number of large towns from Gore to Metu to Jimma provide a good market for the produce of farmers in this livelihood zone.

¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to July 2003-June 2004 (Hamle 1995 to Sene 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

Seasonal Calendar

Similar to the other livelihood zones in western SNNPR, this zone receives rainfall throughout most of the year. The heaviest rains fall in May to October. Drought is never a problem in this livelihood zone, but excessive rainfall sometimes causes reduced production. Most crops are produced only once a year.

Green maize is consumed starting from May in some parts of the zone, but June is the main month of green consumption. Maize is harvested dry in August – September. Most other crops are harvested from November to January.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

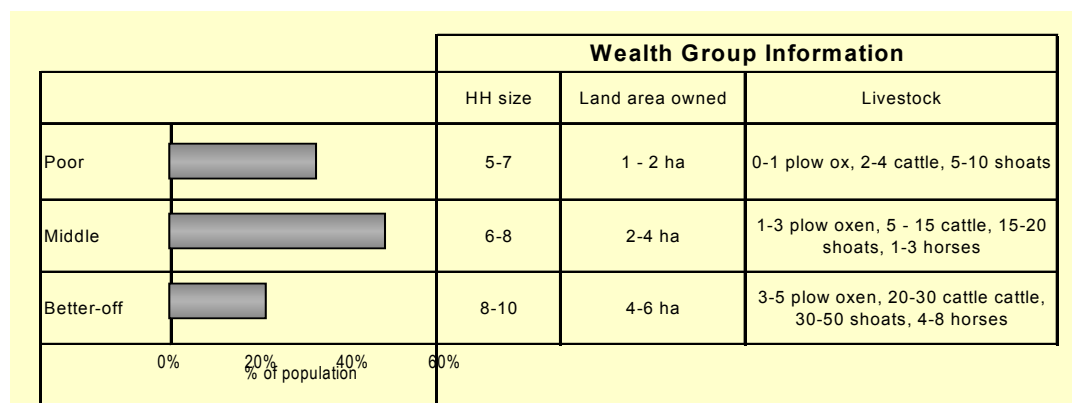
Enset, the major staple food of the livelihood zone, takes 4-6 years to mature and can be harvested at any time.

Diseases like diarrhoea and typhoid are reported as the major causes of illness for people in the livelihood zone. The worst months for typhoid are July and August. There is no malaria in this livelihood zone.

Households in this livelihood zone hardly experience a hunger or 'lean' season. Livestock are sold throughout the year, whenever households need cash. The market is particularly good for livestock sales during January, April and September, the main holiday months in Ethiopia. Although the amount of casual work that they do is limited, poor households can find work on plantations particularly easily during October – December, the main coffee harvesting period.

Wealth Breakdown

The major determinants of wealth at household level in this livelihood zone are the area of land cultivated and the number of livestock owned. The ownership of oxen plays a particularly important role in the ability of households to cultivate large areas of land.



The better off in this zone typically have 3-5 oxen and this enables them to cultivate around 4 hectares of land. Poor households, in contrast, typically own 0-1 ox and must either pair their ox with another household or work for the better off in order to obtain oxen to cultivate their own land in exchange. Since such an agreement requires that the poor work for the better off, they often do not plow their own land at the appropriate time and obtain lower yields.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in different wealth groups in the period July 2003 – June 2004. July represented the start of the consumption year because this was when the green maize harvests started, marking the end of the annual hunger season. The hunger season does not hold as much significance in this livelihood zone as in less food secure livelihood zones.

All wealth groups in this livelihood zone are self-sufficient in terms of food in most years. For better off households, over 100% of annual food needs was covered by own crop and livestock production in the reference year, whereas poor and middle households obtained 95-100% from these food sources.



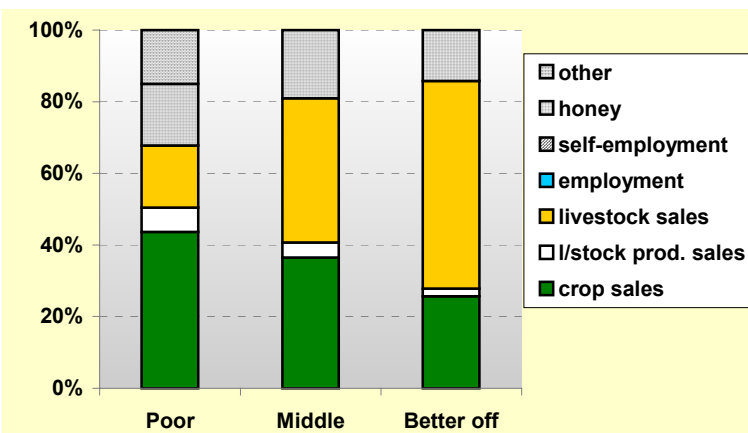
Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Enset was the most important individual food crop, contributing from 40-50% of annual food needs of households in all wealth groups. Other important crops in this livelihood zone included maize, barley, teff, beans and peas.

In line with the number of animals that they own, the contribution of own livestock products (milk, butter and meat) was much larger for middle and better off households compared to poor households.

The contribution of purchased food was very small and similar for all wealth groups. Only poor households in this livelihood zone purchased very small quantities of staple food in the reference year. Middle and better off households only purchased small quantities of meat and oil, since they had enough staple food from their own production.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of annual cash income according to income source.

Annual income (ETB)	1,000-2,000	3,000-4,500	5,000-6,500
Annual income (ETB)	1,000-2,000	3,000-4,500	5,000-6,500

The graph presents the sources of cash income for households in different wealth groups during the reference year. Households in all three wealth groups obtained most of their cash from crop sales, livestock sales, honey and livestock product sales. Poor households supplemented these sources with a small amount of ‘other’ income from casual work and firewood sales.

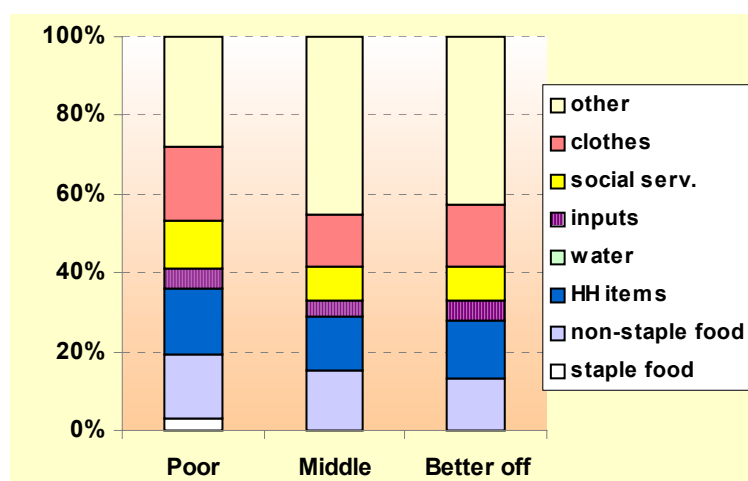
Better off households earned over three times that of poor households in the reference year. The importance of livestock sales as an income source increased with wealth, reflecting the large herd sizes found in this livelihood zone.

Households in this zone do not grow any cash crops. All of their income from crops comes from the sale of food crops (cereals, pulses and enset).

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. With the exception of staple food, the amount of cash spent on each expenditure category increased with wealth in the reference year (in absolute cash terms), although the proportion of income spent was similar.

Only poor households purchased staple food during the reference year and that was only a very small quantity. The category 'household items' included coffee, salt, soap, kerosene and grinding. 'Other' included tax, social obligations, festivals, ceremonies, local drinks, transport and savings. 'Inputs' included livestock drugs and seeds. 'Social services' included spending on education and health.



The graph provides a breakdown of annual cash expenditure according to category of expenditure.

Hazards

This livelihood zone is subject to a number of hazards that reduce production but rarely threaten household food security.

Crop diseases and pests reduce crop production. Enset is affected by bacterial wilt disease. Unfortunately, the variety of enset that people prefer is particularly affected. All crops are also subject to damage by wild animals (monkeys and wild pigs).

Although rainfall is generally reliable, the **delayed onset of the rainy season** can delay planting and harvesting. Strong sunshine in January can also damage maize that is planted early. In contrast, excessively **heavy rainfall during the main harvest** periods can damage crops for all wealth groups. Excessive rainfall is the most serious hazard in this livelihood zone.

Livestock diseases and **wild animals** affect livestock production in all years and affect all households regardless of wealth status. The most serious livestock diseases in this livelihood zone are blackleg and anthrax.

Response Strategies

Western SNNPR in general is not an area of food deficit. There is no recorded 'bad year' in recent decades. However, households in this livelihood zone have both potential short-term strategies (which are largely unutilized) and widely practiced long-term strategies to respond to hazards that reduce their food or cash income.

In the short term, the potential strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years in other parts of SNNPR. Households can reportedly reduce expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Generally, all wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, households can **expand livestock sales** and **increase consumption of enset**, but there are limits to these strategies if households are to avoid unsustainably depleting their enset reserves and livestock holdings.

In the longer-term, households respond to many of the hazards mentioned above by **adapting their cultivation practices**. For example, farmers attempt to select resistant species of enset to protect their production from bacterial wilt and they replant maize when it has been affected by strong sunshine in January.

Indicators of Imminent Crisis

Season Month Indicator

Dry season	Jan	Strong sunshine dries newly planted maize	
Rainy season	Feb		
	Mar		
	Apr		
	May		Outbreak of livestock diseases (blackleg and anthrax)
	Jun		Outbreak of livestock diseases (blackleg and anthrax)
	Jul		
	Aug		
	Sep		Excessive rain damages crops that are ready for harvest
	Oct		Excessive rain damages crops that are ready for harvest
Nov	Excessive rain damages crops that are ready for harvest		
Dry	Dec		

Hazards that threaten household food security are rare in this livelihood zone, but the graphic indicates when potentially damaging events may occur.

SNNPR Livelihood Profile

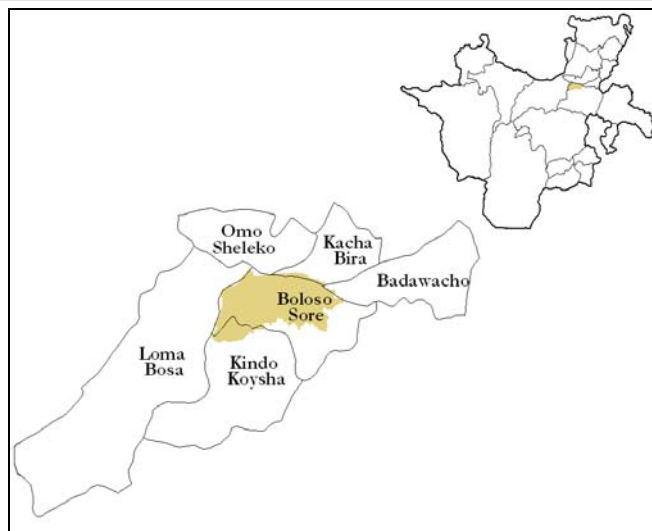
Wolayita Ginger and Coffee Livelihood Zone

March 2005¹

Main Conclusions and Implications

The population in Wolayita Ginger and Coffee Livelihood Zone suffers from severe and chronic poverty and food insecurity caused by a combination of factors. These include high (and increasing) population density, diminishing landholding sizes, intensive cultivation leading to soil infertility, periodic rain failure, crop pests, livestock diseases, lack of alternative income sources (beyond crops and livestock), and malaria. Acute food insecurity frequently occurs when *belg* season sweet potatoes fail and when green maize production is delayed. A late start to the February *belg* rains and/or an outbreak of sweet potato butterfly can rapidly lead to acute food shortage, resulting in very short lead times for intervention.

This livelihood zone covers one woreda in Wolayita, namely Boloso Sore. This woreda is primarily



midland (*woina dega*). However, the western edge of Boloso Sore slopes down toward the Omo River. These western *kabeles* fall in the dry, upper lowland (*kolla*) altitude zone (or dry *woina dega*). Throughout Boloso Sore, the land is intensively cultivated and both grazing land and natural forest areas are very limited. Water is primarily drawn from springs and rivers and to a lesser extent from wells. Water sources are generally to be found within 0.5 – 1.5 hours walking distance from villages. Water shortages occur during the dry season, from November to February. At this time, a heavier reliance on river water brings a consequent increase in the incidence of water-borne diseases.

Total annual rainfall is in the range 800-1,000 mm (long-term average). The main production season runs from March to November, beginning with the *belg* rains and continuing into the *kremt*. The main crops are maize, beans, sweet potatoes and teff. The primary harvest season for grains and legumes is June to November. However, certain crops, in particular sweet potato, are planted twice in the year with harvests falling around October-November (the *meher* harvest), as well as during the March-May period (*early belg* harvest). A noted feature of the area is the intensive farming system. Farmers practise both serial planting (i.e., as soon as one crop is harvested, a second crop is planted) as well as intercropping (notably maize and beans). Other secondary food crops include taro, yams, cassava and sorghum. The main cash crops are teff, coffee, ginger, maize, Irish potatoes and wheat.

What marks the agricultural system in Boloso Sore from the surrounding region is the suitability of soil and rainfall conditions for ginger and coffee production. As a result, staple food production is lower but cash incomes are higher here than in the neighboring maize and root crop zone. Ginger production in particular has seen recent growth (mainly due to local farmers planting more ginger). Increased production is in response to increased prices in the last 12 months and to the expansion of ginger marketing from primarily local sales into an export crop. However, as with many export crops, it is a risky venture due to price fluctuations on the world market (this also greatly affects coffee growers). Currently, prices for both ginger and coffee have improved this year compared to last year. Another risk factor is the production cycle. Ginger root requires two years to fully mature. Set against these risks, however, is the drought and disease resistance of ginger root. In addition, ginger does not require fertiliser. Poor households also benefit by doing the labor intensive jobs (planting, weeding and harvesting the ginger).

Seasonal food shortages occur from February to June in most years, and from November to June in a bad year. Second season sweet potatoes (harvested from March-May) play a key role in determining the severity of these seasonal food shortages and a failure of second season sweet potatoes is a key indicator of impending crisis.

¹Fieldwork for the current profile was undertaken in March 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively good year by local standards (i.e. a year of above 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 2010).

The availability of enset (or false banana) is a further factor affecting the severity of seasonal food shortages in the zone. Enset is a perennial drought-resistant reserve crop. It is consumed during the hunger season months and also during the religious holiday of *Meskel* in September. The plant requires between 4 and 6 years to reach maturity, but may be harvested (at the cost of a much reduced yield) from the age of 2 years onwards. It is consumed mainly as *kocho* or 'bread' (prepared from the mature stems and roots) or as *amicho* or porridge (prepared from immature roots). A third type of food – *bullā* – is prepared only at *Meskel*. The preparation of *kocho* and *bullā* is labor intensive, generating employment for women from poorer households in most years.

As in the neighboring maize and root crop zone, seasonal food shortages are in part attributed to low production. Land fertility in Wolayita is declining: land is not fallowed but cropped intensively, and the application of manure is limited by the shortage of livestock. (Animal manure is applied mainly in the home garden to fertilise enset, coffee and garden vegetables.) Commercial fertiliser is priced too high for most farmers to afford. (Those who do use DAP and urea apply it on maize and tef.) To boost maize production, most farmers use improved maize seeds but for other crops, farmers use local seeds and cuttings reserved from the previous harvest.

Low production is also attributed to the limited use of plow oxen. More than half of households do not own plow oxen, and most of these farmers cultivate by hand. In general, grazing land is in extremely short supply, and cattle are raised using a 'zero-grazing' system. (Hence, collection and sale of fodder provides some income opportunities for poor households.) In Boloso Sore, as in Wolayita as a whole, cattle ownership is highly skewed. Over half of households own no cattle at all. However, households without livestock gain access to livestock products through a loan arrangement known locally as *yerbee*. Under this arrangement, poorer households feed and care for cattle belonging to better off households. In return they gain access to manure as well as a share of milk production (in the case of a milking animal) or a share in the sale price (in the case of a bullock or heifer).

Frequent and wide fluctuations in the prices of coffee and ginger on the international market affect households locally. Farmers are price sensitive. When prices increase, farmers allocate more land to ginger production. However, dependence on the market is risky as it leaves farmers very vulnerable to a sudden downturn in prices. The effect is compounded in years when staple food prices increase, leading to very low purchasing power for ginger or coffee farmers.

Out-migration in search of casual labor is an important income source for poorer households in the zone. The availability of seasonal jobs on state farms and in neighboring surplus producing areas is a key factor to monitor for the zone.

Overall, the Wolayita Ginger and Coffee Zone is characterised by chronic poverty and food insecurity. For poor households in the zone, making ends meet is difficult even in years of relatively good harvests. For these households, migration out of the zone in search of casual labor is common in both good years and bad. The main destinations are state farms in the Rift Valley and private farms in areas adjacent to Wolayita (Awassa, Shashamene and Alaba). There is a strong demand for cheap casual labor in these areas, and, it seems, substantial capacity to absorb additional labor when crops fail in Wolayita itself.

Markets

There are two types of market in the zone. The main markets are held in the woreda towns and in the larger peasant associations (*kebeles*) once or twice a week. These are supplemented by local evening markets called *kochi*, which attract large numbers of local petty traders—many whom are women—who buy and sell a wide range of items including grain, salt, prepared foods, butter and coffee. The volume bought and sold is very low: petty traders typically make anything between 1-3 birr per market day. The intensity of market activity means that there is good market access for the local population throughout the zone, but only to relatively small volumes of goods at any one time.

The main market route for produce sold out of Boloso Sore is to Addis Ababa via Hosaina. At the time of the current assessment (March 2005), work was underway to construct a new all-weather road along this western route as an alternative to the primary Soddo-Shashamene-Addis route.

The main commodities sold out of the zone are maize, coffee and ginger. Volume is highest between September to December, after the harvest. Coffee and ginger are destined for the Addis Ababa market (as well as for export). Some ginger is also sold south to markets in Kenya (via Moyale). Currently, prices for these cash crops are on an upswing. Price increases have affected ginger production, encouraging farmers to plant a larger area.

Maize and sweet potatoes are sold and traded mainly within the zone, alongside teff, sorghum and wheat (which are consumed mainly in the woreda towns) and other root crops such as taro and yams.

From January to July, maize is imported into the zone to meet the demand of poorer farmers whose own production is insufficient. The sources in the west are Waka and Dawro markets in Jimma, and to the north Gurage and Addis Ababa.

The peak periods for livestock sales are February to May (when animals are sold to purchase grain), *Meskel* and Christmas. Cattle (mainly bullocks and heifers) and small stock are sold both to local consumers as well as to markets in Shashamene and Addis Ababa. *Meskel* (in September) is the main season for selling fattened oxen. At this time,

Wolayita Ginger and Coffee Zone

traders purchase fattened oxen in Areka and transport the animals directly to Addis Ababa. At other times of the year, when the volume of trade drops considerably, local traders sell the animals to buyers in Hosaina. Currently, due to demand rising from more income earned from ginger sales, livestock are being brought into the zone for local purchase.

Seasonal Calendar

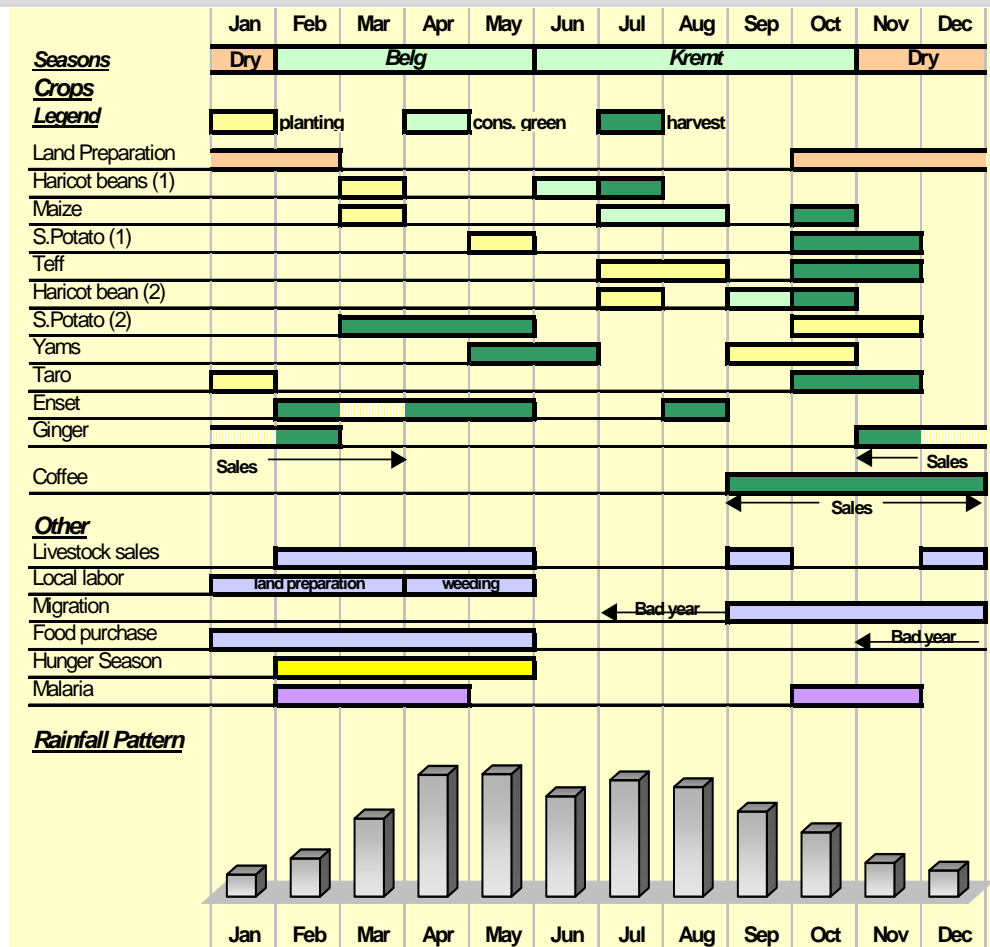
In most years, seasonal food shortages start around February, when main season crops run out, and last until June, when the first green crop (haricot beans) is harvested. This is followed by the all-important harvest of green maize in July and August. Poorer households consume most of their maize green at this time, and may harvest no more than 0.5-1 quintal dry, even in a relatively good year. October and November are the main harvest months, when dry maize, sweet potatoes, teff, taro and a second planting of haricot beans are harvested.

There is a second planting of sweet potatoes on land used for maize in Oct-Dec, this time for harvesting in March to May. This

is more productive than the first planting of sweet potato (in May), because the crop benefits from the drier conditions from November to January and the wetter conditions thereafter. Second season sweet potatoes are an important source of food during the hunger season months of March to June, and a failure or delay of the sweet potato harvest (e.g. because of a late start to the *belg* rains or an outbreak of sweet potato butterfly) can precipitate severe food shortage and a decline in nutritional status. Other crops harvested during these critical hunger-season months are enset, cassava and yams, but production of these is limited, especially for poorer households.

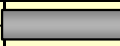


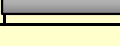
As crops run out, most households purchase maize and sweet potato on the market. Cash income for these purchases is earned from the sale of livestock (poor and middle households) and from local and migratory agricultural labor (very poor and poor households). Most years, labor migration takes place from September to December, although from as early as July in a bad year. Work is found on state farms in Awash (cotton, fruit and sugar cane) and Arba Minch (cotton) as well as on private farms in Awassa, Shashamene and Alaba (harvesting pepper, maize and tef).

Malaria has two seasonal peaks, one at the beginning of the rains, and one at the end.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

		Wealth Group Information			
		HH size (per wife)	Land area cultivated	Perennial crops	Livestock
Very Poor		4-6	0.13-0.25 ha	0 mature enset 10-15 coffee bushes	None owned. <i>Yerbee</i> : 0-1 milking cow
Poor		5-7	0.25-0.38 ha	0-8 mature enset 15-35 coffee bushes	None owned. <i>Yerbee</i> : 0-2 cattle, 0-2 small stock
Middle		6-8	0.38-0.75 ha	10-15 enset, 25-65 trees, 40-60 coffee bushes	0.5-1 plow oxen, 2-6 cattle, 4-6 small stock
Better-off		7-10	0.75-1.5 ha	10-30 enset, 60-120 trees 60-120 coffee bushes	1-2 plow oxen, 10-15 cattle, 5-7 small stock
0% 10% 20% 30% 40% % of population		Note: enset = mature enset trees = eucalyptus			

In the Wolayita Ginger and Coffee Zone there are two primary determinants of wealth: (i) the area of land cultivated, and (ii) the number of livestock owned. Ginger and coffee are cultivated by all wealth groups, although wealthier households produce more and earn a higher income from their cash crops. In terms of land, better off households cultivate on average 6 times the area cultivated by the very poor. Not only do the better off own more land, they also sometimes rent additional land from poorer households in return for a share of the harvest or for a one-off cash payment. They also obtain higher yields per unit area through the greater use of plow oxen, by applying the recommended amounts of fertilizer, by employing others to work on their fields and by consuming less of their harvest green. They plant more enset and obtain higher yields from this by allowing most of it to reach maturity. They also set aside some of their land to plant with eucalyptus trees to use for timber sales.

Very poor and poor households, by contrast, plant almost all of their land with annual food crops, most of which they consume green because they are perpetually short of food. They cultivate some enset, most of which they harvest immature, once again to meet immediate food needs, with the result that overall yields are much reduced.

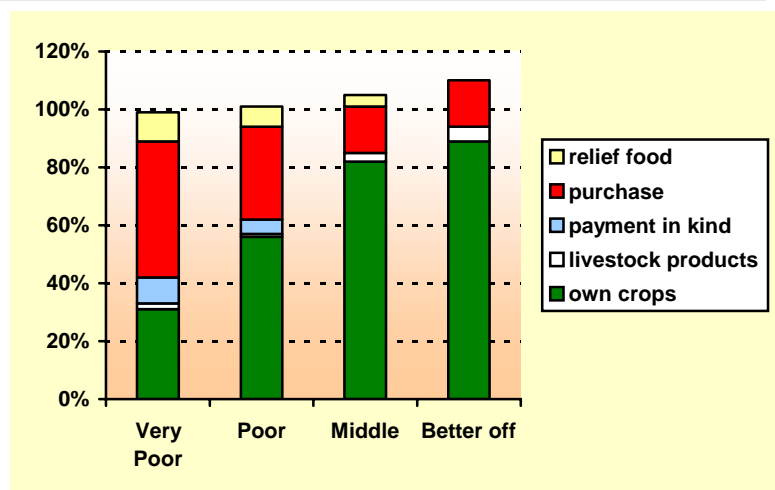
Only the middle and better off own livestock, of which cattle are by far and away the most important. Most very poor and poor households do however care for one or more animals according to the loan arrangement known locally as *yerbee*, mentioned above. The animal cared for may be a milking cow, a bullock or heifer or one or more small stock. The payment varies according to the type of animal. In the case of a milking cow for example, the butter goes to the owner, while the skimmed milk is consumed by the poorer household.

Sources of Food – A good year (2003-04)

The graph shows how different wealth groups secure their food in a year of relatively good crop production (2003-2004). It is striking that even in a good year only the better off were self-sufficient in terms of food production. Conversely, poorer households bought much of their food from the market. Overall, more food was purchased from the market in the ginger and coffee zone than in the neighboring maize and root crop zone because less land was planted with staple food and more land used for cash cropping.

The graph at right also illustrates the relative importance of food aid for the very poor and poor even in a relatively good year.

Completing the food sources for these groups were migration (food consumed by the migrant while away from home) and labor exchange (labor – mainly the preparation of *kocho* – paid in food rather than in cash), both of which are included in the category ‘payment in kind’ in

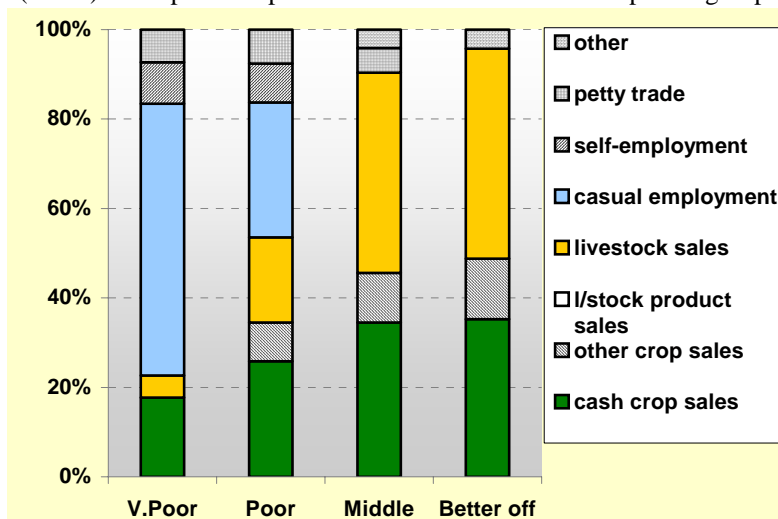


In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

the graphic. Total food intake tends to increase with wealth. Even in a relatively good year, and one in which food aid was distributed, the very poor were unable to fully cover 100% of their minimum food needs, while the poor were only just able to achieve this level of food intake.

Sources of Cash – A good year (2003-04)

Cash crops are a noted feature of the ginger and coffee zone. Hence, it follows that overall, in 2003-2004, cash incomes were higher in this zone compared to the neighboring maize and root crop zone. Comparing incomes between wealth groups within the zone itself, there is a significant 4 fold difference in cash income between the very poor and the better off. There are also critical differences in income sources. For instance, note in the graph below that the two major sources of income for middle and better off groups were crops sales and sales of livestock/livestock products (butter). Compare this pattern to the situation of the two poorer groups. The graph illustrates in blue colour



the enormous importance of casual labor for the very poor and poor households.

A common feature across the zone and across wealth groups is the relative importance of ginger and coffee sales. In the reference year, 2003-04, prices were relatively depressed. Since then, ginger and coffee prices have increased.

Consequently, a current 2004-05 year assessment would show that the relative importance of crop sales was even higher than the previous year. One factor to note is that only the better off groups sell other crops, namely maize, tef and fruit.

All households earn some income from livestock sales. However, the types of animals sold differ by wealth group. The poor groups sell chickens and eggs. They also receive a share of the income from any *yerbee* animals sold. By contrast, middle and better off households sell cattle, with

The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	750-850	1,000-1,300	1,600-2,000	3,000-4,000

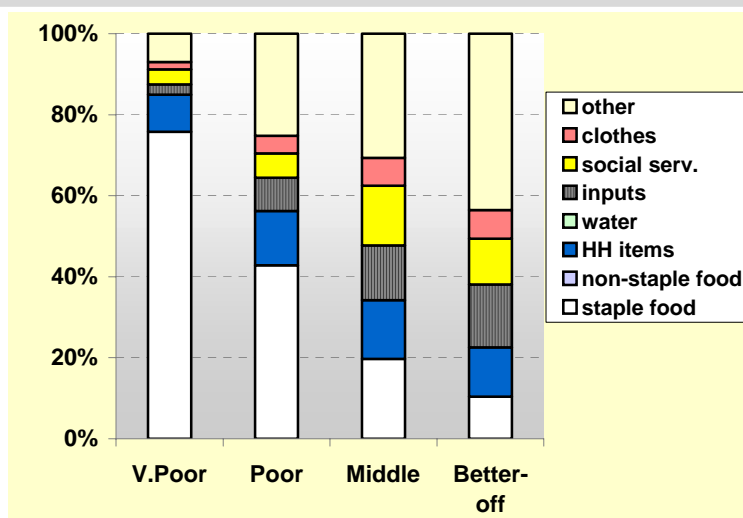
the sale of fattened oxen the single most important cash earner.

In the ginger and coffee zone, few middle-income households migrate away in search of work. This situation differs from the neighboring maize and root crop zone. The difference reflects greater income from cash crops in Boloso Sore.

Expenditure Patterns – A good year (2003-04)

The graph presents cash expenditure patterns for the different wealth groups for the period July 2003 – June 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. Roughly 70% of very poor income, and 50% of poor income, went towards staple food. By comparison, 20% or less of middle and better off income was spent on staple food. Expenditure on a number of other items increased significantly with wealth, most notably expenditure on inputs (mainly fertilizer and improved seeds), on social services (which includes schooling and medicine), and on clothes.

Household items (HH items) included coffee, salt, soap, kerosene and grinding, while 'other' included non-staple foods such as meat, tax, social obligations and ceremonies.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The Wolayita Ginger and Coffee Livelihood Zone is subject to a number of hazards. Some of these hazards undermine food security every year, while others threaten food security in some years more than others. The main hazards affecting the zone are:

Chronic shortage of rain and drought. Lack of rain is a chronic problem in the zone. Drought, which can include a late start to the rains and/or an uneven distribution of rainfall, is the single most important cause of acute food insecurity in the zone. A late start to the *belg* rains is especially significant because it extends the hunger season longer than usual by reducing the harvest of sweet potato (March to May) and delaying the green harvest of beans and maize (from June to July or possible August). Excessive rain and hailstones can also be a problem at certain times of year.

Crop pests. A wide range of pests attacks crops in the zone. The most important are sweet potato butterfly (especially if this affects the critical sweet potato harvest from March to May), maize stalk borer, army worm (affecting maize, teff and other crops), enset bacterial wilt and coffee berry disease.

A decline in cash crop prices (coffee and ginger). When prices plummet, so does the annual income of farmers. This reduces their “purchasing power” resulting in reduced expenditures on agricultural inputs, clothing and social obligations as more of the income is diverted to basic food purchases.

An increase in staple food prices. Very poor and poor households are especially vulnerable to an increase in staple food prices given their heavy dependence on the market for food and their relatively limited purchasing power. The most common scenario is for staple food prices to increase as a result of local crop failure, but it is also possible for staple prices to increase independently of local production, e.g. if there is crop failure in the areas that normally supply the Ginger & Coffee Zone.

Malaria. Malaria is a perennial problem, but one which is significantly worse in some years than others. In years of high prevalence, food security can be undermined because farmers may be unable to work at certain critical periods of the agricultural season.

Livestock disease. Trypanosomiasis is the single most important problem affecting livestock in the zone, especially in the lowlands and the bordering areas. Much of the household-level expenditure on livestock drugs is directed towards combating this particularly serious disease. Other livestock diseases that pose a problem in the zone are pasteurellosis, black leg, internal and external parasites and anthrax.

Other. Other chronic problems affecting the zone include the high cost of inputs, especially fertilizer, and seasonal water shortages.

Response Strategies

People will pursue a number of strategies in order to try and cope with a hazard affecting food security. The main strategies for the ginger and coffee zone are as follows :

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has strict limits if the sale of productive animals (i.e. oxen and/or adult females of reproductive age) is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased sale of butter and milk. This is an option pursued by many middle and better off households at times of crisis, exploiting the fact that these are high value products in demand in most years. Any reduction in milk production (e.g. as a result of drought) will tend to reduce the effectiveness of this strategy (in which case it may not be possible to increase the actual amount sold, but only the *proportion* of total production that is sold).

Increased consumption of enset. Enset is an important drought-resistant reserve crop for the zone. Consumption tends to increase when other foods are in short supply. However, since enset is a relatively slow-growing plant, it can take several years for stocks to regenerate once reserves have been run down in a crisis year. Providing reserves are not depleted, enset may cover roughly a month of minimum consumption needs for a poor household in a bad year and between 1-2 months for a typical better off household.

Increased out-migration in search of casual labor. Men from poorer households migrate out of the zone every year in search of casual labor. In a bad year, more migrants leave, and they leave roughly two months earlier (in July rather than September). It seems that there is a strong demand for casual labor in neighboring areas, and that this demand is sustained in bad years, especially if labor rates decline, in which case those employing migrant labor can get more work done for the same total expenditure as in a good year.

Intensification of local income generating activities. Poor households will increase their participation in a range of

activities in a bad year, including local casual labor (on farms and in neighboring towns), the collection and sale of firewood and grass, and petty trading. This is possible because opportunities for a number of these activities increase in a bad year. For example, the demand for grass increases in a drought year (as fodder for livestock is in short supply), and the opportunities for petty trade also increase (in line with the greater demand for basic staple foods). There may also be an increase in the demand for firewood and for local labor, especially if the cost of these items declines, which is often the case in a bad year.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling. This may not be the only reason school attendance declines in a bad year, however. Children may also be pulled out of school to earn income through casual labor or to help at home while other family members are out working.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, the availability and price of inputs, crop pest outbreaks, malaria, the timing of harvests, staple food, cash crop and livestock prices, rates of out-migration and payment rates for casual labor.

Season	Month	Indicator
Dry Season	Jan	
	Feb	Delayed availability and high prices for inputs. High maize prices and low livestock prices (Feb-May)
Belg rains	Mar	An early and severe outbreak of malaria (Feb-May) A late start to the belg rains, delayed planting and delayed sweet potato harvest.
	Apr	Late planting of maize and beans Outbreak of army worm.
	May	
Kremt rains	Jun	Delayed green harvest of beans and persistence of high maize prices (June-July) Dry spells affecting flowering and seed setting of maize.
	Jul	Delayed green maize harvest. Delayed availability and high prices of <i>meher</i> season inputs Early out-migration in search of casual labor. Outbreak of coffee berry disease.
	Aug	Irregular or excessive rainfall and hailstorms (Aug-Oct) Crop pest infestation.
	Sep	Low coffee prices during sales period (Sep-Dec)
	Oct	Failure of meher season harvests, especially maize. Persistence of high maize prices during and after the main harvest period.
Dry Season	Nov	Decline in labor rates (Nov onwards). Low ginger prices during sales period (Nov-Mar) Severe outbreak of malaria.
	Dec	Sweet potato butterfly infestation (Dec-Feb) Absence of any rain from Dec-Feb, affecting growth of sweet potato

SNNPR Livelihood Profile

Western Coffee and Spices Livelihood Zone

June 2005¹

Zone Description

The Western Coffee and Spices Livelihood Zone is a fertile zone, where rainfall is reliable, households are food secure and income levels are relatively high. It occupies an extensive area of three administrative zones of western SNNPR: Sheka, Kaffa and Bench Maji.

The zone is divided into two sub-zones in this profile, based on differences in the types and amounts of major food and cash crops produced. The main spices harvested in the west are ginger and turmeric, while in the east the main spice is cardamom. In both cases, most of the spices grow wild in forest areas. Coffee and spice production is higher in the west, while food crop production is higher in the east. Maize and sorghum are produced in both sub-zones, but enset and teff are only produced in the east.

Landholdings are similar in both sub-zones, but livestock holdings are slightly larger in the east. Lastly, the west retains more natural forest cover (which is a good source of wild coffee and spices), while a larger proportion of the land is cultivated in the east.

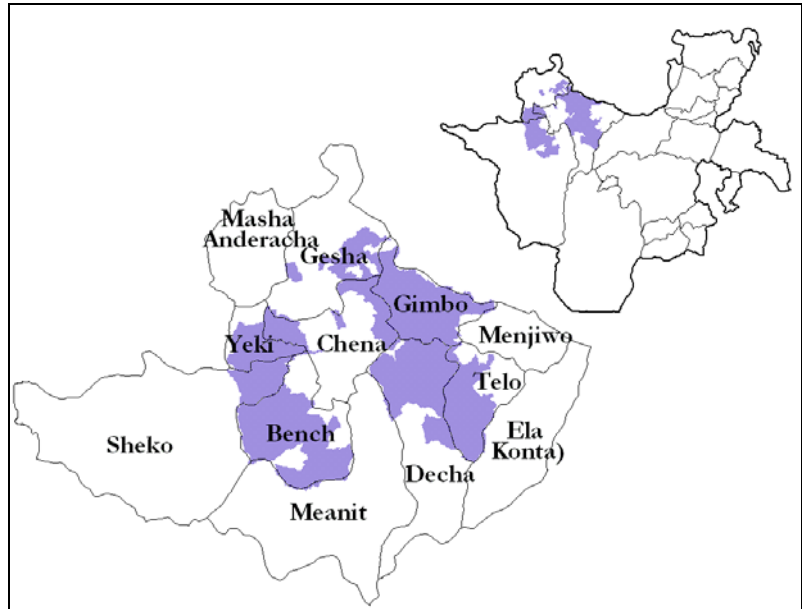
The western sub-zone includes Yeki woreda in Sheka Administrative Zone, most of Sheko woreda in Bench Maji Administrative Zone, and part of Bitu woreda in Kaffa Administrative Zone. The eastern sub-zone includes parts of Bench and Shey Bench woredas in Bench Maji Administrative Zone, and most of Chena, Decha, Bitu and Gimbo woredas and parts of Cheta and Gewata in Kaffa Administrative Zone.

The livelihood zone receives moderate to heavy rainfall throughout the year, except in the months of December to February, which are relatively dry months. The terrain ranges from tropical lowland to mountain forests, but the largest part of the zone falls in the midland (*woina dega*) agro-ecological zone. In terms of land use, it includes both smallholdings and large state and private plantations that produce coffee, tea and rubber.

The presence of large plantations provides a labor opportunity for the local population and also attracts large numbers of migrant workers from outside the zone every year. It is common for outside laborers to eventually settle permanently in the zone. The western sub-zone in particular is predominantly occupied by settlers that originally came from outside the region.

Livestock are not reared in large numbers in this livelihood zone primarily due to pasture shortage, which is caused by the widespread growth of perennial crops such as coffee. A limited number of sheep and cattle are reared on the land around residential areas and by using supplementary feed such as crop residues and enset leaves. Livestock numbers generally increase from west to east in the livelihood zone. In the eastern sub-zone, there are more open spaces for rearing livestock, partly because coffee plantations are less extensive.

The major problems faced by people in the zone are caused by crop diseases, market failure and ethnic conflict. Coffee wilt disease (tracheomyces) and coffee berry disease seriously affect coffee production and therefore also affect household cash incomes. Similarly, rodents like squirrels and bacterial wilt disease attack enset, an important source of food for the eastern sub-zone. On the market side, the slump of international coffee prices a couple of years ago greatly



¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to June 2003-May 2004 (Sene 1995 to Ginbot 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of average production and rural food security, when judged in the context of recent years). Compared to other livelihood zones, an average year in Western SNNPR is a good year, since bad years are unknown. 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 2010).

affected the livelihoods of people in the zone, as did the problem of low prices for spices due to lack of demand. Without these crop and market hazards, the households in this livelihood zone would have had substantial surplus production and income. Prices for coffee and spices have improved since the reference year.

The main ethnic groups in the western sub-zone are the Sheka, Sheko and Mejenger and in the eastern sub-zone are the Bench, Meanit and Kaffa. In 2002, there was a conflict involving the Sheka, Sheko, Mejenger and some settlers (mainly Amharas and some Oromos and Tigrayans). Conflict at the same time in the eastern sub-zone involved a small minority group in the called the Menja, who are highly discriminated against despite the fact that they speak the Kaffa language and live in Kaffa Administrative Zone. Conflict has cost many lives and affected the stability of the area.

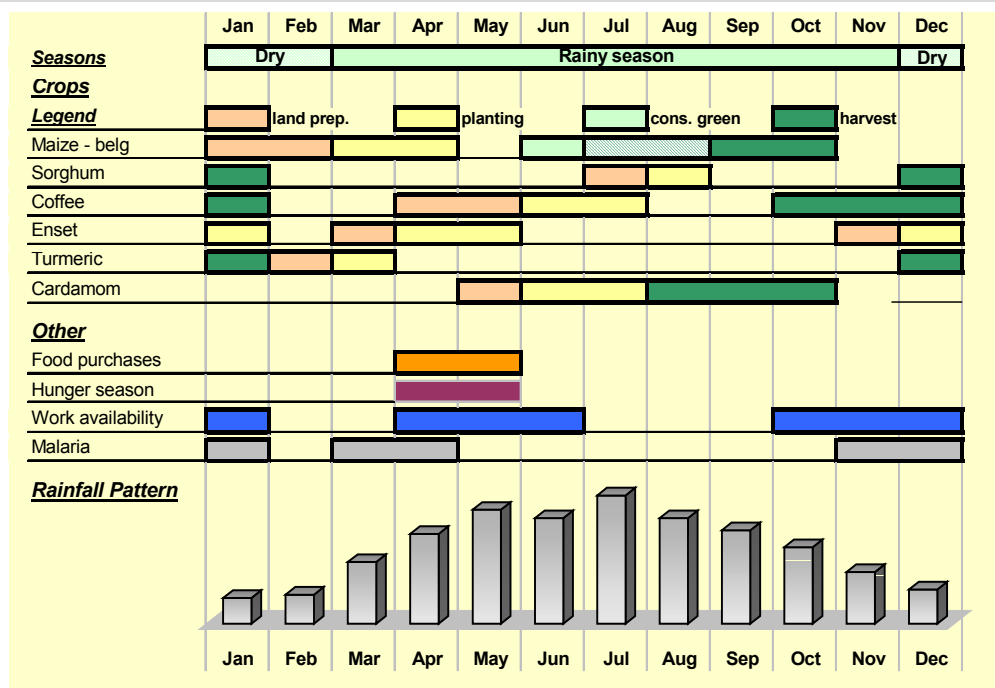
Markets

Farmers sell their produce either directly to traders or at nearby kebele markets. The three major towns of Mizan Teferi, Tepi and Bonga are the main secondary markets for the zone, where small traders who purchase from farmers directly or in small kebele markets sell on to larger merchants. All-weather roads connect these three large markets, but the other roads in the livelihood zone are dry-weather and access becomes very difficult during the rainy season. Furthermore, many kebeles are not connected by any type of road.

Seasonal Calendar

The livelihood zone receives rainfall for most of the year, from March to November. Green maize consumption starts in June but is most common in July and August. The hunger season falls in the months running up to the start of the green maize harvest, and this is also when food purchases peak.

Although enset planting periods are marked in diagram, enset takes a number of years to mature, depending on altitude. In *woina dega* areas, it may take only 3-4 years, whereas in *dega* areas it takes 6-7 years. Harvesting can occur at any time of the year. Similarly for cardamom, maturity is reached only after



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

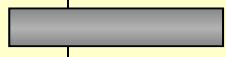
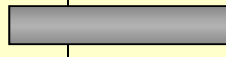
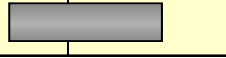
2-3 years, not within one season as might be suggested in the diagram above.

The main periods for laborers to find work in this livelihood zone are April – June and October – January. Local laborers provide most of the work in the first period. In the second period, both local and migrant laborers find work, as demand is very high at this time for harvesting coffee.

Malaria occurs throughout the year, but periods when it is most severe are marked in the graph.

Western Sub-Zone

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Land cultivated with cash crops	Livestock
Poor		4-6	0.5 - 1.5 ha	0.25 - 0.75 ha	0-2 cattle, 0-2 sheep
Middle		5-7	2 - 3 ha	1 - 1.5 ha	1 plow ox, 1 - 3 cattle, 3-5 sheep
Better off		6-8	3.5 - 5 ha	2.5 - 3 ha	2 plow oxen, 2-4 cattle, 3-5 sheep
0% 10% 20% 30% 40% 50%					

The primary determinant of wealth in this sub-zone is the area of land cultivated, particularly the area of land cultivated with cash crops. Livestock ownership is the second determinant of wealth, but it is not as important as land due to the lack of communal pasture areas in this part of the livelihood zone. The need for plow oxen for cultivation is also minimal due to the dominance of perennial cash crops.

The better off in the sub-zone have large fields of coffee and, in addition to the relatively large amount of labor available within the family, they hire labor during peak periods in the agricultural calendar, such as harvest time.

Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of average crop production (2003-2004). Own crop production was the main source of food for all wealth groups in this sub-zone. The main food crops in this livelihood zone are maize and sorghum.

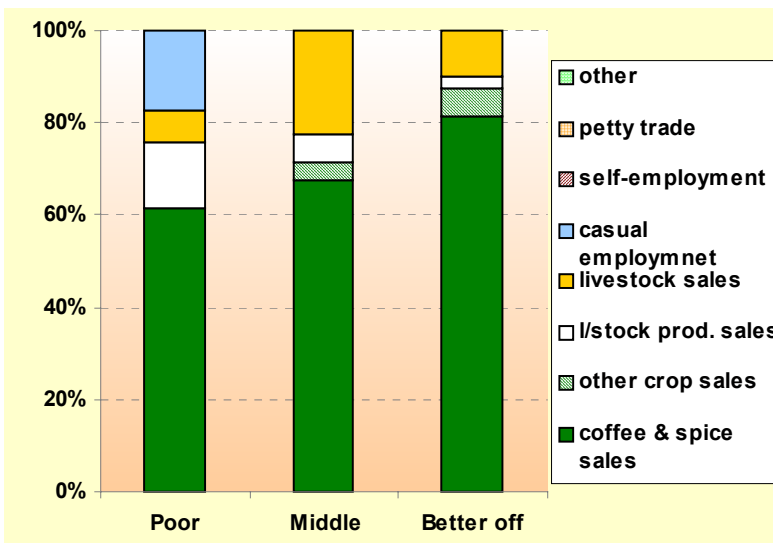
Purchase was the second source of food in the reference year. The poor purchased about a quarter of their food in that year, all of which was staple food, while the middle and the better off purchased relatively little staple food. The purchase of non-staple foods such as oil and meat was more important for these groups, which reflects their higher income levels and standard of living.

Although the contribution of livestock products (milk and meat) is much lower than that of own crops and purchased food, its contribution increases with wealth, reflecting differences in livestock holdings.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcal per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,500-2,000	3,000-4,000	7,000-8,000

a common activity for the poor and they are often paid in kind, keeping half of what they harvest. As a result, households in all wealth groups earned cash income from coffee sales in the reference year.

Livestock sales were the second most important cash source for better off and middle households in the reference year. In addition to typically selling one sheep and one calf in that year, middle households also purchased, fattened and then sold an ox. Poor households, in contrast, typically only sold one sheep and a couple of chickens.

All households earned cash income from the sale of livestock products (milk, butter and eggs), but this source of income was more important for poor households than for the other wealth groups. Milk and butter are high-value items that can be sold in small quantities on a regular basis, making them a particularly useful source of income for poor households. Poor households sold a higher proportion of their milk and butter compared to other wealth groups.

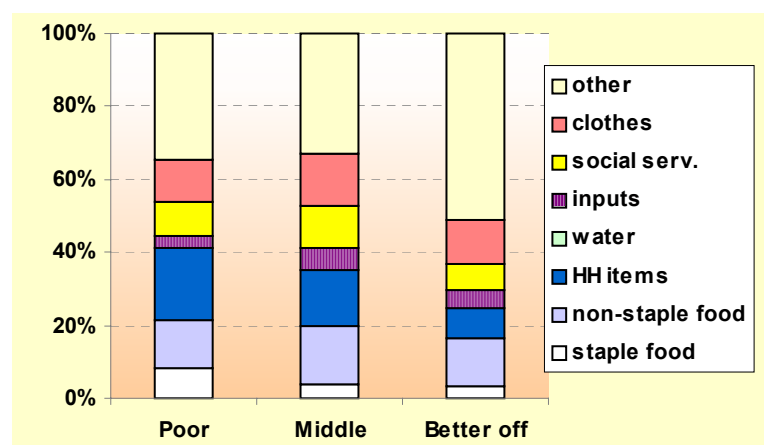
Income from local casual employment, mostly agricultural work for the better off, was another important source of cash income for poor households.

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varied significantly by wealth group. As expected, given the differences in crop production, the percentage of income spent on staple food decreased as wealth increased, although all groups spent a minor amount of their cash on this expenditure category.

Expenditure on production inputs, social services and clothes increased with wealth in absolute terms, although not necessarily in percentage terms. Relative to their income, the poor spent more on household items such as salt, soap, kerosene, and grinding than other groups.

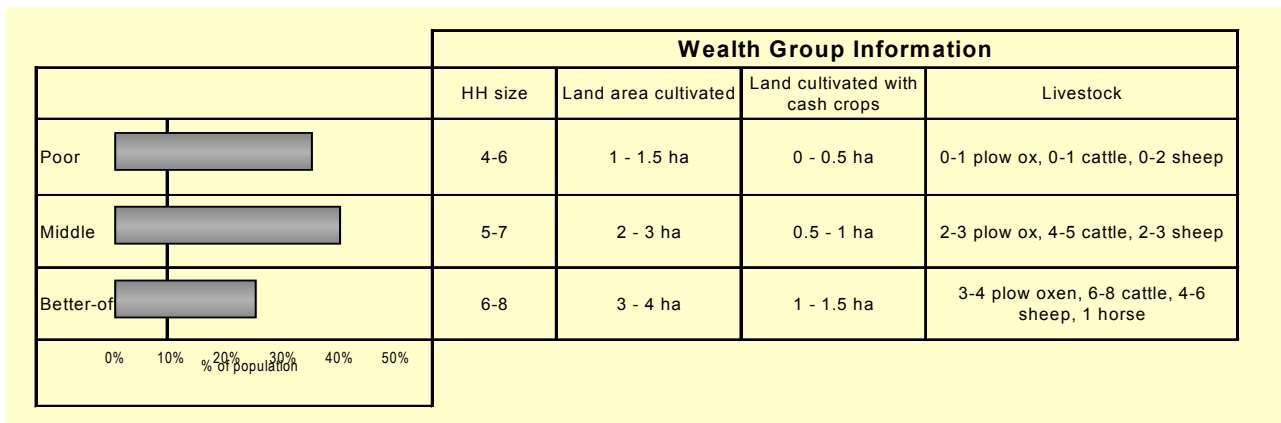
The 'other' expenditure category included social contributions, festivals, transportation, the purchase of sacks for crops and local drinks.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Eastern Sub-Zone

Wealth Breakdown



Wealth in the eastern sub-zone is determined by area of land cultivated and ownership of plow oxen and other livestock. Better off households cultivate more land than the poor, taking advantage of their larger landholdings and their oxen. They also obtain additional labor from poor households in exchange for the use of oxen, which requires the poor to cultivate for the better off in return.

The production of both cash and food crops is equally important in this sub-zone and the ownership of plow oxen has a significant contribution to the production process. Poor households in this sub-zone enter into agreements with other households in order to obtain access to oxen and other livestock. The first type of agreement is mentioned above, whereby poor households work for better off households in return for the use of their oxen. Another type of agreement is where two households (generally poor or middle households) share the ownership of an ox equally and alternately use the ox for plowing. The sale of one household's half share at current market price of the animal, or the transfer of ownership, also takes place whenever one of the households is short of cash.

A third type of agreement is more complicated: the poor household takes care of a young calf/bull of a better off household for 3-4 years, uses the animal for one to two years after it reaches maturity and returns it to the owner at the end of the agreed period. This type of agreement is known as "adero" and it applies for other types of livestock as well. When such an agreement is entered for a milking cow, in most cases the poor household uses all the milk and the calf is returned to the owner. In some cases they share the milk equally, while in others the owners milk the cow only on weekends. In the case of shoats, the offspring is usually shared equally.

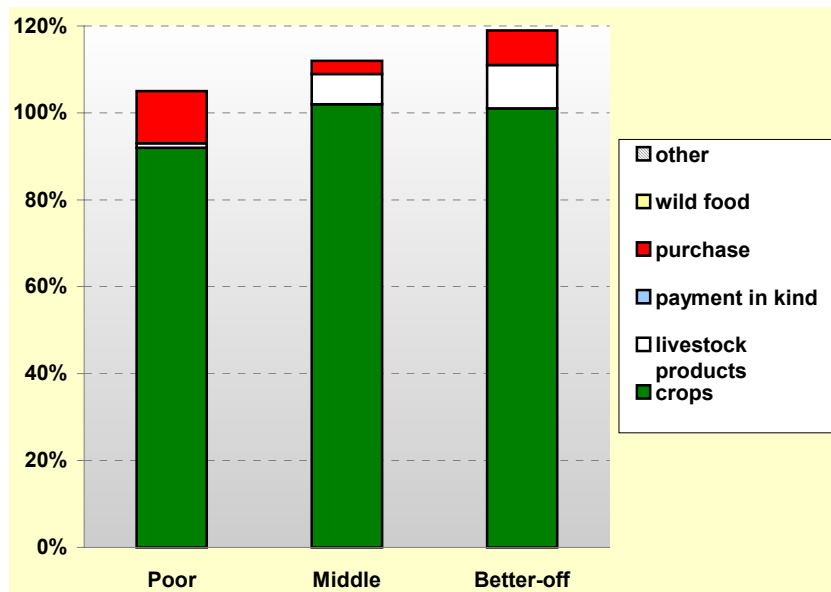
Sources of Food – An average year (2003-04)

The graph shows the pattern of access to food for the three wealth groups in the reference year. Middle and better off households were self sufficient from their own crop production, while the poor only needed to purchase a small amount of food in that year (and in most years). The major food crops of this sub-zone are maize, sorghum and enset.

The poor purchased both staple and non-staple food while households in the other wealth groups purchased only non-staple food (primarily meat and oil) to supplement their own production.

The total food intake increased with wealth and all households were able to cover more than 100% of their minimum food requirements.

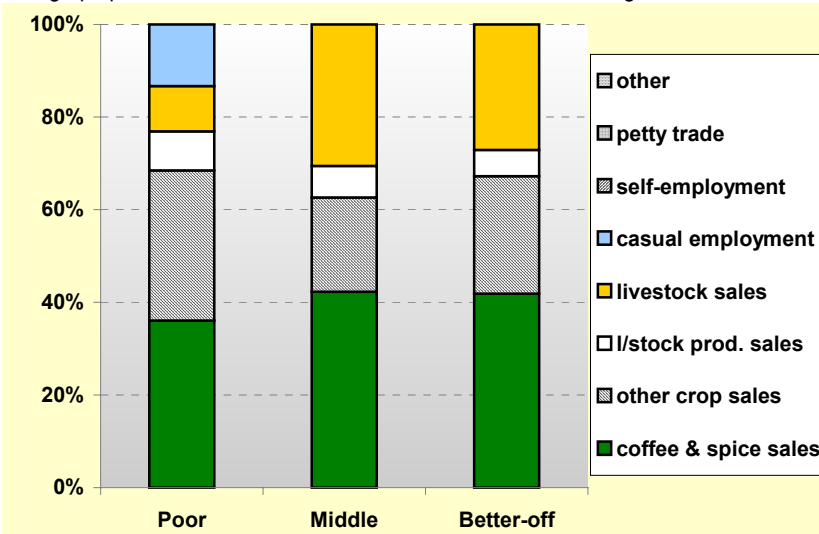
The contribution of livestock products was relatively small and increased with wealth.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)

The graph provides a breakdown of annual cash income according to income source.



Because cash crop production and sales were lower, the overall income levels of the three wealth groups in the eastern sub-zone were lower than in the western sub-zone.

Similar to the other sub-zone, however, there was a large difference in cash income between the poor and the better off. Better off households typically earned about four times more cash income than poor households in the reference year.

There was only a slight difference in income sources between wealth groups. All wealth groups obtained most of their cash income from the sale of crops – both cash crops and food crops. The most important cash crops were coffee and spices (primarily cardamom).

Livestock sales were the second most important cash earner for middle and

Annual income (ETB)	800-1,500	2,500-3,000	4,000-5,000

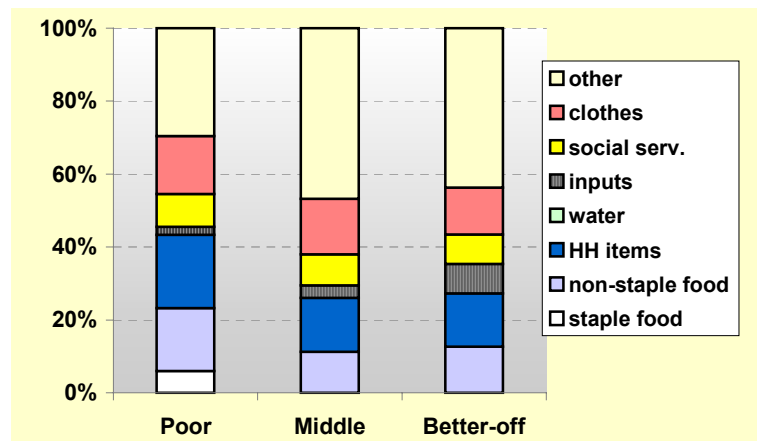
better off households. Unlike the western sub-zone, the sale of butter (livestock product sales) was common for all households in the eastern sub-zone and, together with the income from livestock sales, was a reflection of better livestock rearing practice in this sub-zone.

Poor households also typically obtained part of their annual income from casual employment for better off households within the community and for plantation owners.

Expenditure Patterns – An average year (2003-04)

With the exception of staple food, which was an expenditure item only for poor households, all wealth groups purchased similar items in the reference year. In most cases, the middle spent more money on and purchased larger quantities of each item than the poor, and the better off, in turn, spent and purchased more than the middle.

In the graph, 'social services' includes school and health; 'household items' includes coffee, salt, soap, and grinding; 'inputs' includes livestock drugs, seeds and tools (and fertilizer and agricultural labor in the case of the better off only); and 'other' includes tax, social obligations, ceremonies, transport and other miscellaneous items.



The graph provides a breakdown of total annual cash expenditure according to category of expenditure.

Western Coffee and Spices Livelihood Zone (both sub-zones)

Hazards

This livelihood zone is subject to a number of hazards. Some hazards undermine food security every year (chronic hazards), while others threaten food security in some years more than others (periodic hazards).

Crop diseases and pests reduce food and cash crop production. Coffee berry disease and coffee wilt disease (tracheomyces) greatly reduce coffee production of the zone. The latter is a highly contagious disease, the only remedy for which is to carefully uproot and burn the affected stem. This has long-term consequences for production, since the replanted coffee takes 3-4 years to reach maturity. The occurrence of coffee wilt disease is not associated with a specific season. In the eastern sub-zone, onset production is reduced by bacterial wilt disease and by rodents (such as squirrels). Wild animals are an additional 'pest' when crops are ripe, just before harvest.

Ethnic conflict within the indigenous ethnic groups and between natives and immigrant settlers, especially in the western *Western Coffee and Spices Livelihood Zone*

sub-zone, is the most serious hazard in the zone.

Household income levels suffer when **market prices** for cash crops are low. Coffee prices are determined by the international market and have fluctuated considerably in recent years, reaching a low in 2002-03. There was problem of low prices for spices due to lack of demand in the reference year, but more recently demand and prices have picked up.

Although rainfall is generally reliable in this livelihood zone, the **delayed onset of the rainy season** delays planting and also harvesting, thus prolonging the hunger season for poor households. In contrast, **heavy rainfall during the main harvest** periods can damage crops for all wealth groups. In contrast, coffee can be damaged at the flowering stage by **dry spells**, resulting in reduced yields from 'sunburn'.

Livestock diseases and **wild animals** are serious hazards to livestock production in all years and affect all households regardless of wealth status.

Response Strategies

In reality, this livelihood zone has not experienced any very serious crises to livelihoods in recent decades. 'Bad years' are generally not known in this part of SNNPR. However, households have both potential short-term strategies (which are largely unutilized) and widely practiced long-term strategies to respond to hazards that reduce their food and cash income.

In the short term, the potential strategies vary from potentially destructive strategies, such as the unsustainable sale of livestock, to more neutral strategies, such as the **reduction of non-essential expenditure**. The latter is a commonly employed strategy in bad years in other parts of SNNPR. Households can reportedly reduce expenditure on clothes, kerosene, ceremonies and other non-staple items in bad years. Generally, all wealth groups attempt to expand their food and income sources that are less directly affected by the hazard in bad years. For example, **livestock sales expand** for all wealth groups and poor households do **more local casual work**. Daily wage rates are often lower in bad years, so this means that able-bodied households members have to intensify the number of days per week that they work. The **increased consumption of enset** is a short-term strategy for households in the eastern sub-zone, but there are strict limits to this if households are to avoid depleting their reserves and reducing future production.

In the longer-term, households respond to many of the hazards by **adapting their cultivation practices**. Farmers uproot and replant coffee in response to coffee wilt disease. They attempt to select resistant species of enset to protect their production from bacterial wilt. They plant enset densely to protect the stems from rodents. They plant shade trees amongst their coffee trees, or plant their coffee in the forest, to protect the coffee from sunburn caused during dry spells. In addition, they farm in large groups in order to deter wild animals from attacking, often withdrawing children from school to allow them to herd livestock or work in the fields.

Indicators of Imminent Crisis

Season Month Indicator

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Rainy season	March	Late onset of rain or erratic rainfall
	April	Late onset of rain or erratic rainfall
	May	Outbreak of livestock diseases (blackleg and trypanosomiasis)
	Jun	Delay in green maize harvest
	July	
	Aug	Low cardamom prices (August - October)
	Sept	Heavy rain during maize harvesting period (September - October)
Dry season	Oct	Low coffee prices (October - December)
	Nov	
	Dec	Low turmeric prices (December - January)
	Jan	
	Feb	

The hazards that have most affected households in this food secure livelihood zone are related to market price shocks, particularly in relation to coffee and spices. The graphic presents the likely sequence of indicators in the lead up to a food or income crisis. There is a range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, livestock diseases, and market prices for cash crops.

The late onset of rain in some years results in the late sowing of crops and consequently the delayed availability of green maize, the impact of which is felt primarily by poor households. Heavy rain at harvest time also has a negative impact on production.

Some of the chronic and temporary hazards mentioned in previous sections, such coffee berry disease, enset bacterial wilt disease, rodents, and ethnic conflicts, are not seasonal occurrences and it is therefore difficult to have crisis indicators linked to particular months in the graphic above.

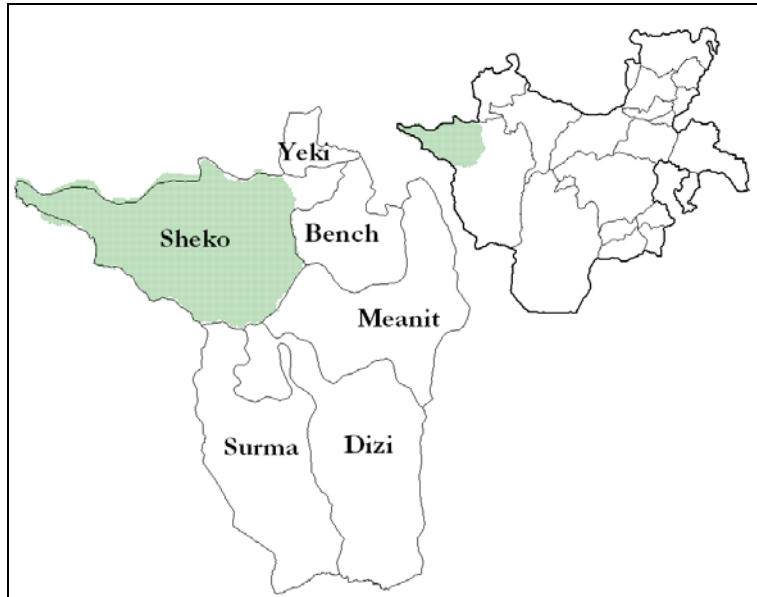
SNNPR Livelihood Profile

Western Forest Products Livelihood Zone

June 2005¹

Zone Description

The Western Forest Products Livelihood Zone is a sparsely populated area covered by dense natural forest. It is a food secure zone, with reliable rainfall and production compared to many other parts of SNNPR. It lies in the northwestern part of Bench Maji Administrative Zone and occupies most of Gurafarda and parts of Bench and Sheko woredas. The livelihood zone borders Gambella Region to the north and west. With altitudes ranging from 800 to 1800 meters above sea level, this zone contains both lowland (*kolla*) to midland (*woina dega*) areas. The zone is extensively covered by tropical lowland forest trees and plant species and coffee grows wild in the forest. Dense forests, grasslands and agricultural plantations cover the plains, undulating hills and valleys. The zone receives rainfall for most of the year and has fertile brown soil.



There are two very different groups of people living in this livelihood zone: the indigenous population and recent immigrant settlers. The indigenous Sheko, Meanit, and Mejenjer ethnic groups are heavily dependent on the resources of the natural forest. Until recently, most of these people lived in the forest by hunting and gathering, whilst those on the periphery were predominantly pastoralists. More recently, they have practiced shifting cultivation, growing maize and sorghum by clearing the land using hand tools such as hoes. In addition to this, they grow some root crops like taro and cassava and consume wild root crops such as forest *kechi* (yam) and cassava. The major cash earner for these people is honey, which they produce in large quantities throughout the year. The indigenous people are mostly polygamous.

The settlers, in contrast, are sedentary agriculturalists who grow various types of cereals and prepare their farmland by clearing the natural forest cover. The settlers have started planting coffee and rearing animals. In the last ten years, the number of settlers entering the zone has increased considerably. Most of these settlers have come to the area on their own from drought-stricken parts of Amhara Region and neighboring Oromiya Region, while a few have come through the government-sponsored resettlement program from other parts of SNNPR. Thus the population of the livelihood zone is increasing and the associated rate of deforestation has become alarming. The arrival of settlers, combined with the expansion of coffee plantations, uncontrolled timber harvesting and regular forest fires, is endangering the natural forest and reducing the number of wildlife.

The zone is sparsely populated. However, the large inflow of settlers to the zone in recent years is changing the settlement pattern, with the settlers increasingly dominating the area in terms of total population. As a result, the way of life for the indigenous population has changed. Some of those who used to be hunters, gatherers and shifting cultivators are gradually adopting the settler's way of life, while others have moved far from their original villages towards the interior of the forest looking for an undisturbed natural environment to continue their shifting cultivation and honey production. The latter are far removed from any social services and no attempt has been made by either governmental or non-governmental organizations to improve their access to health care or education.

The main sources of food and cash for the settlers are cereal crops. Cereals, root crops and honey are the main sources

¹Fieldwork for the current profile was undertaken in May-June 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), an average year by local standards (i.e. a year of average production and rural food security, when judged in the context of recent years, which in the case of this livelihood zone was in fact quite good). 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 2010).

of food for indigenous people and honey is the major cash earner. Coffee and pepper production is underway in some settlement villages. There are few livestock in the zone. According to key informants, this is due to both the prevalence of diseases such as trypanosomiasis and the lack of rivers crossing the livelihood zone, which means there is a lack of drinking water for animals.

Wild coffee is available in the zone, but people do not benefit much from it. The indigenous people complain that state and private farms now occupy the area where they used to collect wild forest coffee for their own consumption and for sale. The area occupied by the Bebeke coffee plantation and areas recently given to private investors are cited by indigenous key informants as examples of this trend.

Currently, the livelihood pattern in the zone is undergoing a major shift from the indigenous people's heavy reliance on forest products and shifting cultivation to the settler's intensive cereal production, supplemented by coffee production and livestock rearing. Immigrant settlers are beginning to plow using oxen and are starting to grow new crops such as millet, rice, sesame, onions and pepper.

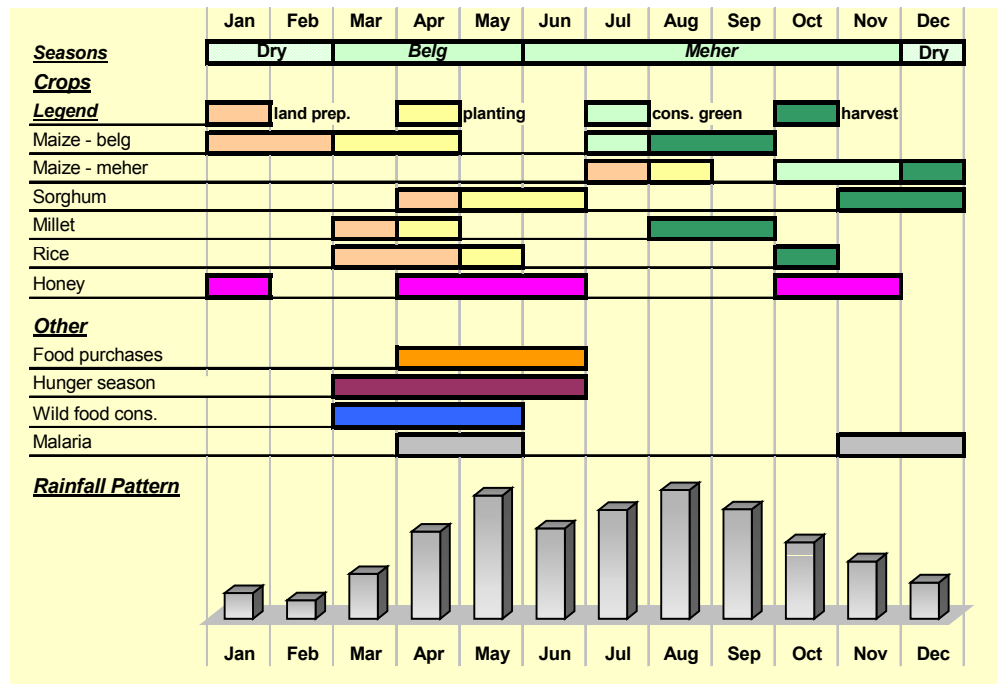
Markets

Most crops are sold at local kebele and woreda markets such as Biftu, Kuja, Bibita, Birhan and Bebeke markets. Traders also collect cereals like maize from farm gates and honey at roadside collection points and transfer it to Dima (Gambella), Mizan Teferi (the Administrative Zone capital) and Jimma (Oromiya). Generally access to markets in the livelihood zone is very poor. Most of the kebeles are inaccessible due to the lack of rural roads. The only good access in the livelihood zone is via the highway that crosses the woreda toward Dima (Gambella) and Maji (woreda town).

The indigenous people produce large quantities of honey but obtain poor prices from the local traders. The presence of state and private farms creates an opportunity for labor. However, most of the local people do not use this opportunity, since they are not familiar with this type of work. Laborers migrate in from neighboring woredas and distant places, and many remain as permanent settlers in the livelihood zone.

Seasonal Calendar

The zone receives rainfall throughout the year. There is a short 'dry' season from December to February, but in fact it is not completely dry. The period March to June is one of relative food shortage for the indigenous population. If it is coupled with a decline in honey production, the main cash income source during this period, households find it difficult to purchase food at this time. However, during these months, indigenous households rely heavily on wild foods, particularly root crops such as forest *kechi* (yams), cassava and *gebo*, a tree fruit eaten cooked or roasted.

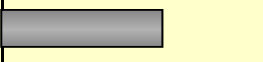
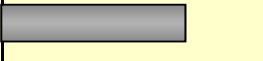



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Honey is produced in three main periods: April to June, October to November and January. Infrequently, excessive rainfall reduces honey production and the indigenous population falls short of cash income and is forced to rely more heavily on wild foods.

Malaria occurs throughout the year but is worse at the beginning of the short dry season and the beginning of the rainy season. Diseases like pneumonia and diarrhoea are also common, occurring throughout the year with no specific season of occurrence.

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Livestock	Other
Poor		4-6	1.5 - 2.5 ha	No livestock	>50 beehives
Middle		5-7	2.5 - 3.5 ha	1 plow ox, 0-3 shoats	20-30 beehives
Better-off		6-8	3.5 - 4.5 ha	2 plow oxen, 1-3 cattle, 2-4 shoats	5-10 beehives
0% 20% 40% 60% % of population					

Wealth in the Western Forest Products Livelihood Zone is determined differently for the indigenous population and the settlers. Among the indigenous people, only a few traditional leaders could be classified as middle and better off, as they occupy vast areas of land and also get labor and crop (especially honey) contributions from other members of the tribe. Most of the indigenous people population are poor and their livelihood strategy is different from the settlers. Recently, however, some members of the indigenous population have started to adopt a more settled way of life.

Among the settlers, there is a distinct wealth classification determined by the area of land cultivated and the number of oxen and other livestock. During the reference year, poor households (mostly indigenous) had no livestock at all while the middle and better off groups (mostly settlers) owned some livestock.

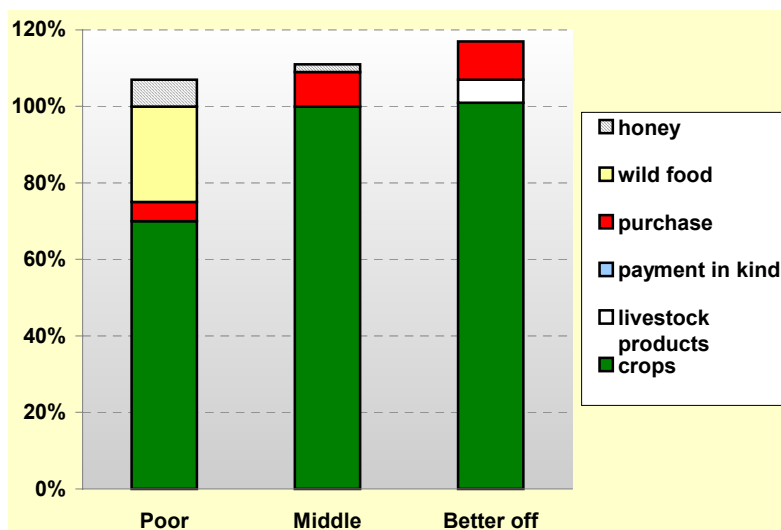
Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Western Forest Products Livelihood Zone for the period July 2003 – June 2004, which was a year of average production. July represents the start of the consumption year because this is when the green maize harvests starts, marking the end of the annual hunger season.

Own crop production was the most important source of food for all wealth groups. However, the contribution of own crops was greater for middle and better off households (mostly settlers) than for poor households (mostly indigenous). Poor indigenous households supplemented their crop production with wild foods (such as forest *kechi* (yam) and cassava), honey and purchased food.

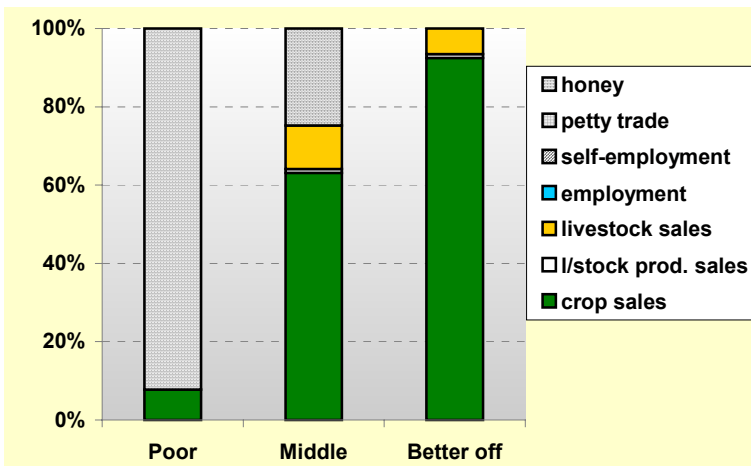
The types of food purchased by the different wealth groups were quite different. Poor households mainly purchased cheap cereals, while middle and better off households purchased more expensive items like meat, oil and pulses. The only group that benefited from the consumption of livestock products (such as milk) was the better off.

The graph shows that all wealth groups covered more than 100% of their minimum food needs in the reference year. However, the contribution of wild food had a significant contribution for the indigenous poor households in the months that come before the green harvest.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcal per person per day.

Sources of Cash – An average year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,300 – 1,500	1,500 - 2,500	4,500 - 5,500

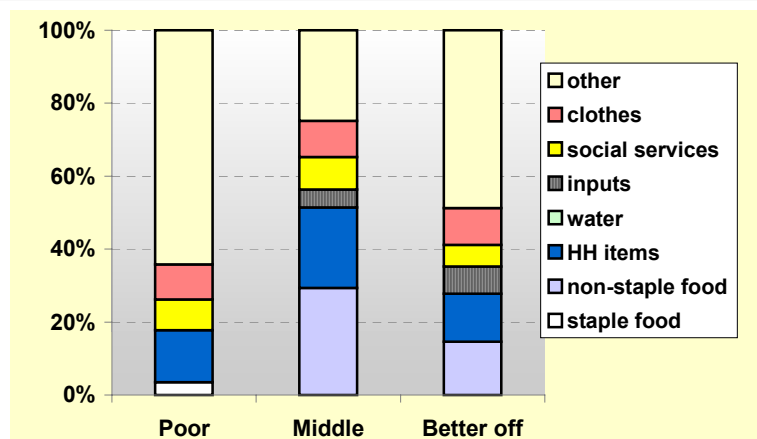
Currently, the livelihood strategy in this zone seems to be under transformation. The settlers have planted coffee over a wide area and some settlement villages have started producing pepper on a large scale. Hence, in the near future, there is potential for these crops to become major cash earners.

The graph presents the sources of cash income for households in different wealth groups for the period July 2003 – June 2004. There was a major distinction in sources of income between the poor and the other two wealth groups. The major cash earner for the poor was honey while it was crop sales (mainly of cereals) for other households.

The opportunity for obtaining income from casual work is considerable in the locality due to the presence of large plantations owned by state and private investors. However, poor indigenous households do not benefit from this opportunity. Rather, it attracts labor from outside the zone, especially from the north. Most of the settlers in the livelihood zone first came and settled in the area as laborers or were attracted by earlier settlers. Only poor settler households benefit from local casual work.

Expenditure Patterns – An average year (2003-04)

In the reference year, expenditure on staple food was insignificant in this livelihood zone, with the poor spending less than 5% of their income on this and the other groups spending nothing at all. Most of middle and better off household income in the reference year went towards the purchase of non-staple foods (meat, oil and pulses), household items, clothes and social services, while poor households generally did not spend on non-staple food at all. Rather, key informants and representatives of the poor wealth group stated that expenditure on local drinks and festivals (included in the 'other' category in the graph) were the highest priority for this wealth group.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

The category 'household items' includes salt, soap, kerosene and grinding. 'Other' includes tax, social obligations, ceremonies, alcohol and savings. 'Social services' includes spending on education and health. Expenditure on most items (except staple food) increased with wealth in the reference year (in absolute terms).

Hazards

This is a relatively food secure livelihood zone, which has experienced few serious hazards in the past. Rainfall is generally plentiful and reliable. However, **livestock disease (particularly trypanosomiasis)** is a problem every year and greatly limits the ability of households to rear livestock for food and cash income and to own oxen for plowing. **Deforestation** is an ongoing and gradually worsening hazard that threatens long-term food security. Continuing immigration and settlement inside the forest both endangers the ecosystem and threatens the lives and livelihoods of the indigenous population (as they are pushed out of their original locations where they have access to social services and markets). **Ethnic conflict**, including sporadic livestock looting and the associated killing of herdsman, is another potential hazard, which is partly the result of the continuing settlement of immigrants. Lastly, **excessive rainfall** can reduce honey production, the main source of cash income for poor households in this livelihood zone.

Response Strategies

Households in this livelihood zone have not developed a wide range of strategies to cope with hazards because the hazards they face are relatively few. However, some of the strategies that are available in other livelihood zones are also applicable here and represent the strategies that individual households employ when they face a crisis. The **reduction of non-essential expenditure** is a commonly employed strategy in difficult times. Households can reduce expenditure on clothes, kerosene, meat, ceremonies and other non-staple items. In order to manage the trypanosomiasis hazard, households **rear few livestock**. One strategy is to buy plow oxen during the cultivation season and then fatten and sell them immediately after the farming season. In order to cope with the gradual settlement and deforestation of the livelihood zone, indigenous households are **retreating further into the forest**. This strategy has negative consequences in the short term and will be unviable in the longer term if settlement in the area continues apace.

Indicators of Imminent Crisis

Although the rainfall in this livelihood zone is relatively reliable, there are negative consequences when it is late or excessive. A delayed start to the rainy season in March affects the planting of maize and consequently delays the availability of green maize in July, thus extending the hunger season. In addition, if forest fires occur as a result of the delayed rains, this destroys forest resources and can negatively affect honey harvesting. In contrast, excessive rains from April to June reduce honey production and therefore reduce the cash income of indigenous households. Excessive rainfall in November reduces coffee production and damages cereals at harvest time.

<u>Season</u>	<u>Month</u>	<u>Indicator</u>
Belg season	Mar	Delayed onset of rain associated with forest fire
	Apr	Outbreak of trypanosomiasis from March to July
Meher season	May	Heavy rainfall negatively affects honey production in April to June
	Jun	Outbreak of crop pests (stalk borer and crickets) in May and June
	Jul	Delay of green maize harvest. Outbreak of blackleg from June to August.
	Aug	Outbreak of pasturollosis from June to August
	Sep	Outbreak of trypanosomiasis from September to December
Dry season	Oct	
	Nov	Excessive rains affect cereal and coffee production
	Dec	Outbreak of pasturollosis from December to February
	Jan	
	Feb	

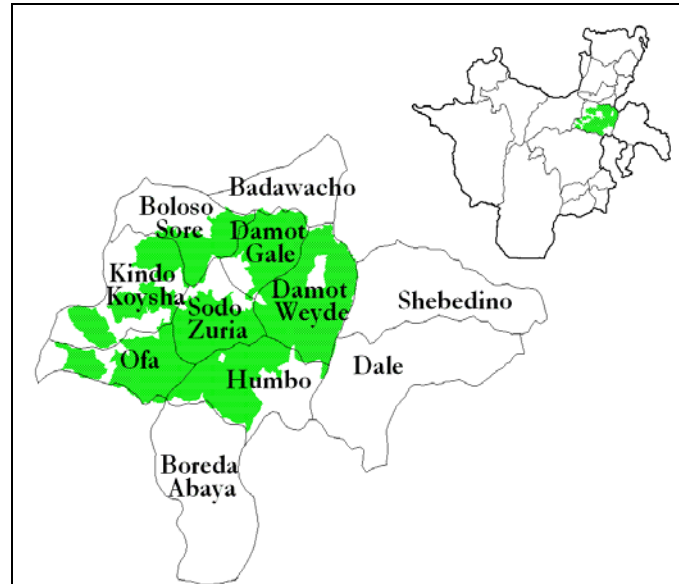
SNNPR Livelihood Profile

Wolayita Maize and Root Crop Livelihood Zone March 2005¹

Zone Description

The Maize and Root Crop Livelihood Zone includes most of the *woina dega* and upper *kolla* (or dry *woina dega*) areas of Wolayita administrative zone, with the exception of part of Boloso Sore woreda (the Ginger and Coffee Livelihood Zone). The livelihood zone consists of undulating hills and valleys and is bounded to the east by the Rift Valley and to the west by the Omo river. Most land is cultivated; there is no natural forest and very limited communal grazing land.

The zone is characterised by chronic poverty and food insecurity, the severity of which varies from year to year. A very high population density, acute land shortage and declining land fertility are the underlying causes of chronic food shortage in the zone. These problems are exacerbated in bad years by rain failure, crop pests and/or malaria (which significantly reduces human productivity in some years). One of the consequences of the acute land shortage is an increasing level of out-migration to urban areas.



Total annual rainfall is in the range 800-1,000 mm (long-term average). The main production season runs from March to November, beginning with the *belg* rains and continuing into the *kremt*. The main crops are maize, beans, sweet potatoes and teff, which are harvested from June to November. Small amounts of other root crops (taro, yams, cassava, Irish potatoes), wheat and sorghum are also grown. Maize and beans are intercropped, while sweet potatoes and teff are grown in single stands. Land use is intensive, with a second cycle of crops often planted as soon as the previous crop is harvested. Cash income is obtained from the sale of teff, coffee, maize and root crops.

Seasonal food shortages occur from February to June in most years, and from November to June in a bad year. Second season sweet potatoes (harvested from March-May) play a key role in determining the severity of these seasonal food shortages and a failure of second season sweet potatoes is a key indicator of impending crisis.

The availability of *enset* (or false banana) is a further factor affecting the severity of seasonal food shortages in the zone. *Enset* is a perennial drought-resistant reserve food crop, consumed during the hunger season months and also at the *Meskel* religious festival in September. The plant requires between 4 and 6 years to reach maturity, but may be harvested (at the cost of a much reduced yield) from the age of 2 years onwards. It is consumed mainly as *kocho* or 'bread' (prepared from the mature stems and roots) or as *amicho* or porridge (prepared from immature roots). A third type of food – *bulla* – is prepared only at *Meskel*. The preparation of *kocho* and *bulla* is labor intensive, generating employment for women from poorer households in most years.

Land fertility is declining for two reasons; there is no fallowing of land and there is only limited use of animal manure (mainly in the home garden, on *enset*, coffee and garden vegetables in the wet season). The result is an increasing dependence on expensive chemical fertilizers (DAP and urea), mainly for maize and teff. Fertilizers are available on credit from the Ministry of Agriculture (based upon a one third down-payment in cash) or for cash on the open market. Prices are prohibitive, however, and most farmers use less than the recommended amounts on their crops. Most farmers also use improved maize seeds, obtained from the Ministry of Agriculture or bought on the open market. For other crops, farmers generally use seed saved from the previous harvest.

A shortage of plow oxen contributes to the low levels of crop production in the zone. More than half of households do

¹Field work for the current profile was undertaken in March 2005. The information presented refers to July 2003-June 2004 (EC Hamle 1995 to Sene 1996), a relatively good year by local standards (i.e. a year of above 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 2010).

not own a plow ox. They either hire oxen in exchange for their labor or they cultivate by hand.

Grazing land is in extremely short supply, and cattle are raised using a 'zero-grazing' system. Under this system, animals are kept around the house and village and are given supplementary food in the form of crop residues and weeds. These residues include the stems and leaves of maize, teff, wheat, sweet potatoes and enset. There is also an active market in grass (fodder) during the rainy season, collected mainly by poorer households from community land, river valleys and eucalyptus tree plantations.

Cattle ownership is highly skewed, and over half of households own no cattle at all. Households without livestock often care for cattle belonging to better off households according to a loan arrangement known locally as *yerbee*. Under this arrangement the poor feed and care for the animal in return for a share of milk production (in the case of a milking animal) or a share in the sale price (in the case of a bullock or heifer). An additional benefit for the poor is access to manure from the *yerbee* animal.

The fattening of oxen for the Addis Ababa market provides an important source of cash income for the zone. Typically oxen are purchased at the beginning of the year. After being used for plowing they are then fattened for sale at *Meskel*.

For poor households in the zone, making ends meet is difficult even in years of relatively good harvests, and for these households migration out of the zone in search of casual labor is common in both good years and bad. The main destinations are state farms in the rift valley and private farms in areas adjacent to Wolayita (Awassa, Shashamene and Alaba). There is a strong demand for cheap casual labor in these areas, and, it seems, substantial capacity to absorb additional labor when crops fail in Wolayita itself.

The main sources of income for the zone as a whole are sale of livestock, sale of crops and out-migration in search of casual labor. Opportunities to generate income from these sources are limited, and purchasing power is therefore low. Shortage of land restricts the number of animals that can be kept and trypanosomiasis is a significant problem in lowland parts of the zone. There is little surplus crop production that can be sold, and prices are low for those crops that are marketed (teff, coffee, maize and sweet potatoes). Market access in the zone is generally good. There may be some scope for improving local farmers' access to markets through the encouragement of sales cooperatives and the upgrading of local roads (the primary road network was being improved at the time of the current assessment).

The main sources of water for the zone are springs and rivers, followed by deep and shallow wells. Water sources are generally to be found within 0.5 – 1.5 hours walking distance from villages. Water shortages occur during the dry season, from November to February, when springs may dry and people without access to wells have to depend upon local river water, with a consequent increase in the incidence of water-borne diseases.

The zone is prone to **acute food insecurity**, and the following should be noted in relation to this:

- 1) Acute food insecurity frequently occurs when *belg* season sweet potatoes fail and when green maize production is delayed. A late start to the *belg* rains and/or an outbreak of sweet potato butterfly can rapidly lead to acute food shortage, resulting in very short lead times for intervention.
- 2) Out-migration in search of casual labor is an important response strategy for poorer households in the zone, and the availability of labor on state farms and in neighboring surplus producing areas is a key factor to monitor for the zone.
- 3) Very poor households have great difficulty making ends meet even in a relatively good year, such as 2003-2004. This indicates a need for year-on-year safety net support for this group.

Markets

There are two types of market in the zone. The main markets are held in the woreda towns and larger peasant associations once or twice a week. These are supplemented by local evening markets called *kochi*, which attract large numbers of local petty traders, buying and selling a wide range of items including grain, salt, prepared foods, butter and coffee. Typically these traders buy and sell small volumes at a very low margin, making anything between 1-3 birr per market day. The intensity of market activity means that there is good market access for the local population throughout the zone, but only to relatively small volumes of goods at any one time. It is not entirely clear why this pattern of marketing has developed in the zone, but the high population density (and short distance between communities), the high dependence of the population on the market for basic food and other items, and the poor condition of secondary roads (which may inhibit access by vehicles and larger traders) may all be contributory factors.

Access to markets outside the zone is by vehicle and depends upon the condition of roads connecting the woreda towns to Soddo (the administrative and marketing centre for Wolayita), and onwards to Shashemene and Addis Ababa. At the time of the current assessment (March 2005), work was underway to improve the all-weather road from Soddo to Shashemene, and to construct a new all-weather road providing an alternative western route from Soddo to Addis Ababa via Areka (Bolosso Sore woreda) and Hosaina.

Both maize and coffee are sold out of the zone in the months of September to December. The destinations for these crops are Shashemene and Addis Ababa, and to a lesser extent, Awassa. There is also some sale of sweet potatoes to the same markets, but volumes are small as demand for sweet potatoes is limited.

Wolayita Maize and Root Crop Zone

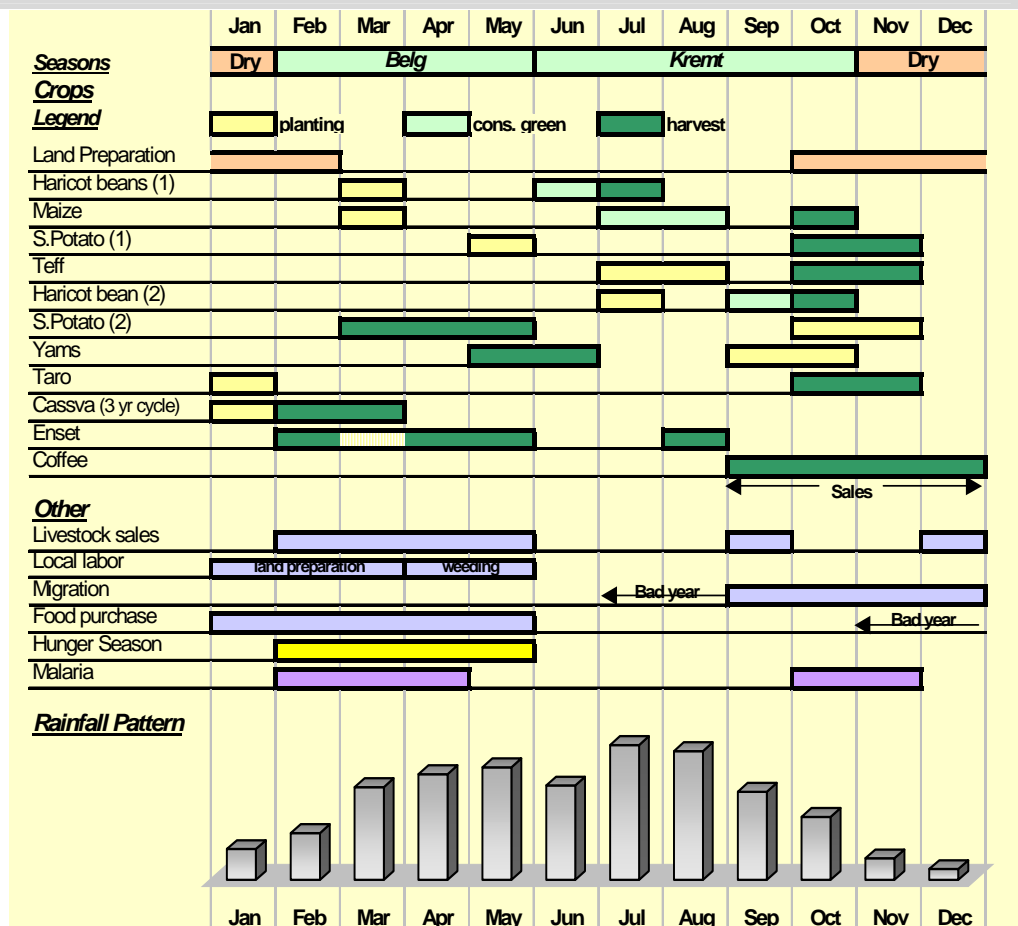
Maize and sweet potatoes are also sold and traded within the zone, alongside teff, sorghum and wheat (which are consumed mainly in the woreda towns) and other root crops such as taro and yams.

From January to July, maize is imported into the zone to meet the demand of poorer farmers whose own production is insufficient. The main sources are Waka and Dawro markets in Jimma to the west, and Gurage and Addis Ababa to the north.

The peak periods for the sale of livestock are February to May (when animals are sold to purchase grain), *Meskel* and Christmas. Cattle (mainly bullocks and heifers) and small stock are sold for local consumption and onwards to Shashemene and Addis Ababa. *Meskel* is the main season for selling fattened oxen, most of which are destined for Addis Ababa.

Seasonal Calendar

Food access in the zone is highly seasonal and depends upon the pattern of rainfall and crop production. In most years, seasonal food shortages occur from February, when main season crops run out, until June, when the first green crop (haricot beans) is harvested. This is followed by the all-important harvest of green maize in July and August. Poorer households consume most of their maize green at this time, and may harvest no more than 0.5-1 quintal dry, even in a relatively good year. October and November are the main harvest months, when dry maize, sweet potatoes, teff, taro and a second planting of haricot beans are harvested.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

There is a second planting of sweet potatoes on land used for maize in Oct-Dec, this time for harvesting in March to May. This is more productive than the first planting of sweet potato (in May), because the crop benefits from the drier conditions from November to January and the wetter conditions thereafter. Second season sweet potatoes are an important source of food during the hunger season months of March to July, and a failure or delay of the sweet potato harvest (e.g. because of a late start to the *belg* rains or an outbreak of sweet potato butterfly) can precipitate severe food shortage and a decline in nutritional status. Other crops harvested during these critical hunger-season months are enset, cassava and yams, but production of these is limited, especially for poorer households.

As crops run out, most households turn to purchase as the main source of food. Cash income for these purchases is derived from local agricultural labor (very poor and poor households) and the sale of livestock (poor and middle households).

Labor migration provides an important seasonal source of income for poorer households in the zone. In most years this takes place from September to December, and from as early as July in a bad year. Work is found on state farms in Awash (cotton, fruit and sugar cane) and Arba Minch (cotton) and on private farms in Awassa, Shashamene and Alaba (harvesting pepper, maize and teff).

Malaria has two seasonal peaks, one at the beginning of the rains, and one at the end.

Wealth Breakdown

	Wealth Group Information			
	HH size (per wife)	Land area cultivated	Perennial crops	Livestock
Very Poor	4-6	0.13-0.25 ha	0 mature enset	None owned. <i>Yerbee</i> : 0-1 milking cow
Poor	5-7	0.25-0.38 ha	0-8 mature enset	None owned. <i>Yerbee</i> : 0-2 cattle, 1-3 small stock
Middle	6-8	0.38-0.75 ha	10-15 mature enset 25-65 eucalyptus trees	0.5-1 plow oxen, 2-6 cattle, 4-6 small stock
Better-off	7-10	0.75-1.5 ha	10-30 mature enset 60-120 eucalyptus trees	1-2 plow oxen, 10-20 cattle, 7-10 small stock

0% 10% 20% 30% 40%
% of population

The area of land cultivated and the number of livestock owned are the primary determinants of wealth in the Maize and Root Crop Zone. Better off households cultivate on average 6 times the area cultivated by the very poor. Not only do they own more land, they sometimes rent additional land from poorer households in return for a share of the harvest or for a one-off cash payment. They also obtain higher yields per unit area through the greater use of plow oxen, by applying the recommended amounts of fertilizer, by employing others to work on their fields and by consuming less of their harvest green. They plant more enset and obtain higher yields from this by allowing most of it to reach maturity. They also set aside some of their land to plant with eucalyptus trees.

Very poor and poor households, in contrast, plant almost all of their land with annual food crops, most of which they consume green because they are perpetually short of food. They cultivate some enset, most of which they harvest immature, once again to meet immediate food needs, with the result that overall yields are much reduced.

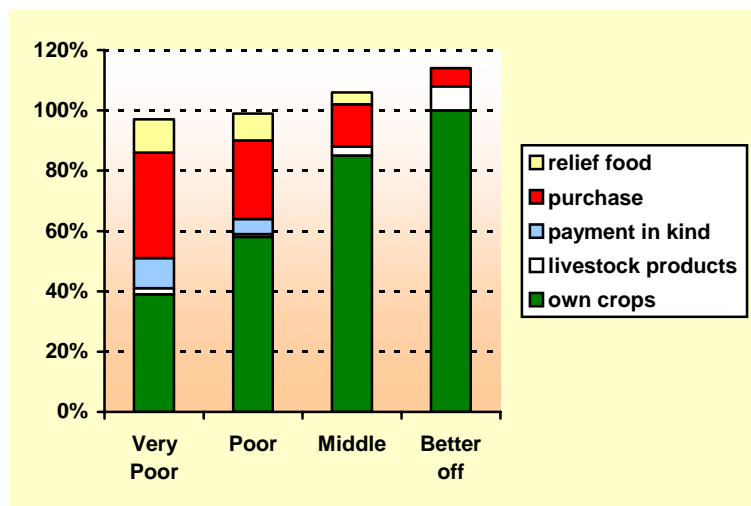
Only the middle and better off own livestock, of which cattle are by far and away the most important. Most very poor and poor households do however care for one or more animals according to a loan arrangement known locally as *yerbee*, as mentioned above. The animal cared for may be a milking cow, a bullock or heifer or one or more small stock. The payment varies according to the type of animal. In the case of a milking cow for example, the butter goes to the owner, while the skimmed milk is consumed by the poorer household.

Sources of Food – A good year (2003-04)

The graph shows the pattern of access to food for different types of household in a year of relatively good crop production (2003-2004). It is striking that even in a good year only the better off were self-sufficient in terms of food – other households had to purchase at least part of their minimum food requirements. In the case of the very poor, at least as much food was purchased as comes from own crops.

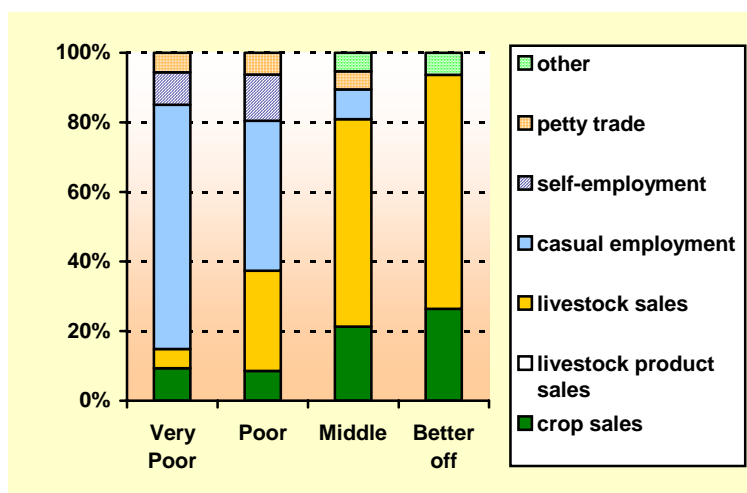
Other sources of food for the very poor and poor were food aid (quite important even in a relatively good year), migration (food consumed by the migrant while away from home) and labor exchange (payment for labor – mainly the preparation of *kocho* – directly in food rather than in cash). Migration and labor exchange were combined in the category ‘payment in kind’ in the graphic.

Total food intake tends to increase with wealth. Even in a relatively good year, and one in which food aid was distributed, the very poor were unable to fully cover 100% of their minimum food needs, while the poor are only just able to achieve this level of food intake.



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

Sources of Cash – A good year (2003-04)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	600-700	700-850	1,200-1,600	2,000-2,700

In the reference year there was a roughly 3-4 fold difference in cash income between the very poor and the better off. There were also very significant differences in income source. For the middle and better off, most income was obtained from the sale of crops and livestock (including butter), while casual labor (which includes savings from migration) was the single most important income source for the very poor and poor.

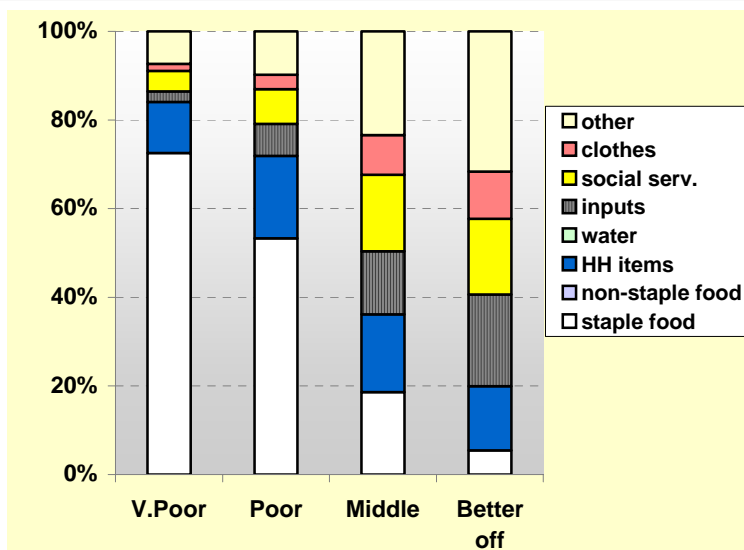
Teff and coffee were sold by all wealth groups, whereas only the middle and better off sold maize and root crops. For the very poor and poor, livestock sales included chickens and eggs as well as a share of the income from any *yerbee* animals sold. For the middle and better off most livestock sales income came from the sale of cattle, with the sale of fattened oxen the single most important item.

Very poor, poor and middle households also obtained small amounts of income from petty trade.

Expenditure Patterns – A good year (2003-04)

The graph presents the expenditure patterns of households in the Wolayita Maize and Root Crop Livelihood Zone for the period July 2003 – June 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. Roughly 70% of very poor income went towards staple food, compared with just over half of poor income and 20% or less of middle and better off income. Expenditure on a number of other items increased significantly with wealth, most notably expenditure on inputs (mainly fertilizer and improved seeds), on social services (which includes schooling and medicine), and on clothes.

Household items (HH items) include coffee, salt, soap, kerosene and grinding, while 'other' includes non-staple foods such as meat, tax, social obligations and ceremonies.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

The Maize and Root Crop Zone is subject to a number of hazards, some of which undermine food security every year, while others threaten food security in some years more than others. The main hazards affecting the zone are:

Chronic shortage of rain and drought. Lack of rain is a chronic problem in the zone. Drought, which can include a late start to the rains and/or an uneven distribution of rainfall, is the single most important cause of acute food insecurity in the zone. A late start to the *belg* rains is especially significant, resulting in an extended and more severe hunger season than usual, reducing the harvest of sweet potato (March to May) and delaying the green harvest of beans and maize (from June to July or possible August). Excessive rain and hailstones can also be a problem at certain times of year.

Crop pests. A wide range of pests attack crops in the zone, of which the most important are sweet potato butterfly (especially if this affects the critical sweet potato harvest from March to May), maize stalk borer, army worm (affecting maize, teff and other crops), enset bacterial wilt and coffee berry disease.

An increase in staple food prices. Very poor and poor households are especially vulnerable to an increase in staple food

prices given their heavy dependence on the market for food and their relatively limited purchasing power. The most common scenario is for staple food prices to increase as a result of local crop failure, but it is also possible for staple prices to increase independently of local production, e.g. if there is crop failure in the areas that normally supply the Maize and Root Crop Zone.

Malaria. Malaria is a perennial problem, but one which is significantly worse in some years than others. In years of high prevalence, food security can be undermined because farmers may be unable to work at certain critical periods of the agricultural season.

Livestock disease. Trypanosomiasis is the single most important problem affecting livestock in the zone, especially in the lowlands and areas bordering these. Much of the household-level expenditure on livestock drugs is directed towards combating this particularly serious disease. Other livestock diseases that pose a problem in the zone are pasteurellosis, black leg, internal and external parasites and anthrax.

Other chronic problems affecting the zone include the high cost of inputs, especially fertilizer, and seasonal water shortages, affecting Damot Gale woreda especially and lowland areas generally.

Response Strategies

People will pursue a number of strategies in order to try and cope with a hazard affecting food security. The main strategies for the Maize and Root Crop Zone are as follows:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has strict limits if the sale of productive animals (i.e. oxen and/or adult females of reproductive age) is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased sale of butter and milk. This is an option pursued by many middle and better off households at times of crisis, exploiting the fact that these are high value products in demand in most years. Any reduction in milk production (e.g. as a result of drought) will tend to reduce the effectiveness of this strategy (in which case it may not be possible to increase the actual amount sold, but only the *proportion* of total production that is sold).

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. Much will depend upon the pattern of food access in recent years, since enset is a relatively slow-growing plant and it can take several years for stocks to regenerate once reserves have been run down in a crisis year. Providing reserves are not depleted, enset may cover roughly a month of minimum consumption needs for a poor household in a bad year and between 1-2 months for a typical better off household.

Increased out-migration in search of casual labor. Men from poorer households migrate out of the zone every year in search of casual labor. In a bad year, more migrants leave, and they leave roughly two months earlier (in July rather than September). It seems that there is a strong demand for casual labor in neighboring areas, and that this demand is sustained in bad years, especially if labor rates decline, in which case those employing migrant labor can get more work done for the same total expenditure as in a good year.

Intensification of local income generating activities. Poor households will increase their participation in a range of activities in a bad year, including local casual labor (on farms and in neighboring towns), the collection and sale of firewood and grass, and petty trading. This is possible because opportunities for a number of these activities increase in a bad year. For example, the demand for grass increases in a drought year (as fodder for livestock is in short supply), and the opportunities for petty trade also increase (in line with the greater demand for basic staple foods). There may also be an increase in the demand for firewood and for local labor, especially if the cost of these items declines, which is often the case in a bad year.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling. This may not be the only reason school attendance declines in a bad year, however. Children may also be pulled out of school to earn income through casual labor or to help at home while other family members are out working.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the lead up to a severe food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, the availability and price of inputs, crop pest outbreaks, malaria, the timing of harvests, staple food and livestock prices, rates of out-migration and payment rates for casual labor.

<u>Season</u>	<u>Month</u>	<u>Indicator</u>	
Dry Season	Jan		
<i>Belg rains</i>	Feb	Delayed availability and high prices for inputs. High maize prices and low livestock prices (Feb-May)	
	Mar	An early and severe outbreak of malaria (Feb-May) A late start to the belg rains, delayed planting and delayed sweet potato harvest.	
	Apr	Late planting of maize and beans Outbreak of army worm.	
	May		
<i>Kremt rains</i>	Main harvest season	Jun	Delayed green harvest of beans and persistence of high maize prices (June-July) Dry spells affecting flowering and seed setting of maize.
		Jul	Delayed green maize harvest. Delayed availability and high prices of <i>meher</i> season inputs Early out-migration in search of casual work. Outbreak of coffee berry disease.
		Aug	Irregular or excessive rainfall and hailstorms (Aug-Oct) Crop pest infestation.
		Sep	
		Oct	Failure of meher season harvests, especially maize. Persistence of high maize prices during and after the main harvest period.
Dry Season	Nov	Decline in labor rates (Nov onwards) Severe outbreak of malaria.	
	Dec	Sweet potato butterfly infestation (Dec-Feb) Absence of any rain from Dec-Feb, affecting growth of sweet potato	

SNNPR Livelihood Profile

Wolayita Barley and Wheat Livelihood Zone

August 2005¹

Zone Description

The Wolayita Barley and Wheat Livelihood Zone is a mountainous and densely populated² zone that includes the wet *woina dega* and *dega* agro-ecological zones³ of Wolayitabett Administrative Zone. It covers parts of Damot Gale, Sodo Zuria, Kindo Koysha, Damot Weyde and Bolosso Sore woredas. The poorer half of the population is food insecure in most years, partly caused by population pressure that has resulted in small landholdings and a lack of plow oxen.

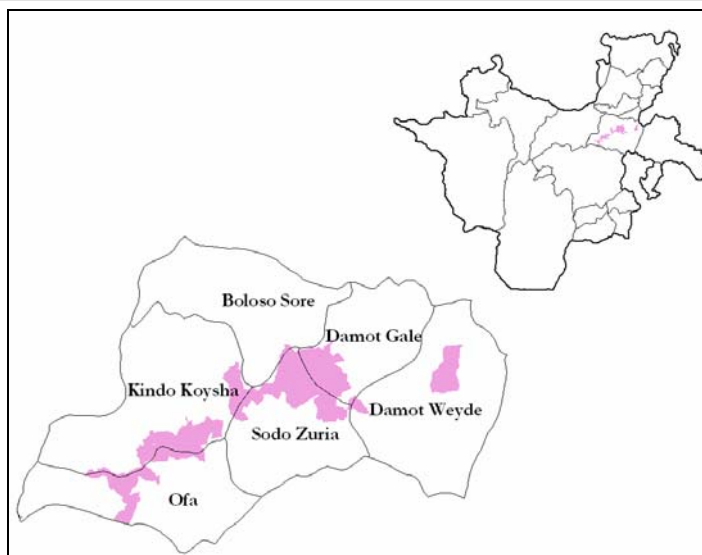
The livelihood zone has bimodal rainfall, with maximum rainfall occurring in the months of April and July. The two rainy seasons are locally called *geba* (from February to May) and *silla* (from June to September). Temperatures are moderate throughout the year, ranging from 15°C – 25°C. Eucalyptus trees dominate the vegetation cover in the area, but there are several other economically important indigenous tree species⁴.

The livelihood zone is crossed by perennial rivers such as the Wolacha and Kalte that flow in a southeasterly direction. There are also plenty of seasonal rivers, but no irrigation is practiced in the zone.

The agricultural system is mixed farming. Households grow enset, barley, wheat, sweet potatoes, Irish potatoes, pulses (haricot beans, horse beans and peas) and small amounts of maize. In addition, crops such as taro, yam, beetroot, carrots and cabbages are cultivated as cash crops in some pocket areas. Those households that own oxen use them for plowing their fields, while those who do not generally cultivate by hand. In some areas, land shortages have forced farmers to cultivate on very steep hillsides (with slopes of up to 70%), which are not suitable for crop production.

Cattle, sheep, donkeys and chickens are reared in this livelihood zone, but the types of livestock owned vary considerably from one wealth group to the next. Due to a lack of grazing land, households use a 'cut and carry' system for feeding their livestock.

Households obtain most of their cash income from crop sales, livestock and livestock product sales, and, in the case of very poor and poor households, casual employment. The opportunities for casual employment include local agricultural work, local urban work and migratory work to places such as Awash and Metahara (where there are state farms), Alaba and Arba Minch (where cash crops dominate), and Siraro (where mining is a possible cash income source).



Markets

Market accessibility is generally good in this livelihood zone due to the proximity of a nearby urban market in Sodo and the presence of two main roads (the Addis Ababa to Arba Minch and Sodo to Chida roads). There is also a good all-weather road network that reaches most parts of the livelihood zone. The availability of donkeys, at least for middle and better off households, contributes to market accessibility.

The main local markets are Sodo, Boditi, Bele, Gesuba, Kercheche and Gununo. Cattle, sheep, butter and crops such as

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to May 2003-April 2004 (EC Ginbot to Miazia 1996), a relatively average year by local standards (i.e. a year of 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 2010).

²The population density ranges from 400-600 people per square kilometer.

³Altitudes range from 1800 – 2900 meters above sea level.

⁴These include woira, wanza, zigba and korch trees (local names).

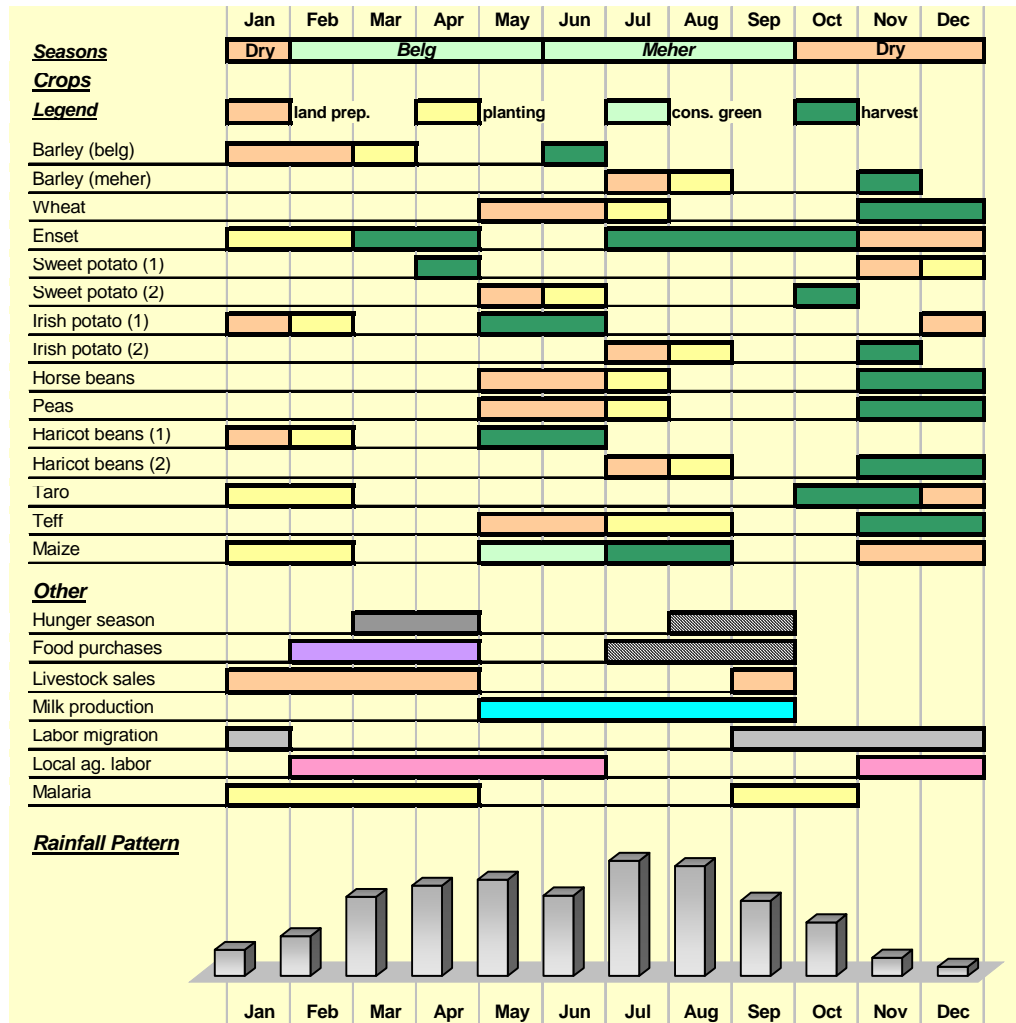
sweet potato, wheat, barley, haricot beans, horse beans and peas are exported out of the livelihood zone. Livestock and butter are exported through the main local markets and can reach Shashamene, Awassa, Addis Ababa, and the large towns that fall in between. The exported crops usually end up in markets in the neighboring Wolayita Maize and Root Crop Livelihood Zone. Maize is the main staple food imported into the livelihood zone from Shashamene, Alaba, Arba Minch, Dawuro or the Wolayita Maize and Root Crop Livelihood Zone, depending on production conditions in a given year.

Seasonal Calendar

There are two distinct cropping seasons in this livelihood zone. Enset, maize, taro, and first season barley, haricot beans and Irish potatoes are planted at the beginning of the *belg* season. Wheat, teff, pulses and second-season barley, haricot beans, sweet potatoes and Irish potatoes are planted during the *meher* season. There is another planting period for sweet potatoes in December – January. The main harvest period is November – December, at the end of the *meher* season. *Belg* season crops are harvested in May – July, except for maize, which is available in its green form at this time. Enset can be harvested at any time, but the main period for harvesting is the long dry season from October – January.


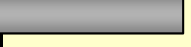

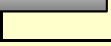
There are two hunger seasons. The first occurs in March – April, before green maize and other *belg* season crops become available.

The second hunger season occurs in August- September, in between the two harvest periods, primarily affecting poor households since they do not produce enough from the *belg* season to carry them through to the *meher* harvest. This second hunger season is particularly significant when the *belg* crops fail. Food purchases peak during the hunger seasons and livestock sales are also common at this time.



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

		Wealth Group Information			
		HH size	Land area cultivated	Perennial crops	Livestock
Very Poor		5-7	~ 0.25 ha	0 mature enset stems, 0 eucalyptus trees	0 cattle, 1-3 sheep
Poor		5-7	0.25 - 0.5 ha	5-15 mature enset stems, 5-15 eucalyptus trees	1-2 cattle, 2-4 sheep
Middle		6-8	~ 0.5 ha	15-25 mature enset stems, 30-70 eucalyptus trees	1 plow ox, 2-4 cattle, 3-5 sheep, 0-1 donkey
Better-off		8-10	0.75 - 1 ha	30-50 mature enset stems, 100-200 eucalyptus trees	1-3 plow oxen, 5-7 cattle, 5-7 sheep, 1-2 donkeys
0% 10% 20% 30% 40% % of population					

As in most other parts of SNNPR, wealth at household level is determined by a combination of land and livestock holdings. As a result of the high population density in this livelihood zone, landholdings per household are quite small, rarely exceeding one hectare. Middle and better off households own all of the types of livestock reared in the zone. In contrast, very poor households rarely own more than a couple of sheep and a few chickens. Poor households typically own 1-2 cattle in addition to this, which differentiates them from the very poor.

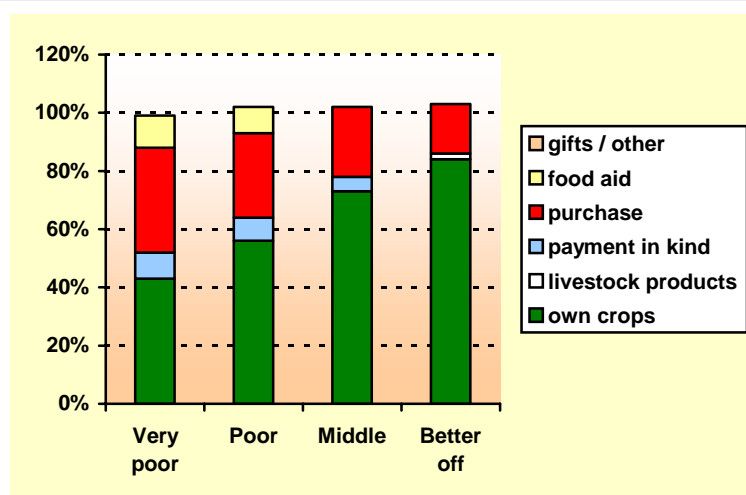
In the past, very poor households without cattle could obtain access to cattle through an arrangement known as *yerbee*, by which a better off household would give a cow to a very poor household to keep and feed. In exchange, the very poor household usually kept half of the milk produced and half of the offspring. However, in recent years this practice has become less common because very poor households no longer find the benefits (milk, meat, and offspring) worthwhile in relation to the costs (mainly in terms of the effort required to feed an animal in an area with little grazing land).

The ownership of plow oxen is an important determinant of wealth, as it allows farmers to till the land properly and in a timely manner. Two middle households, who typically own 1 ox each, often pair up for cultivation, using the oxen on alternate days. Poor households obtain the use of oxen in exchange for working for better off households or, more commonly, cultivate by hand.

Sources of Food – An average year (2003-04)

The graph presents the sources of food for households in the Wolayita Wheat and Barley Livelihood Zone for the period May 2003 – April 2004, which was a fairly average year. May represented the start of the consumption year because this was when the green maize harvests started, marking the end of the annual hunger season.

The contribution of own crop production increased with wealth. Very poor households obtained about 40-45% of their food needs from their own crop production, whereas better off households obtained 80-90% in the reference year. The contribution of livestock products (primarily milk and butter) also increased with wealth and was only significant for better off households



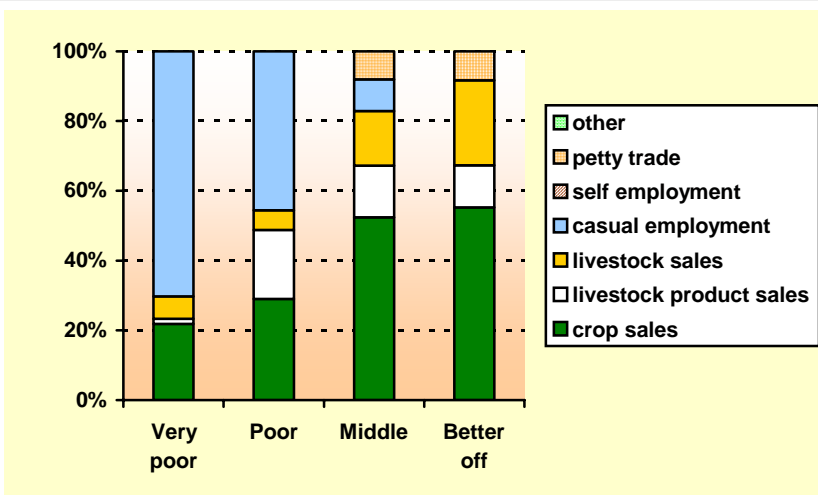
Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

since other wealth groups tended to sell rather than consume these high-value items.

Households made up any gap in food through a combination of purchase and 'payment in kind' (which means working directly for food). Maize was the cheapest source of purchased calories and made up the bulk of purchases for very poor and poor households, supplemented by smaller quantities of *kocho* (processed enset) and pulses. 'Payment in kind' generally took the form of meals paid to laborers on the days that they worked for the better off locally or meals eaten by migrant laborers while away from home.

Very poor and poor households, which make up roughly half the population, received small quantities of relief food in the reference year.

Sources of Cash – An average year (2003-04)



The graph presents the sources of cash income for households in different wealth groups in the Wolayita Wheat and Barley Livelihood Zone for the period May 2003 – April 2004.

Very poor households earned roughly ETB 900-1400 in the reference year, compared to ETB 2500-3500 for better off households. In general, the contribution of income from crops and livestock increased with wealth. Although middle and better off households had a fairly similar pattern of income sources, their actual income levels varied quite significantly.

The graph provides a breakdown of total cash income in the reference year according to income source.

Annual income (ETB)	900-1400	1250-1750	1750-2250	2500-3500

Very poor households obtained the bulk of their cash income from casual employment, including both local and migratory work. Poor households also obtained income from these sources,

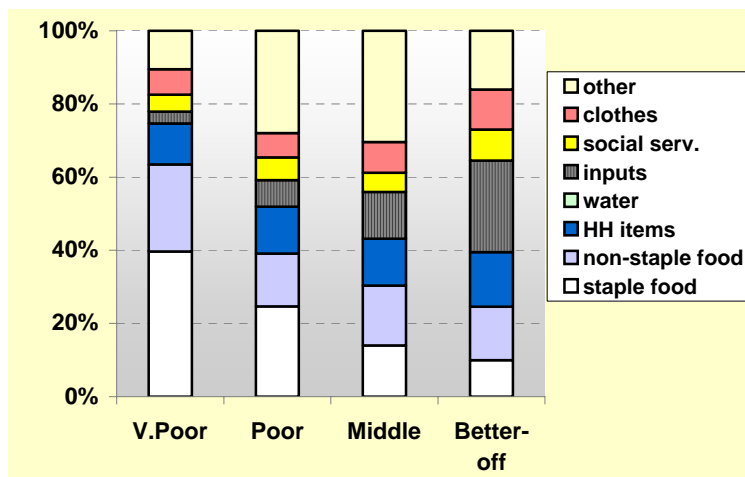
while the 'casual employment' for the middle was typically a short period of migratory work rather than local work.

Some households in each wealth group engage in trading activities (larger or smaller scale depending on the wealth group). However, in only in the middle and better off wealth groups was this a common enough activity to include in the general pattern of cash income sources for the reference year.

Expenditure Patterns – An average year (2003-04)

The graph presents expenditure patterns for the period May 2003 – April 2004. The most obvious difference between the wealth groups is the percentage of expenditure on staple food. About 40% of very poor household income went toward the purchase of staple food, compared with about 10% in the case of the better off. Expenditure on most other items increased with wealth in the reference year (in absolute terms).

The category 'household items' included coffee, salt, soap, kerosene and grinding. 'Other' included tax, social obligations, festivals, ceremonies, local drinks and savings. 'Inputs' included livestock drugs, fertilizer, seeds, and, in the case of better off households, agricultural labor. 'Social services' included spending on education and health.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Hazards

This livelihood zone is subject to a number of periodic and chronic hazards.

Erratic rainfall is a periodic problem in the zone and can include a late start to the rains and/or an uneven distribution of rainfall. A late start to the *belg* rains is especially significant, resulting in an extended and more severe hunger season than usual, delaying the green maize harvest. Unseasonal or excessive rain can also be a problem at certain times of year, particularly at harvest time.

Crop pests and diseases are a chronic problem in the zone, of which the most important are sweet potato butterfly, aphids (affecting wheat), and potato blight.

Very poor and poor households are especially vulnerable to an **increase in staple food prices** given their heavy dependence on the market for food and their relatively limited purchasing power. The most common scenario is for staple food prices to increase as a result of local crop failure, but it is also possible for staple prices to increase independently of local production, if there is crop failure in the areas that normally supply the Wheat and Barley Livelihood Zone.

Response Strategies

Households pursue a number of strategies in order to try and cope with a hazard affecting food security. These include:

Increased sale of livestock. This is an important strategy for middle and better off households, but one that has limits if the sale of productive animals is to be avoided. Middle and better off households own a mix of oxen, adult females, calves, bullocks and heifers, but, because of the shortage of fodder, rarely retain a significant reserve of animals to be sold off at times of crisis. Likewise, only relatively small numbers of small stock are owned, even by the better off. Sale of livestock is even less of an option for the very poor and poor who may only be able to sell a small number of additional poultry.

Increased consumption of enset. Enset is an important drought-resistant reserve food crop for the zone, the consumption of which tends to increase when other foods are in short supply. However, there are strict limits to this strategy if households are to avoid depleting their reserves and reducing future production. Only better off households have mature enset in reserve in most years.

Increased out-migration in search of casual labor. Men from poorer households migrate out of the zone every year in search of casual labor. In a bad year, more migrants leave, and they leave earlier in the season.

Switching of expenditure from non-food to staple food items. This is a common strategy for expanding purchases in a bad year. Households report reducing expenditure on clothes, grinding, kerosene, education, medicine, ceremonies and a range of other items in a bad year. Some of these responses have very negative side effects, such as a reduction in school attendance in the case of reduced expenditure on schooling. This may not be the only reason school attendance declines in a bad year, however. Children may also be pulled out of school to earn income through casual labor or to help at home while other family members are out working.

Intensified use of pesticides. Better off and some middle households use pesticides to control the crop pests and diseases mentioned in the hazard section. However, very poor and poor households cannot afford this strategy.

Indicators of Imminent Crisis

Season **Month** **Indicator**

Dry	Jan	Presence of butterflies in December - February damages sweet potatoes	
Belg season	Feb		
	March		Late start to <i>belg</i> rains
	April		Insufficient rainfall during key month in agricultural calendar
Dry	May		
Meher season	Jun		Late start to <i>kremt</i> rains
	July		Delayed green maize harvest. Presence of butterflies in July - September
	Aug		Insufficient rainfall during key month in agricultural calendar
	Sept		Presence of aphids in September-October damage wheat
	Oct		
Dry	Nov		Unseasonal rains damage harvest. Delay or failure of meher season production
	Dec		High cereal prices in harvest and post-harvest period

The graphic presents the likely sequence of indicators in the lead up to a food crisis. There is a wide range of key indicators for the zone, including those related to rainfall, crop pest outbreaks, the timing of harvests, and staple food prices.

SNNPR Livelihood Profile

Yem Cereal and Enset Livelihood Zone

September 2005¹

Zone Description

The Yem Cereal and Enset Livelihood Zone is a food secure area that exports cereals and pulses. Crop production and cash income levels are high and reliable compared to many other areas of SNNPR.

Contributing to this positive situation are relatively low population density², moderate-sized landholdings, and reliable rainfall. The soils are only moderately fertile, however, and farmers in all wealth groups spend considerable amounts of money on fertilizer every year. The high price of fertilizer is their major complaint and results in less than ideal amounts of fertilizer being used. Livestock holdings are high for a mixed farming livelihood zone, partly due to availability of land and partly due to the lack of major livestock diseases in most parts of the zone.

The zone is located in Yem Special Woreda. It is bordered by Hadiya and Gurage Administrative Zones of SNNPR to the east and south, and by Oromiya Region to the north and west. The Gibe River marks the border between Yem and Hadiya and is being exploited by the largest hydro-electric project in Ethiopia.



Most of the livelihood zone falls in the midland (*woina dega*) and highland (*dega*) agro-ecological zones, with altitudes ranging from 2000 – 2800 meters above sea level. A small part of the zone is lowland (*kolla*). The landscape varies considerably from one part of the zone to another, but is mostly hilly. Due to the high altitude of most of this livelihood zone, the human and livestock diseases that cause major problems in lowland areas of SNNPR (primarily malaria and trypanosomiasis) are uncommon.

Rainfall in this zone is relatively reliable in both quantity (1200 – 2000 mm per year) and distribution. Both rainy seasons are important in this livelihood zone. *Belg* rainfall is important for the cultivation of long-cycle crops, of which the most important are sorghum and maize, and for the planting and development of perennial crops, particularly enset. Short-cycle crops (including wheat, barley, teff and pulses) are planted at the start of the *kremt* rains. The main harvest period is in November – December.

Mixed farming is the main livelihood pattern. The main food crop is enset, but it is supplemented by a large range of cereals (wheat, barley, teff, sorghum and maize), pulses (beans and peas) and root crops (sweet potatoes). The main cash crops are wheat, peas, barley, beans and teff. Cattle, goats, sheep and donkeys are reared in this livelihood zone and oxen are crucial for plowing the large areas of land that households cultivate.

Households obtain most of their cash income from crop, livestock and livestock product sales. Poor households supplement this with casual employment. Members of poor households do small amounts of agricultural work and enset preparation locally for better off farmers and also migrate for part of the year to the Jimma coffee-producing area at harvest time, when the demand for laborers is high.

¹Fieldwork for the current profile was undertaken in August 2005. The information presented refers to September 2003 - August 2004 (Meskerem 1996 to Nehase 1996 in the Ethiopian calendar), a relatively average year by local standards (i.e. a year of 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 2010).

² The population density is about 120 people per square kilometer.

Markets

Access to markets is fairly good in most parts of the livelihood zone, but eight highland kebeles have poor road access and this makes selling their production and obtaining inputs difficult. Many of the roads in the zone are not all-weather.

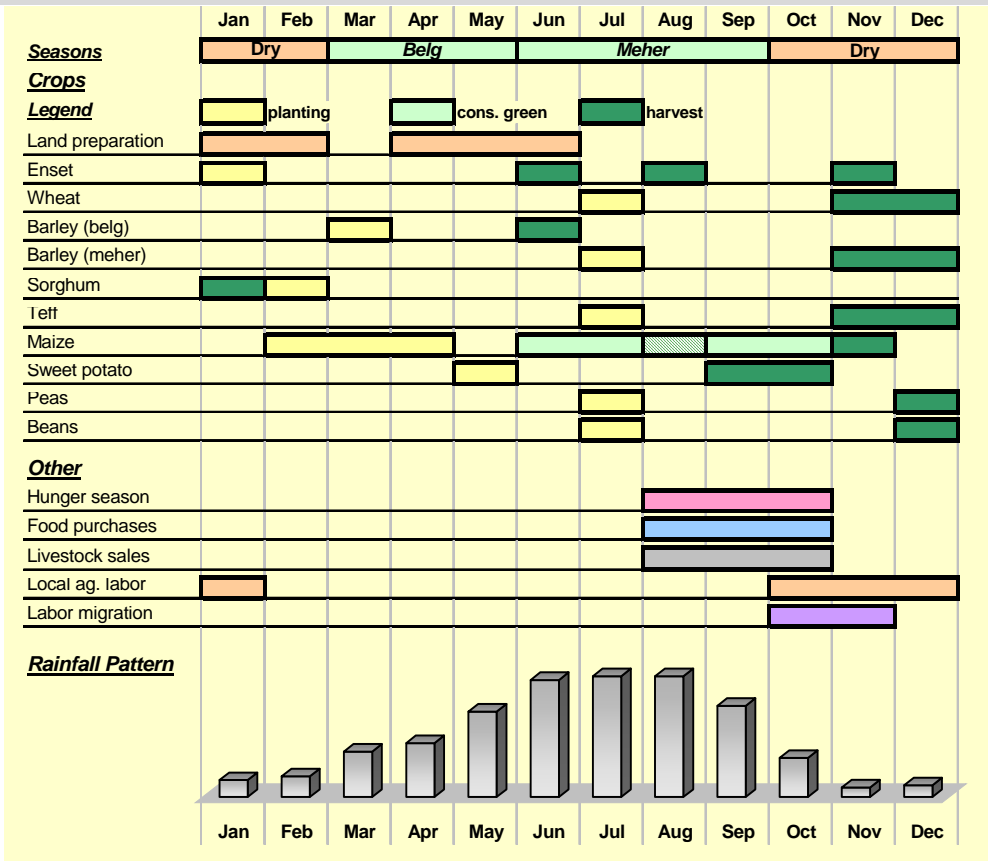
There are small markets scattered throughout the zone, but the main markets are twice per week in Dari and Fofa towns. The opening of the Gibe hydro-electric project some two years ago has created a major source of demand for the crops and livestock produced in this livelihood zone. In addition, crops and livestock are exported to neighboring areas of Oromiya Region.

Seasonal Calendar

Enset, sorghum and first-season barley are planted before or at the beginning of the *belg* rainy season.

Short-cycle crops (wheat, peas, beans and second-season barley) are planted at the beginning of the *kremt* rainy season. Maize is planted twice, at the beginning and end of the *belg* rains. Green maize harvesting occurs in small quantities over the period June – October and acts as a supplementary food during this period. The arrival of the main harvest period in November marks the end of the annual hunger season.

Livestock sales are most important during the hunger season (when households need cash), which in this livelihood zone coincides with a period of peak demand (the Ethiopian New Year and Meskel holidays both fall in September).



Source of rainfall data: National Meteorological Service Agency (NMSA) Data Archives (long-term average).

Wealth Breakdown

	Wealth Group Information			
	HH size	Land area cultivated	Perennial crops	Livestock
Poor	4-6	0.5 - 1 ha	10-40 mature enset, 10-40 eucalyptus, 10-30 chat bushes	0-2 plow oxen, 1-3 cattle, 3-7 shoats
Middle	5-7	1 - 2 ha	20-60 mature enset, 40-60 eucalyptus, 10-30 chat bushes	1-3 plow oxen, 3-5 cattle, 6-10 shoats, 1 donkey
Better-off	6-8	1.5 - 2.5 ha	40-80 mature enset, 150-250 eucalyptus, 50-100 chat bushes	3-5 plow oxen, 5-10 cattle, 8 - 12 shoats, 1 donkey

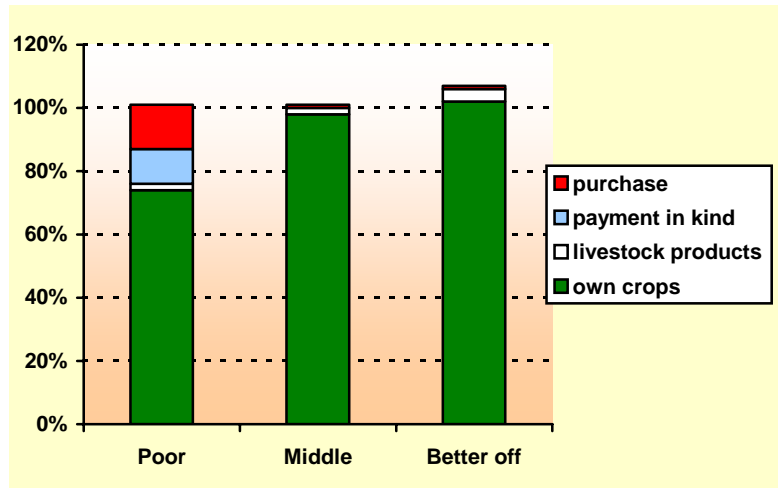
0% 10% 20% 30% 40% 50%
% of population

Wealth in the Yem Cereal and Enset Livelihood Zone is determined by two key factors: the size of land and the number of livestock owned by different households. Landholdings are quite large in this livelihood zone compared to many other parts of SNNPR. The ownership of plow oxen is also more widespread than in other zones, with most poor households owning one ox. Poor households that do not own oxen usually work for middle or better off households in exchange for oxen usage. Those that own one ox pair up to cultivate their fields.

Sources of Food – An average year (2003-04)

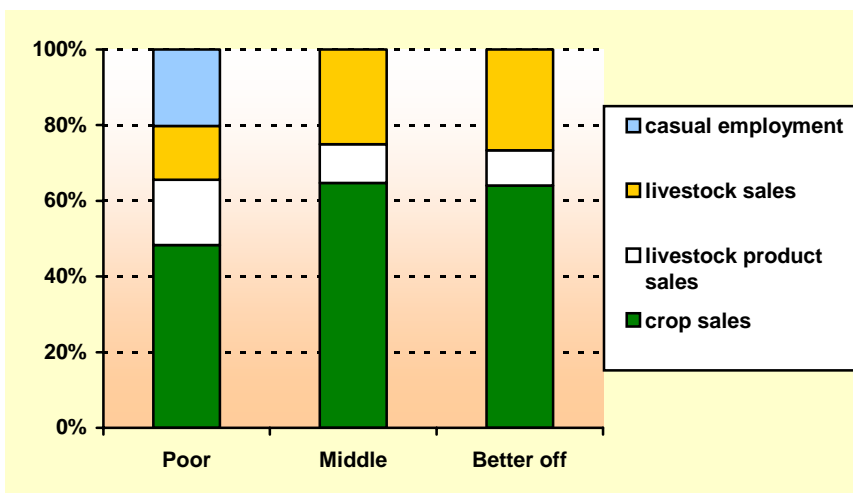
The graph shows the pattern of access to food for different types of household in a year of average crop production (November 2003-October 2004). November represented the start of the main harvest period and the end of the annual hunger season. The hunger season does not hold as much significance in this livelihood zone as in less food secure livelihood zones.

The sources of food were similar for the three wealth groups, but the relative contribution of each option varied slightly. The main trend across the wealth groups was for consumption of own crops and own livestock products to increase with wealth and for food purchases to decline. Indeed, middle and better off households in this zone had no need to purchase staple food in the reference year. The only food that they regularly purchased was meat. Poor households purchased maize, *kocho* (a prepared form of enset) and meat.



Food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash – An average year (2003-04)



This bar graph shows the sources of cash income for each wealth group in the livelihood zone in the reference year (2003-04). Better off households earned almost three times that of poor households.

The middle and better off groups relied entirely on crop, livestock and livestock product (mainly butter) sales income. In addition to these sources, poor households obtained income from casual agricultural work for better off households and from migratory work ('casual employment' in the graph).

The most important crops sold by all wealth groups were wheat, peas, beans, barley and teff.

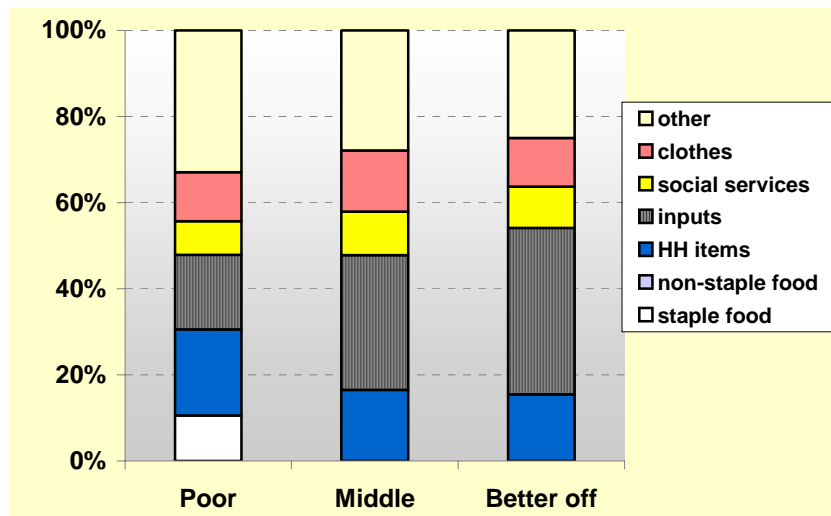
The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	1,000-2,000	2,000-3,000	3,500-4,500

Expenditure Patterns – An average year (2003-04)

The graph provides a percentage breakdown of expenditure by category for different wealth groups in the reference year. The amount of cash spent on each expenditure category, as well as the quantity and quality of items purchased, varied significantly by wealth group. As expected, given the differences in crop production, only poor households purchased staple food.

'Inputs' included seeds, tools, fertilizer, livestock drugs, and payment for labor. The jump in expenditure on inputs for the middle and better off represented additional expenditure on all of these items, but on fertilizer in particular. Only the better off paid for agricultural labor.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

The category 'household items' included coffee, salt, soap, kerosene, grinding and utensils. 'Other' included tax, social obligations, ceremonies, savings and investment in livestock. The category 'social services' included spending on education and health.

Hazards

The Yem Cereal and Enset Livelihood Zone is not subject to many serious hazards. Rain failure is very rarely a major problem, and malaria and trypanosomiasis only occur in the lowest parts of the livelihood zone. The main complaints of farmers are **bacterial wilt disease in enset** and the **high price of fertilizer**.

Response Strategies

Households can respond to hazards in a variety of ways. When hit by a bad year, all wealth groups **increase the sale of livestock** and **reduce expenditure on non-essential items**, to the extent that this is possible. They can also turn to their **reserves of enset** to a limited extent. In addition to these strategies, poor households attempt to increase the amount of **local casual work and migratory work** that they do.

Indicators of Imminent Crisis

Season Month Indicator

Belg season	Jan	Lack of showers affects planting of long-cycle crops Poor rains in any month can reduce crop production -->
	Feb	
	March	
	April	
	May	
Meher season	Jun	Hailstorms can damage crops
	July	
	Aug	
	Sept	
Dry	Oct	Excessive rain during crop ripening period reduces yields
	Nov	Excessive rain damages harvest
	Dec	High cereal prices in harvest and post-harvest period indicate poor production

The graphic presents the likely sequence of indicators in the lead up to a year of reduced production. There are several indicators for the livelihood zone, including those related to rainfall, staple food prices, and harvest timing. It should be noted, however, that serious rainfall shortages are extremely rare in this livelihood zone.