



Angola:

**Comprehensive Food
Security and
Vulnerability Analysis
(CFSVA)**

**Strengthening Emergency Needs
Assessment Capacity (SENAC)**

October 2005

Angola: Comprehensive Food Security and Vulnerability Analysis (CFSVA)

Prepared by *Luc Verelst, Consultant*
and
Eric Kenefick, Regional VAM officer
WFP Johannesburg

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For any queries on this document or the SENAC project, please contact odan_info@wfp.org

For information on the VAM unit, please visit us at <http://vam.wfp.org/>

United Nations World Food Programme

Headquarters: Via C.G. Viola 68, Parco de’ Medici, 00148, Rome, Italy

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For questions or comments concerning this report please contact:

Sonsoles Ruedas – WFP Angola	Sonsoles.Ruedas@wfp.org
Filomena Andrade – WFP Angola	Filomena.Andrade@wfp.org
Jan Delbaere – WFP HQ	Jan.Delbaere@wfp.org
Eric Kenefick – WFP Johannesburg	Eric.Kenefick@wfp.org

Important Notes

Due to access constraints in **Kuando Kubango province**, more than 75% of the selected villages were not reached. Most of the communities surveyed are near the border with Namibia or near the provincial capital where commercial factors play a more important role in the livelihoods of the population. Thus, the situation found for the households in that sample is probably better than the average livelihood security found throughout Kuando Kubango province.

This survey is a second-stage to one undertaken in the beginning of 2005 in the **central highlands of Angola** (Planalto), covering all of Huambo province, northern Huila, western Bié and small parts in eastern Benguela and southern Kuanza Sul provinces. The results of that survey were published in September 2005. It was the intention to link outcomes of both surveys in order to obtain a pre-crisis (comparable) overview of the complete central- and southern parts of Angola but the following reasons have made this impossible:

- Data collection in the Planalto survey took place in the middle of the lean season (December 2004-January 2005), the period when rural households have consumed of the bulk of their own production. The production of the 2003/2004 agricultural season was affected by water logging and flooding which made the situation worse than "normal". The data collection for this survey (south-eastern provinces) was carried out just after the main harvest in July 2005, which is considered to be the best period of the year.
- The sampling frame used was different, as well as the analytical framework.
- Therefore it is difficult to compare the outcomes of the Planalto survey this survey, and the reader is therefore referred to the report of that survey. However, a summary is provided at the end of this report.

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Executive summary

This report presents the outcomes of the food security survey carried out in the south-eastern provinces of Angola in July 2005. This report is a second-stage survey to a study undertaken early 2005 in the central highlands of the country, which are generally considered as the most vulnerable to food insecurity. The results presented in this report are part of the "Strengthen Emergency Needs Assessment Capacity in WFP" (SENAC) project, which is funded by ECHO.

The primary objective of the survey was to obtain a better understanding of food insecurity and vulnerability among rural households at provincial levels throughout the country in a post-emergency setting, in particular answering the questions:

1. Who are the hungry poor?
2. How many are they?
3. Where do they live?
4. What are the underlying causes of food insecurity?
5. What is the role of food assistance, if any?

In addition to the survey findings, the report also summarizes the current available information obtained from secondary data sources – focusing on the area of the survey. However there is little recent information available and most is at national or regional level, thus making provincial comparisons/inferences difficult.

Methods and sampling

The survey was designed to draw representative samples of rural households at a provincial level. From each of the 6 provinces a two-stage probability sampling method was used to select villages and households within each village. The sample size per province was calculated to provide estimates of food insecurity and vulnerability with 90% confidence. In total, 1,716 households in 143 rural communities (villages) were surveyed across the south-eastern area of Angola. The survey also included a nutrition and health component for mothers and young children to be used as outcome measures of household food security in the analysis.

A household questionnaire was used to collect quantitative information on household demography, housing conditions, assets, income sources and expenditures, food consumption, food sufficiency, risk, shocks and coping strategies, child health and nutrition. A community survey questionnaire was used to collect information at community level, such as access to school, health and market infrastructures, and external interventions.

Key findings

The main findings of the survey show that the households in Bié and the northern part of Huila have a similar livelihood profile as found in the central highlands, with the majority being subsistence farmers with relatively little income from other sources. Households in Moxico province have a different livelihood due to the environment, but also have a relatively large proportion of highly vulnerable households. In the other provinces (Namibe, Cunene, Kuando Kubango, and the central-south of Huila), the rural communities are functioning a bit better with households having a more diversified income structure, as well as a better distribution of the rural community tasks.

For instance, one third of the households rely mainly on farming, 16% on livestock while the remaining households obtain the bulk of their income from a range of activities, such as the preparation and sale of alcoholic drinks, collection of honey, wood or charcoal or fishing and hunting. Almost all households complement this income with agriculture. However, a considerable amount of households are still dependent on *biscatos*, generating a daily wage by working on other people's farms.

Isolation and poor access to basic services and marketing opportunities are common to all communities in the survey area except for the rural areas near provincial capitals or near international borders.

There are a number of important relationships that result from the different types of analysis. Displacement during the war and the related poor education of household

members has a significant impact on the food security status of the households. Households living in the less-affected provinces such as Namibe and Cunene are generally less vulnerable while provinces with a majority of displaced people who have returned after the end of the hostilities in 2002 are still in the process of rebuilding their livelihoods. However, these returnees appear to have benefited from better access to health care and services in the camps as well as some additional educational opportunities. The number of crop harvests since return (from zero to three) is a key indicator to assess their food security status.

Nutrition and health

After the household module, information on the mothers of children less than five years of age was collected, including age, education level, weight, height, pregnancy status and visible indications of micronutrient deficiency.

The women were also assessed for visible signs of micronutrient deficiencies such as visible goitre (iodine), pellagra (vitamin B), pallor/pale gums (iron) and Bitot's spots in the eyes (vitamin A). Overall, there were very low levels of clinical micronutrient deficiencies among the women in the sample. However, additional analyses of the data showed that there were some statistical relationships between pregnancy, pellagra and visible iron deficiency confirming that during pregnancy, women are more prone to micronutrient malnutrition. In addition, a relationship was found between visible iron deficiency and low body-mass index.

The highest levels of malnutrition were found in the Bié sample, followed by Kuando Kubango, Huila and Moxico. Only 5.5% of the women measured in Namibe had a low BMI. The prevalence of underweight in the sample women was nearly 30% in Bié and Moxico while 14% of the sample women in Bié were also stunted. Overall, the nutrition situation of the sampled women in Bié was the worst, followed by Moxico while the women in the Namibe sample enjoyed the best nutrition.

	Low BMI < 18.5 kg/m²	Wasting	Underweight	Stunting
Bié	26.4%	11.3%	31.5%	26.4%
Moxico	22.1%	3.4%	20.9%	22.1%
Kuando Kubango	24.8%	6.1%	24.5%	41.5%
Namibe	5.5%	4.3%	22.4%	25.5%
Huila	22.8%	13.5%	43.9%	40.5%
Cunene	13.3%	9.1%	31.5%	46.9%

The analysis also included 238 children from Bié, 296 from Moxico, 147 from Kuando Kubango, 161 from Namibe, 148 from Huila and 143 from Cunene. These samples allow for relative comparisons to be made between the provincial samples while allowing the final estimates of malnutrition to be representative of the areas included in the overall sample.

There was variation in child malnutrition (6-59 months) between the provinces for all measures. As indicated in Table 1, **acute malnutrition** or wasting ($whz < -2.00$ SD) was higher in the Bié and Huila samples while the prevalence of **chronic malnutrition** or stunting was highest in Cunene, followed by Kuando Kubango and Huila. The prevalence of **underweight** ($waz < -2.00$ SD) was highest by far in the Huila sample where nearly 44% of the children were low weight-for-age. As underweight is the best measure of both acute and chronic malnutrition, this warrants further investigation and probable nutrition interventions (water/sanitation, health, feeding programmes, etc.)

The prevalence of **severe underweight** ($waz < -3.00$ SD) was 7.2% for the sample ranging from highs of 12.6% in Huila and nearly 10% in Bié and Cunene to less than 4% in Moxico. The prevalence of **severe stunting** ($haz < -3.00$ SD) was 12.9% for the sample with 20% of the children in the Cunene sample being severely stunted, followed by 18.9% in Kuando Kubango and 16.8% in the Huila sample.

There were also some differences in nutritional status of children by gender – namely that girls appear to be better off than boys. They have significantly higher mean weight-for-height and weight-for-age z-scores as well as significantly lower wasting and underweight prevalence. They are also less likely to be stunted but the difference is not significant. However, there was little difference in the reported recent illness, by gender.

Additional analyses show that malnourished mothers are more likely to have underweight and/or stunted children. After 2 years of age, the influence of maternal malnutrition on child underweight is enormous. For children 36-47 months of age, around 65% of children of malnourished mothers were underweight as compared to only 20% with well-nourished mothers.

Diarrhoea was a problem mostly for younger children in the sample while malaria was reported at a similar rate, regardless of child age. Acute respiratory infection (ARI) was reported a bit more in the children 18 months and older while eye problems were reported similarly in each age group.

Children in Kuando Kubango and Cunene were less likely to suffer from endemic illness while more than 60% of the children in the Huila sample had reported health problems. Diarrhoea was more common in children from Namibe and Huila while malaria was similarly reported in all provinces (slightly more in Huila) except in Cunene where it was less common. However, children in Cunene and Huila were more likely to suffer from ARI. Whooping cough appears to be a bit more problematic among the children in the Namibe sample.

Food consumption

Food consumption profiling taking into account the frequency of consumption and dietary diversity shows that 11% of the households are eating only cereals with very little other food (very poor consumption). More than 40% are having a poor diet with cereals or tubers and vegetables but without a regular protein source. The remaining households have a fairly good or good consumption that included daily consumption of cereals or tubers, oil and sugar and regular consumption of animal or plant protein. The households with very poor food consumption rely mostly on production (half) for the food they consume while only about one-quarter of their food comes from purchase and the rest from food aid (12%) and exchange (13%). About 5% of the food consumed by the other groups comes from food aid.

Wealth analysis

Wealth analysis focusing on asset ownership and living conditions (quality of the housing etc.) illustrates how the wealthiest households are in the Cunene and Namibe samples. However, due to traditional lifestyle and the poor educational status of household members, nutrition indicators of the under-five children are generally the worst in the survey area. The highest proportions of poor households are found in Moxico and Bié followed by the north of Huila, Kuando Kubango and Namibe province samples.

Vulnerability profiles

Classification of households by relative income sources, assets and livestock ownership, education and food intake patterns has resulted in three classes with different levels of vulnerability. The least vulnerable group (47% of the sample households) and includes the households specialising in cattle rearing and the 'rich' farmers with an average cereal production covering nine months of the household's food needs. Around 25% of the households have a low vulnerability to food insecurity and include the fishermen, the households living from forest products and agriculture and the agricultural *biscateiros*. The latter obtain their main income from daily labour work on other farmers' land, in combination with their own land as well as a range of other activities. The remaining one-third of sample households are very vulnerable, typically having low agricultural production, with cereal production covering maximum three months of household needs. Nearly 70% are recent returnees, and 41% are headed by women. The vulnerable households are mainly found in Bié (48% of the households), followed by Namibe (27%), Moxico (26%) and Kuando Kubango (25%).

Comparison with the survey in the Central Highlands (January 2005)

The central highlands in Angola cover the province of Huambo with parts of Bié, Huila, Kwanza Sul and Benguela. In this area, which is considered the most vulnerable area in the country, WFP undertook a food security survey in the beginning of 2005. The sampling, analytical framework and time of data collection for both surveys were different from this survey but nevertheless important relationships were found between the two survey areas. Comparison of the results of both surveys shows that the sample in the Central Highlands scores worse on almost all indicators related to food insecurity.

However, when comparing the groups, the households in the Bié and Moxico samples have similar vulnerability profiles as those in the Central Highlands.

WFP Program Implication

As the causes of food insecurity are complex, food aid alone (with the exception of short-term, food based programmes) is not the answer to address household food insecurity in rural Angola. Therefore, non-food interventions from the Government or other agencies are essential. Nonetheless, continued and expanded implementation of school feeding programmes is seen as an investment in the future of rural households.

On the programme interventions side, *Food-for-work* and *food-for-asset creation* programmes could include activities to rebuild community infrastructure (health centres, schools, and tertiary roads), indicated as needs by community leaders during the key informant interviews. *Health sector* programmes could also contribute to improved food consumption, utilization and child care.

Non-food interventions such as increased availability of micro-credit facilities, improved information on commodity markets and improved market access, improved access to safe drinking water and sanitation and improved rural infrastructures could complement food interventions in order to help to both increase household food security and reduce poverty among the rural residents in the survey area.

Below are the possible areas where both food and non-food interventions could improve the food security and reduce vulnerability. For each area are examples of suggested programmes which may serve as guidance for planning purposes. A fully detailed summary of both non-food and food programme options by province is presented in Section VIII of this report.

Bié province: this area was found to have (among others) the lowest wealth index, the second highest level of vulnerability, a low access to drinking water from improved sources and the highest percentage of malnourished women. Among possible area of interventions are: safe water and micro-credit programmes.

Cunene province: area with the highest percentage of households with very poor food consumption and a high percentage of child wasting, possible area of interventions are MCH (with education), school feeding, FFW/FFT for health/mid-wives agriculture extension/veterinary services, environmental protection, HIV/AIDS education and awareness programmes.

Huila province: high percentage of households with very poor food consumption, high percentage of malnourished women and the highest prevalence of underweight were found in this area. The report suggests (among others) MCH (with education), school feeding, safe water, expanded agriculture extension, veterinary services programmes.

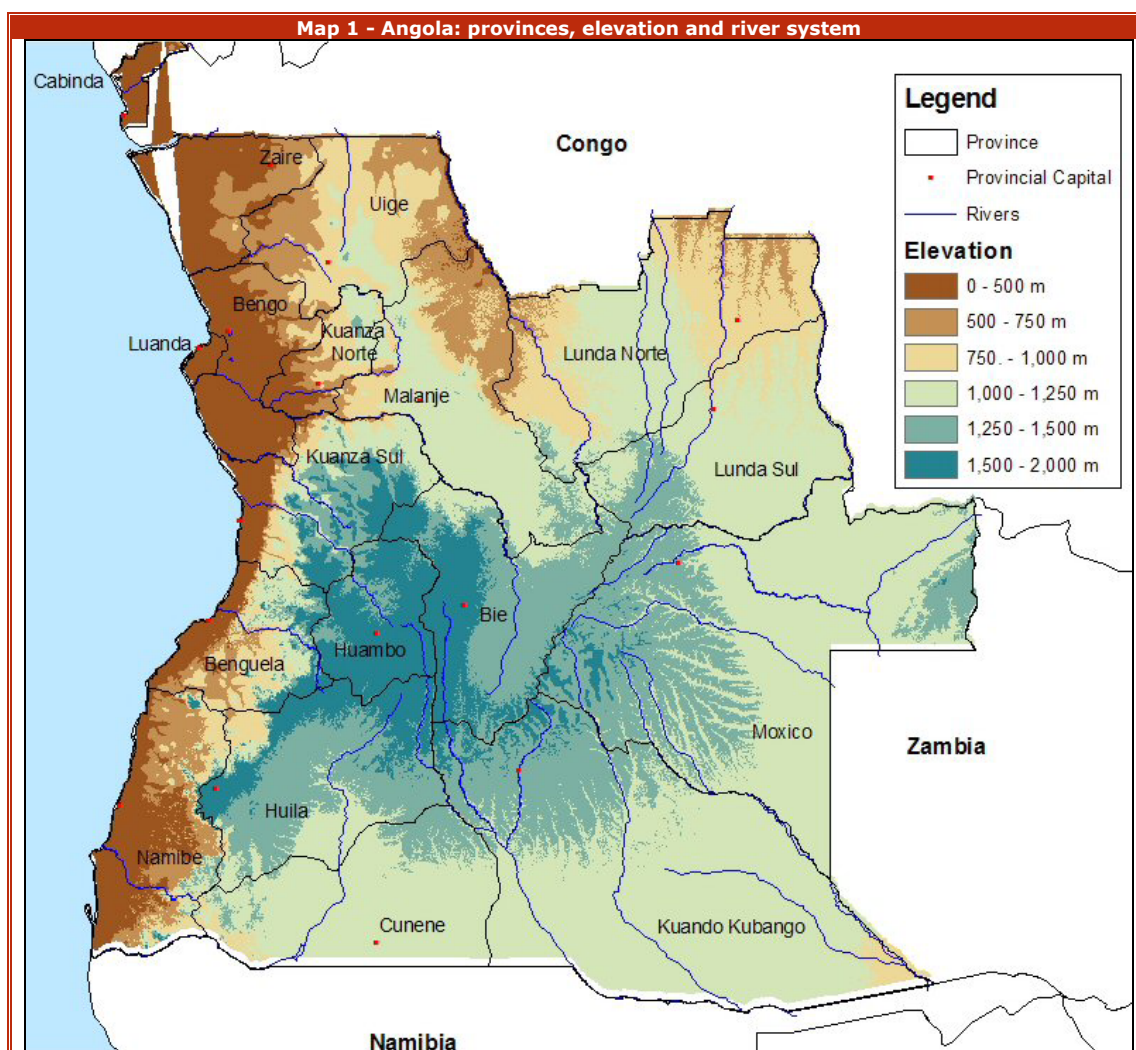
Kuando Kubango province: it was found that the area has the lowest presence of primary schools in communities, no food aid programmes and few communities with development projects, a very high percentage of malnourished women and a high prevalence of stunting. The report proposes investment in MCH (with education), school feeding, FFW/FFT (school construction), micro-credit schemes and poverty reduction programmes.

Moxico province: area with the highest percentage of female headed households, income from agriculture and low presence of primary schools in communities. Expanded MCH (with focus on women), expanded school feeding, FFW/FFT (school construction), HIV/AIDS education and awareness, micro-credit schemes (FHH) programmes are suggested.

Namibe province: The area has the second highest percentage of households with very poor food consumption and no food aid programmes but some communities with development projects. Possible areas of interventions: MCH (with focus on pregnant), school feeding, FFW/FFT (school construction), safe water, agriculture extension, veterinary services, HIV/AIDS education and awareness, poverty reduction.

Introduction

Angola is located in Southern Africa, bordering the South Atlantic Ocean, between Namibia, the Democratic Republic of the Congo (DRC) and Zambia. The total area is 1,246,700 sq km and there is about 1,600 km coastline. The country has 18 provinces, with the province of Cabinda being an exclave, separated from the rest of the country by the DRC. The three main agro-ecological areas of the country are closely linked to elevation as illustrated in below. The narrow and arid to semi-arid coastal plain rises abruptly to vast interior plateau covering Huambo province and neighbouring provinces of Bié, Benguela, Kwanza Sul and Huila. The other zones are the northern and southern savannas with their distinct climatic and agronomic pattern: the north being cassava-based farming system, and the south being a maize-based system.



This survey covers the provinces of Cunene, Huila, Kuando Kubango, Moxico, Namibe and the municipalities of Bié in the northeast and southeast of the province. The study is a second-stage survey to one undertaken in the beginning of the year in the central highlands of Angola (provinces of Huambo, and parts of Bié, Huila, Kwanza Sul and Benguela). This survey covers 160 rural communities and more than 1900 households in seven agricultural zones. Based on the preliminary results of the household survey, 12 villages were chosen for focus group discussions (totalling 48 groups), providing valuable information on the context of risks and livelihoods within each village, helping to explain the story behind the numbers.

Part I: Design and Sampling

1.1 Household survey

The lack of current population information in Angola complicates the planning, monitoring, evaluation and management of socio-economic studies. The last population census was conducted in 1970 and all population estimates are projections from this census, corrected with data from the limited provincial census carried out in 1983. Based on this data, the National Institute of Statistics (INE) projected a population of 13.8 million in 2001. Since 1983, however, internal displacement has been up to 4 million people and more than a half million refugees have been in neighbouring countries.

In this context, this document will briefly outline the sample frame for the survey. First, a comprehensive list of geo-reference point locations was obtained from the U.S. National Imagery and Mapping Agency's (NIMA) Place Name Gazetteer. The list provided the location of over 27,000 locations in Angola. The list was then refined to populated places (15,222 locations) and then only for the six provinces to be sampled (3,693 populated places).

The populated places were then cross-tabulated to show the estimated number of villages by province. Based on this number of villages, the number of villages to be sampled per province was proposed, which are presented in the table below:

Province Name	# villages	Proposed sample
Bié	598	30
Kuando Kubango	666	30
Cunene	307	20
Huíla	558	30
Moxico	1,410	40
Namibe	154	20
Total	3,693	170

The village location data was then spatially plotted and overlaid with the Livelihood Zones¹ in order to identify the livelihood zone of each populated place (**Error! Reference source not found.**). The results were then analysed to identify the number of villages per livelihood zone and the percentage of the villages per livelihood zone and within a province. The sample of villages

per province was selected using randomized techniques based upon the proportion of villages per livelihood zone:

Livelihood Zone	Characteristics of Livelihood Zone	Number of Villages
Zone 10	Cassava-based mixed crops with limited markets, reliance on natural resources	13
Zone 3	Maize-based, mixed crops, charcoal, dynamic markets	6
Zone 4	Marine fisheries, mixed crops, 2 season if lowland areas (<i>nacas</i>) available	8
Zone 5	Maize-based 2 season mixed crop subsistence production, weak markets, farm labour for cash	50
Zone 6	Millet-based mixed crops in 1 season only, cattle and other livestock critically important	36
Zone 7	Maize-based mostly 2 season with livestock sales	48
Zone 8	Crops at subsistence level only, cash income from extraction of natural resources	51
Zone 9	Millet-sorghum based, some livestock, natural resources	18

Due to predictable problems with accessing parts of the survey area, additional villages were sampled to provide replacement sites in case there was a problem with transportation or security. A total 143 of 155 sampled villages were surveyed and the sample and response rates are summarized in Table 4.

¹ More information on the Livelihood Zones for Angola can be obtained from the WFP Angola VAM publication on Livelihood Zones in Angola, 2004.

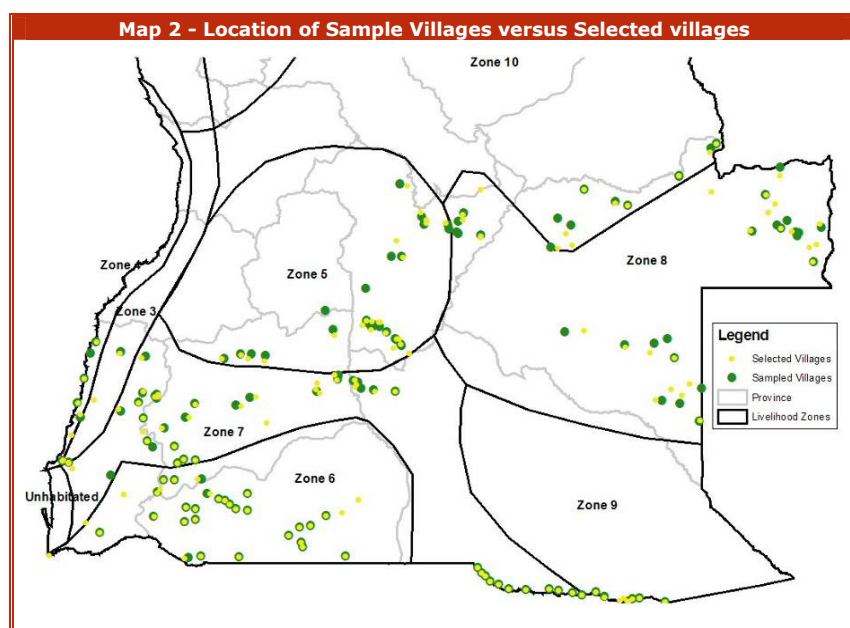


Table 4 - Survey sample and response rate		
	Sampled	Response rate
Villages		
Number of villages selected	155	92%
Number of villages found and surveyed	143	
Households		
Number of households selected	1,860	92%
Number of households found	1,716	
Number of households surveyed	1,716	
Mothers (15 to 56 age)		
Total number of mothers in households	936	100%
Total surveyed	936	
Children (6-59 months of age)		
Total number of children found in household	1,262	96%
Total number of children measured	1,213 ²	

1.2 Nutrition component

All children aged between 6 and 59 months found in sampled households were measured. A total of 1,213 children less than five years old were weighed, measured and information was collected on their current health status. In total 936 mothers were included in the sample.

The anthropometric variables were obtained as follows:

- **Age:** If available, documentation such as birth certificates or vaccination cards was used as reference. If no documentation was available a calendar of events was used to estimate the age of both mothers and children. Only women between 18 and 49 were included in the sample.
- **Weight:** A Salter scale was used to obtain the weight of the children and a mechanic scale for the weight of mothers.
- **Height:** A standard UNICEF measuring board was used to measure the height or length of children. The children less than 85 cm were measured lying down and those of 85 cm or more were measured standing. Mothers were measured with a graduated meter.

² In the South of Huila and Cunene at least one child per village was not living with the mother but in another household with the aunt or grandmother which is the custom in the region when the mother gets pregnant. In the north of Kuando Kubango some mothers refused to have their children measured.

Part II: Background and Socioeconomic Issues

This section provides the background information important to understand food security issues in Angola. All information is obtained from secondary data sources, referenced at the end of the document. The section illustrates how food security-related information on the country is scarce, often outdated and sometimes limited to small areas of the country.

2.1 - Geography, climate and natural resources

Angola is located in Southern Africa, bordering the South Atlantic Ocean, between Namibia, Democratic Republic of the Congo and Zambia. Total area is 1,246,700 sq km and there is 1,600 km coastline. The narrow coastal plain rises abruptly to vast interior plateau with a highest point Morro do Moco at 2,620 m. The country has 18 provinces, with the province of Cabinda an exclave, separated from the rest of the country by the Democratic Republic of the Congo.

There are three major agro-ecological zones in the country. The north is characterized by a tropical humid climate, with annual rainfall greater than 1500 mm. Cassava is the main staple and covers 75% area planted, the rest being mixed cropping of millet, groundnuts and sweet potatoes.

The central region has a temperate tropical climate with an altitude, between 1000 and 2500 metres. These plateaus have rainfall between 1250 and 1500 mm/year and an average temperature between 18-20°C. The main crop is maize, mainly cultivated in association with other traditional crops such as beans, sorghum or millet, groundnuts and sweet potatoes.

The southern area has a dry climate, ranging from tropical desert (Namibe) to tropical dry (Cunene) with low rainfall (200 mm/year on average) and an average yearly temperature of 20-22°C. Due to climatic characteristics, sorghum and millet are the main crops and cover around 80% of planted area, the rest being maize in association with beans, groundnuts or sweet potatoes. Irrigation is required for agriculture production and consequently, livestock is more important than agriculture.

At national level, water resources in Angola are abundant. While in the Southern African region, many countries face drought conditions, Angola has three important hydrological basins, which provide abundant water to several neighbouring countries. The Okavango basin is almost completely fed from Angolan water sources - 45% from the Kuito River and 55% from Kubango and Okavango rivers. The Zambezi River, which crosses the country in Moxico province, is the biggest watercourse in the SADC region, shared by eight countries. Despite its enormous economic potential, for generating electricity or agricultural development, fishing is the only activity on the rivers within the Angolan borders.

2.2 Demography

The Government's Poverty Reduction Strategic Paper (PRSP) released in September 2003 is based on data from The Multiple Indicator Cluster Survey (MICS 2001). It describes Angola as a "demographically booming country, that has not yet started a demographic transition"³, with an estimated 14 million inhabitants and a growth rate of 3.1% per year. The population pyramid reveals a demographic profile of a young population, with almost 60% of the population less than 18 years of age and 85% below 40 years of age. This shows a current high dependency on the economically active population (15-59 years), but an increasing labour supply in the short-term. The analysis of the population structure by age and sex also shows a deficit of males especially in age groups 20 to 29 years.

Urbanization is an important aspect in Angola's demographic trend. In 1996, the MICS survey showed that 42% of the population was urban and five years later, figures had increased to 66% of households in urban areas. There is no evidence that this trend will change in the next years which could have an important impact on the country's overall economic and social development as this also influences increasing poverty and low pace of development in the interior of the country.

The increasing threat of HIV/AIDS could also play an important factor for demographic trends in the country. The national HIV prevalence was estimated at 5.7% in 2001, which

³ Multiple Indicator Cluster Survey (MICS), Assessing the Situation of Angolan Children and Women at the Beginning of the Millennium", INE-UNICEF, Luanda, 2003.

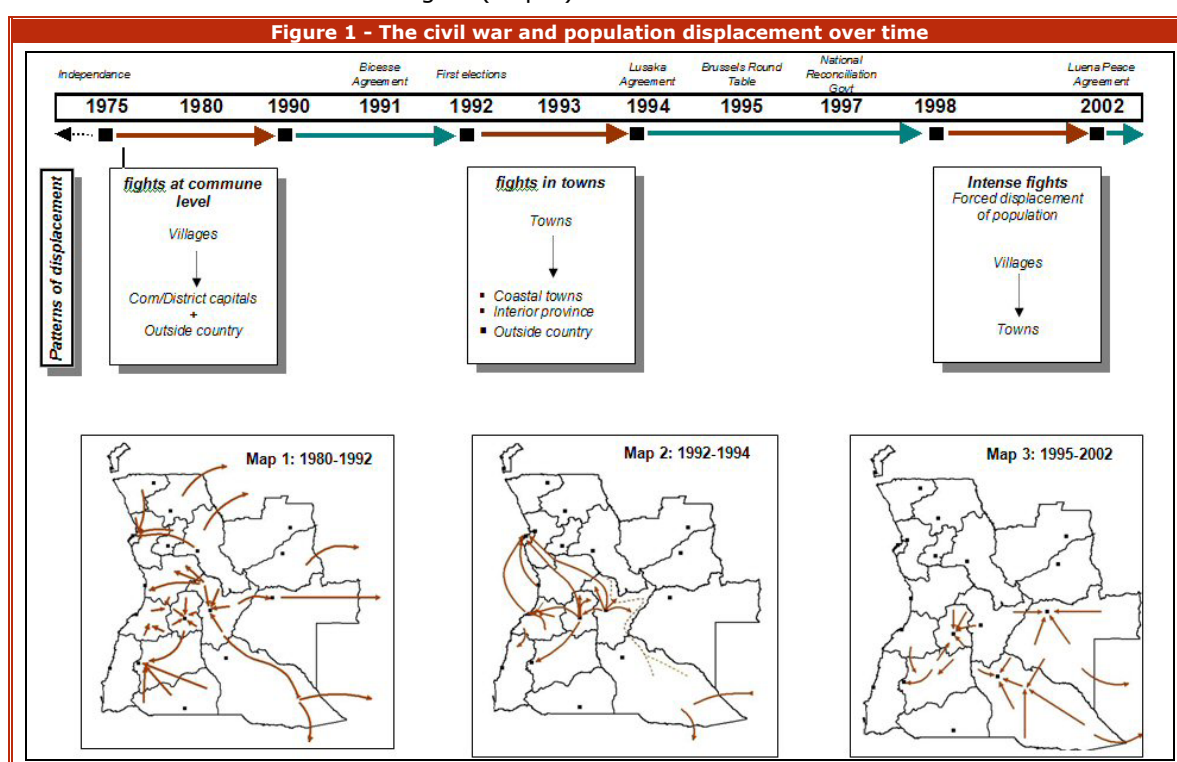
is low, compared to the Southern African region and below the 9% average of sub-Saharan Africa.

2.2.1 Population displacements

Population movements have been common in Angola both before and after independence. Before independence, the main movements from rural to urban areas were linked to the economic development of the country. The evolution of the political situation and military instability after independence made the issue of greater significance.

During the prolonged post-independence war, three main periods can be distinguished with each period having its own displacement pattern and resulting in different consequences for the country and the people (Figure 1):

- 1975-1990: Fighting was concentrated in the rural areas and people fled to district capitals and outside the country. The number of displaced people was relatively low, with most sources⁴ estimating the total number at 800,000 persons (Map 1).
- 1992-1994: After the elections of September 1992 fighting was concentrated in Luanda and provincial capitals during a short period. Malange, Huambo and Bié provinces experienced the longest period of intense fighting. Large influxes of people to the coastal capitals and outside the country were registered, and a less significant number to the interior of the provinces (Map 2).
- 1998-2002: Intense fighting in the Center and South-Eastern region of the country, mainly Huambo, Bié, Moxico and Kuando Kubango provinces lead to the death of the UNITA leader. During this period the population displacement was different, with forced removal of people from the fighting areas by the Government forces and destruction of fields and villages. (Map 3)



⁴ Profile of Internal Displacement: Angola, Global; IDP Project.

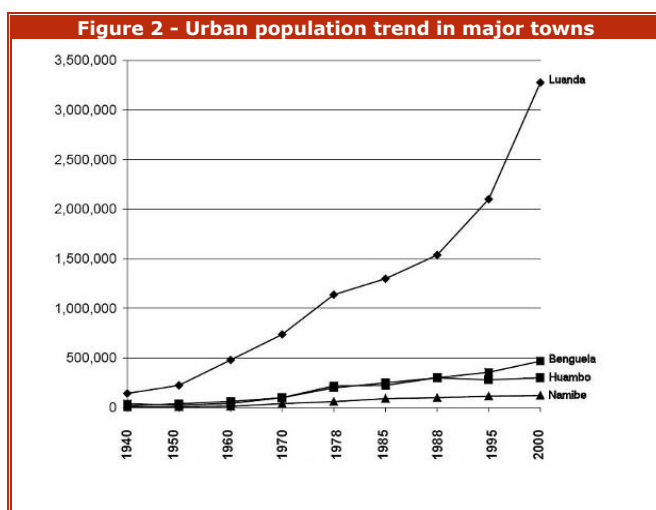
In between these distinct periods, the country experienced relative peace. At the time of the Bicesse Accords (1991), there were about 800,000 IDPs, and only a small number of people returned home during the peaceful time between 1991 and 1992. The number of displaced grew by an additional 2 million because of resumed fighting after the unsuccessful electoral process of September/October 1992. A UN inter-agency mission estimated the number of IDPs in Angola to be 2.3 million, out of a total population of 11 million⁵. Among these IDPs, over of 75% were estimated to be children and women⁶.

Displacement again became important when full-scale war erupted during the second half of 1998. Fighting between Government and UNITA troops increased, particularly in the northern and eastern areas in the central highlands. OCHA estimated that between 1998 and February 2002, more than three million war-affected people fled from the countryside to the major urban areas, bringing the total number of internally displaced persons in Angola to 4.1 million. More than 30 percent of those people were part of female-headed households⁷.

During the last four years of the war, fighting was concentrated mainly in the Central Highlands, Moxico and Kuando Kubango provinces characterised by the habit of using villagers for pursuing military strategies. Such cleansing operations succeeded in emptying significant parts of the countryside, preventing UNITA forces from recruiting fighters and enjoying vital food support provided by civilians.

War abruptly came to an end in February 2002, followed by the Luena Peace Agreement in April 2002. During the 18 months after the Peace Agreement, an estimated 3.8 million IDPs and refugees returned to their areas of origin, and more than 90,000 former UNITA combatants and 286,000 family members were transported to areas of their choice. In addition, around 176,000 Angolan refugees spontaneously crossed the borders adding to people who were assisted in their journey back by the UNHCR-led repatriation programme. These people returned primarily in the provinces of Huambo, Benguela, Kwanza Sul and Bié. In addition, approximately half of the 450,000 refugees estimated to have fled to bordering countries have returned home since the end of hostilities. Meanwhile, 1.4 million persons still remained displaced and are mainly concentrated in Kuando Kubango, Moxico, Malanje and Huila provinces.

2.2.2 Effects of the war on urban demographics



The continuous shift of populations from rural to urban areas has changed the demography of the country from being predominantly rural-based to one in which more than 60 percent of the population now live in urban centres. The majority of them have: i) been displaced several times, ii) lost ties with their home communities and lost many members of the nuclear family, iii) have limited or no ties with the host communities, and iv) are concentrated in the coastal belt and in major urban centres, with more than half located in Luanda, Benguela and Huambo provinces.

Figure 2 illustrates the increase of population in urban areas since the 1940s. The consequences of the 1992 and 1998 resumption of war are clear for the coastal urban centres. However, in the post-war context since 2002, the migration patterns have become more complex. A case study⁸ indicates that in the capitals of some provinces such as Huambo and Benguela there has been a significant exodus of urban IDPs with people returning to their areas of origin. However, there is little evidence of urban exodus in Luanda. Populations are also moving but rarely whole families are leaving the town.

⁵ UNICEF 2001, Country Background.

⁶ UN 30 November 1999, p. 69.

⁷ UN February 1998, p. 99

⁸ Cain, Allan - Angola Case Study - The Challenges of Post-Conflict Transition, presented at Surviving the Peace Better Canadian Responses to Post-Conflict Transition Needs in Africa, Ottawa - October 15th, 2004.

Farming is resuming in the hinterland adjacent to the capital and new economic relationships with rural producers linking the urban informal markets appear to be emerging.

2.3 Political situation

Angola has begun to enjoy the fruits of peace since the end of the civil war in 2002. Fighting between the Popular Movement for the Liberation of Angola (MPLA), led by Jose Eduardo Dos Santos, and the National Union for the Total Independence of Angola (UNITA), led by Jonas Savimbi, followed independence from Portugal in 1975. Peace seemed imminent in 1992 when Angola held national elections, but UNITA renewed fighting after being beaten by the MPLA at the polls. Savimbi's death in 2002 ended UNITA's insurgency and strengthened the MPLA's hold on power. Since then, the political process has been more peaceful towards democratic paths, favouring electoral solutions rather than violent ones. However, the problem is not entirely solved. There is still an armed conflict going on in Cabinda, and while from a military viewpoint it is of minor importance it could become important because of Cabinda's importance for the oil sector.

According to external sources, Dos Santos has pledged to hold national elections in 2006. The governing party, Movimento Popular de Libertação de Angola (MPLA), will easily dominate the domestic political opposition, as the country moves towards elections.

From a political point of view, the large number of IDPs remains a crucial security concern. From an economic viewpoint, IDPs are essential for the revitalization of the agriculture sector in order to grant the country its long lost food security and self-sufficiency for basic foodstuffs.

2.4 Economy

The capital-intensive oil sector dominates the Angolan economy, generating over 45% of the country's GDP and accounting for half of the exports. Angola is sub-Saharan Africa's second biggest oil exporter. In contrast, the agricultural sector employs 85% of the working population but contributes only 8 percent to Angola's GDP compared to 18% in 1990. The increase in oil production supported 7% real GDP growth in 2003, 11.3 percent in 2004 and could help boost growth to 13.7% in 2005. This increase, however, would probably have only a limited or even a negative effect on the non-oil sector. In 2004, the GDP per capita was estimated at US \$2,100.

Sectors	1999	2000	2001	2002	2003
Agric., Forestry and Fishing	6.3	5.7	8.2	8.1	8.2
Mining	66.4	66.5	57.4	58.0	52.9
Crude and Gas	58.1	60.1	51.2	53.2	48.3
Other	8.3	6.4	6.2	4.8	4.5
Manufacturing Industries	3.2	2.9	3.9	3.7	3.8
Construction	3.1	2.7	3.6	3.5	3.6
Trade Services	14.9	14.3	15.4	14.2	14.2
Non-trade Services	4.8	6.6	9.3	10.7	15.1
Import Customs Duties	1.3	1.3	2.2	1.8	2.1
GDP at market prices	100.0	100.0	100.0	100.0	100.0

Angola has suffered from serious macro-economic instability for years, characterized by high inflation, an overvalued real exchange rate, and chronic under-investment in the social sectors. Real GDP growth is forecast to continue at recent high levels, reaching 11.6% in 2005, mainly because of large increases in oil

production, although this has few links to the rest of the economy. Average annual inflation is forecast to reach 30% in 2005, reflecting low foreign reserves, high foreign debt repayments, high levels of profit repatriation from the oil sector and increased capital imports.

Recently, there have also been advances in the field of structural reforms. Especially important have been the efforts to correct the distorted system of relative prices, mainly by reducing subvention of some public services and fuel. The correcting of these distortions and the elimination of these subsidies is central to attaining a sound fiscal system in the future, and to reduce the budget deficit in Angola.

⁹ Aguilar R. Getting off the hook, Gothenburg University, Sweden, September 2005.

2.4.1 - Government expenditures in agriculture and social sectors

Agriculture plays a dominant role in the economy of rural Angola and in 2004 provided the main income for 71% of the population and employed 85% of the labour force. The agricultural sector represented 8% of the GDP in 2004, but before independence, the country was self-sufficient for the most important food crops except wheat. In addition, large quantities of coffee, maize, sisal, banana, tobacco, sugar, palm oil and rice were exported. However, the budget allocated in 2004 to the Ministry of Agriculture represents less than 1% of the government spending.

Expenditure in the social sectors, which historically has been extremely low even by regional standards, is expected to rise only moderately in 2005, from 8.4% to 9.9% of GDP. Expenditure on the social sectors experienced a large decline in 1998, falling by almost half. This reflected, in part, the fall in the price of oil on the international market, which caused a drastic reduction in fiscal revenue. Despite the recovery of the oil price the following year, expenditures remained at a low level in 1999, due to the resumption of the war and the high expenditure on defence and public order. However, the increase in oil revenue, which reached a historical high in 2000, and the greater budgetary priority given to the social sectors brought about substantial increases in expenditure on these sectors in 2000 and 2001. These trends were evident in both the education and health sectors.

In spite of advances in the field of macroeconomic management, the country faces enormous social, and the country seems to be less prepared to solve these kinds of problems than it is to solve the problem of macroeconomic management. During most of the civil war, Angola's state practically abandoned the social sectors, co-opting international organizations and NGOs to provide minimal emergency services. Now, there is an increasing need for the state to resume and expand its responsibility over the social sectors but the state is ill prepared for assuming this task. Information that could be useful for identifying and focusing the targets for investments and policy are scarce and unreliable.

The civil war and years of neglect and lack of investments destroyed a large share of the infrastructure supporting the social services. There is also a serious scarcity of human capital in this sector. Most of the educated cadres were drained by the army or the private sector, or have simply emigrated. Moreover, the valuable efforts by international organizations and NGOs are uncoordinated and often inconsistent. The individual agendas of these institutions are different, and differ also from the agenda of Angola's government.

2.5 Education

The education sector is currently under a structural reform, aimed at modernization. However these reforms require an enormous effort, as the education indicators are very poor, reflecting high levels of non-enrolment, significant gender disparities and the poor performance of the education system in terms of quality. The National Education System considers compulsory the attendance of the first level of education (1st to 4th grade, 6-11 years old). In spite of that, 44% of children don't attend this level and 96% are not attending at the second level (5th and 6th grade, until 14 years old). Furthermore, the majority of children in school are not attending classes corresponding to their age. There are also high rates of repetition which overload the system with older pupils occupying the place of younger ones.

The national net primary school attendance rate (6-9 year old) is 56%, while the same indicator for the secondary school falls dramatically to 6% percent. The completion rate is estimated at 75 percent. The total literacy rate of the population is 67% - 54% for females and 82% for the men. Most of the educational resources are concentrated in urban areas while only half of the rural population can read and write, which is 48% lower than in urban areas.

Table 6 shows the indicators by region and the national average performance in 2001. The figures show the dramatic drop from primary to secondary school everywhere.

Table 6 - Educational attainment (MICS, 2001)					
Indicators	Capital	East	Centre-South	South	National
Eventually reach Grade 5					
with repetition	82	61	75	82	76
without repetition	65	39	46	45	46
Net Primary School Attendance Rate					
I Level (1-4)	63	44	56	63	56
II Level (5-6)	14	1	5	6	6
Literate population (> 15 years old)					
Female	69	39	51	66	54
Male	90	74	82	82	82

Expenditures on education are considered to be improving slowly, but they are still the lowest of all countries of the Southern Africa Development Community (SADC) Region. From the total low level of expenditure in the sector, only 39% was for basic education. There is also a low level of investment in the sector: 60% of the expenditure was on wages and only 6% on investment.

2.6 Health

The health situation of the Angolan population is among the worst in the world. The high levels of morbidity and mortality reflect the poor access to health services, generalized poverty and nutritional deficiencies. Among the most prevalent diseases, malaria is the main direct cause of illness and death, along with acute respiratory diseases and diarrhoea. Table 7 summarizes health indicators for Angola and bordering countries, illustrating the extremely high mortality rates and lowest access to health services in the region.

Table 7 - Main Health status indicators in Angola and neighbouring countries¹⁰							
	Infant mortality rate	Under 5 mortality rate	Low birth weight	Maternal mortality rate	Antenatal care coverage	HIV prevalence	Measles immunisation
Angola	154	260	12%	1700	66%	3.9%	64%
Congo	81	108	-	510	-	4.9%	65%
DRC	129	205	12%	990	68%	4.2%	64%
Namibia	48	65	14%	300	91%	21.3%	70%
Zambia	102	182	12%	750	93%	16.5%	84%
Sub-Saharan Africa	104	175	-	940	66%	-	-

The ECP document estimates that less than 35% of the Angolan population has access to health services in the National Health System. Besides that poor households have access mainly the health primary network, the most destroyed by the war.

Data on maternal antenatal care and breastfeeding practices are shown in Table 8. Qualified health personnel assist less than half of all deliveries. Breastfeeding practices among Angolan women are very poor. For instance, the rate of abandoning exclusive breastfeeding in the first month of life is extremely high (96%) and weaning occurs at an average child age of 20-23 months. These indicators are correlated to the mother's education, illustrating that the higher the level of education the better practices and access to health services.

Table 8 - Antenatal Care (Source: MICS, 2001)					
Indicators	Capital	East	Centre-South	South	National
Delivery antenatal care					
Doctor	12	14	3	13	
Nurse/midwife	51	39	50	58	
Traditional birth attendant	9	29	10	7	
No care	24	15	31	17	
Breast feeding					
Exclusive (< 4 months)	21	2	18	32	14
Complementary feeding	63	78	79	82	77
Continued breast feeding (20-23 months)	18	33	54	37	37

2.6.1 HIV and AIDS

HIV/AIDS impact is an issue of concern since the functioning of public health infrastructure and services are highly deficient. In 2001, less than half of all provinces had laboratories

¹⁰ Source: UNICEF (www.childinfo.org)

capable to undertaken HIV tests. In 2003, only four locations in the capital could test and give counselling although the population of the city is estimated to be higher than 3.5 million. Results from the KAP (Knowledge, Attitude and Practices) survey on HIV and AIDS awareness and illustrates generally very poor understanding of issues related to the disease.

Table 9 - HIV Prevalence amongst Women Attending ANC Facilities

Province	Sample	HIV Prevalence
Cunene	548	9.1%
Huila	503	2.8%
Kuando Kubango	496	4.0%
Moxico	499	2.6%
Namibe	504	2.0%

Data from 2004 on HIV prevalence on women attending Ante-Natal Care (ANC) facilities are displayed in Table 9. However, data collected by the National Institute of Public Health (INSP) indicate that the prevalence index of women attending antenatal clinics in Luanda increased from 3.4% to 8.6% between 1999 and 2001.

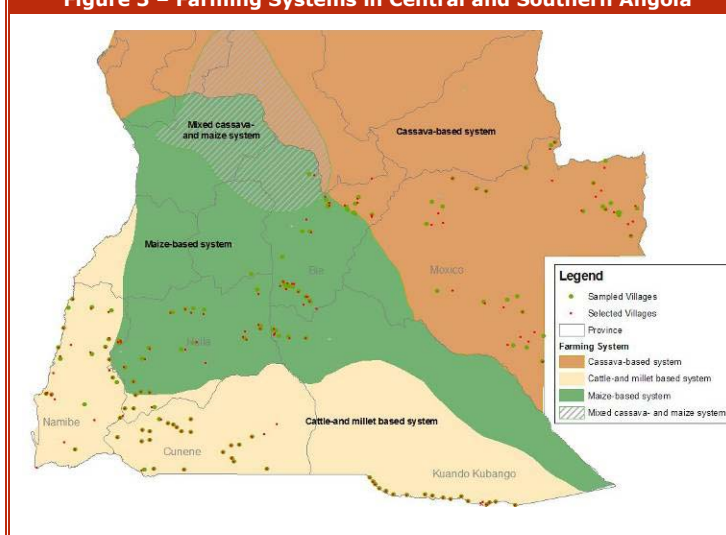
Notice, however, that antenatal care coverage has been estimated at 40% in the country. This means that prevalence rate is still comparatively low but is increasing quite rapidly.

2.7 Agriculture

Agriculture in Angola is predominately a family-labour activity for millions of smallholder subsistence farmers who plant an average of 1.4 ha per family on two or more plots. Agricultural production is based on a rainfed main growing season from September to April (planting from September to February). This season accounts for about 95% of the total production of cereals and pulses, which are also the major food crops: cereals (maize, sorghum, millet and rice), beans, groundnuts, cassava, sweet potatoes and Irish potatoes.

The second growing season is carried out mainly in low-lying wetland areas and is planted from June to August. This season accounts for about 5% of the production of cereals and pulses. Vegetable and sweet potato production is also very important in these areas. The most important vegetables are cabbage, tomatoes, lettuce, onions, peppers, carrots and pumpkin. In 2004 the total area planted¹¹ to all crops in Angola was estimated at 2,941,000 ha, which represents an increase of 15% over 2003 planting. This represents

Figure 3 – Farming Systems in Central and Southern Angola



Agriculture follows the pattern of the three main agroecological zones, corresponding to the main climatic and geographical features of the country: the north, with a humid climate, the semi-arid south and the central highlands (Planalto Central) with a sub-humid climate. These highlands are the transition zone between the humid north and the dry south. In the north (Uige, Kuanza Norte, Zaire, Malanje provinces) and the northeast (Lundas area), there is a predominance of cassava, maize, beans and groundnuts.

about 32-50% of the total potential agricultural land of 5 to 8 million hectares.

Maize and beans predominate in the Planalto Central area. In the south, maize and livestock predominate, moving southwards towards areas in which maize is replaced by cassava, sorghum, millet and cowpeas, while pastoral systems dominate in the province of Cunene.

Most farmers practice traditional agriculture using hand tools for land preparation and weeding, planting local seeds held over from the previous harvest. Intercropping is the usual agricultural practice, with maize, beans, groundnuts and cassava the most extensive

¹¹ Source, FAO/WFP 2004 Crop And Food Supply Assessment Mission To Angola

pattern used. Vegetable crops are planted mainly as single crops in the low-lying areas (*nacas*).

Livestock activity in Angola, mainly cattle, is concentrated in the southern region. The provinces of Huila, Cunene and Huila have the largest herds of cattle and goats. There are no precise data on the numbers by species, but the Veterinary Services of the Ministry of Agriculture reported about 2.5 million head of cattle, 1.5 million goats and sheep, 400,000 pigs and around 6 million poultry. Of the estimated 2.5 million head of cattle, 973,500 were vaccinated in 2003. Cattle constitute a very important input for land preparation: animal power is used in the southern provinces and more farmers are purchasing oxen for ploughing.

Besides agriculture and livestock, fishing is an important livelihood activity in rural Angola. Because of the cool Benguela current, the waters off the coast of Angola are particularly rich in marine life. Fishing has traditionally been an important activity in the provinces of Benguela and Namibe. Almost 60% of the captures in the country are from Namibe province. The country supports also rich fishing grounds in its inland waters and wetlands, in particular in the province of Moxico. There is however no information available about fish production in those wetlands, but it constitutes the major source of protein within the province and the neighbouring provinces.

2.8 Poverty and food security

Information on food security and poverty in Angola is very scarce and is often limited to international reports, showing national averages. In the Human Development Index for 2005, Angola is ranked in 160th place in the "Low Human Development" group of countries.

Table 10 confirms the controversial situation in Angola compared to the sub-Saharan Africa and the least developed countries. A very poor HDI (Human Development Index) with a very low life expectancy at birth goes together with a relative high GDP *per capita*.

	HDI value	Life expectancy at birth	Adult literacy rate	Combined gross enrolment ratio	GDP/capita (\$ PPP)
Angola	0.445	40.8	66.8	30	2,344
Sub-Saharan Africa	0.515	46.1	61.3	50	1,856
Least developed countries	0.518	52.2	54.2	45	1,328

The last survey on Household Income and Expenditures (IDR), from 2001, defined the poverty line at US\$1.7 a day while the extreme line of poverty was fixed at about 0.76 dollars a day. According to the same document, 62% of the households were considered poor in 2001, and 15% of the households were in a situation of extreme poverty. The report notices an important distinction between rural and urban areas. In rural areas an average of 79% households are extremely poor while urban areas only record 19.5% of extreme poor. Households above the poverty line are 43% in the urban zones and only 5.7% in rural areas. The study shows that problems exist in the capital, but also in the provinces of Namibe, Cunene and Huila. Huambo and Bié provinces in the Central Highlands were not part of the sampling for this survey.

Poverty Groups	Head of Household gender		Total
	Male	Female	
Extremely poor	27.3	30.1	27.5
Moderate poor	34.1	37.4	34.8
Non poor	38.6	32.5	37.7
Total	27.8	34.8	100

Poverty patterns by gender are shown in Table 11, confirming a gender bias of poverty. However, this difference only exists in rural areas. During the last five years, WFP/VAM has taken the lead in the analysis of vulnerability to food insecurity in rural Angola.

Working in partnership with partners and stakeholders, VAM established an institutional framework for monitoring levels of food security within the country which could be used by all members of the humanitarian community for designing and guiding their interventions. This analysis did not include the large urban populations in the cities along the coast.

Only since 2002, these assessments could reach a major area in the country and several vulnerability and food security assessments over the last three years have indicated that

the Central Highlands, Moxico and Kuando Kubango are the most vulnerable to food insecurity in the country.

Both the May 2004 Vulnerability Assessment carried out by WFP and its partners, and the 2004 FAO/WFP Joint Crop and Food Supply Assessment Mission (CFSAM), showed that the highest relative levels of poverty and food insecurity were due to the following structural reasons.

- Generalized poverty, and few productive or domestic assets at household level.
- Very sensitive to any risk and extensive recourse to negative coping mechanisms (sale of charcoal and firewood, hunting).
- Few options for income diversification through income generating activities.
- Localized high population density, resulting in limited access to agricultural land.
- Impoverished soils, poor farming practices with few agricultural inputs.
- High pressure on natural resources
- Livelihoods of the rural population exposed to various social, productive and economic risks.

Part III: Community and Household Survey Outcomes

This section provides details on the outcomes of the community and household interviews and covers all subjects ranging from household demographics, living conditions and access to social services. The information is presented by theme and compares findings by the six provinces covered in the survey.

3.1 Demographics and population movements

The number of persons in the communities ranges from about 60 to 4600 persons, with an average of 685 persons per village. In general, villages are larger in the provinces of Huila (average 900 habitants) and Cunene¹² (700 habitants) than in the other provinces (220-370 habitants), but they are also more dispersed over a larger area. This difference can be explained by the concentration of population from different villages in one settlement due to the war and/or easy access to water (mainly in Namibe) and the related geographic reorganization. This occurs mainly near urban centres.

Most communities sampled were in existence from before the country's independence, with an average age of more than 50 years for all communities surveyed. Newer villages were found in the Kuando Kubango sample, where 45% of the villages have existed less than 5 years. In Bié and Moxico samples, the average age of villages is 58 and 43 years respectively.

The civil war has been particularly important in the provinces of Bié, Kuando Kubango and Moxico, where all communities have been affected, resulting in the displacement of the habitants. The samples in Cunene and Namibe provinces were the least affected with 26% and 10% of the communities where members had to relocate. The stability of the villages is further confirmed by the average time households have been living in their community.

Table 12 - Proportion of the communities affected by the war

Province	Communities with displaced habitants during the war	Median number of years living in the community
Bié	100%	5
Kuando Kubango	100%	4
Moxico	97%	4
Huila	45%	10
Cunene	26%	20
Namibe	10%	8

More than half of the sample (55%) had been displaced in time. Of the displaced people, only significant numbers from Moxico (69%) and Kuando Kubango (33%) had been displaced outside the country.

In line with previous observations, the majority of sample households in Namibe, Cunene and parts of Huila had never been displaced by the war¹³. In Moxico and Kuando Kubango, more than 80% of the households have been displaced. In addition, in the Moxico sample, 22% of the households have not had one harvest and 35% just one harvest at the time of the interview in July 2005. In Bié province, 13% of the households had just one harvest. The number of harvests is considered very important to assess the reintegration of the rural household in their communities of origin – a complete crop cycle requires more than ten months starting with land cleaning and preparation in August-September until harvest in June-July in the next year. When households returned with few assets, at least two harvests (in consecutive and "normal" years) are required to obtain the minimum self-sufficiency.

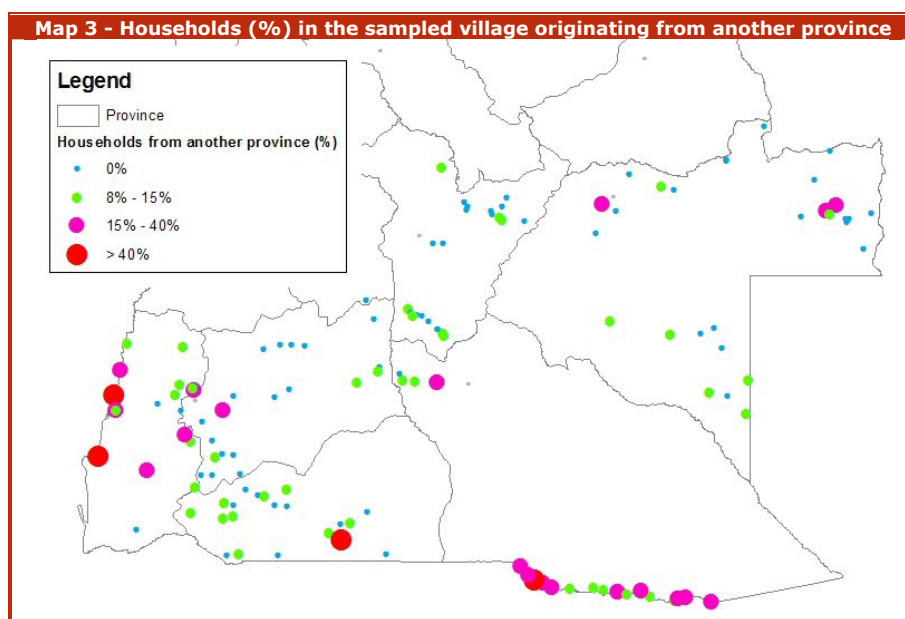
¹² In Cunene, the structure of the villages is different with one *soba* for several "*ehumbos*" which explains the higher number of inhabitants.

¹³ The South-African army occupied large parts of Cunene province until 1989.

Table 13 - Composition of communities in residence period of habitants				
Province	Resident	No harvest	Returnee One harvest	2+harvests
Bié	44%	3%	10%	44%
Kuando Kubango	19%	1%	5%	76%
Moxico	8%	22%	35%	34%
Huila	84%	0	15%	15%
Cunene	95%	0	0	5%
Namibe	99%	0	0	1%
Total	55%	6%	10%	30%

In Bié, Huila, Moxico and Cunene, more than 90% of the interviewed households are originally from the province where they currently live. In Kuando Kubango,

more than 25% of the sample households originate from other provinces (Bié, Huila and Huambo) and 20% of the sample households in Namibe are originating from other provinces (mainly Huila, Moxico and Benguela). Map 3 below illustrates the origin of households in the village which confirms the displacement patterns.



On average, 15.5% of the sample households are female headed with a minimum of 5% in Namibe and the most in Bié (18%) and Moxico (28%). This is partly explained by the intensity of the war in these provinces. In all provinces, about 9% of these women are 60 years or older.

Table 14 - Characteristics of household heads		
	Male head	Female head
Marital status		
Married	96%	47%
Not married	2%	18%
Separated	1%	12%
Widower	1%	23%
Educational level		
Can read or write	47%	16%
Completed primary education	10%	2%

The distribution of the age of household heads shows almost no gender difference. The average age of the household head is 42 years, 83% are married but there is a considerable difference between households headed by men and women. While 96% of the men are married, only 47% of the female heads are married and 23% are widowed.

About 39% of the heads of household are able to read or write although only 8% of the heads completed primary school and 19.5% completed part of primary education. Less than 3% completed secondary school. There is relatively little variation regarding these characteristics over the provinces, but there are important gender differences, as illustrated in Table 14.

For the sample, the average household size is 5.8 (median is 5), with a high of 7.4 in the Cunene sample and between 5.1 and 5.4 in the other provincial samples. For the entire sample there is an average of 2.2 dependent members (below 18 and above 60) for each productive household member (19-59 years). This ratio is highest in Cunene (2.6) and Namibe (2.3) samples and lowest in Huila (1.9). In the other provinces Bié, Moxico and Kuando Kubango, this dependency ratio is 2.1.

In the sample, 10% of the households have at least one physically or mentally ill person in the household. The highest is found in Bié (15%) and a low of 5% is found in the sample of the households in Moxico.

3.2 Educational status

While more than one third (39%) of the household heads can read and write, only 8% have finished primary school (Table 15) – most likely a result of the difficult access conditions during the war. The educational situation of the mothers with children less than five is worse with 91% of the mothers having no education, 8% with primary and only 1% with secondary education.

	Bié	Kuando Kubango	Moxico	Huila	Cunene	Namibe
Household head can write/read	37%	43%	38%	40%	39%	36%
Household head finished primary school	7%	8%	11%	5%	9%	6%
Children between 6-14 attending primary school	84%	54%	41%	63%	52%	40%
Children between 15-18 attending secondary school	8%	9%	2%	13%	5%	6%

These education figures are slightly better in Kuando Kubango (17% with minimum primary) and Huila (13%). Most of the interviewees in Kuando Kubango were refugees who have been able to attend school in neighbouring countries.

Primary school attendance of children between 6 and 14 years reaches 56%, with a maximum of 84% in the Bié sample and a low 40% in Moxico. There is a small gender difference with slightly more boys (67%) attending school than girls (60%). The situation is significantly better in Bié (92% of the boys and 88% of the girls) and the worst in Kuando Kubango (55% and 35%) and Cunene (46% and 54%) samples. Cunene is the only sample where slightly more girls attend school than boys, which is explained by the fact the boys are often out tending the cattle. For the sample household's secondary school attendance is generally below 10%, except in Huila where 13% of the children between 15 and 18 years attend secondary school.

All schools have a 1st grade class, but other grades are often not present in the schools: 94% of the schools have second grade, 76% third grade and 56% have 4th grade. The higher grades are particular absent in Bié (68% of the schools) and Cunene (52%) while in Namibe only 20% of the schools don't have fourth grade. Each school has on average three to four teachers, except in Kuando Kubango and Moxico where there are only two teachers per school.

3.3 Living conditions

Living conditions in this section refer to the type of material used for constructing the house, quality of water consumed and type of material used for cooking and lighting in the house.

3.3.1 House construction

The material of the houses in the rural areas covered by the survey is generally local material, made from wood, leaves and mud, and there is generally little differentiation in housing style and quality between the provinces. Living conditions are often more reflective of the local culture and reflect less the food security situation of the household. This issue is developed further in this report.

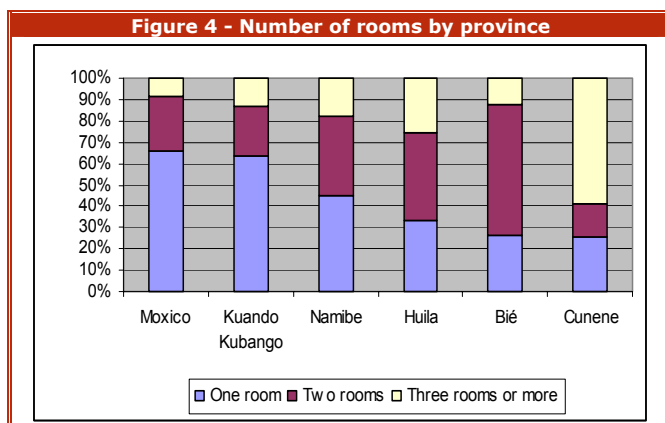
Only 15% of the sample houses have adobe or mud brick walls, while the majority have walls constructed from *pau-a-pique* (65%) or grass (*capim*) (15%). The poorest quality of the walls is found in the Kuando Kubango sample with more than 50% constructed of grass. About one-quarter of the sample households in the Huila, Namibe and Moxico have walls made of adobe. Houses of adobe are considered to provide better living conditions because they are less humid and protect from the dust.

For nearly 90% of the sample households, the roof of the houses is made of grass (*capim*), while 7% of the households have corrugated iron. In the Namibe sample, relatively more houses (27%) have a roof of more durable material than grass. Nearly all of the sample houses have a floor of earth, while only in Namibe province, around 10% of the sample houses have a floor of cement. When evaluating wall and roof material together, only 6% of the sample houses are constructed from durable material. Most are found in Namibe

(15% of total) while in all other provinces, only around 5% of the houses are constructed from good materials (cement blocks, adobe, etc.).

3.3.2 House size and crowding

The average number of rooms and bedrooms is highest in the Cunene sample and lowest in Moxico. For the sample, the average house has 2 rooms and 1 bedroom, and only in the Cunene sample more than half of the families have a minimum of 2 rooms for sleeping. The figure below illustrates the average numbers of rooms and sleeping rooms by province, and highlights the important differences between provincial samples.

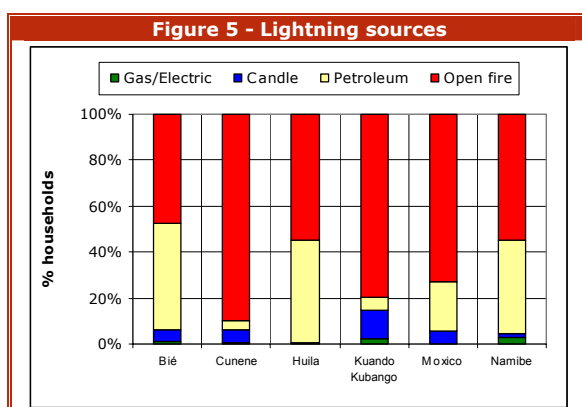


Crowding, or the number of rooms for living and sleeping divided by the number of persons living in the house provides a good indication of the living conditions in the household. A maximum of five persons per room is considered 'comfortable' or not overcrowded. In the sample, there are 25% of the households who sleep with more than five persons per room. Most are found in Moxico (34% of the households), followed by Namibe (29%) and Kuando Kubango (28%).

In the other provinces, their proportion ranges between 17-18% of the households

3.3.3 Lightning and cooking fuel sources

Lightning equipment (electricity, gas lamp or candle) is owned by less than 5% of the households (Figure 5). Most of the households use open fire (67%) or petroleum lamps (27%).



The greatest reliance on open fires for lighting was found in the Cunene and Kuando Kubango samples while more than 40% of the sample households in Bié, Huila and Namibe rely on petroleum for lighting. Hardly of the sample households use gas or electricity for lighting with just few more found in Namibe. Cooking is done on collected firewood by 95% of the sample households. Only in Namibe, 10% of the sample households use charcoal and 4% use gas.

3.3.4 Drinking water sources

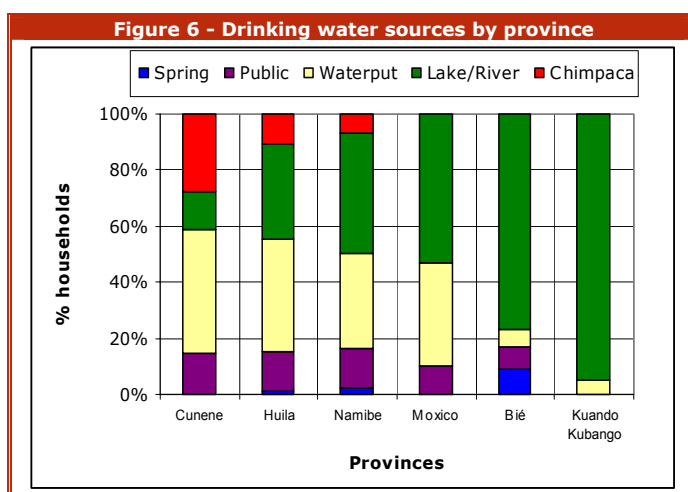
Water Sources

Protected sources of water: taps or public fountains, piped water directly in dwellings or yards, boreholes, protected wells or rains water (if immediately consumed).

Unprotected sources of water: lakes, rivers and streams, chimpacas and/or cacimbas and water trucks.

Almost all of the communities use an unprotected water source: 61% use water from river or lake, 15% from an unprotected well and less than 5% of the sample communities have access to a protected water source. In Cunene, Huila and Namibe more than 50% of the households use water from a protected water source, but in Cunene 25% drink water from *chimpacas*, often shared with the animals.

In Bié and Kuando Kubango samples, more than 75% of the households use water of poor quality (unprotected well, lake or river).



Use of water by animals and humans is better managed in Namibe and Huila than other provinces. Nearly 90% of the sampled communities in Cunene and 96% in Kuando Kubango use the same water sources as the animals for drinking and washing. Running waters of rivers in Kuando Kubango pose fewer problems than the stagnant waters in Cunene. In Huila and Namibe, at least in 30% of the communities' water sources are completely separated between animals and humans.

For most of the households (79%) the water source is within 30 minutes walk from home but 20% of the households need one hour or more to reach the water source. The situation is good in Bié, Namibe and Kuando Kubango, where 85-95% of the households live within half an hour of the source. On the other hand, in Cunene province, the water source is at least one hour away for 62% of the households.

3.3.5 Sanitation

On average, 80.8% of the households have no toilet and 18.8% are using a simple latrine. Only in Moxico (50.8%) and Bié (29.0%) samples a greater proportion of the households have access to the latrine, while in all other provinces, less than 10% of the household have a latrine.

3.4 Household assets

Domestic and productive assets are an important factor to assess the household's resilience to risks and shocks and give a good indication on the productive capacity of the household. We will further in the document develop a wealth index which makes intensive use of the household asset information. Table 16 summarizes asset ownership by provincial sample.

Province	Radio	Hoe	Plough	Bicycle	Fishing gear	Hunting gear	Horse/Donkey	Cart
Bié	29%	96%	5%	24%	21%	13%	0	1%
Cunene	40%	94%	59%	33%	3%	15%	32%	13%
Huila	21%	94%	4%	11%	6%	6%	9%	10%
Kuando Kubango	35%	95%	23%	4%	47%	6%	3%	8%
Moxico	26%	91%	3%	35%	17%	13%	0	1%
Namibe	39%	72%	18%	2%	16%	4%	20%	0

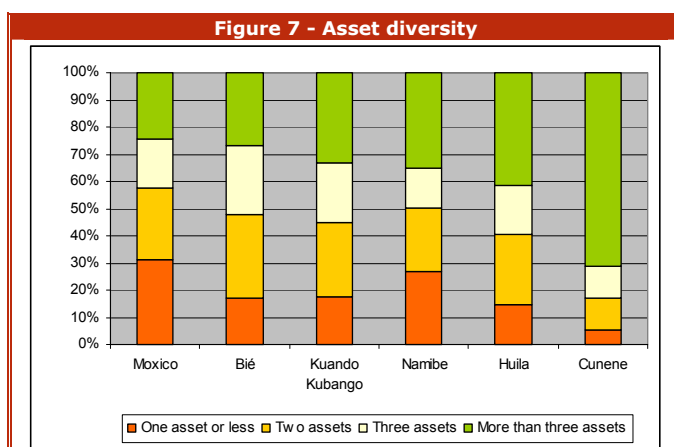
The most common household asset in the sample is the radio which is owned by about one third of the households. The Cunene sample has the highest proportion of households with a radio (40%) while the lowest ownership is found in Moxico and Huila (26%) samples. Other household assets such as stoves are owned by less than 1 to 2% of the households.

Productive assets are more common, in particular the hoe, which is owned by over 90% of the households, followed by a plough (24%). Hoes are less common in Namibe (owned by 72% of the households) illustrating their nomadic livelihood and their limited agricultural production capacity. Transport assets such as bicycle or donkey/horse are owned by almost one third of the households. Bicycles are more common in Cunene and Moxico, while horses are only found in Namibe, Cunene and to a lesser extend in Huila.

Assets to intensify agricultural production such as plough and cart are mainly found in Cunene and Huila, followed by Kuando Kubango and Namibe. In Moxico and Bié, less than 5% of the households own these tools. Ten percent of the sample households own hunting gear and nearly 20% own fishing gear. In Kuando Kubango¹⁴, 47% owns fishing gear and

¹⁴ It should be noted again that village selection in Kuando Kubango was seriously affected by access constraints, resulting in the selection of many villages along river Kubango, bordering Namibia. This situation does therefore not reflect the average for the province.

11% have a canoe. Hunting equipment (traps) is common in Cunene (15%), Bié and Moxico (13%), illustrating the importance of hunting in the livelihoods of the households in these provinces.



Asset diversity is illustrated in Figure 7. In the sample, 35% of the households have only one asset, which is typically the hoe. Households with two assets (26%) own typically a hoe and a radio. Almost 70% of households in the Cunene sample have three or more assets, while more than one third of the households in Moxico sample have only one asset. There is a relationship between the numbers of years of resettlement versus ownership of assets.

For instance, only 8% of the households who returned within the last year own a plough while 33% of the households with more than 5 years residence own one. The same effect is observed for the other assets, but less pronounced, in particular for a radio, which is owned by 22-35% of the households.

3.5 Livelihoods: Main Activities and income sources

Table 17 - Household typologies based on income

Main Income	Secondary Income	Tertiary Income	Total	Bié	Kuando Kubango	Cunene	Huila	Moxico	Namibe
1 Agriculture		Biscatos and/ or livestock	34	45	34	32	41	41	12
2 Livestock	Agriculture		16	1	9	42	19	0	24
3 Biscatos	Agriculture		9	10	14	0	6	21	5
4 Alcoholic Drinks	Agriculture	Livestock	8	6	13	13	8	2	6
5 Wood and charcoal	Agriculture		5	10	1	1	3	2	12
6 Fishing	Agriculture		5	1	11	0	0	7	12
7 Food commerce, Agriculture, Livestock			5	8	1	4	10	1	8
8 Commerce	Agriculture		5	2	10	3	6	3	6
9 Honey and forest products	Agriculture		5	7	4	0	2	17	2
10 Salaried work	Agriculture		5	4	2	5	3	3	10
11 Handicraft	Agriculture		2	6	2	1	1	3	1

As compared to the study in the rural central highlands (Jan 2005), where almost all members of the community are (poor) subsistence farmers with some minor additional income sources, rural activities in the south-eastern provinces covered by the SENAC survey are better distributed between members of the sampled communities. There are relatively more households who focus their income on specific rural jobs, such as preparation of alcoholic drinks, honey collection, sale of charcoal and fishing, complemented with agriculture. As a result, agriculture is a secondary income source for many households.

Clustering¹⁵ techniques were used to obtain classes of activities based on their relative contribution to total income. This classification does not take into account absolute income levels in monetary terms, which were not collected during the survey.

The clustering of the relative income has resulted in eleven homogeneous classes (Table 17) describing the relative importance of each activity to the households' total income. The overall situation shows that 34% of the households obtain their main income from agriculture, 16% are mainly living from livestock and the rest from a range of other activities.

¹⁵ Griguolo S. (2003) A Package for Exploratory Data Analysis specially oriented at territorial data, User Manual. Version 5.2a - July 2003.

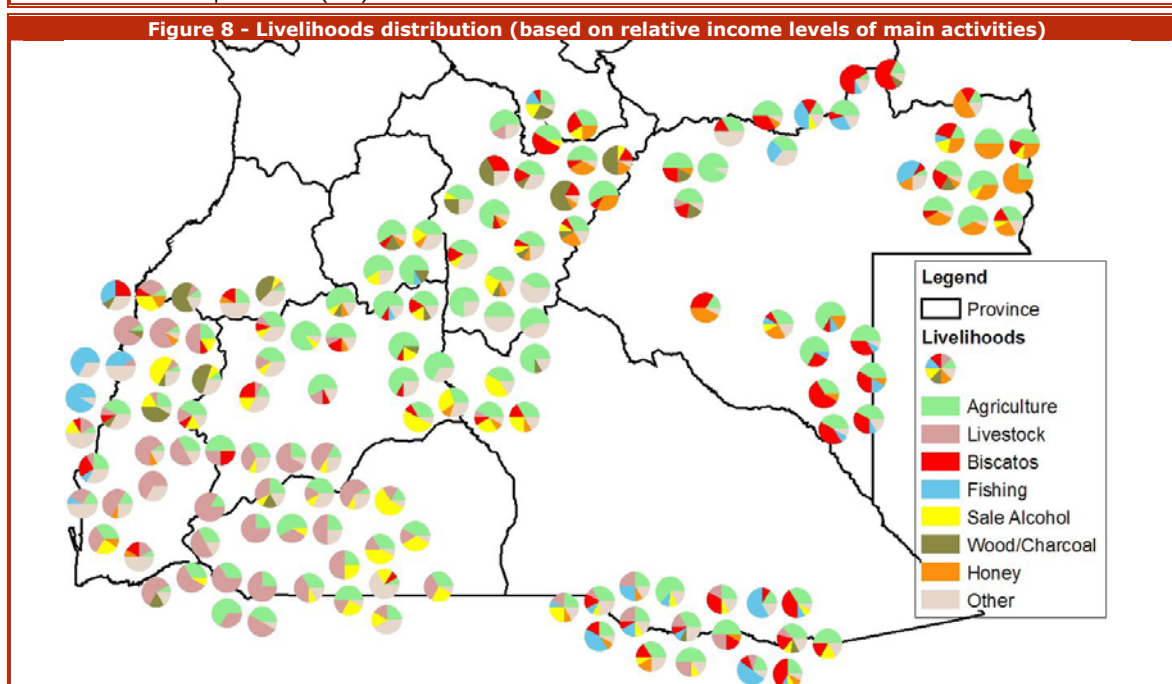
Almost all households, whose main activity is not agriculture, have a secondary income source obtained from agriculture (10 to 30% of the total income) and some groups have a tertiary income source, generally covering slightly less than 10% of their total income.

Table 18 illustrates the major difference between the provinces covered in the survey. Provincial samples where agriculture (and related *biscatos*¹⁶) is a major income source include Bié, Huila and Moxico. Livestock is the major income in the Cunene sample, followed by Namibe and Huila. Honey collection and commercialization is important in Moxico (17%) households. The figures in the table illustrate how in each province (except Namibe), about one third of the households obtain their main income source from agriculture, and the remaining two thirds from a range of other rural activities.

Province	Agriculture	Livestock	<i>Biscatos</i>	Sale of alcohol drinks	Fishing	Informal Commerce	Honey extraction	Charcoal
Bié	98%	15%	57%	27%	21%	19%	25%	22%
Kuando Kubango	96%	55%	38%	31%	53%	24%	6%	<1
Cunene	94%	91%	7%	38%	3%	13%	2%	3%
Huila	97%	56%	44%	20%	6%	22%	6%	3%
Moxico	86%	12%	49%	10%	22%	9%	30%	3%
Namibe	68%	43%	10%	14%	16%	16%	3%	17%

There is a linear relationship between the proportion of households involved in an activity and the relative proportion of the income. In general, agriculture provides 43% of the income followed by livestock (13%) and *biscatos* (12%). Table 19 shows the pattern of differences between the provinces.

Province	Income structure
Bié	Agriculture and <i>biscatos</i> provide the bulk (64%) of the sampled household income. Secondary income generating activities are honey extraction and charcoal production (11%). Other income sources are localized and never contribute more than 3% for the surveyed parts of the province.
Kuando Kubango	A more diversified income with agriculture accounting for 42% followed by fishing, livestock and <i>biscatos</i> (each 10-15% of the total income)
Cunene	Livestock and agriculture account for 81% of the income. Sale of alcoholic drinks and small commerce complete the income sources.
Huila	Agriculture and livestock provide 65% of the income. <i>Biscatos</i> and commerce complete income sources.
Moxico	Agriculture (44%) and <i>biscatos</i> (23%) followed by fishing (8%) and honey extraction (8%) provide the bulk of the income.
Namibe	Most developed income diversification with agriculture (28%), followed by livestock (21%), fishing (11%) and charcoal production (9%)



¹⁶ *Biscatos* is agricultural-related work, consisting mainly in land preparation, planting and cleaning of fields – with daily pay

3.6 Agriculture

Most villages (85%) do not have access to agricultural extension services, and it is only in Huila (27%) and Moxico (23%) where more than 10% of the sample villages have access to these services. NGOs provide most (65%) of the services and the rest by the Ministry of Agriculture. Agricultural inputs such as fertilizers are very rare: only 7% of the villages reported using fertilizers and 5% using herbicides or insecticides, but these low figures are not enough to distinguish between provinces.

Two-thirds of the sample villages report that community members help each other for agricultural work or for leading cattle, except in Moxico where only 13% of the villages report this type of assistance.

Province	Maize	Millet	Sorghum	Bean	Cassava	Sweet potato
Bié	85%	10%	6%	59%	31%	31%
Kuando Kubango	54%	76%	23%	41%	4%	4%
Cunene	34%	88%	51%	28%	0	<1
Huila	87%	38%	29%	24%	2%	13%
Moxico	58%	16%	8%	31%	39%	34%
Namibe	23%	15%	12%	9%	1%	1%
Total	58%	38%	21%	33%	14%	15%

The most common crop in the surveyed area is maize, cultivated by 58% of the households but with a particular concentration in Bié and Huila provinces, and relatively less in the more arid

provinces of Cunene and Namibe, where crops like sorghum and millet are more common. Cassava and sweet potato are cultivated in Bié and Moxico by one third of the sample households.

The median and average production (kg harvested) per sampled household during the 2004/2005 agricultural season is illustrated in Table 21. Maize production reaches an average of 1,355 kg per household in Huila province and 890 kg in Kuando Kubango, but the median production is only 150 and 70 kg respectively. For the other crops, production rarely exceeds 200-300 kg per household, and even cassava provides only 100-150 kg in Bié and Moxico provinces.

	Maize	Sorghum	Millet	Bean	Cassava	Sweet potato
Bié	100 - (312)			20	150 - (200)	50 - (97)
Kuando Kubango	70 - (891)		100 - (123)	40		
Cunene		100 - (139)	250 - (301)			
Huila	150 - (1355)		200 - (239)			
Moxico	50 - (85)			20 - (33)	100 - (148)	100 - (138)
Namibe				20 - (20)		

3.7 Livestock rearing

The majority of the sampled households own animals but in general levels of animal ownership are very low in Bié and Moxico, where almost none of the households (<5%) own cattle or oxen for traction. The majority of the households own chickens but numbers are generally below ten heads. Table 2 illustrates the proportion of households who own any animals. Generally, the situation in Kuando Kubango, Cunene, Huila and Namibe is much better, with a significant proportion of the sampled households owning pigs, goats and/or cattle.

	Oxen for traction	Cattle	Bull	Goat	Pigs	Chicken	Sheep	Horses
Bié	2	5	1	13	22	91	0	1
Cunene	66	74	41	75	58	91	11	9
Huila	49	42	20	37	47	87	5	5
Kuando Kubango	33	37	9	35	16	85	1	1
Moxico	0	1	0	11	3	95	0	0
Namibe	27	47	20	51	17	76	15	8
Total	33	36	17	39	30	88	6	5

Cattle are found in three-quarters of the households in the Cunene sample and nearly half in Namibe with numbers by household ranging from 5 to 163 in Cunene (average 13 head) from 0 to 260 head in Namibe (average 10). In Huila, 42% of the households own cattle and their number ranges from 0 to 67 (average 6). It is however important to note that

the median in each sample is zero, except in Cunene where the median number of cattle ownership is five.

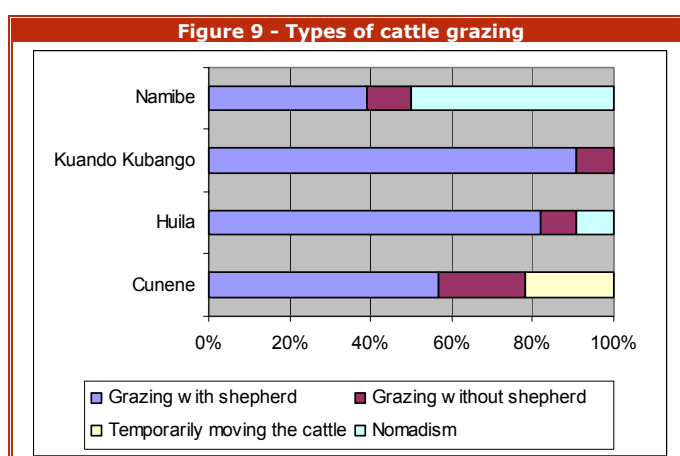
Oxen for traction are available to two-thirds of the sample households in Cunene while in Huila and Namibe there was an average of more than one ox per family (median is zero). In Moxico and Bié, no animal traction at all was found in the sample.

The households reported selling relatively few animals during the month preceding the survey. Oxen for traction were mainly sold in Huila but in low absolute numbers (14 head total). They were generally sold for buying food, for buying other animals or for health reasons. Cattle are sold by 10% of the owners, in particular in Cunene where almost one quarter of the households have sold at least one animal. The main reasons for selling are buying food for the family (62%) and for financing ceremonies (19%). In other provinces, cattle are also mainly sold for buying food for the family.

Pigs are mainly sold in Huila and Cunene by 10% of the households. Goats are sold by 30% of the households in Cunene, 20% in Namibe and 11% in Huila. Poultry are sold by 20% of the sample families and for a variety of reasons.

3.7.1 Cattle grazing

Most cattle grazing is usually done using a shepherd, and only in Cunene, Namibe and Huila, there is also some grazing (10-20%) of cattle without shepherd. In Cunene, 20% of the communities mention moving temporarily with the cattle and in Huila and Namibe 45% of the communities mention a nomadic lifestyle (Figure 9).



In Cunene province, both children and adults are grazing the cattle, in Huila and Namibe mainly the adults (85% of the sampled communities), and in Kuando Kubango mainly children (80%).

In Kuando Kubango, most sample communities (90%) have access to rivers for the cattle, while in Cunene and Namibe they rely on *chimpacas* and rivers (70% and 50% respectively), while in Huila mainly from rivers and *chimpacas*.

Watering points for the animals are often used for human drinking as well, which is particular harmful in stagnant waters such as *chimpacas* or lakes. Only a significant number of sampled communities in Namibe (35%) and Cunene (30%) mention that access to drinking water for the animals is problematic.

Availability of pasture for cattle grazing is only a problem in Namibe where over half of the villages consider availability moderate and the rest poor. In Huila and Cunene, availability is generally moderate to good. Risk for overgrazing is only considered a problem in Namibe province. One third of the sampled communities in Namibe and 13% in Cunene, children are commonly removed from school in order to graze the cattle (see also education figures). This practice was not mentioned in the other provinces.

Table 23 - Main problems related to cattle rearing			
Province	Illnesses	Cattle theft	Access to pasture
Cunene	96%	83%	26%
Huila	86%	73%	14%
Kuando Kubango	90%	62%	0
Namibe	100%	94%	78%
Average	94%	73%	25%

The main problems related to raising livestock are animal illnesses, cattle theft, and access to pasture (Table 23). Almost all the sampled communities reported illnesses, followed by cattle theft, in particular in Namibe and Cunene. Access to

pasture is a problem in three-quarters of the communities in Namibe, due to the distance to the grazing land. In combination with the often-difficult access to drinking water sources, lack of pasture explains the nomadic lifestyle of the populations in these arid areas.

3.8 Fishing

Fishing is an important income generating activity in all provinces (covering the Okavango basin) in the south, except in Huila and Cunene. The fish provides additional income and diversifies the diet of the families. In general, 20% of the sample households are involved in fishing, particularly in the Kuando Kubango sample (53%) followed by Moxico and Namibe provinces. The average amount of fish captured in the month preceding the interview is 41kg (median is 13kg), of which 39% was sold.

Province	HH with fishing activity	Average (median) kg fish last month	Proportion of fish for sale
Bié	19%	3 (0)	12%
Kuando Kubango	53%	32 (20)	48%
Cunene	5%	3 (0)	0
Huila	6%	14 (1)	0
Moxico	18%	37 (14)	33%
Namibe	19%	157 (100)	52%

The timing of the survey has some impact on the results of the activities related to fishing. The importance of fishing in Moxico is generally more important than in Kuando Kubango. In fact, the wetlands of Moxico have the highest potential for inland fishing in the country. Fishing is done mostly during the rainy season and, in the rivers all year round. In Kuando Kubango fishing are done all year round in rivers but more localized. Income from fishing in Namibe along the coast is also important, but only three of such localities were part of the sample, and the remaining villages in the survey were in the pastoral zone.

3.9 Access to social services

Access to basic social services includes two components: (1) physical access to education or health post using the existing road and public transport system, when the facility is not located in the village; and (2) monetary access, which includes the cost to make use of the social service.

3.9.1 Physical access to communities

Most of the communities sampled (89%) can be accessed by car. One-quarter of the sampled villages in Kuando Kubango have no access by road, but distances are generally in the range of 1 to 3 kilometres. Isolation during the rainy season is a problem in one quarter of the villages (with a maximum of 40% in Huila and Moxico). Inaccessibility is normally two to three months, but can go up to eight months in Moxico province, during the rainy season.

Less than half of the communities have regular access to public transport, but the situation is different by province. In Bié and Namibe samples, the majority of villages have public transport, while in Cunene and Kuando Kubango less than 20% have direct access from within the village. In Huila and Moxico, about half the villages have public transport.

None of the communities reported that mines are a constraint to travel to and from the village.

3.9.2 Access to markets

The market system is extremely poorly developed with in the surveyed area. Only 13% of the sample villages have a market, and the average distance to the closest market is 30 km. In Moxico and Namibe samples, distances are the greatest and reach an average of more than 50 km with a maximum of more than 200 km. In these provinces most of the households must cross the border to reach the nearest market. This has an impact on transport costs as well as costs related to custom duty.

3.9.3 Access to schools

Access to primary schooling facilities is fairly good with two-thirds of the sample communities having a school in the village (40% in Kuando Kubango to 86% in Huila). Where there is no school, distances to school reach more than 20 km on average in Moxico and Namibe, making it impossible for the children to attend school. In the other provinces, most schools are within 2-8 km (Table 25).

Table 25 - Access to primary schools and midwives				
Province	Sample villages with primary school	Median distance if no school	Communities with a midwife	Distance to nearest midwife (km)
Bié	84%	2 km	100%	-
Cunene	78%	7 km	34%	18
Huila	86%	1 km	68%	8
Kuando Kubango	41%	7 km	86%	6
Moxico	57%	14 km	73%	20
Namibe	60%	34 km	20%	12

3.9.4 Access to health infrastructure

Health infrastructure is relatively poorly developed with only one fifth of the sample villages having a health post. Those without a health facility have the nearest generally between 11-15 km, but a hospital is generally 35-50 km away. All health centres have a medical trained staff (minimum a nurse) and most villages have a midwife, but with a great difference between the provinces.

The most commonly reported illness in all provinces is malaria (62%) followed by diarrhoea (23%) and respiratory diseases (11%). Other diseases mentioned by the village elders are scabies and rheumatism.

Most women (70%) deliver at home, 28% with a midwife and 2% at a health centre or hospital. In Bié and Moxico, over half of the women deliver with a midwife, illustrating the very low access to health services. On average 41% of the mothers with a child less than five attended antenatal care. This proportion ranges from 23% in Kuando Kubango to 64% in the Moxico sample. Of the mothers who visited a health facility during pregnancy, the median number of visits is four. The frequency is slightly lower in Kuando Kubango, Cunene and Namibe (see Table 26). These figures are however very high when compared to the poor access to health facilities.

Antenatal and childbirth care

Antenatal care: Proportion of women aged 15-49 attended by skilled health personnel (doctors, nurses and midwives) at least once during pregnancy. International recommendations are for at least four times during each pregnancy.

Childbirth care: Proportion of births attended by skilled personnel (doctors, nurses and midwives).

In Moxico, medical assistance during pregnancy is possible because most of these mothers were still in refugee camps in Zambia where health services were provided by NGOs. Also people living at the border are using Zambian health facilities.

One third of the villages (36.6%) had a vaccination campaign during the last three months, with a maximum of half the villages in Namibe to none in Kuando Kubango, and between 34 to 46% in the other provinces.

Table 26 - Place of delivery and antenatal care					
	Place of delivery			% mothers with antenatal care during pregnancy	Number of visits
	At home	With a midwife	At health post		
Bié	36%	64%	0	29%	3
Cunene	96%	0	4%	39%	3
Huila	96%	5%	0	49%	5
Kuando Kubango	96%	5%	0	23%	3
Moxico	43%	53%	3%	64%	5
Namibe	70%	25%	5%	24%	3
Total	70%	28%	2%	41%	4

3.10 External aid

External assistance is only found in 12% of the sampled communities, with less than 5% of the communities in Kuando Kubango and Cunene reporting receiving any aid. The most current projects are construction of a health post or school. In the 142 communities visited, only six schools, six health posts, two cattle dip-tanks and one water pump were constructed with external assistance (Table 27).

Table 27 - External Assistance	
Type of projects	
Bié	1 religious centre, 1 mine awareness project
Cunene	none
Huila	1 school, 1 health post, 1 water pump, 1 water-dip, 1 mine awareness project
Kuando Kubango	1 health post
Moxico	2 schools, 3 health posts, 3 community agricultural projects,
Namibe	2 schools, 1 water pump, 1 road maintenance project

Food aid is received by 40% of the sample communities in Bié and Moxico. None of the other villages in the sample in the other provinces are receiving any food aid. In the communities visited in Bié, there are 6,270 beneficiaries and in Moxico 2,640 persons. The last distribution dates from the period April-July 2005.

3.11 Adult knowledge of HIV and AIDS issues

Between one-third and one-half of the interviewees did not wish to answer the questions related to HIV information, which reflects the high levels of stigma associated with HIV and AIDS. In addition, depending on the questions, 10-25% of the respondents "did not know the answer". Table 28 below illustrates how relatively more persons in Cunene and Namibe refused to answer the questions. Persons who did not want to answer were removed from the analysis, and the figures below should be thus interpreted.

Table 28 - Percentage of persons refusing to answer				
	Have you heard about HIV or AIDS?		Can we protect against HIV having one partner?	
	Men	Women	Men	Women
Bié	28%	7%	59%	54%
Kuando Kubango	28%	14%	57%	61%
Cunene	34%	49%	43%	61%
Huila	27%	23%	53%	57%
Moxico	39%	19%	46%	32%
Namibe	46%	28%	63%	65%

About half of the persons who preferred to answer (47%) have heard about HIV or AIDS but most of them (<10%) do not know someone with the illness. In general, knowledge about the virus is incomplete and the majority of the interviewees are not aware of most important issues related to the virus, as illustrated in Table 29 below.

Table 29 - Responses related to HIV/AIDS		
	Men	Women
General Knowledge of HIV-AIDS		
Have you heard talking about HIV or the illness AIDS?	70%	60%
Do you know someone with HIV?	6%	8%
Can we protect ourselves against HIV?	45%	37%
Can we protect ourselves against HIV by correctly using a condom?	46%	35%
Can we protect ourselves from the virus by having one sexual partner?	23%	22%
Misconceptions regarding HIV-AIDS		
Can someone get infected with the virus by witchcraft?	9%	11%
Can the virus be transmitted by a mosquito bite?	34%	29%
Can a healthy looking person be infected?	43%	37%
Discriminatory attitudes regarding HIV-AIDS		
Would you buy food from a businessman who is infected with the virus?	33%	23%
Can an infected professor be allowed to continue to teach at school?	36%	27%
Knowledge of vertical transmission mother-child		
Can the virus be transmitted from mother to child during pregnancy?	51%	48%
Can the virus be transmitted from mother to child while giving birth?	43%	39%
Can the virus be transmitted from mother to child through breastfeeding?	48%	46%

The results show that the general knowledge about HIV, including preventive forms, is better among men than among women. The low percentage of men answering to the question about having just one partner as a way to prevent HIV can be linked to the social and cultural behaviour of the population. A similar trend is observed with regard to the knowledge of vertical transmission, indicating that women are not enough aware of the risk of child infection. This general high level of misconceptions regarding the disease that can be explained by the low literacy rates particularly for women. Paradoxically, more knowledge corresponds to greater discriminatory attitudes regarding people with HIV/AIDS. Women tend to have fewer discriminatory attitudes compared to men.

There are also considerable differences between provincial samples. Table 30 shows that in Cunene, with the highest infection rates, more people have heard of the disease. Also in Moxico, with a high proportion of returnees, the majority of respondents have heard about HIV and AIDS. For the other responses, answers vary quite a bit and are thus difficult to interpret.

Table 30 - Responses to HIV related questions by province (% answering Yes)						
	Have you heard about HIV or AIDS		Can we protect against HIV having one partner?		Can the virus be transmitted by a mosquito bite	
	Men	Women	Men	Women	Men	Women
Bié	57%	49%	55%	42%	29%	22%
Kuando Kubango	60%	47%	61%	58%	39%	40%
Cunene	82%	83%	44%	40%	46%	32%
Huila	65%	56%	50%	37%	24%	13%
Moxico	89%	84%	33%	33%	36%	40%
Namibe	68%	49%	38%	18%	26%	16%
Average sample	70%	61%	46%	38%	34%	29%

3.12 Human rights

In view of the upcoming elections, the community questionnaire included a section on human rights and access to Justice. Only a few of the communities (4-8%) received training on different human rights issues. The number of persons trained ranges from 40 to 1,500 for the different topics.

Table 31 - Communities that received civil education						
Province	Human rights	Conflict resolution	Civic Education	Democratic processes	Electoral Process	Post-conflict trauma
Bié	12%	24%	32%	24%	20%	16%
Huila	9%	5%	9%	5%	14%	9%
Kuando Kubango	0	0	5%	5%	0	0
Moxico	7%	0	0	0	0	0
Namibe	10%	0	5%	0	0	0

In all villages, only a limited number of returnees or demobilized soldiers have received identification papers, but also not all residents have official identification documentation.

In addition, the time required for obtaining these papers is on average more than 3 months. In Bié and Moxico for instance, the time required can reach up to 12 months while in the other provinces, a maximum of four months was recorded. Prices to obtain an identity card also vary, ranging from 100 to 7,500 Kz with an average price of 1,850 Kz. The average price is the lowest in Kuando Kubango (980 Kz) and the highest in Huila (1,960 Kz). This price often includes the transport cost to reach the location to obtain the card. The costs of obtaining these documents are often beyond the capacity of the majority of households.

3.13 The Wealth index

In this analysis, there were two variables that can be used to measure the relative wealth of the household and vulnerability to food insecurity. One is the total income earned, which represents a short-term measure of the household wealth and the other is a variable that refers to the ownership of assets, which is rather a long-term measure, and is more associated with a permanent aspect of the household wealth.

Several possible ways to construct a wealth index are available in the literature, but in this study, we used the principal component analysis as presented by Filmer and Pritchett (2001¹⁷). The calculation of the wealth index starts from the theoretical assumption that the asset index of the household represents a proxy of its long-term wealth. In other words it is the household long-term wealth that causes the most common variation in assets. The higher the variance in the total assets owned by a household, the higher its wealth.

The construction of the health index is based on the ownership of three types of assets:

- **Household goods and equipment** for domestic use and production such as radio, bicycle, cooking stove, horse or donkey, hoe, plough, fish and hunting gear.

¹⁷ For details on methodology see Filmer, D. and Pritchett, L. H. (2001) "Estimating wealth effects without expenditure data – or tears: an application to educational enrollments in states of India" *Demography*, 38:1: 115-132.

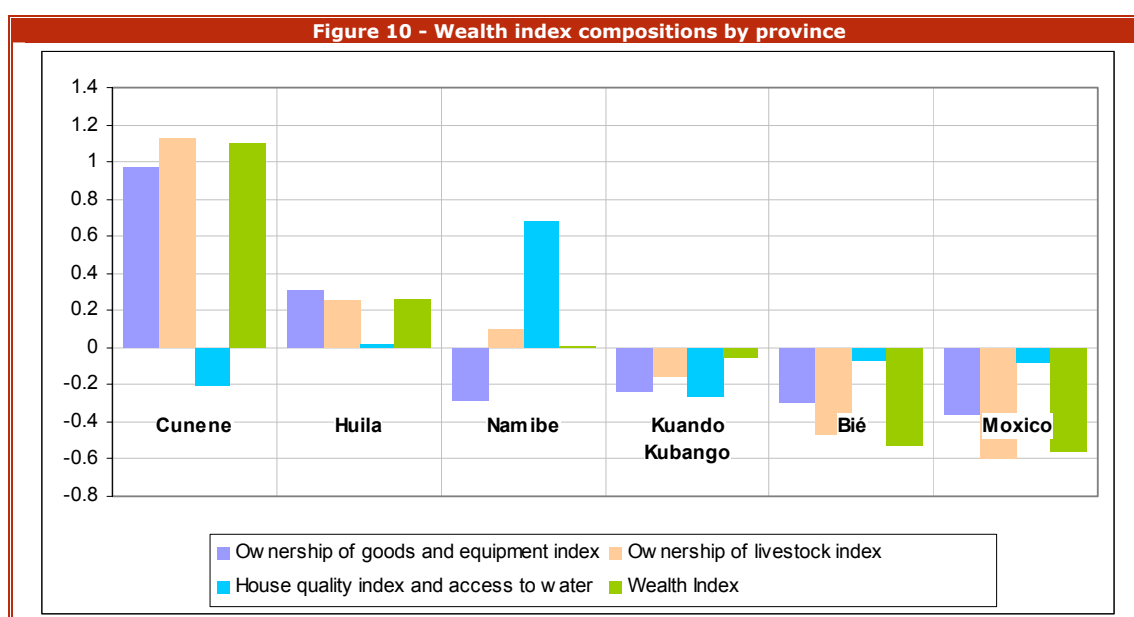
- **Livestock for consumption.** These excluded oxen for animal traction

Living conditions as expressed through housing conditions and access to drinking water. Variables included are the quality of house, roof and floor, the number of rooms, type of energy used for cooking and quality of the source of drinking water.

Table 32 lists the results of the wealth index calculation. The higher and positive the index, the better is the situation. Negative values occur because the sum for all households equals zero. The samples from Moxico, and Bié, followed by Kuando Kubango are the most vulnerable in terms of the wealth index, meaning that households have relatively fewer assets, and consequently, will face more difficulties to overcome emergency situations. The provincial samples from Cunene, Huila and Namibe are relatively better-off. Cunene households with the highest overall wealth index, scores low for the component 'Housing quality index and access to water' but the province scores considerably better on the two other components of the index.

Table 32 - Results of the wealth index calculation						
	Bié	Cunene	Huila	Kuando Kubango	Moxico	Namibe
Ownership of goods and equipment index	-0.29	0.97	0.31	-0.24	-0.36	-0.28
House quality index and access to water	-0.07	-0.21	0.02	-0.26	-0.08	0.68
Ownership of livestock index	-0.47	1.13	0.25	-0.16	-0.60	0.10
Ranking	5	1	2	4	6	3
Wealth Index	-0.53	1.10	0.26	-0.05	-0.56	0.01

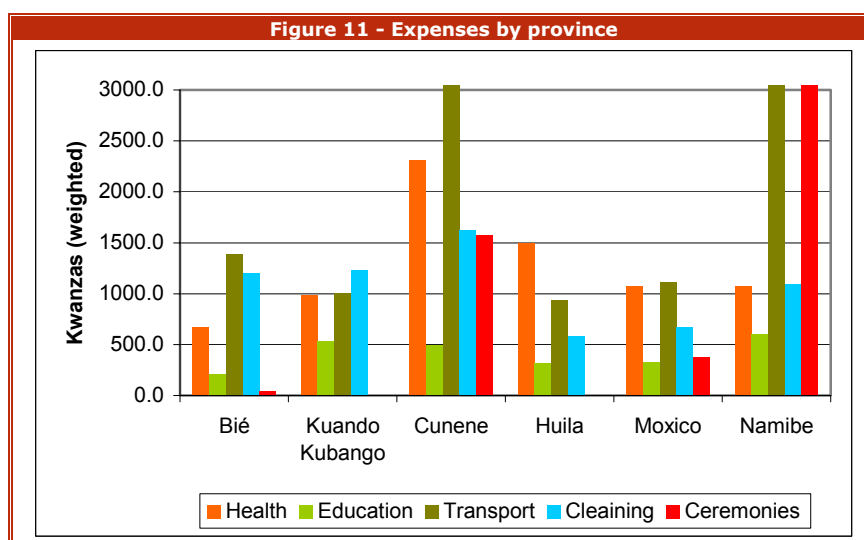
Figure 10 below illustrates the trend of the different components of the wealth index by province. The Cunene sample for instance scores best for both asset components but poorly for living conditions, but the global index shows that this province has the highest wealth. Bié and Moxico have the lowest wealth index, almost for all components, which corresponds well with the other analysis carried out.



3.14 Expenditures

Relatively few people have spent cash during the month preceding the survey. The most common expenditure items are soap and cleaning products (56 % of the households) followed by expenses for clothing (22%), education (20%) and transport (17%). Expenditures for health reasons are only made by 8% of the households and only 2% for housing. Due to this low reporting, the figures below need to be interpreted with care.

Expenditures are generally highest in Namibe households, followed by the Cunene sample. Transport and ceremonies make more than 60% of the expenditures of the households. In the other provincial samples, expenses are lower and generally more equally distributed over expenditure categories (Figure 11).



3.15 Shocks and coping strategies

Most households (78%) have suffered from at least one shock (drought, locust, etc.) during the 12 months prior to the survey, while 44% suffered from two shocks 30% suffered from three or more shocks. Livelihoods are highly dependent on agriculture and livestock, and therefore lack of seeds, crop infestation and death of animals are the primary production related risks encountered by the population. Crop infestation and death of animals have a direct and severe impact on households' ability to meet food requirements. Other risks such as the death of a productive household member, fluctuation in food prices, and sudden adverse weather causing drought or flooding also can negatively impact household food security.

The three most common shocks are lack of seeds due to market fluctuation (mentioned by 34% of the households), drought (29%) and illness or death of a household member (31%). Most other risks are related to the productive cycle: death of animals (15%) and crop infestations (10%). External factors such as increase of food commodity prices negatively affected 12% of the sample households, while the end of food aid (6%) and decreasing prices for selling agricultural products (5%) were also reported by some of the households.

A variety of coping strategies are employed to manage the effects of shocks. The most common strategies used were: an increase in small business activities, looking for additional work, sale of animals, food aid, and reduction of food intake and sale of charcoal or wood. In the areas with animals (Cunene, Huila, Namibe), the sale of animals is the most important coping strategy. Table 33 lists the strategies by provincial sample. Besides the production of charcoal and wood collection, there are no negative coping mechanisms recorded.

Table 33 - Coping strategies by province	
Province	Coping strategies
Bié	Small business, look for work, sale of wood/charcoal, reduce number of meals
Moxico	Food aid, small business, look for work, reduce number of meals
Kuando Kubango	Small business, sale of wood/charcoal, food aid
Cunene	Sale of animals, small business
Huila	Small business, sale of animals, look for work, reduce number of meals
Namibe	Sale of animals, small business, sale of charcoal

Part IV: Nutrition and Health

Due to the protracted civil conflict which not only prevented comprehensive surveys but also which resulted in mass movements of people both within and outside the country, very little information is available on maternal and child health and nutrition. This survey provides therefore an updated snapshot of health and nutrition of vulnerable groups – particularly women of reproductive age (15-49 years) and their young children (6-59 months).

4.1 WOMEN'S NUTRITION AND HEALTH

The main findings of the household survey for nutrition and health of women of reproductive age (15-49 years) are presented in the following section. The data in this chapter is presented by age group and province.

4.1.1 Methodology

After the household survey, information on the mothers of children less than five years of age was collected, including age, education level, weight, height, pregnancy status and visible indications of micronutrient deficiency. Information was collected on more than 160 living women in Bié, 190 in Moxico, 121 in Kuando Kubango, 109 in Namibe, 114 in Huila and 105 in Cunene.

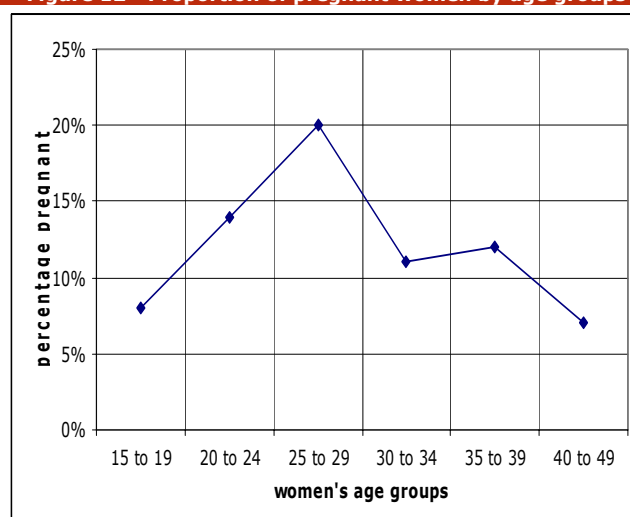
Much of the data are analyzed and presented by age group in order to investigate trends among the cohorts of women. Women of reproductive age are traditionally grouped into 5 age categories: 15-19 years, 20-24 years, 25-29 years, 30-34 years, 35-39 years and 40-49 years.

4.1.2 Education levels

Of all the women in the sample, 90% had never been to school with only 8% having received primary level of education and just over 1% with a secondary education. By age group, 14% of the women in the 15-19 years age group and 14% of the women in the 25-29 years age group were educated. The lowest levels of education were found among the women between 35 and 49 years of age where 94% of the women had never been to school. In addition, 92% of the women in the 20-24 year old age group had never been educated – these women would have been eligible to go to school around 1986-1991.

By province, the women in the Kuando Kubango sample had the highest levels of education with 17% having either primary or secondary education. Nearly 15% of the women in the Huila sample had also attended school. The lowest level was found in the Bié sample where only 5% of the women surveyed had attended school.

Figure 12 - Proportion of pregnant women by age groups



At the time of the survey (July-August 2005), 13% of the women were pregnant. By region, only 4% of the sample women in Kuando Kubango were pregnant as compared to 12% in Bié and 15-16% in the other provinces. The graph on the right shows the percentage of pregnant women by age group. For the sample, the likelihood of a woman being pregnant increases greatly from the youngest group, peaking at the 25-29 years age group where 20% of the sample women were pregnant. Only 7% of the women over 40 years of age were pregnant at the time of the survey. The body-mass index of the pregnant women was not measured in this survey.

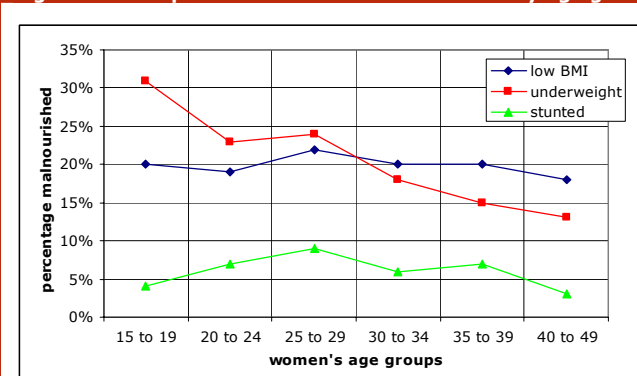
4.1.3 Assessment of micronutrient deficiencies

These women were also assessed for visible signs of micronutrient deficiencies. Visible or clinical signs of micronutrient deficiencies would mostly represent more advanced cases of micronutrient malnutrition while biological measures (analysis of blood or urine samples) can detect sub-clinical micronutrient malnutrition. However this was not in the scope of this survey. The women were assessed for: visible goitre (iodine), pellagra (vitamin B), pallor/pale gums (iron) and Bitot's spots in the eyes (vitamin A). Overall, there were very low levels of clinical micronutrient deficiencies among the women in the sample. One percent of the women in Bié, Kuando Kubango and Cunene presented a visible goitre, 1% of the women in Bié had visible pellagra while 2% of the women in the Moxico and Cunene samples exhibited visible signs of iron deficiency. However, additional analyses of the data showed that there were some statistical relationships between pregnancy, pellagra and visible iron deficiency confirming that during pregnancy, women are more prone to micronutrient malnutrition. In addition, a relationship was found between visible iron deficiency and low body-mass index. By age, the few women with clinical signs of micronutrient deficiency were more often in the 25-29 years age group (more pregnancies) or in the 40-49 years group.

4.1.4 Macronutrient malnutrition in women

The non-pregnant women in the survey were weighed and measured in order to determine their nutritional status. Traditionally, for women of reproductive age (15-49 years) the body-mass index (BMI) is calculated to determine if the weight-to-height ratio is within a normal range. A woman is classified as being malnourished if her BMI is less than 18.5 kg/m². In addition, an adult woman (18 or older) is classified as being underweight if she weighs less than 45 kilograms and is stunted if her height is less than 145 centimetres. In this survey, over 20% of the women had a BMI less than 18.5 kg/m², 19.5% were underweight (< 45 kgs) and 6.4% were stunted (< 145 cms).

Figure 13 - Proportion of malnourished women by age group



By age group, the levels of underweight and stunting showed trends while the prevalence of low body-mass index were fairly consistent across age groups. The chart on the left summarizes the prevalence of the three outcomes by age group. The prevalence of underweight is highest in the women aged 15-19 years which is expected as they are most likely still growing. The prevalence of underweight in non-pregnant women decreases with increasing age group.

The prevalence of stunting was highest in the women aged 25-29 years which could possibly be a reflection of poor nutrition during their critical growing ages 10-15 years ago, during some of the worst periods of the civil conflict.

The table below summarizes the malnutrition in the sampled women, by province. The highest levels of malnutrition were found in the Bié sample, followed by Kuando Kubango, Huila and Moxico. Only 5.5% of the women measured in Namibe had a low BMI. The prevalence of underweight in the sample women was nearly 30% in Bié and Moxico while 14% of the sample women in Bié were also stunted. Overall, the nutrition situation of the sample women in Bié was the worst, followed by Moxico while the women in the Namibe sample enjoyed the best nutrition.

	N	Mean BMI (kg/m ²)	BMI < 18.5 kg/m ² %	95% CI	Underweight (< 45 kg)	Stunted (< 145 cm)
Bié	159	20.35	26.4	19.5, 33.3	29%	14%
Moxico	190	20.42	22.1	16.2, 28.1	28%	6%
Kuando Kubango	121	20.66	24.8	17.0, 32.6	12%	2%
Namibe	109	22.90	5.5	1.2, 9.9	11%	9%
Huila	114	20.39	22.8	15.0, 30.6	19%	4%
Cunene	105	21.60	13.3	6.7, 19.9	8%	0

4.2 Children's nutrition and health

This survey was not designed to provide a precise estimate of child malnutrition for the six provinces but rather to provide some nutritional outcome measures in order to better understand household food security of the populations under study in terms of food utilization.

When comparing key health and nutrition outcomes of Angola (MICS 2001) to bordering countries, the situation does not look good. However, many of the indicators such as infant and under-5 mortality rates are set to improve due to the cessation of the civil conflict. Improvements in immunization coverage, use of antenatal care, access to clean water and sanitation should lead to improvements in child nutritional status over time.

Table 35 - Children's nutrition and health by country					
	Infant mortality rate	Under-5 mortality rate	Wasting (whz < -2.00)	Underweight (waz < -2.00)	Stunting (haz < -2.00)
Angola	154	260	6%	31%	45%
Congo	81	108	4%	14%	19%
DR Congo	129	205	13%	31%	38%
Namibia	48	65	9%	24%	24%
Zambia	102	182	5%	28%	47%
Sub-Saharan Africa	104	175	9%	29%	38%

4.2.1 Methodology and sampling

All children between 6-59 months in the sample households were included in the survey, along with information on their mother. This information is useful in obtaining a better understanding of household food security in terms of food utilization. In total nearly 1200 children were weighed and measured in the six provinces. The survey used probability sampling techniques which reduce the design effect of the sample.

For each child selected the age was estimated by asking the month and year of birth and verifying the age with vaccination cards when available. Besides weighing and measuring the children, information was collected on the presence of oedema, mother's use of antenatal care, feeding and weaning practices, immunization, recent illness and treatment. The analysis included 238 children from Bié, 296 from Moxico, 147 from Kuando Kubango, 161 from Namibe, 148 from Huila and 143 from Cunene. These samples allow for relative comparisons to be made between the provincial samples while allowing the final estimates of malnutrition to be representative of the areas included in the overall sample.

4.2.2 Comparison to the 2001 Multiple Indicator Cluster Survey (MICS)

Table 36 - Nutritional outcome results			
At least moderate (< -2 SD)			
	Wasting ¹⁸	Underweight ¹⁹	Stunting ²⁰
2001 MICS	5.8%	32.4%	49.6%
2005 WFP SENAC	7.6%	28.2%	34.6%

The nutritional outcome results of the 2005 SENAC survey in Angola are presented below and compared to the findings of

the 2001 Angola MICS for rural households only. For the survey areas, the prevalence of wasting was higher than that found in the 2001 MICS while the prevalence of underweight was slightly lower but stunting (chronic malnutrition) was much lower in the SENAC survey areas. The differences in findings are most likely due to the effects of protracted civil conflict on the populations under study meaning that:

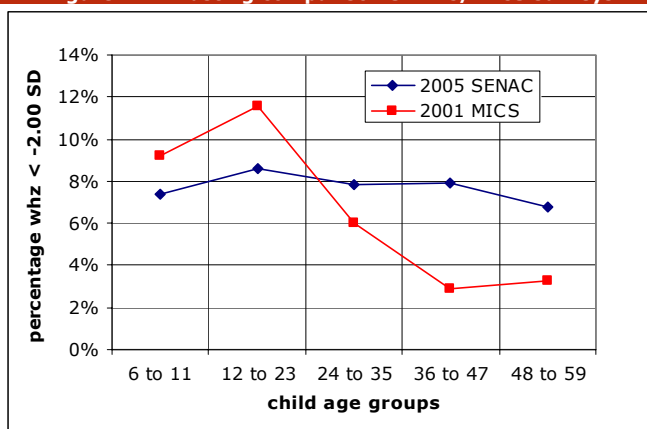
- Higher levels of wasting can be due to higher survivorship of young children in 2005 as compared to 2001 when excess mortality could artificially lower the prevalence.
- A significant number of children in the 2005 survey could have been born and raised in refugee camps where they had better access to health care, water and sanitation and their families could have recently returned to Angola.
- The cohort of stunted children in the 2001 MICS have been replaced by a cohort of young children who have enjoyed better access to food, water and health services and are not chronically malnourished.

¹⁸ A **wasted child** has a weight-for-height Z-score that is below -2 SD based on the NCHS/CDC/WHO reference population. Wasting or **acute** malnutrition is the result of a recent failure to receive adequate nutrition and may be affected by acute illness, especially diarrhoea.

¹⁹ An **underweight child** has a weight-for-age Z-score that is below -2 SD based upon the NCHS/CDC/WHO reference population. This condition can result from either chronic or acute malnutrition or a combination of both.

²⁰ A **stunted child** has a height-for-age Z-score that is below -2 SD based on the NCHS/CDC/WHO reference population. Stunting or **chronic** malnutrition is the result of an inadequate intake of food over a long period and may be exacerbated by chronic illness.

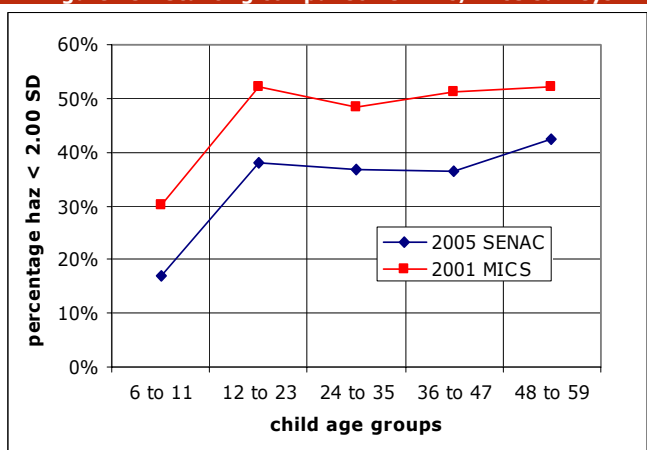
Figure 14 - Wasting comparison SENAC/MICS surveys



The chart compares the prevalence of **wasting** from the 2005 WFP SENAC survey to the 2001 MICS results by age group. The curve in the 2001 MICS survey shows a typical trend in wasting among young children, with the peak in the 12-23 months age group where weaning typically takes place. In addition, these children are often becoming more mobile and thus are more exposed to pathogens that cause illness and/or infections.

The 2005 SENAC survey results show hardly any difference in the prevalence of wasting by age group. This is unusual but could possibly be explained by the fact the younger children have been raised under a peaceful atmosphere and that in older children, stunting is not as prevalent as in the 2001 MICS survey population.

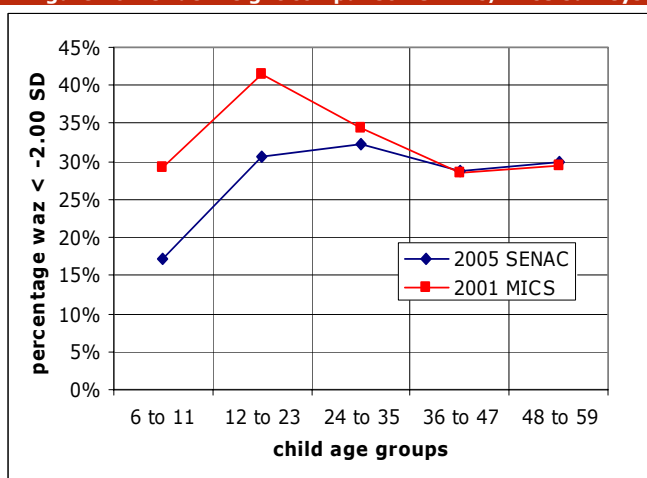
Figure 15 - Stunting comparison SENAC/MICS surveys



The chart on the left compares the prevalence of **stunting** between the 2005 WFP SENAC and 2001 MICS surveys. In both surveys, the prevalence of stunting is lowest in the youngest age groups and increases sharply to the 12-23 months group and then levels off in the older groups. The prevalence of stunting in the 2005 survey is lower in all age groups than the 2001 MICS survey. The increase in the oldest cohort of children (48-59 months) could represent the same cohort of children in the 12-23 months age group from the 2001 MICS survey.

These findings suggest that the problems of chronic malnutrition are improving in rural areas of the country but are still a serious problem for the children of Angola.

Figure 16 - Underweight comparison SENAC/MICS surveys



The chart compares the prevalence of **underweight** from the 2005 survey to the findings from the 2001 MICS. These results are interesting in that again, the 2001 MICS curve is typical for underweight prevalence by age group, with a peak in the 12-23 months group and then dropping off sharply in older children. The curve from the 2005 SENAC survey shows the increase from the youngest group to the 12-23 months age group but then it flattens out rather than peaking and dropping.

The prevalence of underweight in the older age groups is almost identical between surveys, again perhaps reflecting the change in food access/utilization in recent years since the end of the civil conflict.

4.2.3 Malnutrition by province

There was variation in child malnutrition (6-59 months) between the provinces for all measures. As indicated in the table below, **acute malnutrition** or wasting ($whz < -2.00$ SD) was higher in the Bié and Huila samples while the prevalence of **chronic malnutrition** or stunting was highest in Cunene, followed by Kuando Kubango and Huila. The prevalence of **underweight** ($waz < -2.00$ SD) was highest by far in the Huila sample where nearly 44% of the children were low weight-for-age. As underweight is the best measure of both acute and chronic malnutrition, this warrants further investigation and probable nutrition interventions (water/sanitation, health, feeding programmes, etc.)

	N	Wasting		Underweight		Stunting	
		%	95% CI	%	95% CI	%	95% CI
Bié	238	11.3	(7.3, 15.4)	31.5	(25.6, 37.5)	26.4	(19.5, 33.3)
Moxico	296	3.4	(1.3, 5.4)	20.9	(16.3, 25.6)	22.1	(16.2, 28.1)
Kuando Kubango	147	6.1	(2.2, 10.0)	24.5	(17.5, 31.5)	41.5	(33.4, 49.6)
Namibe	161	4.3	(1.2, 7.5)	22.4	(15.9, 28.9)	25.5	(18.7, 32.3)
Huila	148	13.5	(7.9, 19.1)	43.9	(35.8, 52.0)	40.5	(32.5, 48.5)
Cunene	143	9.1	(4.3, 13.9)	31.5	(23.8, 39.2)	46.9	(38.6, 55.1)

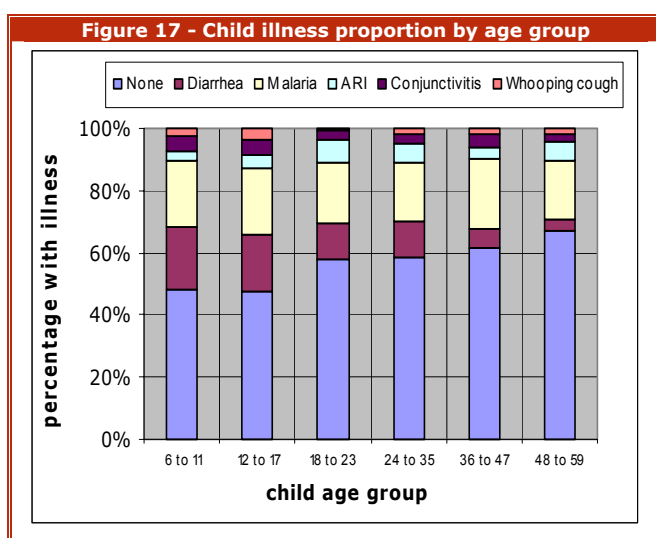
The prevalence of **severe underweight** ($waz < -3.00$ SD) was 7.2% for the sample ranging from highs of 12.6% in Huila and nearly 10% in Bié and Cunene to less than 4% in Moxico. The prevalence of **severe stunting** ($haz < -3.00$ SD) was 12.9% for the sample with 20% of the children in the Cunene sample being severely stunted, followed by 18.9% in Kuando Kubango and 16.8% in the Huila sample.

4.2.4 Antenatal care and immunizations

The mothers of around 40% of the children had gone for a medical consultation during their pregnancy. However, there were large differences between provinces and by age group. Nearly half of the mothers of the children in the 12-17 months age group had gone for medical consultation during pregnancy as compared to only 36% of the mothers of children 6 to 11 months of age. One factor may be that more children 12-17 months of age were born in refugee camps where antenatal care services were readily available. Further analysis shows that 65% of the mothers of the children in the Moxico sample had gone for medical consultations during pregnancy which was significantly higher ($p < 0.001$) than any of the other provincial samples. About half the mothers of children in the Huila sample had received antenatal care followed by 40% in Cunene and about one-quarter of the mothers in the other provincial samples.

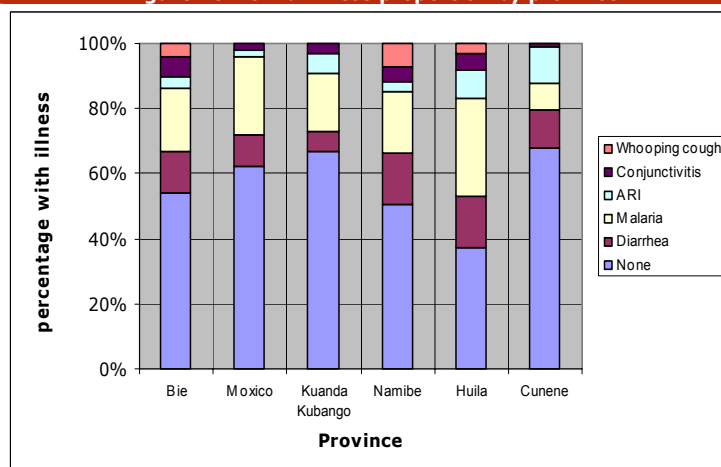
Consequently more than half of the children in the Moxico sample had vaccination cards as compared to 31% of the Huila sample, 20% in Bié and less than 10% in the other provincial samples. It was difficult to determine levels of immunization in the samples due to reliance only on vaccine cards rather than using maternal recall as well. However it is assumed that the children in the Moxico sample had higher levels of immunization.

4.2.5 Endemic and recent illness



The chart on the left shows the reported endemic illness of children by age group and type of illness in the sample. The survey did not allow caretakers to report more than one illness which would have allowed for richer analysis. As illustrated in the chart, the reported endemic illness decreased with child age group. Diarrhoea was a problem mostly for younger children in the sample while malaria was reported at a similar rate, regardless of child age. Acute respiratory infection (ARI) was reported a bit more in the children 18 months and older while eye problems were reported similarly in each age group.

Figure 18 - Child illness proportion by province



By province sample, the problems varied more. Children in Kuando Kubango and Cunene were less likely to suffer from endemic illness while more than 60% of the children in the Huila sample had reported health problems. Diarrhoea was more common in children from Namibe and Huila while malaria was similarly reported in all provinces (slightly more in Huila) except in Cunene where it was less common.

However, children in Cunene and Huila were more likely to suffer from ARI. Whooping cough appears to be a bit more problematic among the children in the Namibe sample. When comparing nutritional outcomes to reported recent illness, there were some significant relationships which are summarized in the table below. Children with an illness in the 2 weeks prior to the survey were significantly more likely to be wasted and/or underweight. However, there was no difference in mean height-for-age z-score or the prevalence of stunting, illustrating the effects of recent illness on child growth in the short-term.

Table 38 - Comparison nutritional outcomes to reported recent illness

Any illness?	whz	waz	haz	Wasted	Underweight	Stunted
No	-0.366	-1.031	-1.258	4.9%	23.7%	34.8%
Yes	-0.699	-1.415	-1.387	11.6%	34.4%	34.5%
Significant	< 0.001	< 0.001	<i>n.s.</i>	< 0.001	< 0.001	<i>n.s.</i>

4.2.6 Malnutrition and gender

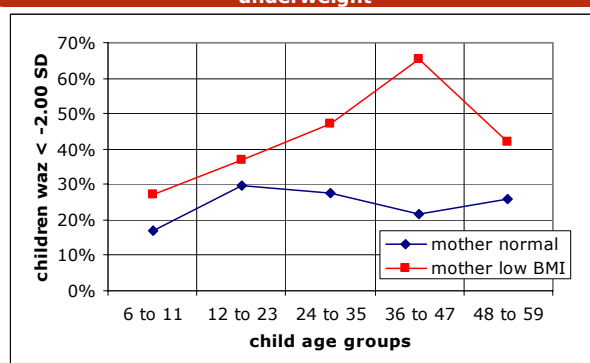
As illustrated in the table below, there were also some differences in nutritional status of children by gender – namely that girls appear to be better off than boys. They have significantly higher mean weight-for-height and weight-for-age z-scores as well as significantly lower wasting and underweight prevalence. They are also less likely to be stunted but the difference is not significant. However, there was little difference in the reported recent illness, by gender.

Table 39 - Nutritional status of children by gender

	whz	waz	haz	Wasted	Underweight	Stunted	Recent illness
Female	-0.354	-1.062	-1.264	6.0%	25.3%	32.3%	41.4%
Male	-0.671	-1.334	-1.366	9.7%	31.4%	37.1%	45.1%
Significant	< 0.001	< 0.001	<i>n.s.</i>	< 0.05	< 0.05	<i>n.s.</i>	<i>n.s.</i>

4.3 Maternal and child malnutrition

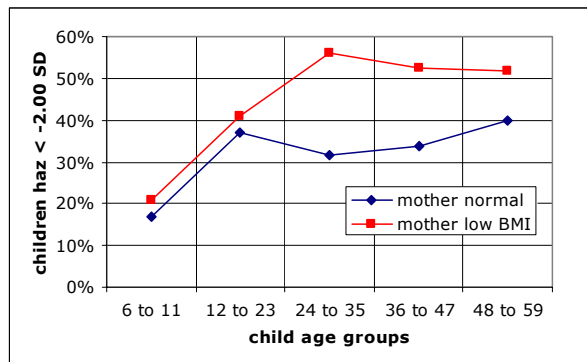
Figure 19 - Influence of maternal malnutrition on child underweight



The three basic causes of child malnutrition, as illustrated in the UNICEF model, are household food security, health/water/sanitation and caring practices (breastfeeding, complementary feeding, etc.). A mother's ability to provide adequate care to her children may be hampered by her own nutritional status. Using these survey data, comparisons were made in the prevalence of malnutrition by age according to maternal nutritional status.

The results show that malnourished mothers are more likely to have underweight and/or stunted children. The chart below shows that after 2 years of age, the influence of maternal malnutrition on child underweight is enormous. For children 36-47 months of age, around 65% of children of malnourished mothers were underweight as compared to only 20% with well-nourished mothers.

Figure 20 - Influence of maternal nutritional status on child underweight



The influence of maternal nutritional status on stunting is similar as illustrated in Figure 20. Up to 2 years of age, there is little difference in the prevalence of stunting between children of malnourished mothers and those not malnourished. After the weaning period, the differences are extreme, especially in the 24-35 months age group. By the time the children are 4 years old, there is only about a 10% difference in prevalence of stunting.

In summary, the influences of the basic causes of malnutrition on the children in the sample appear to be changing over time as household access to food is improving. However, there are some major problems with both maternal and child malnutrition in the survey area that should be addressed with well designed and targeting programs – namely those to improve micronutrient intake and care of young children through increased access to antenatal care programmes and better immunization coverage.

Part V: Household Food Consumption Profiling

Household food consumption profiles were developed, using information on dietary diversity and the consumption frequency of staple and non-staple food as well as the sources of staple foods consumed.

5.1 Food Access: frequency of consumption and dietary diversity

The number of different foods from different food groups, consumed in a household reflects the dietary diversity and it provides a measure of the quality of the household diet. The variety of foods/food groups consumed by household members is a proxy indicator of household food security and research has demonstrated that dietary diversity is highly correlated with caloric and protein adequacy, percentage of protein from animal sources (high quality protein) and household income.

In the field of nutrition, different food items are divided into a number of 'food groups', of which a combination should be consumed on a daily basis to ensure a nutritionally adequate diet. These key food groups are: cereals, legumes and oilseeds, tubers and roots, vegetables and fruit, animal products, oil and fats.

Table 40 - Basic food items or food groups used for the analysis

1. Cereals	7. Fish
2. Tubers	8. Oil
3. Beans	9. Sugar/salt
4. Milk and dairy products	10. Fruit
5. Eggs	11. Vegetables
6. Meat	12. Other food

In order to classify the sampled households on the basis of their actual weekly food consumption and dietary diversity, the analysis was based on information on the frequency of consumption (0 to 7 days) for twelve food items or food groups²¹:

5.1.1 Methodology for analyzing food consumption data

Because there is the need to analyze several variables simultaneously, multivariate statistical techniques have been used, specifically principal component analysis (PCA) followed by cluster analysis²².

The aim of the analysis is to cluster together households that share a particular consumption pattern. The advantage of running a cluster analysis on principal components and not on the original variables is that we cluster on relationship among variables. PCA was run on the frequency of consumption of the above mentioned food items. Fruit was considered as supplementary variables, i.e. as a variable that is not considered for building the principal components, due to the very low percentage of households that reported to consume those items - only 6.5% of the sample consumed fruit at least one day in a week, with the large majority of them eating it 1 or 2 days per week only. Cluster analysis was run on 8 principal components obtained by PCA, which explained more than 86% of the variance of the original dataset. Such a high level of consistency with the original complexity of the dataset ensures a good reflection of the relationships among variables. In other words, cluster analysis will group together households that have a similar relationship among the frequencies of consumed foods as expressed in the principal components.

5.1.2 Household food consumption groups and profiles

Based on this analytical approach, 9 distinct profiles of households were identified being characterized by their different food consumption patterns. These 9 profiles were then summarized into four distinct food consumption groups following the characteristics described below:

²¹ The fact that sugar and salt were combined into the same food category gives some problems about the interpretation of their consumption. Although both sugar and salt play an important role in the diet improving palatability, they are very different in term of nutrients.

²² The software used for multivariate analyses is ADDATI 5.3c, developed by Silvio Griguolo, IUAV Venice, Italy, freely available at http://cidoc.iuav.it/~silvio/addati_en.html

Table 41 - Distinct profiles of households				
Food Consumption Group	Profile	%	Description of consumed staples	Average score
Very poor	1	11%	Cereals are the only staple	15
	2.1	2%	Cereals, other food, sugar/salt, vegetables	25
Poor	2.2	6%	Tubers, sugar/salt, oil, vegetables	27
	2.3	34%	Cereals, sugar/salt, vegetables, oil	27
Fairly good	3.1	8%	Cereals, milk & dairy, sugar/salt, oil	29
	3.2	12%	Cereals, fish, oil, sugar/salt	31
Good	4.1	16%	Cereals, sugar/salt, oil, beans, vegetables	34
	4.2	7%	Cereals, sugar/salt, oil, tubers, meat, vegetables	39
	4.3	4%	Cereals, sugar/salt, oil, vegetables + combination of <i>PROTEINS providers</i>	39

1. **Very poor food consumption group (11%):** very low food intake, almost certainly nutritionally inadequate. Households consume only one food item on a daily base (cereals).
2. **Poor food consumption group (42%):** Household diet is mainly based on staple food with little diversification and most likely having lack of animal proteins. Cereal or tuber consumption is complemented with frequent but not daily consumption of sugar/salt, oil and vegetables (different frequencies combination in the 3 profiles).
3. **Fairly good food consumption (20%):** Diet is more diversified. Daily consumption of cereals, sugar/salt and oil was reported. There is frequent consumption of one fixed animal protein provider (milk/dairy products or fish).
4. **Good food consumption (27%):** Diversified food patterns characterized by high frequency of combined consumption of both vegetable and animal proteins.

Very poor food consumption

Profile 1 - Very poor diet (11%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

Households clustered in this group have poor food consumption and low dietary diversity. They seem to have problems in accessing food both in terms of frequency and of diversity.

Cereals are the only food items consumed on daily basis. Milk or dairy products and sugar/salt are only consumed sometimes. The average frequency of consumption for these two food groups among these households is 2 days per week

Poor food consumption (1)

Profile 2.1 - Poor diet (2%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

Three food consumption profiles have been judged poor according to the criteria explained above.

The first profile is characterized by daily intake of cereals which are complemented with other unspecified foods. As most of the food items that were in the list were reported to be rarely consumed, other food might be most likely wild food. Beside these two staples, sugar or salt and vegetables are consumed frequently but not every day (both the food groups score an average value of 4 days/week among households belonging to this profile).

Poor food consumption (2)

Profile 2.2 - Poor diet (6%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

Households belonging to the second profile base their diet on daily consumption of tubers and sugar or salt. Oil and vegetables are eaten 4-5 days per week, while fish is more seldom eaten, on average 2-3 days/week. Tubers appear to be the diet bulk and look like to be succedaneum of cereals as main energy providers for these households.

Poor food consumption (3)

Profile 2.3 - poor diet (34%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

A third food consumption profile has been assessed as being poor. Households in the third profile consume cereals, sugar or salt and vegetables as daily staple while oil is frequently but not daily consumed. All the other items are never or rarely eaten. Apparently these households do access certain types of food on a regular base but their consumption pattern clearly lacks diversification. This profile groups the large majority of the sampled households (34%).

Fairly good food consumption (1)

Profile 3.1 - Fairly good (8%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

Two different food consumption profiles have been judged as being relatively good according to the criteria explained above. Households in the first profile are characterized by daily intake of cereals, oil and milk or dairy products, which are a rich source of quality proteins. Sugar or salt is/are frequently eaten, while meat and vegetables are consumed on average 2 days per week only.

Fairly good food consumption (2)

Profile 3.2 - Fairly good (12%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

In the second profile, households present daily consumption of staple like cereals, oil and sugar/salt, plus frequent consumption (5 days/week on average) of fish. Just like among households in the previous profiles, vegetables are sometimes consumed (2-3 days/week).

Good food consumption (1)

Profile 4.1 - Good (16%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

Three different food consumption profiles have been judged good according to the criteria explained above.

Households in the first profile eat daily cereals, oil, sugar/salt; they consume frequently beans and vegetables; tubers are sometimes consumed. These households show regular access to all the key food groups except animal product. Nevertheless, thanks to the combination of proteins from pulses and cereals, an adequate level of essential amino acids could easily be achieved in their diet.

Good food consumption (2)

Profile 4.2 - Good (7%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

The dietary pattern among households in the second profile seems to be well diversified. These households consumed cereals, tubers, oil and sugar or salt every day; frequently meat and vegetables; and sometimes beans and fish.

Good food consumption (2)

Profile 4.3 - Good (4%)	0-1 days	2-3 days	4-5 days	6-7 days
cereals				
tubers				
beans				
milk and dairy				
eggs				
meat				
fish				
oil				
sugar/salt				
fruit				
vegetables				
other food				

The third profile considered having good food consumption is characterized by a highly diversified diet. Although these households consume cereals, oil and sugar or salt only on a daily basis, a high combination of all the other foods consumption was reported. Tubers, beans, milk and dairy products, eggs, meat and fish are consumed on a rotation base, each item eaten 2-3 days per week. Vegetables are more often eaten, with an average of 5 days per week.

5.1.3 Household access to food

Access to food is determined by the household's ability/possibility to obtain food from own production, stocks, purchase, gathering, or through transfers (gifts from relatives, members of the community, government, or external assistance). The sources of the different foods eaten by household members were analyzed in an attempt to understand how reliance on particular sources of food can impact household food security.

Each household was asked to report the main sources for each consumed food item. The number of responses for each source was 'weighted' by the frequency of consumption of the foods that were accessed through that particular source. Then the proportion of consumption from each source was calculated.

For example, a household was consuming wheat from own production for 7 days, potatoes (own production) 3 days and vegetables (own production) 5 days. They also ate oil from purchase for 7 days, meat (purchase) for 3 days and beans (purchase) for 4 days. To calculate the % of consumption from production, the following calculation can be used:

- (7 wheat + 3 potatoes + 5 vegetables) = 15
- Divide by the sum of all item frequency:
- (7 wheat + 3 potatoes + 5 vegetables + 7 oil + 3 meat + 4 beans) = 29
- $(15/29) * 100 = 52\%$ from production
- Access to consumed food through purchase would be $(7 \text{ oil} + 3 \text{ meat} + 4 \text{ beans}) / (29) = 48\%$ from purchase.

On average, the large majority of the consumed food comes either from purchase (38%) or from own production (46%). Seven percent of all food is exchanged; 6% comes from food aid; 3% of the items come from a mix of own production and purchase. Hardly any of the households reportedly consumed borrowed food. There are some interesting differences across the four main food consumption groups.

The percentage of purchased food in the Very Poor Food Consumption group (24% of all the consumed food) has been found being much lower than in the other three households groups. On the other hand, percentage of food from food aid (12%) was much higher than in the other groups. All these differences are statistically significant ($p < 0.001$). Exchanged food share is also higher (13%) in the Very Poor Food Consumption group than in the other groups. Differences are statistically significant for this source as well ($VP/P: p < 0.001$; $VP/FG: p < .05$; $VP/G: p < 0.001$). The table below illustrates food sources across profiles.

Table 42 - Food sources across food consumption profiles						
Food Consumption group	Profile	Sources of consumed food				
		purchased	own produced	mixed (purchased & own produced)	exchanged	food aid
Very poor	1	24%	50%	1%	13%	12%
Poor	2.1	19%	72%	2%	5%	3%
	2.2	37%	38%	3%	12%	9%
	2.3	39%	45%	5%	6%	6%
Fairly good	3.1	24%	64%	2%	9%	2%
	3.2	54%	29%	3%	9%	6%
Good	4.1	39%	48%	2%	4%	8%
	4.2	46%	40%	2%	6%	6%
	4.3	44%	51%	1%	2%	2%
Total		38%	46%	3%	7%	6%

When investigating reliance across profiles, households in Profile 2.1 (households eating daily cereals and other -wild- foods) and 3.1 (households consuming milk and dairy products daily) present the highest reliance on own production for foods consumed by their family members. In particular the foods that characterized their diet are mainly from own production.

Conversely, households in Profile 3.2 (households eating fish on a daily basis) rely much more on purchase for their food. Looking into details into their reliance pattern, it has been found that actually 60% of the consumed fish comes from own production (meaning they go fishing). The large reliance on purchasing is due to oil and sugar/salt which frequency of consumption is high (both the items are consumed on a daily basis) and practically every household accesses them through purchase.

Part VI: Vulnerability Profiles of Household Groups

Profiles of household groups have been constructed in order to describe the different livelihood profiles found in the survey area and to better understand the origins and causes of food insecurity. Standard statistical techniques based on Principal Component Analysis (PCA) and clustering were applied using indicators from the household survey. The clustering resulted in six stable groups, and characteristics of these groups are described in this section.

6.1 Household profile definition

Households were classified according to a number of key characteristics related to their living conditions, livelihood and food intake pattern. The resulting groups of households were described according to their behaviour for a number of dependent indicators. The methodology allows thus to create more-or-less homogeneous groups of households with the same livelihood pattern and a similar level of wealth.

Indicators used for the classification of vulnerable classes and groups		Characterization of these groups – performance of indicators by classes and groups
<ul style="list-style-type: none"> – Productive and household assets – Activities and relative contribution of these activities to the total household income level – Education asset – Displacement – Exposure to Risks – Relative expenditures on food and non-food items – Food intake patterns 	►	<ul style="list-style-type: none"> – Food reserves – Absolute expenses of the households (food and non-food) – Housing characteristics – Gender (Female HH) – Health conditions of mothers and children – Nutritional status – Aid/not aid

Three main classes were found and were further subdivided into groups with a more homogeneous activity pattern:

1. The **Least Vulnerable Households** (47% of all households in the sample), which include two distinctive subgroups: (i) households specialized in cattle rearing and (ii) households with a considerable income from agriculture and livestock. Their main activity is sufficient to cover food and non-food needs during the whole year.
2. The **Households with Low Vulnerability** (25%), which comprise three subgroups: (iii) fishermen, (iv) Agriculture '*Biscateiros*' (daily wage labour) and (v) households with mixed agriculture-forest products income.
3. The **Highly Vulnerable Households** (28%), which include (vi) the poor households who combine a number of activities which change during the year, depending on the season. Households are highly vulnerable to risks and shocks.

It should be noted that within these three classes, it is considered that there are no (relative or absolute) differences in vulnerability between the groups.

The next section describes each of the six groups in detail. Annex 2 contains a complete tabular overview of the differences between the groups.

6.2 Household Vulnerability profiles

The table below summarizes the profiles of the three classes and six groups of households with their major characteristics listed but are described in greater detail in this section.

Table 43 - Characteristics of the profile of 3 classes of households

	Least vulnerable			Low vulnerability		Highly vulnerable
	1	2	3	4	5	6
Have been displaced over time	7%	54%	65%	71%	56%	69%
Female headed	18%	27%	25%	27%	12%	41%
Head can read and write	28%	51%	56%	32%	36%	32%
House in adobe	2%	21%	21%	27%	24%	9%
Total number of assets	7	4	3	4	3	2
Months of food stock from cereals (for own production)	3	9	1	1	4	3
Wasting (children 6-59 months)	9%	10%	5%	7%	7%	8%
Stunting (children 6-59 months)	50%	34%	31%	26%	25%	36%

6.2.1 Least Vulnerable Households (47% of the households)

The food secure households constitute 48% of the sample and have been regrouped in three groups according to their main activities. Group 1 is composed of households specialized in cattle rearing, Group 2 have a diversified income from agriculture and cattle.

Group 1 – Specialized in cattle raising (18%)

This is the asset-rich group of households who own more than two oxen for animal traction, 18 heads of cattle and 15 heads of goat on average. They have the best production asset base with a high proportion of the households owning radio, donkey or horse, bicycle and/or cart, as well as hunting gear.

Cattle raising provides more than half of their income, and households have additional income from agriculture (using animal traction) and the sale of alcoholic drinks. They eat 2 meals per day (14% eat less frequent) but their food diversification is extremely poor. Meals are composed of cereals with milk products only, but few vegetables or other protein sources.

Their cattle stock and agricultural production provides sufficient food to the household members, nevertheless they do not have a balanced diet because of cultural reasons and their traditional way of living. They spend almost ten times more on ceremonies than any other group, and almost nothing on food purchases.

Most indicators related to their living conditions such as water sources, housing material and access to health services are the worst of all classes, but this is in direct relation with their livelihood. For instance, only 2% of the members of this group live in houses built of adobe, and 98% have no toilet. This could contribute to the above average wasting and stunting rates of the under-five children in this group.

This group shows 50% of children being stunted (moderate and severe); while the more vulnerable groups 4 and 5 have half this proportion of stunting. These figures can be partly explained by the health status of the under five children with more children with diarrhoea (21%) and ARI (10%) than any other class. Also, a high proportion of the children (93%) have never treated at a health post.

Health and nutrition education is crucial for these households to really obtain their potential food secure status.

Group 2 – Mixed agriculture-livestock income (29%)

This group of households obtains half of their income from agriculture, with additional income from a few cattle, pigs and goats. One third of the households have a plough for animal traction, which has allowed them to produce on average more than 1.5 ton of cereals during the 2004-2005 agricultural season. This cereal production can feed the household for an average 9 months, which in combination with the other activities is largely sufficient to ensure their food security for the year.

Households increase their income with honey extraction, sale of alcoholic beverages and small commerce, which considerably reduces their risk to shocks.

Households of group 2 have a relatively good asset base with radio, hoes (more than 2 per household), and 30% have a plough. Only 7% of this group eats less than two meals per day. They have an excellent diet diversification and eat daily cereals, oil, sugar and vegetables and beans or meat or fish. They eat minimum 2 meals per day, while children take more than 2 meals.

Malnutrition indicators of the children are however not better than other groups: wasting is 10% and stunting is 34%, while 21% of the mothers are underweight.

6.2.2 Households with Low Vulnerability (25%)

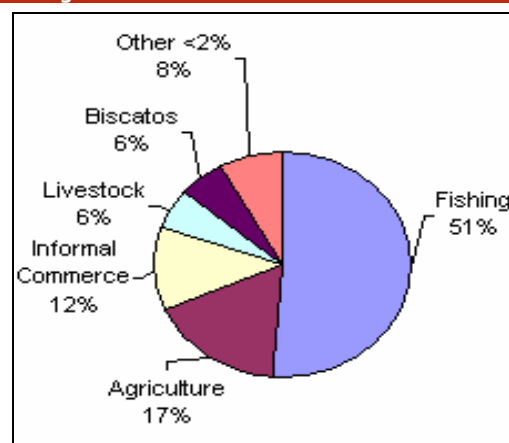
This class has relatively good and diversified income sources but the variability of their income over time might render them vulnerable to food insecurity. They include a group with mainly fishermen, a group focusing on casual farm labour (*biscatos*), and a third group with an income from agriculture and forest products.

Group 3 – The fishermen (7%)

This group focuses on fishing, has good fishing gear and 30% of them own a canoe. On average, they catch 89 kg (median = 45 kg) of fish per household per month, of which 70% is for sale. They diversify their income with a small-scale agriculture, livestock, and small commerce. Their agricultural cereal production provides maximum two months of food reserve for the family.

They have a relatively poor asset base, with 40% owning a radio, and 68 a hoe, but less than 5% own bicycle or other transportation means.

Figure 21 - Source of income for fishermen



Only 9% of the households eat less than twice daily, and they have a well balanced diet, with daily cereals, fish and oil, and every two days vegetables. Beans and meat are not often consumed. They spend considerable amounts of money on cereals and oil for their kitchen.

This group has the lowest wasting rates (5%) of all, while stunting is 31%. 18% of the mothers are underweight.

Group 4 – The agricultural 'biscateiros' (10 %)

These households are relatively poor and have a very heterogeneous set of activities, indicating that they have not been able to specialize. The table below illustrates their diversified income structure, with in general the main income obtained from agricultural daily labour (*biscatos*); completed with small-scale agriculture, charcoal production and several other activities.

Table 44 - Relative contribution of activities to total income	
	% of income
<i>Biscatos</i>	27%
Agriculture	23%
Sale of charcoal and wood	19%
Fishing	6%
Sale of carpentry wood	6%
Informal Commerce	4%
Pensions	4%
Honey extraction	3%
Livestock	2%

They have the lowest agricultural cereal production of any group, and they own almost no animals, besides some poultry. Their own agricultural cereal production provides maximum six weeks of food for the family. The group has a fairly good asset base with one third owning a bicycle and a radio, and 14% has some fishing gear. A relatively low 7% of the children are wasted and 26% suffer from stunting. On the other hand, a high 28% of the mothers are underweight.

With 35% of the households eating less than two meals daily, they have the lowest frequency of all groups. Their normal diet is composed of cereals or tubers with vegetables, and 3 times a week with a protein source, which is not sufficient. This group typically includes the pensioners.

Group 5 – Mixed agriculture-forest products income (8%)

These households depend mainly from agricultural production, with secondary income from honey collection, hunting and the sale of other bush products (totalling more than 20% of their income). They have almost no animals.

Over half of the households have been displaced outside the country. One third of the households own a bicycle and/or a radio and material for hunting, but besides the hoe, they have no productive assets for agricultural production. They have a very diverse food production pattern with a fair amount of cereal production, a good production of cassava, sweet potato and peanuts. This provides them 3-4 months of food reserves.

They eat on average less than two times per day (24% eat only once), but have an excellent and diversified diet with cereals, tubers, meat, beans or fish and vegetables, almost daily. Malnutrition indicators are moderate with 7% wasting and 25% stunting. Relatively more mothers than in other groups (29%) are underweight. While these households are exposed to risks related to agricultural production, such as lack of seeds or drought, their profile indicated that they have developed considerable coping strategies.

6.2.3 Highly vulnerable households (28%)

This class includes only one group with highly vulnerable households.

Group 6 – Poor households - 28%

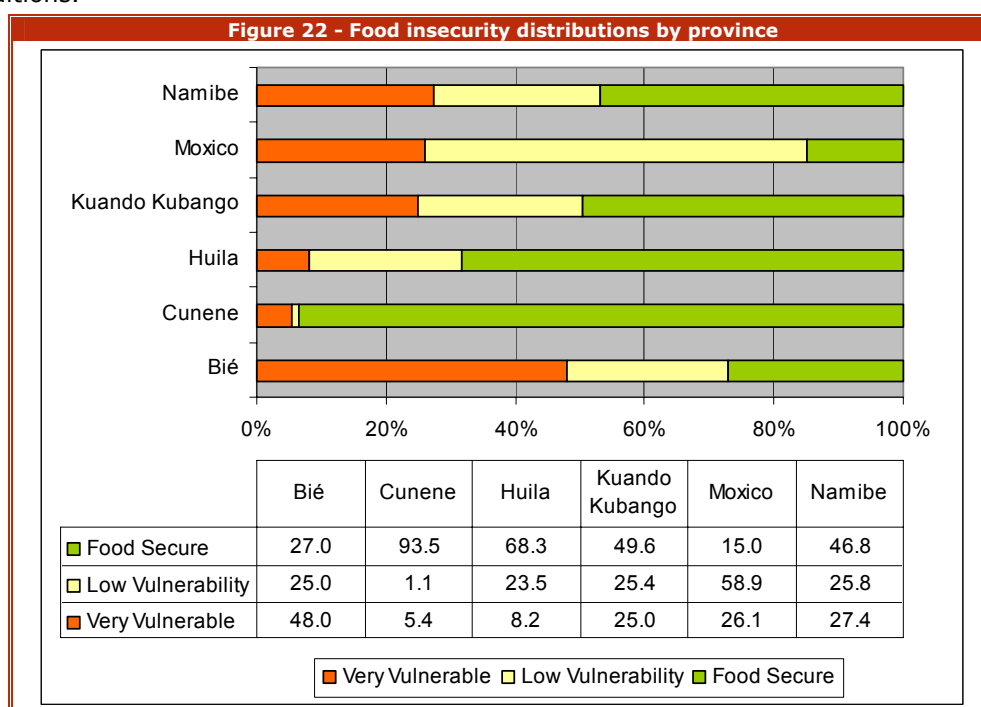
This is the most vulnerable group of households, of which 41% is headed by women. A high proportion of the households (69%) have been displaced. They obtain their income from small-scale agriculture and daily agricultural labour. They have very few animals.

Agricultural production covers about 3 months of food needs of these households, with the remaining of the income is mainly obtained from agricultural labour. This group has the poorest asset base with only two assets, generally a hoe and a radio or some fishing gear. These households are living under poor living conditions with only 9 % of the houses in adobe.

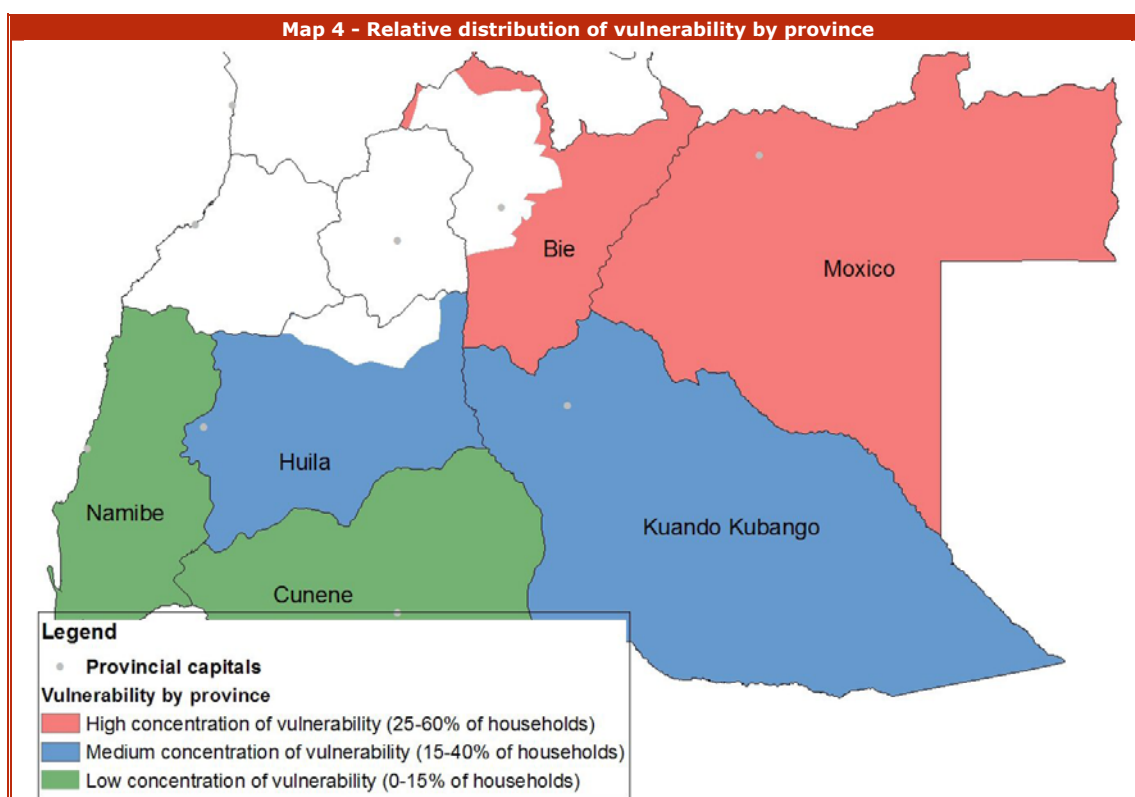
Almost one third of the households (30%) eat less than two meals daily, and their diet is composed of cereals and vegetables only, and maximum three times a week beans or meat. Malnutrition indicators are under average with 8% wasting and 35% stunting. However, 18% of the mothers are underweight.

6.3 Distribution of the household classes by province

Figure 22 below shows the distribution of the three classes of relative vulnerability by province. Highest relative vulnerability is found in Bié sample, followed by Huila with respectively 48% and 32% of the sample population highly vulnerable to food insecurity. Samples from Moxico, Kuando Kubango and Namibe have around 25% highly vulnerable households, but in addition, Moxico has very few food-secure households. The Cunene sample has 94% of food secure households, but often living in poor and unhygienic conditions.



In addition to significant differences between the provinces, the below Map 4 illustrates also how differences within the provinces exist. For instance, in Moxico, the northern part of the province has generally less than 25% of households in the highly vulnerable class, while the southern part, which is more isolated, has more than 25% highly vulnerable households in each of the sampled villages.



In the other provinces, the distribution of highly vulnerable households is more homogeneous, with a higher proportion in Bié, followed by Huila, Kuando Kubango and Namibe. In Cunene, all sampled villages have less than 25% highly vulnerable households.

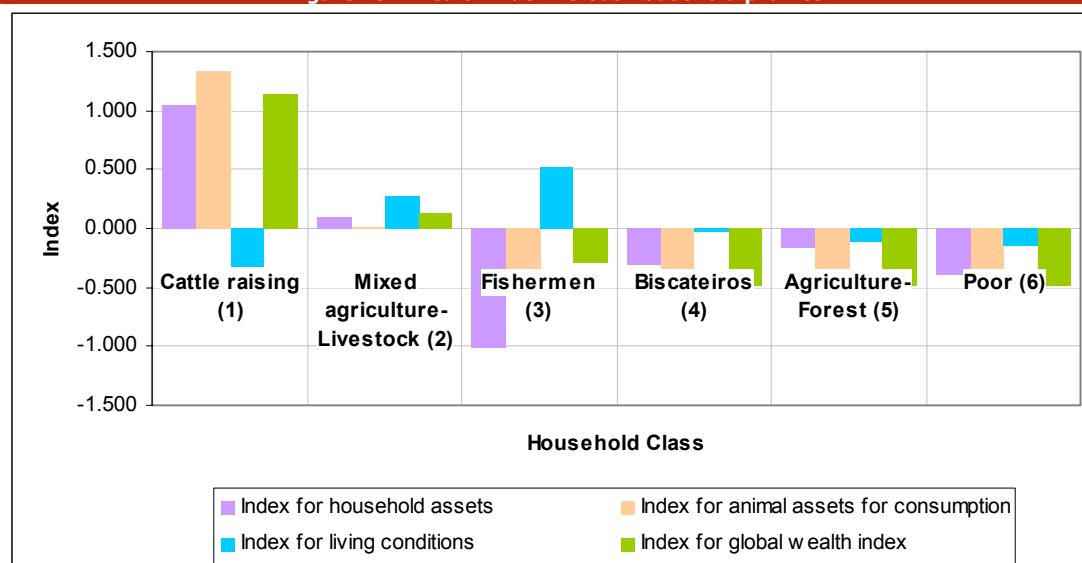
In absolute numbers, using estimates of the total rural population, this means that most of the highly vulnerable households in the survey area are found in Bié province. The other provinces have a much lower number of highly vulnerable persons, as illustrates in Table 45 below. These figures also illustrate the low population density in the provinces of Kuando Kubango, Moxico, Namibe and Cunene.

Table 45 - Absolute number of persons by vulnerability class by province				
	Total rural population	High Vulnerability	Low Vulnerability	Food Secure
Bié	450,700	216,300	112,700	121,700
Cunene	176,200	9,600	1,900	164,700
Huila	760,300	62,300	178,700	519,300
Kuando Kubango	187,200	46,800	47,500	92,900
Moxico	216,500	56,500	127,500	32,500
Namibe	87,200	23,900	22,500	40,800
Survey area	1,878,100	415,400	490,800	971,900

6.4 Household profiles and the wealth index components

There is a good correlation between the household group profiles and the outcomes of the wealth index calculation. Figure 23 below illustrates the household groups (from 1 to 6 in the X axis) versus the three components of the wealth index as well as the overall wealth index itself (the more positive, the better). The chart shows a significant decreasing trend ($p < 0.01$) from left to right for all components, except for the index on living conditions.

Figure 23 - Wealth index versus household profiles



Group 1 (most food secure households) scores best for household asset and animal asset index, but scores poorly for the index of living conditions. This index is composed of indicators related to the quality of housing material (walls, floor and roof) and the quality of the consumed drinking water. This component negatively impacts health conditions of the family members.

Group 2 are the wealthy farmers and the index shows a positive index for all its components, illustrating its relative wealth situation for all three component indices.

Group 3, the fishermen, have generally good living conditions, but score poorly for domestic and animal assets. Their global wealth index is negative.

Groups 4, 5 and 6 score negative for all components and the global index is thus negative also.

Part VII: Outcomes of the Survey in the Central Highlands

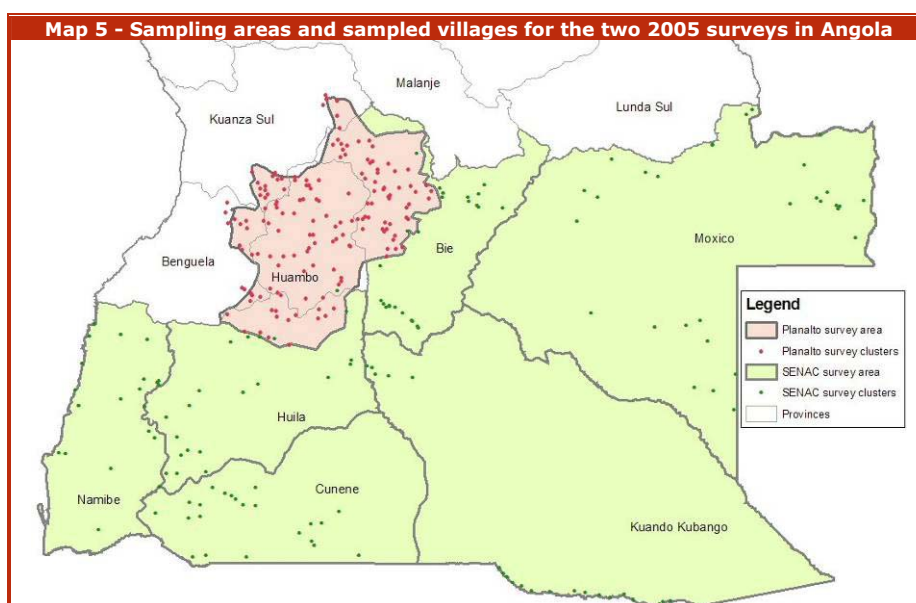
Several vulnerability and poverty assessments²³ over the last three years have indicated that the central highlands are the most vulnerable and food insecure areas in the country. Most of the fighting during the war took place in this area, and the area also hosts most of the formerly displaced/recently returned populations, including the majority of former UNITA soldiers. In addition, factors such as environmental degradation due to over-cropping and deforestation and a very poor road network impede agricultural development. To quantify the problems on livelihoods in the area, WFP has undertaken a detailed food security and livelihoods survey covering this central part of the country, also known as *Planalto central*.

The survey was a key input to the new WFP programme (PRRO 2006-2008), which focuses its interventions in the most vulnerable areas of the country. With the return of peace and stability in the area, WFP is reorienting its interventions from general food distributions to more specific targeting of its areas of intervention.

This survey included household and community questionnaires as well as anthropometric measurements of children less than five years of age. The survey area covered 160 rural communities (1,921 households) in seven agro-economic zones, which include the entire province of Huambo, western parts of Bié province (33% of the province), northern Huila (14%), eastern Benguela (12%) and southern Kwanza Sul (8%).

This section compares outcomes of this food security survey undertaken in early 2005 in the central highlands with outcomes of the SENAC survey presented in this report.

Methodology, tools and sampling were fairly similar, and the main difference is the timing of the interview: while the data collection in the Planalto took place in the worst period of the year (lean season), the data collection in the SENAC survey took place during the best period, just after the main crop harvest. Comparison of outcomes should therefore be interpreted with care (Map 5).



Another important difference between the two survey areas is that the complete survey area in the Planalto has been severely affected by the war, while several provinces (Cunene, Namibe and southern-Huila) in the SENAC survey were never directly affected by the war.

The comparison of the outcomes of the two surveys focuses on the descriptive outcomes of some important indicators related to food security, because the combined analysis of both datasets was not considered appropriate.

²³ WFP Vulnerability Assessment 2004, FAO-WFP CFSAM 2004.

7.1 General comparison

A general comparison of the main indicators for both surveys (Table 46) illustrates how the Planalto consistently scores worse, when compared to the total sample of the SENAC survey. However when comparing by province, the indicators of Moxico and Bié provinces are often worse than the Planalto average. For instance, up to 37% of the households eat one meal per day as compared to 18% in the Planalto area, or no household has animal traction in Moxico province.

An important difference between the two survey areas is the aid received by the communities. Very few households enjoy any aid in the SENAC survey area, and also food aid reaches few households as compared to the Planalto area.

Table 46 - Major outcomes of Planalto and SENAC surveys			
	Planalto survey	SENAC Survey	Notes
New returnee (<3 years)	35%	17%	Range Cunene 7% - Moxico 35%
Displaced	67%	55%	Range Cunene 12% - Moxico 92%
Female HH	36%	28%	Range Moxico 20% - Bié 32%
Stunting (<-2 Z)	45%	35%	-
Wasting (<-2 Z)	13%	8%	-
Eating <=1 meal/day	16%	18%	Range Cunene 3% - Moxico 37%
Oxen for animal traction	6%	33%	Range Moxico 0% - Cunene 64%
Hoe	96%	91%	
Plough	6%	24%	3% in Moxico, 5% in Bié and 59% in Cunene
Radio	30%	31%	
Fish/Hunting gear	7%	28%	
Food aid received	44%	16%	Only in Bié and Moxico - 40% of the villages

7.2 Livelihoods

In the Planalto, 94% of the sample households rely on agriculture as a livelihood activity. In addition to agriculture, 65% of the households are also engaged in raising livestock and just 5% are also involved in fishing. Income diversification opportunities are extremely limited and 60% of households have no supplemental income source. Where available, *biscatos* account for more than half the employment. Permanent work is only available to 7% of households, 13% are engaged in the sale of goods and 18% in trading of natural resources, mainly cutting wood and firewood for charcoal fabrication.

The situation in the SENAC survey area is considerably different with more diversified livelihood opportunities in the rural communities, and which contribute to a greater proportion of the household total income. For just more than on third of the households, agriculture is the main income source - the other income is obtained from livestock rearing, fishing, sale of charcoal and wood, honey and forest products.

Both surveys illustrate how the *Biscateiros*, those depending on casual labour on other people's farm, are between the most vulnerable households. These households are very often returnees, who, after having being displaced for some time (ranging from a few years to up to 30 years) require this income source to re-establish in the community.

7.3 Summary

This limited comparison of the survey results shows that outcomes for sampled households in Bié and Moxico provinces are very similar (if not worse) to the outcomes of those in the Planalto survey. Kuando Kubango households appear to be doing fairly well because of the sampled communities along rivers and international boundaries, providing additional income generating activities to the households, and also better access to social services in the neighbouring country. The provincial samples of southern Huila, Cunene and Namibe score considerably better on almost all other indicators (except on food utilization) and can be considered less vulnerable to food insecurity in terms of availability and access.

Both surveys illustrate how vulnerability to food insecurity in the country is closely linked with the effects of the war. While the much needed aid in the Planalto was confirmed by the survey, very few food- and non food aid was found in the SENAC survey area.

Part VIII: Recommendations for Programme Interventions

8.1 Overview of WFP-supported programme options

This food security and vulnerability survey covered the six southern and eastern provinces in rural Angola. The sample scheme was designed in an attempt to provide representative information for each in the absence of an up-to-date sampling frame. The options and recommendations presented below do not take into account the following factors due to the nature of the survey:

- **Current WFP-supported activities** – In places where WFP and partners are implementing food-based interventions, recommendations should reflect the need to continue and, in some cases, expand food-based programming.
- **Capacity of partners to implement programmes** – The scope of this survey did not include an analysis of the implementation capacity of NGOs or Government sectors to implement either food- or non-food-based interventions. The objectives of the VAM study still intend to identify the hungry poor and where they are located, to understand why they are food insecure, and to determine if food aid has a role in addressing their food insecurity.

8.1.1 – Main causes of food insecurity

The causes of food insecurity in rural Angola are mainly related to two factors, both related to the protracted civil conflict. The first one is limited access to livelihood opportunities, especially for former IDPs and refugees. Although people in the refugee camps enjoyed relatively better access to health care basic education they are still struggling to build their livelihoods that are isolated with limited opportunities. The other factor is related to health and malnutrition. The health infrastructure in some rural areas is poorly developed as indicated in the survey and confirmed by the unexpectedly high levels of maternal malnutrition as well as high levels of young child malnutrition especially in areas that are 'asset-rich'.

8.1.2 – Role of food aid

As the causes of food insecurity are complex and related to post-conflict recovery, social poverty and cultural factors, food aid alone is not the answer to address household food insecurity in rural Angola. However, in the short-term, food based programmes can be a viable solution to improve the asset base of vulnerable rural households and improve their access to food. Non-food interventions from the Government or other agencies are essential. However, actual implementation by the new Government continues to be a challenge.

The findings suggest that nutrition and health problems, especially among women and children are matters of concern in the survey areas. Here, fortified blended food aid, targeted to expecting and nursing mothers can continue to play a significant role in improving health and nutrition status and to encourage use of better ante-natal care, decreasing the likelihood of a malnourished woman giving birth to a malnourished baby.

Although in many places primary schools have been rebuilt or renovated, others are still lacking the basic facilities which, in the end, limit the possibilities for increased enrolment and attendance. Therefore continued and expanded implementation of school feeding programmes, especially in areas with a high prevalence of food insecure households, could have an impact not only on household food security, but also as an investment in the future of a rural households in the peace-time era through improved learning.

8.1.3 – Programme interventions

The problem of access to food can be addressed by poverty-reduction programmes or livelihood enhancement strategies. *Food-for-work* and *food-for-asset creation* programmes could include activities to rebuild community infrastructure (health centres, schools, and tertiary roads), indicated as needs by community leaders during the key informant interviews.

Health sector programmes that provide fortified blended food and health and nutrition education programmes could contribute to improved food consumption, utilization and child care. The provision (continued and expanded) of fortified food to vulnerable groups (expecting and nursing mothers, pre-school children and adolescent girls) can address

current micronutrient deficiencies. The education component should contain information on appropriate caring practices, hygiene, nutrition and sanitation.

Although not specifically designed to directly address household food insecurity or to treat malnutrition, education programmes, such as school feeding are beneficial in providing an incentive for children to attend school every day. However, WFP can continue to help by providing fortified food rations to children in combination with de-worming activities, can help to improve food utilization and improve consumption of essential micronutrients.

8.1.4 – Non-food interventions

Non-food interventions to complement food interventions will help to both increase household food security and reduce poverty among the rural residents in the survey area. They could include micro-credit schemes, agricultural extension programmes and longer-term poverty reduction programmes. Increased availability of micro-credit facilities among the rural population could especially be beneficial for the recent returnees to help them rebuild their asset base as well as to procure agricultural inputs for increased production. Agricultural extension programmes that provide improved information on commodity markets and improved market access would also be helpful for many of the households in the study. The less vulnerable households would benefit from improved access to safe drinking water as well as improved sanitation, in order to reduce disease that can lead to poor child nutrition. General poverty reduction and longer-term development activities could improve the rural road infrastructure, or to build or rehabilitate schools and medical facilities.

8.2 – Summaries and possible areas for interventions, by province

This section outlines the possible areas where both food and non-food interventions could improve the food security and reduce vulnerability in the six sampled provinces. The section provides suggested programmes by province which may serve as guidance for planning purposes.

Bié province

- Second highest percentage of female headed households (18%);
- Income mostly from agriculture and *biscatos*;
- Less than 10% communities with agriculture extension services;
- Lowest wealth index and second highest level of vulnerability;
- High presence of primary schools in communities (84%);
- Lowest percentage of households with very poor food consumption (3%);
- Presence of food aid programmes and some communities with development projects;
- Low access to drinking water from improved sources (20%);
- Lowest percentage of adults having heard of HIV/AIDS;
- All communities with trained midwife;
- Highest percentage of malnourished women (26%);
- High percentage of child wasting (11%) but average levels of underweight and stunting

Possible areas of intervention

- Food: expanded MCH (with education), continued school feeding,
- Non-food: Safe water, micro-credit (FHH), agriculture extension & environmental protection, HIV/AIDS education and awareness, poverty reduction

Cunene province

- Lower percentage of female headed households (10%);
- Income mostly from livestock, agriculture and small business;
- Less than 10% communities with agriculture extension services;
- Highest wealth index and lowest level of vulnerability;
- Average presence of primary schools in communities (78%);
- Highest percentage of households with very poor food consumption (29%);
- No food aid programmes and no communities with development projects;
- Highest access to drinking water from improved sources (59%);
- Very low percentage of adults having heard of HIV/AIDS;
- Very low percentage of communities with trained midwife (35%)
- Lower percentage of malnourished women (13%);
- High percentage of child wasting (9%) and highest prevalence of stunting (47%)

Possible areas of intervention

- Food: MCH (with education), School feeding, FFW/FFT for health/mid-wives & other development projects
- Non-food: Continued safe water, agriculture extension/veterinary services, environmental protection, HIV/AIDS education and awareness,

Huila province

- Average percentage of female headed households (14%);
- Income mostly from livestock, agriculture and *biscatos*;
- Higher percentage of communities with agriculture extension services (27%);
- Second highest wealth index and lower level of vulnerability;
- Higher presence of primary schools in communities (86%);
- Higher percentage of households with very poor food consumption (13%);
- No food aid programmes but some communities with development projects;
- High access to drinking water from improved sources (57%);
- Higher percentage of adults having heard of HIV/AIDS;
- Lower percentage of communities with trained midwife (68%)
- High percentage of malnourished women (23%);
- Highest percentage of child wasting (14%), highest prevalence of underweight (44%) and high prevalence of stunting (41%);

Possible areas of intervention

- Food: MCH (with education), School feeding, FFW/FFT for health/mid-wives
- Non-food: Safe water, expanded agriculture extension, veterinary services, environmental protection, expanded HIV/AIDS education and awareness,

Kuando Kubango province

- Average percentage of female headed households (12%);
- Diverse income sources;
- Less than 10% communities with agriculture extension services;
- Fourth highest wealth index and average level of vulnerability;
- Lowest presence of primary schools in communities (41%);
- Low percentage of households with very poor food consumption (7%);
- No food aid programmes and few communities with development projects;
- Lowest access to drinking water from improved sources (8%);
- Average percentage of adults having heard of HIV/AIDS;
- High percentage of communities with trained midwife (86%)
- Very high percentage of malnourished women (25%);
- Average percentage of child wasting (6%), lower prevalence of underweight (25%) and high prevalence of stunting (42%);

Possible areas of intervention

- Food: MCH (with education), School feeding, FFW/FFT (school construction)
- Non-food: Safe water, agriculture extension, veterinary services, environmental protection, HIV/AIDS education and awareness, micro-credit schemes; poverty reduction;

Moxico province

- Highest percentage of female headed households (28%);
- Income from agriculture and *biscatos*;
- One-quarter communities with agriculture extension services;
- Low wealth index and lowest level of vulnerability;
- Low presence of primary schools in communities (57%);
- Lowest percentage of households with very poor food consumption (3%);
- Food aid programmes and several communities with development projects;
- Average access to drinking water from improved sources (44%);
- Lower percentage of adults having heard of HIV/AIDS;
- High percentage of communities with trained midwife (73%)
- High percentage of malnourished women (22%);
- Low percentage of child wasting (3%), lowest prevalence of underweight (21%) and lowest prevalence of stunting (22%);

Possible areas of intervention

- Food: expanded MCH (with focus on women), expanded school feeding, FFW/FFT (school construction)
- Non-food: Safe water, expanded agriculture extension, environmental protection, HIV/AIDS education and awareness, micro-credit schemes (FHH); poverty reduction;

Namibe province

- Lowest percentage of female headed households (5%);
- Income from diverse sources;
- Less than 10% communities with agriculture extension services;
- Average wealth index and average level of vulnerability;
- Average presence of primary schools in communities (60%);
- Second highest percentage of households with very poor food consumption (18%);
- No food aid programmes but some communities with development projects;
- Average access to drinking water from improved sources (50%);
- High percentage of adults having heard of HIV/AIDS;
- Lowest percentage of communities with trained midwife (20%)
- Lowest percentage of malnourished women (6%);
- Low percentage of child wasting (4%), low prevalence of underweight (22%) and low prevalence of stunting (26%);

Possible areas of intervention

- Food: MCH (with focus on pregnant), school feeding, FFW/FFT (school construction)
- Non-food: Safe water, agriculture extension, veterinary services, HIV/AIDS education and awareness, poverty reduction

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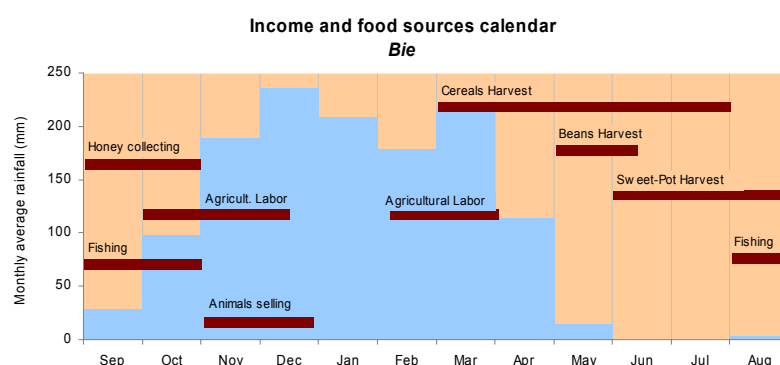
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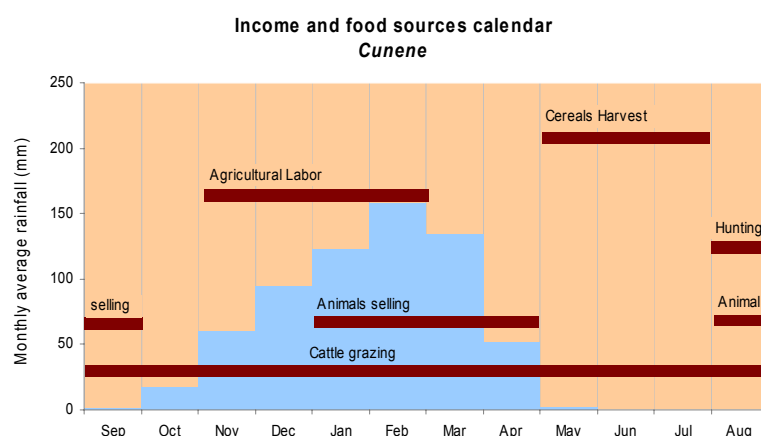
Annex I: Rural Calendars

The rural calendars by province provide information about the activity calendar in rural areas in each of the provinces covered by the survey. The chart also includes estimated average rainfall by month, combined with the timing of the main livelihood activities.



In **Bié**, agriculture is the main livelihood. Harvest of the three main crops (maize, beans and sweet potatoes) is well distributed over the year to cover the households' food needs.

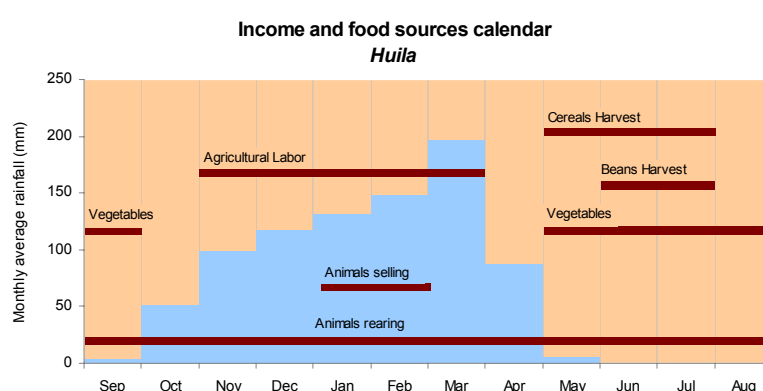
The period from November to February has relatively less coverage in terms of income and food sources because the activities of the dry season come to an end. Agricultural occasional labour is the only activity upon which households can rely during this period.



In **Cunene**, the main livelihood is cattle rearing, which provides a permanent income base along the year.

Agriculture, based on "poor" cereals as millet, is a complementary food source. There is not relative less income diversification in the province besides hunting and some agricultural labour from November to February.

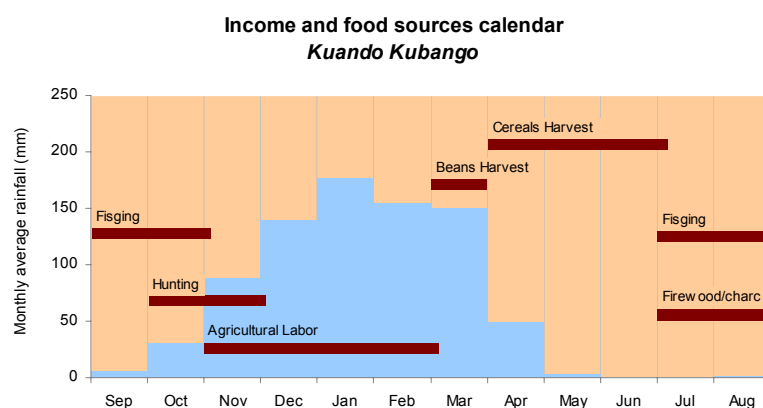
The main problem however is in the dry season (Mai-Oct), when scarcity of water (due to low rainfall) dries out the water points for the cattle.



In **Huila**, there are two different livelihoods: agriculture (maize and vegetables) is dominating in the north- and central area, while in the southern area cattle rearing is predominant, supplemented by millet cultivation.

Vegetable production using irrigation is a very important income source in the province during the dry season.

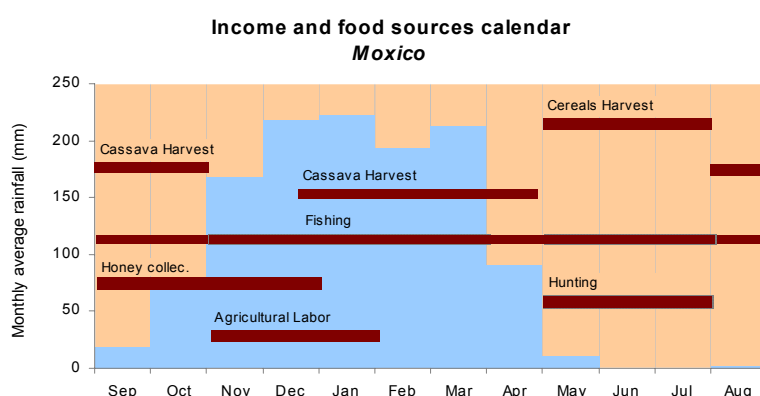
The worst period seems to be January and February.



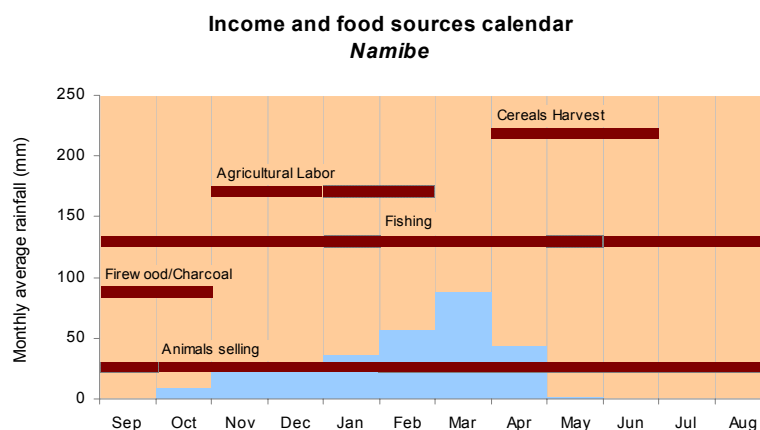
In **Kuando Kubango**, agriculture is the basis of the main livelihood. The main crop is sorghum and some maize in alluvial soils along the rivers.

As the province has a good hydrograph network, fishing is an important income and food source during the dry season. Also, firewood and charcoal constitute an important income source during this season.

The worst period in the province is from November to February, when households rely on occasional labour mainly.



In **Moxico**, the main livelihood is based on agriculture, but with a cassava based farming system. Cassava is a long-cycle crop being harvested almost all year. Maize is a secondary crop in the province. Due to dense hydrographic network, fishing is an important source of food all along the year. Hunting and honey collection completes the dry season's sources of food and income.



In **Namibe**, there are two different livelihoods. Along the coastal strip, fishing is the main livelihood, while in the arid interior, nomadic cattle grazing is supplemented by agriculture.

Cereals are mainly millet because the very low rainfall in the province.

Firewood and charcoal is an important secondary source of income.

Annex II: Household profile characteristics

The table below lists the characteristics of the household groups as presented in the report.

	1	2	3	4	5	6
Demographics						
Have been displaced over time	7%	54%	65%	71%	56%	69%
Female headed household	18%	27%	25%	27%	12%	41%
Household head married	91%	87%	88%	78%	90%	70%
Head can read and write	28%	51%	56%	32%	36%	32%
Living conditions						
Houses in adobe	2%	21%	21%	27%	24%	9%
Houses without toilet	98%	82%	86%	72%	63%	76%
Overcrowding (persons/sleeping room)	4.4	4.2	4.4	4.7	5.1	3.9
Domestic and productive assets						
Own a radio	30%	48%	40%	32%	33%	12%
Own a donkey or horse	41%	6%	3%	2%	0	2%
Own a bicycle	21%	22%	6%	33%	42%	6%
Own a cart	16%	6%	2%	0	4%	1%
Own a hoe	93%	92%	68%	92%	95%	91%
Own a plough	61%	29%	9%	4%	6%	9%
Own chasing gear	14%	5%	7%	6%	29%	95
Owns fishing gear	4%	17%	83%	14%	13%	16%
Total number of assets	6.8	3.9	2.7	3.5	3.0	2.0
Relative contribution of Income Sources						
Agriculture	45%	45%	17%	23%	57%	49%
Livestock	43%	11%	6%	2%	1%	5%
Fishing	1%	3%	51%	6%	3%	3%
Biscatos	1%	7%	6%	24%	7%	25%
Agricultural work	0	0	0	0	0	3%
Other salaried work	0	6%	1%	1%	1%	0
Sale of carpentry wood	0	15	0	6%	1%	1%
Charcoal	0	2%	1%	19%	0	1%
Sale of food stuffs	4%	1%	0	0	1%	1%
Sale of alcohol drinks	3%	10%	2%	3%	5%	3%
Informal Commerce	1%	8%	12%	4%	2%	2%
Honey collection	1%	2%	2%	3%	14%	3%
Sale of forest fruits	0	1%	2%	1%	6%	2%
Artisan	0	1%	1%	2%	2%	1%
Pensions	0	0	0	4%	1%	1%
Animal ownership (average)						
Number of Oxen for traction	2.5	0.9	0.5	0.1	0.1	0.4
Number of Cattle	18.8	1.9	0.9	0.8	0.0	0.7
Number of Bulls	1.1	0.2	0.1	0.0	0.0	0.0
Number of Pigs	2.2	0.7	0.2	0.2	0.7	0.5
Number of Goats	15.1	2.9	1.3	0.9	0.5	1.1
Number of Chickens	9.7	6.5	6.5	3.5	5.1	3.6
Number of Rabbits	0.0	0.0	0.0	0.1	0.0	0.0
Number of Sheep	2.7	0.2	0.0	0.0	0.0	0.0
Number of Horses	0.3	0.0	0.0	0.0	0.0	0.0

Agriculture (average harvest 2005 in kg/household)						
Cereals	684	1609	534	332	636	496
Cassava	-	140	85	186	248	114
Bean	61	83	53	35	95	115
Sweet potato	135	81	45	-	204	54
Peanut	34	31	-	9	234	25
Irish potato	-	100	-	28	128	35
Vegetables	75	146	18	20	72	42
Fruit trees	-	383	-	-	132	59
Sugarcane	-	251	-	-	104	350
Pumpkin	127	64	10	43	124	45
Month food stock from cereals per household	3.3	9.4	1.2	1.2	4.4	3.4
Food consumption						
Cereals (times eaten per week)	6.4	6.9	6.6	3.8	6.5	6.6
Tubers (times eaten per week)	0.1	1.0	0.7	4.1	5.5	1.4
Beans (times eaten per week)	0.8	1.8	1.3	1.1	2.5	1.5
Milk and derivatives (times eaten per week)	4.8	0.6	0.8	0.2	0.1	0.2
Egg (times eaten per week)	0.5	0.3	0.1	0.1	0.4	0.1
Meat (times eaten per week)	1.5	1.0	0.7	0.7	3.0	0.4
Fish (times eaten per week)	0.6	1.9	5.2	2.2	2.8	1.0
Oil (times eaten per week)	3.3	6.1	5.4	4.1	5.9	2.9
Sugar/Salt (times eaten per week)	3.2	6.7	6.7	6.6	6.7	6.2
Fruits (times eaten per week)	0.1	0.3	0.1	0.2	0.3	0.2
Vegetables (times eaten per week)	1.9	4.8	3.6	4.5	4.9	5.2
Children and mother malnutrition and health status (under five)						
Wasting	9%	10%	5%	6%	7%	7%
Stunting	50%	34%	31%	26%	25%	36%
Ill during last week (% children)	53%	41%	38%	40%	45%	49%
With diarrhoea	21%	9%	13%	14%	12%	10%
With malaria	17%	20%	11%	20%	26%	20%
Children with vaccination card	11%	20%	14%	28%	47%	30%
Treated at health post (% children)	50%	41%	32%	39%	45%	46%
Never visited health facility since birth	93%	76%	97%	78%	68%	81%
Mothers with no education at all	95%	85%	92%	98%	93%	91%
% Mothers with primary school finished	5%	12%	8%	0	5%	9%
% Mothers Underweight	14%	21%	18%	27%	29%	19%
% Mothers Overweight+obese	3%	13%	18%	5%	7%	9%
% Mothers pregnant	19%	11%	5%	12%	15%	14%
Shocks						
Experienced shock during the last 6 months	61%	78%	54%	89%	98%	85%