

# Comprehensive Food Security and Vulnerability Analysis

República de Moçambique



September 2010

Data collected between August - September 2009



Vulnerability Assessment Group (GAV)  
of the National Secretariat for Food  
Security and Nutrition (SETSAN)

**Mozambique Comprehensive Food Security and Vulnerability Analysis - September 2010**

© World Food Programme

**United Nations World Food Programme**

Mozambique Office: 1302, Avenida do Zimbabwe, Maputo, Mozambique

*For questions or comments concerning any aspect of the report, please contact:*

**TECHNICAL STAFF**

**WFP Mozambique**

Mrs Nadia Vaz [Nadia.Vaz@wfp.org](mailto:Nadia.Vaz@wfp.org)  
Mrs Lara Carillho [Lara.Carillho@wfp.org](mailto:Lara.Carillho@wfp.org)  
Mr Raul Cumba [Raul.Cumba@wfp.org](mailto:Raul.Cumba@wfp.org)  
Mr Gilberto Muai [Gilberto.Muai@wfp.org](mailto:Gilberto.Muai@wfp.org)

**WFP Regional Bureau (Johannesburg)**

Mr Eric Kenefick [Eric.Kenefick@wfp.org](mailto:Eric.Kenefick@wfp.org)  
Ms Sylvie Montembault [Sylvie.Montembault@wfp.org](mailto:Sylvie.Montembault@wfp.org)

**WFP Headquarters (Rome)**

Ms Chiara Brunelli [Chiara.Brunelli@wfp.org](mailto:Chiara.Brunelli@wfp.org)

**WFP MOZAMBIQUE MANAGEMENT**

Ms Lola Castro [Lola.Castro@wfp.org](mailto:Lola.Castro@wfp.org)  
Ms Margot Van der Velden [Margot.VanderVelden@wfp.org](mailto:Margot.VanderVelden@wfp.org)

Financial support for this study was provided by the Bill and Melinda Gates Foundation. The views expressed herein can in no way be taken to reflect the official opinion of the donor.

## EXECUTIVE SUMMARY

WFP Mozambique is currently designing its **Country Strategy** to contribute to the Government efforts to reduce hunger, food insecurity and malnutrition. This report aims at providing more specific information on **food security and vulnerability** to facilitate the Country Strategy preparation. It follows the logic of the Food and Nutrition Security Conceptual Framework that includes the human, social, natural, physical and economic capitals, livelihood strategies, food consumption and nutrition. The different components are analyzed to identify the key issues related to food insecurity and malnutrition.

This CFSVA report builds on the *Relatório da Monitoria da Situação de Segurança Alimentar e Nutricional em Moçambique* (SETSAN, 2009), and include specific data on the number of food insecure and vulnerable people in the country, geographic distribution of the food insecure and vulnerable people, characteristics of the food insecure and vulnerable groups, driving forces of food insecurity and vulnerability and their capacity to manage shocks. It includes additional findings from literature review and secondary data analysis of the key factors affecting food security, and additional analysis of the primary data provided by SETSAN/VAC regarding the August 2009 assessment. The secondary data review included: the National Population Census (2007), the Demographic and Health Survey (DHS, 2003), the Multiple Indicator Cluster Survey (MICS, 2008) as well as data collected on an annual basis (precipitation/ rainfall, price data and crop production, satellite imagery, GIS).

Mozambique continued to have relatively strong economic growth with the Gross Domestic Product in each one of the last five years was above 6.5%, economic inflation reached its level lowest of the decade (3.75% in 2009) and the State reached an important milestone on the road to financial autonomy when for the first time in the recent history of Mozambique more than half of the State Budget is financed by the country's own funds.

Consumption-oriented poverty is estimated by focusing on the incidence of poverty rate, which refers to the percentage of the population living below the poverty line. The incidence of poverty in 2008/09 is estimated at 54.7% of the population at national level. This is a reduction of poverty by 12.1 percentage points (pp) compared to 1996/97, when the incidence was estimated at 69.4%. In 2002/03 the poverty incidence rate was 54.1%, which means that between 2002/03 and 2008/09 there were no statistically significant changes in the levels of poverty. The number of people below the poverty line increased from 9.9 million to 11.7 million people, due to the growth of the population, which was 3 million between 2002/03 and 2008/09. The rural areas have 56.9% of the population below the poverty line and the urban areas have 49.6% of the population below the poverty line while in 2002/03 rural poverty was 55.3% and urban poverty 51.5%. All regions had a reduction of poverty between 1996/97 and 2002/03, and this continued in 2008/09, except for the central region in which poverty increased by 14.2 percentage points. Currently, the northern region has a lower incidence of poverty, with 46.5% of the population below the poverty line, than the central region with an incidence of poverty of 59.7% and the southern region with 56.9%.<sup>1</sup> The three main constraints pointed in the same report indicate that: very low or zero growth rates for agricultural productivity, together with climate shocks (floods, cyclones and droughts), aggravated terms of trade due to big increases of international food and fuel prices and the HIV/AIDS epidemic, more mature in the central region of the country. Gender and regional disparities are also significant for most of the indicators monitored.

The survey on food security and vulnerability, based on a **stratified and multi-stage sample**, was conducted in August 2009, covered 4,113 households, with sampling designed to provide estimates on a set of food and nutritional security indicators at national, peri-urban/rural and provincial level, with the exemption of the provincial capitals and all large towns. The list of the enumeration areas and of cartographic material was provided by the Third General Population and Habitation Census (2007). Three **instruments** were used for primary data collection: a household questionnaire administered to randomly selected households in Portuguese; a community questionnaire; and focus group discussions.

The average **household size** was 4.8 persons and the median was 5 persons. There were no differences in household size between peri-urban and rural areas for *Cabo Delgado* and *Tete* provinces. In total, 21% of the households were headed by women and 18% were headed by a person 60 years

---

<sup>1</sup> MDG Mozambique report 2010

or older. The highest percentage of female headed households was found in *Gaza*, followed by *Inhambane* and *Cabo Delgado* provinces while the lowest percentage was found in *Nampula*. Elderly headed households were most commonly found in *Cabo Delgado* and *Maputo* provinces and least likely to be found in *Niassa* province.

Nearly 80% of eligible children 6-17 years of age were **enrolled and attending primary school** with another 7% enrolled and attending secondary school. About 5% had dropped out in recent years and another 10% had never enrolled. Enrolment for girls is lower than boys in *Niassa* (-7%), *Cabo Delgado* (-7%), *Zambézia* (-4%), *Sofala* (-4%) and *Manica* (-3%). It is the same or higher in all other provinces. The highest reported drop-outs were found among girls in *Cabo Delgado* (10%), girls in *Niassa* (9%) and boys in *Gaza* (8%) provinces. The highest percentages of children that were enrolled and attending secondary school were found in *Sofala* (16% - both boys and girls) and *Maputo* (15% -both).

The highest overall **enrolment of orphans** was found amongst boys in *Cabo Delgado* (96%), followed by girls in *Manica* (94%) and both boys and girls in *Inhambane* (94%). The highest levels of secondary school enrolment for orphans are found amongst girls in *Sofala* (20%), followed by girls in *Zambézia* (19%) province. Lowest overall levels of enrolment for orphans were found amongst boys in *Niassa* (61%), boys in *Nampula* (63%) and boys in *Maputo* (65%). The highest levels of drop out amongst orphans are also found amongst boys in *Maputo* (21%), boys in *Niassa* (16%), boys in *Zambézia* (11%) and boys in *Tete* (10%). Overall, orphan boys are less likely to be enrolled and attending school than girls while in some provinces orphan girls are more likely to be enrolled and attending school than even the non-orphan children.

The **current health and physical status** was assessed for each household member during the survey which found that the percentage of ill persons increases greatly amongst older people. By province, households in *Sofala* were the most likely to have a chronically ill member while those in *Niassa* were the least likely. Disabled members were most likely to be found in households in *Inhambane* province and least likely to be found in *Tete*. In over 60% of the cases, the chronically ill person went for treatment but this varied greatly by province. Nearly all chronically ill persons in *Sofala*, *Inhambane*, *Cabo Delgado* and *Zambézia* sought treatment while only 15% in *Maputo* and 17% in *Tete* went for treatment. The most often cited reasons for not seeking treatment were the use of local healers, lack of qualified medical personnel and also a lack of money for treatment and/or travel.

**Orphan status** was determined for children 0-17 years of age. An orphan is defined as a child who has one or both parents dead or missing. In all, 13% of the children in the survey households were orphans with no difference between boys and girls. As expected the likelihood of becoming an orphan increases with age. By province, households in *Gaza* were the most likely to be hosting orphans, followed by those in *Maputo* and *Zambézia*. Households in *Niassa*, *Cabo Delgado* and *Nampula* were the least likely to be hosting orphans. Using the percentage of orphans and the weights developed for the analysis from INE it was possible to estimate the number of orphans in each province in rural and peri-urban areas. The highest estimated number of orphans is found in *Zambézia* which also has the largest rural population in the country. The second highest is found in *Nampula* which also has a high rural population. The lowest absolute numbers of orphans are found in *Inhambane* and *Niassa* rural areas.

The recent **death of a household member** can be the result of many things yet it is an important factor in understanding vulnerability in rural households. Overall, only 4% of the households reported the death of a member in the past 12 months. This ranged from a high of 11% of the households in *Cabo Delgado* and *Sofala* and 7% in *Inhambane* to 3-4% in the other provinces. Only 2% of households in *Niassa*, 1% in *Maputo* and none in *Tete* reported the death of a member in the past year. This is also a proxy indicator of HIV-affected households. Overall, about two-thirds of the deaths were male but with variations by province. In *Niassa* and *Nampula*, the deaths were mostly children while in *Inhambane* and *Manica* about one-third of the deaths were elderly. Deaths of working-age members were most common in *Gaza*, followed by *Maputo* and *Zambézia* provinces. In *Cabo Delgado*, the recent dead were the most likely to be an income earner, followed by *Maputo* and *Sofala* provinces. Hardly any of the recent dead in *Niassa* and *Nampula* were an income earner which correlates well with the fact that most of those deaths were children.

For purposes of this survey, **poor quality housing** is defined as one where the roof is made of either thatch or plastic and the floor is made of dirt. Overall, only 10% of the peri-urban houses were of poor quality compared to 19% of rural houses. Poor quality housing was most common in *Sofala*

province, followed by *Inhambane* and *Gaza* provinces. The best quality housing is found in *Nampula* and *Tete* provinces.

Households in *Niassa* have the best access to **water from improved sources** with nearly 90% spending less than 30 minutes per day for this activity. Next is *Maputo* province where nearly all households can fetch water in an hour or less. The worst access is found amongst households in *Cabo Delgado* where about one-third of the households spend more than one hour collecting water. In certain parts of *Gaza* province, households are spending two hours or more to collect water. In general, access to drinking water from improved sources is better in peri-urban areas. Rural households in *Nampula* are the most likely to be using drinking water from unimproved sources, followed by those in *Zambézia* and *Cabo Delgado*. Access to improved drinking water is best for rural households in *Gaza*, *Inhambane* and *Maputo* provinces. For peri-urban households, those in *Maputo* have the best access to water from improved sources, followed by *Manica* and *Sofala*. More than 40% of the households in *Sofala* treat their water, followed by one-quarter in *Manica* and *Maputo* provinces. Only 6% of households in *Niassa* and 8% in *Tete* reported treating their water before drinking.

Very few households have access to flush/pour toilets of improved ventilated **latrines** for sanitation. In all provinces, the peri-urban households had better access to good sanitation compared to rural, but overall, more than 80% had poor quality sanitation compared to more than 90% in rural areas. The worst sanitation was found amongst rural households in *Nampula* where all were using open pit latrines or the bush for defecation. In *Maputo* province, about two-thirds were using poor quality sanitation in rural areas and just over half in peri-urban areas. However, peri-urban households in *Manica* had the best access to good sanitation for the entire sample.

Most households use wood as **fuel for cooking**, in both peri-urban and rural areas. However, in the peri-urban areas of *Zambézia*, *Tete*, *Manica*, *Sofala* and *Maputo* 20-30% of households are using charcoal 'vegetais' for cooking. In rural areas, wood is used by nearly all households except in *Maputo* province where some rural households are also using charcoal 'vegetais'. Most households are using either wood or paraffin for lighting in both rural and peri-urban areas. However, electricity is used by nearly half the peri-urban households in *Maputo* and for over 30% of peri-urban households in *Zambézia*, *Manica* and *Gaza* provinces. Electricity is used by very few rural households except in *Maputo* where about one-quarter are using electricity.

The survey collected data on **asset ownership** from each household (21 assets, both productive and non-productive). Agricultural tools were the most commonly owned assets in particular, almost all the households have at least a hoe (95%) and a large majority owns at least one mortar (78%) and a machete (75%), whereas tractors (1%), grade (1%), oxcart (2%) are not commonly owned, thus confirming that agriculture in Mozambique is poorly mechanized. Among the non productive assets, chairs and beds are the most commonly owned while watches (23%), mobile phones (20%) and televisions (8%) can be considered as luxury assets, owned by a small percentage of households. The households in *Manica* are the most likely to be asset rich for peri-urban areas while those in *Nampula* are the least likely to be asset poor. Overall, in terms of asset poverty in peri-urban areas, households in *Tete* are the worst off. Households in *Sofala* are the least likely to be asset poor while those in *Manica*, *Sofala*, *Gaza* and *Maputo* are the most likely to be rich. Rural households in *Niassa* are the least likely to be asset rich.

The main **livelihood activities** named by peri-urban households were food crop production (35%), casual labour (26%), salary (21%), remittances (15%) and cash crop production (10%). In rural areas, the sources named were similar – 45% of households relied on food crop production, 30% on casual labour, 13% on cash crop production, 11% on remittances and 9% on petty trade. Using statistical techniques, 14 distinct livelihood groups were identified, the largest being the *Food Crop Farmers* (25%), the *Casual Labourers* (14%) and the *Salaried* (10%). In terms of wealth, the *Assisted households* (households that rely on various types of assistance: food assistance, gifts, begging) are the most likely to be asset poor (44%), followed by the *casual labourers* (41%). The *Salaried* are the most likely to be asset rich, followed by the *Small businessmen*.

The households in *Nampula* were the most likely to have received a **cash remittance** in the past year, followed by households in *Niassa*, *Sofala* and *Maputo* while households in *Tete* province were the least likely. Households in *Nampula* were also the most likely to have received a **food remittance** in the past 12 months, followed by those in *Niassa* and *Inhambane*. Lastly, *Niassa* province had the highest percentage of households that received **agricultural inputs** in the past 12 months, followed by *Inhambane*, *Nampula* and *Maputo*. Households in *Tete* were again the least likely recipient of

remittances. Nearly 40% of recipient households in Tete reported a decrease in the amount over the past 6 months, followed by one-third in Nampula province. However, Nampula also had the highest percentage of households reporting an increase in remittances followed by Inhambane and Cabo Delgado. Households in Gaza were the least likely to experience any changes in remittances. When looking at livelihood groups, the Assisted households were the most likely to receive any type of remittances, followed by the Remittance receivers and the Pensioners. In general, households in the construction sectors (builders) were the least likely to receive any remittances. Casual labourers also had a low likelihood of receiving remittances.

In Mozambique land belongs to the State and cannot be sold or rent. Households with land can either use it for production for consumption and for marketing. For this reason land entitlement is an important source of livelihood. The vast majority of the households (89%) have **access to arable land**. Access is significantly higher ( $p < 0.05$ ) amongst household in rural areas (93%) than in peri-urban areas (82%). Households in Maputo province have the lowest access to arable land (62%), followed by households in Cabo Delgado (81%). By livelihood group, nearly all households in the Food crops farmers, the Cash crops farmers and Agro-pastoralist groups have access to land as well as those in the Builders group. Households that are less likely to have access to arable land are those in the Assisted group (50%) and the Salaried group (68%).

Receiving access to **land from authorities** is more common amongst household in Manica (30%), Maputo (28%) and Sofala (26%) provinces, while the informal access to land is most common amongst households in Niassa (54%) and is relatively common amongst households in Cabo Delgado and Sofala provinces.

Nearly 40% of farming households cultivated only in the **highlands** which makes them exclusively dependent on rain-fed agriculture. Inhambane, Manica and Cabo Delgado provinces are the places where highland farming is particularly common. Another 40% of households cultivated exclusively in the lowlands. This was most common amongst farming households in Niassa (62%) and Tete (58%) provinces.

Overall, more than half of the households are small farmers **cultivating 1 hectare or less**. The percentage of small farmers is higher in Inhambane, Maputo and Zambézia whereas the highest percentage of big farmers is in Niassa. More than 80% of the households reported to have enough land to produce enough food for their families' needs. As expected, the percentage is significantly lower in the peri-urban areas (76%) as opposed to rural areas (84%). In addition, it is lower in the provinces of Maputo (69%), Cabo Delgado (70%) and Sofala (75%).

The percentage of households reporting **lack of enough labour** is significantly ( $p < 0.05$ ) higher in rural areas (38%) than in peri-urban areas (27%). It is particularly high amongst households in Cabo Delgado (73%), followed by Tete (52%), Manica (41%) and Inhambane (41%).

At country level, almost half of the households (47%) cultivated the same amount of land in the 2008/09 season as in the 2007/08 season; one third of the households increased the amount of land cultivated and the remaining 20% cultivated less land. Households in Zambézia (33%) and Sofala (30%) provinces are more likely to report a **decrease in area cultivated**. Households in Niassa and Tete provinces are the least likely to have reduced areas under cultivation. By livelihood, households relying on Remittances (32%) and Assistance (31%) were most likely to report a decrease in the amount of land cultivated. In all, small holder farmers are more likely to experience a reduction in the amount of land cultivated. Climatic problems is the main reason for cultivating less (mentioned by 62% of the households), followed by lack of human labour (21%), pest/crop diseases (16%) and disease or illness of a household member (16%).

Overall the main **source of seeds** for cultivation are from farmers' own stocks (68% of households), followed by purchase in the local market (20%) and neighbours (8%). According to the households, the main source of seeds for the next season will be from own stocks (73%) and purchase at the local market (15%) while support from the government is expected to increase from 1% of the current season to 4% of the next season as the Government begins to introduce activities under the Green Revolution.

More than half of the households **stored their harvest** in traditional barns while improved barns are rarely used (4% of the households). The remaining 44% use conservation strategies that facilitate harvest's deterioration more than barns. In particular, 12% hang it in the kitchen, 28% used bags, and 3% put it outside. The large majority of households (85%) do not use any product to preserve the

harvest, either because products are not available (42%) or because they were not aware about the efficacy of the products themselves.

In total, 44% of the surveyed households live in a village with a mill and 64% use it for **milling their maize**. Households in *Inhambane*, *Gaza* and *Maputo* provinces have the greatest difficulty milling maize because a high percentage of households in these provinces live in a village with no mill and processing maize manually is very expensive. In addition, the majority of the households have to walk more than 2 hours to reach the milling location and have to pay for processing the maize.

Along with land, **livestock** represent an important livelihood asset, especially for the households living arid and semi-arid rural areas and are engaged into pastoralism or agropastoralism. Poultry is main type of livestock with 59% of the households owning at least one bird, followed by goats and/or sheep (24%). Compared with the previous year, there is a generalized increase in the amount of livestock owned by the households. Indeed, almost 40% of households had an increase in the Tropical Livestock Unit (TLU) index, while 30% showed a decline and the rest remained the same. Households in *Gaza*, *Manica* and *Tete* provinces are more likely to own livestock (TLU equal to 1.6, 0.9 and 0.9 respectively). In particular, *Gaza* shows values much higher than the national average on all the animals. Here, one fifth of the households (26%) own at least one ox, 41% at least a goat, 67% at least a chicken/duck/etc.

Research has shown that **dietary diversity** and frequency are a good proxy of food security at household level. The study collected data on food consumption: the variety and frequency of different foods consumed over a 7-day recall period was recorded. Data were analysed separately (item by items) and then combined into an indicator (the food consumption score) that takes into account the frequency, diversity and the nutritional value of the food consumed.

Analysis of **diet composition** shows that in *Niassa*, rural households are mainly living on daily consumption of maize plus beans/peas 4 days per week and oil/fats only 3 days. They also consume leafy green vegetables and fish/shell fish about 2 days per week. Peri-urban households in *Niassa* have a slightly more diversified diet by adding other cereals twice a week and also eating tubers and sugar at least once a week. Similar interpretations can be made for the other provinces in the chart. For central provinces, consumption is more diverse, except in *Zambézia* where most households rely on starches and some fish/shellfish for regular consumption. In general, peri-urban consumption is more diverse than rural except for households in *Sofala* province. Households in peri-urban areas of *Inhambane* have a more diverse diet than those in rural areas while rural households in *Maputo* appear to have a more diverse diet than in peri-urban areas. In general consumption in *Gaza* is poor with rural households that tend to consume maize 5 days a week, other cereals the remaining 2 days and then sugar, nuts and greens a few times a week with peri-urban households eating the same foods but at slightly different frequencies.

Households were asked about **main sources of the different foods they consumed**. Rural households rely more on own production to access their food compared to peri-urban households who rely more on purchase. However, by consumption group, those with 'poor' consumption rely less on purchase than those with 'borderline' or 'acceptable' both in rural and peri-urban areas - this relationship is more pronounced in peri-urban settings. The households with 'acceptable' consumption rely less on gifts than the others, regardless of zone.

The analysis of the consumption of various foods does not take into account the nutritious values of the items consumed, whereas the **Food Consumption Score (FCS)** reflects the diversity and frequency (number of days per week) of the food items consumed by households. FCS is computed by grouping together the food items for which consumption was assessed over a seven-day recall period. Once the FCS is computed for a household it is classified as having poor consumption ( $\leq 21$ ); borderline consumption ( $> 21$  and  $\leq 35$ ); or acceptable consumption ( $> 35$ ). For the survey 9.1% of the households had poor consumption; 18.3% had a borderline consumption and 72.6% acceptable consumption. In terms of absolute figures, this corresponds to an estimate of 309,100 households with poor consumption households, 624,100 with borderline consumption and 2,471,400 with acceptable consumption.

By type of area, 7% of peri-urban households and 11% of rural households had **poor food consumption** while 16% of peri-urban and 20% of rural households had borderline consumption, and 78% of urban and 66% of rural households with acceptable food consumption.

Peri-urban households in *Gaza* have the worst consumption, with only half reaching acceptable levels of consumption. In *Cabo Delgado*, *Manica* and *Inhambane*, only about two-thirds of the peri-urban

households have acceptable levels of consumption. Food consumption is best in *Nampula* peri-urban areas, followed by *Zambézia* and *Maputo* where 84% of the households have acceptable consumption. For rural zones, households in *Gaza* also have the worst consumption with only 45% achieving acceptable levels and 17% with poor consumption. Around 55% of the rural households in *Manica* have acceptable consumption – 16% have poor consumption. *Zambézia* province has 17% of rural households with poor consumption but two-thirds also have acceptable consumption. Overall, the best levels of consumption in rural zones are found in *Nampula*, *Sofala* and *Maputo* provinces where more than 80% of the households have acceptable consumption.

By livelihood, the *Assisted* group has the highest percentage of households with poor consumption (23%), a fairly high prevalence of borderline consumption (20%) and the second lowest prevalence of acceptable consumption (57%). It is worth to remember that food assistance is only one of the various types of support that these households receive. Most of them heavily rely on begging and gifts (non-formal support). It is therefore not surprising to see that these households struggle in achieving acceptable consumption levels.

The profile of the *Casual labourers* is also problematic: this group has the second highest percentage of households with poor consumption (18%), the highest percentage with borderline consumption and the lowest with acceptable consumption. *Fishermen*, *Small business* and *Salaried* households show the best food consumption profile.

There is a clear relationship between **asset wealth** and **household food security** as measured by food consumption, suggesting that asset ownership can be efficiently used to target households for food assistance. As asset wealth decreases, the percentage of households with acceptable consumption also decreases, from 87% for asset rich, 74% for asset medium households and 60% for asset poor households.

Overall, more households reported a decrease in rice consumption (23%), followed by maize (10%), maize flour (7%) and cassava (6%). While there is no clear linear relationship between decrease in consumption of staple foods and food consumption level or wealth level, some differences exist between provinces and livelihood groups. In general, decrease in consumption is more common amongst households in *Maputo*, *Sofala*, *Gaza* and *Nampula* and among households in the *Fishermen* and *Pensioner* livelihood groups.

About 70% of the households confirmed that a **functioning market** was available in their communes. Most of these local markets mainly sell manufactured products such as oil, soap, sugar, salt as well as maize and rice. Few markets have vegetables and fruits. During the survey households were asked to report if the quantity of maize, maize flour, rice and cassava purchased at the market changed over the last year. The majority of the households (78%) reported either no decline or a decline only on one item while 16% of the households reported a decline in the purchase of 3 or 4 of the suggested items.

Due to its geographical location, Mozambique is likely to suffer from a variety of **adverse climatic events** such as drought, flood and cyclone. Indeed, consecutive disasters have affected the country over the past five years increasing the vulnerability of the population living in disaster-prone areas. In addition, many of these areas affected by natural disasters are also where HIV and AIDS are having a major impact on the vulnerability of much of the population.

**Flooding** is a regular seasonal phenomenon along the seven major rivers that cross Mozambique. The water management infrastructures for these rivers are limited to four major dams. Probability is at the highest throughout the rainy season (from September to March). **Drought** is the most frequent natural disaster and occurs every three to four years. Drought conditions are recurrent in the southern and central regions of Mozambique, and account for a large part of the vulnerability in the country due to their impact on food security and livelihoods. Almost the entire coastal area of Mozambique is highly vulnerable to **cyclones**. Eleven cyclones reached the coast of Mozambique during the last 10 years. The cyclone season runs from November to April, along with rainy season and coinciding with the main agriculture season. Most households affected by cyclones lost houses, food reserves, crops and fruit trees, and faced acute food shortages, resulting in increased vulnerability.

Eleven percent of the sampled households reported that they had experienced occasions when they were **not able to buy enough food or to cover other essential expenditure** during the 12 months previous to the survey, with no difference between peri-urban and rural areas. Seven percent of the households reported being affected by one shock, 4% mentioned more than one shock. The



incidence of the shocks was highest in *Cabo Delgado* where 21% of the households reported one shock and 10% reported more than one. In *Inhambane* 21% of the households were affected by one shock and 4% by more than one. Households in *Gaza* (20%) and *Niassa* (17%) were also likely to be affected by at least one shock.

By livelihood group, households in the *Remittances*, the *Assisted*, the *Pensioners* and the *Petty traders* groups were more likely to report at least one shock. However this is expected as these groups are more vulnerable due to their reliance on external support which is not always reliable.

During the survey, households were asked to mention how many times a series of **coping strategies** for addressing shortfalls in food supply were adopted during the 30 days prior to the data collection. The frequency and severity of the strategies have been combined into a single score: the Coping Strategy Index (CSI). The CSI measures the level of stress of the households in accessing food. A low score on the CSI means a reduced stress on the household ability to access food (relatively better food security). Overall, the average CSI was equal to 25. It was slightly higher amongst the rural households (25.7) compared with the households in peri-urban areas (24). Households in *Cabo Delgado* are the most likely to report a shock that affected household food security, followed by those in *Inhambane*, *Gaza* and *Niassa* provinces. Households in rural *Zambézia* and *Manica* are the least likely to experience a shock. The CSI was also highest amongst rural households in *Cabo Delgado*, followed by *Gaza*, *Maputo*, *Nampula*, *Manica* and *Inhambane*. The CSI indicates higher stress amongst households in these provinces with particular linkages for HIV and AIDS in *Gaza* and *Maputo*. Households in *Zambézia* are the least stressed of all in rural areas.

Overall, 12% of the households reported a medium to high **tendency to food rationing**, of which 2% have a poor consumption, 2% a borderline consumption and 8% an acceptable consumption. Fortunately the proportion of households with both **medium to high tendency to food rationing and poor consumption** is very low, but from the food security perspective it is also important to pay attention to the 2% of borderline and 8% of acceptable consumption households who adopt food rationing mechanisms in order to maintain an acceptable level of consumption. Since these households apply with a certain frequency food rationing mechanisms, they can be considered as vulnerable to food insecurity.

The tendency towards **food rationing** is strongly and significantly ( $p < 0.05$ ) associated with food consumption: 17% of the households with poor consumption reported a medium to high tendency to food rationing compared with 13% of the borderline households and 10% of the acceptable consumption households. Similarly, 16% of the asset poor households have a medium to high tendency to rationing food, against 11% and 6% of the asset medium and rich.

Overall, 8.4% of the households benefited from a **support programme** of any type during the 6 months before the survey; only 2.1% received Government food assistance and the same percentage received Government cash transfers. The percentage of households covered by a support programme of any type was significantly higher ( $p < 0.05$ ) in peri-urban areas (10%) than in rural (7%), whereas there is no large difference between rural and urban on food assistance / cash transfers provided by the Government.

In rural settings, households in *Gaza* and *Inhambane* are the most likely to receive **formal assistance**, followed by *Nampula*. In peri-urban areas, households in *Gaza* province are the most likely to be assisted, followed by those in *Sofala* and *Nampula*. Implementation of cash transfers seems to be particularly high in rural *Maputo*, whereas Government food assistance is more present in rural *Gaza*. Countrywide, the **type of assistance** that is most frequently provided is the distribution of mosquito nets (28% of the households reported to have received it), followed by school assistance (materials, food, etc.) (21%), agricultural inputs (18%), seeds (16%), financial and nutrition support (15%).

One of the objectives of the survey was to determine the **levels and geographic distribution of food insecurity** using household level data, analysis was done using the following three key variables from the household data: food consumption score (a measure of current household food security), number of different types of assets (a measure of wealth or ability to access food) and Coping strategies index (a measure of stress on the household, related to food access). Cluster analyses were used to create 4 distinct food security groups, namely Acute food insecurity, Chronic food insecurity, Food Secure and Better-off.

The households with **Acute food insecurity** are characterised by having 4 persons on average, most likely to be headed by a woman (32%) or an elderly person (22%), to have a disabled member (15%)

or chronically ill member (8%). They are also the most likely to have experienced the recent death of a household member (6%). Seventeen percent of the households are hosting orphans which is not different from the other groups. About half the households have access to drinking water from improved sources while only 7% have adequate sanitation. Only 84% of these households have access to arable land while 65% live in rural areas. Just over half own any livestock. More than 40% of the households are asset poor while 46% of their monthly expenditure is for food, the highest of all groups. Only 9% are receiving assistance through a programme. Nearly 20% of the households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the highest of all groups. The main shocks reported were Poor/irregular rainfall (45%), Theft or loss of assets (19%), High price of inputs (15%) and Wild animal attacks (11%).

The households with **Chronic food insecurity** are characterised by having 4 persons on average. Only 12% are headed by a woman and 20% headed by an elderly person, the second highest of all groups. Eleven percent have a disabled member, 5% have a chronically ill member and only 4% have experienced the recent death of a member. Seventeen percent are hosting orphans. Less than half of these households access drinking water from improved sources, the lowest of all groups while only 7% have adequate sanitation. Around 93% of these households have access to arable land while 68% live in rural areas, the highest of all groups for both. While more than 60% own any livestock more than 40% of the households are asset poor and 45% of their monthly expenditure is for food, the second highest of all groups. Only 6% are receiving assistance through a programme which is the lowest of all groups. Ten percent of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups. The main shocks reported were Poor/irregular rainfall (45%), Death of a family member (16%), Wild animal attacks (14%) and chronic illness of HH member (14%).

The **income activity** group that has the highest percentage of **acutely** food insecure households is the *Assisted households* group (54%), followed by the *Casual labourers* (36%) and *Fishermen* (35%) groups. The group with the highest percentage of **chronically** food insecure is the *Casual labourers* group (43%), followed by *Skilled traders* (41%) and the *Food crop farmers* (39%) groups. Overall, only 14% of the *Assisted households* group are food secure, followed by only 21% of the *Casual labourers* group.

On **Health and Nutrition** the results of the 2008 Multiple Indicator Cluster Survey (MICS) were used which are representative at provincial level. The levels of **mortality in children** continue to decrease when compared to the 1997 and 2003 DHS. By province the child mortality rate is highest in *Zambézia* (205/1,000 live births), followed by *Cabo Delgado* (180), *Tete* (174) and *Gaza* (165). It is slightly lower in *Manica* (154) and *Nampula* (140) provinces and lowest in *Niassa* (123), *Inhambane* (117) and *Maputo* (108) provinces. Although cause of death is not recorded in this survey, it is likely that the elevated levels in *Gaza* province may be a result of the higher rate of HIV infection in the province and movement of people between South Africa and Mozambique.

In terms of **recent morbidity**, the MICS found that 18% of the children had experienced diarrhoea at least once in the two weeks prior to the survey which was higher than 14% in the 2003 DHS. The highest prevalence was found among children in *Nampula* (23%) and the lowest in *Niassa* (13%). Nearly one-quarter of the children had experienced fever in the two weeks prior to the survey, down from 27% in 2003. The CFSVA survey measured recent fever and found that 33% of the children < 5 years of age had experienced fever in the previous two weeks ranging from a high of 61% in *Cabo Delgado*, to a low of 16% in *Manica*. Reported fever was higher amongst children in urban areas except in *Maputo*, *Inhambane* and *Manica* where it was higher amongst children in rural areas and in *Nampula* where there was no difference between areas.

The 2008 MICS found that there have been some improvements in the **prevalence of malnutrition** over the past five years, with acute malnutrition or wasting, decreasing from 5% in 2003 to 4% in 2008. The prevalence of chronic malnutrition or stunting has decreased from 48% in 2003 to 44% in 2008, which is quite a remarkable improvement. Lastly, the prevalence of underweight has also decreased from 20% to 18% during the same time period.

However, by province, there are still areas where the prevalence of malnutrition is still unacceptable. The highest prevalence of stunting is found in *Cabo Delgado* province where more than 55% of the children are chronically malnourished. More than half the children in *Nampula* province are stunted. The levels of chronic malnutrition decrease from north to south and are lowest in *Maputo* province and city. Similarly the prevalence of underweight in young children is highest among children in the

northern provinces of *Nampula* and *Cabo Delgado* and are lowest in the southern provinces of *Gaza* and *Maputo/Maputo city*.

Factors that may influence the north-south differential in malnutrition could include maternal health and well-being, feeding practices such as exclusive and extended breastfeeding and the consumption of tubers rather than maize. Additional factors could include access and utilisation of ante-natal care and children's access to timely and appropriate immunisations and other neo-natal care. **Acute malnutrition** is highest among children in *Nampula* province, followed by *Niassa*, as illustrated in the chart below. For the rest of the provinces, the prevalence is less than five percent which is considered acceptable.

The MICS also assessed the coverage of **vitamin A supplementation** programmes as well as the household use of adequately iodised salt. Vitamin A coverage was best in *Manica* province, followed by *Sofala* and *Inhambane* and was the worst in *Tete* and *Zambézia* where less than two-thirds of children 6-59 months received a vitamin A capsule. Use of adequately **iodised salt** varied greatly across the country, being extremely low in *Nampula*, *Cabo Delgado* and *Zambézia* and quite high in *Gaza* province. There are a lot of small scale local salt producers in the coastal areas and most do not have equipment or expertise to produce iodised salt despite efforts of the Government. The high levels in *Gaza* could be a reflection of their access to salt from South Africa.

In Mozambique, **HIV prevalence** is one of the highest in the world. In 2007, prevalence among adults (15-49) was estimated at 16% using data collected at the clinics. The recent "National survey on the prevalence, risks, behaviours and information on HIV and AIDS in Mozambique" (INSIDA, 2009) included the collection of blood samples on a subset of women and men in reproductive age (15-49) thus offering a more accurate estimate of HIV prevalence at national and provincial level. According to the 2009 data, HIV prevalence is at 11.5% countrywide. By age, there are differences in HIV prevalence between women and men. In general, the prevalence of infection increases with age for both groups, but for women, it peaks in the 25-29 year age group (16.8%) and for men, not until the 35-39 years age group (14.2%). For the 50-54 year age group, 12.7% of women are infected compared to 10.6% of men.

There are quite substantial differences in infection prevalence by Province, even between sexes. In general infection is lower in the Northern provinces and increases as one moves south. The report states that women in *Gaza* province are the most likely to be infected of all groups in Mozambique (30% are infected).

**Maize price fluctuations** in Mozambique are mainly influenced by the production that highly depends on rainfall. Prices generally start decreasing around harvest period, from February- March and the minimum prices occur in May. From July the prices start increasing and reaching the highest price in January-February.

The households with low income and low cereal production are the most affected people, having difficult access to food mainly during the lean season period of October- February, when there is more supply than demand.

Considering the prices collected in between June and July 2009 by SIMA/MINAG, the average cost of a **basic food basket** for a household with 5 members is 6.380,00 Mts/month for those who buy industrially processed maize flour and 5.556,00 Mts/month for those who consume maize grain from their own production or buy maize grain on the market and take it to small mills. The cost of basic food basket varied a lot between the provinces. The provinces where the basic food basket is the most expensive are *Niassa* and *Tete*. The high food prices in 2007-2008 caused the highest increase of cost of food basket in all provinces except in *Nampula* province, where the highest variation occurred in 2006-2007.

Since 2004, data on **informal cross border food trade** has been collected through a regional joint project of WFP and FEWSNet. Mozambique is the main informal exporter of maize compared to other neighbor countries. In 2008-09 Mozambique represented 56 % of the total informal maize export share of the region, followed by Zambia (34 percent), Malawi (7 percent) and Tanzania (3 percent).

The main **recommendations** were taken from the WFP Country Office consultations with Government and partners, and also using qualitative and contextual data plus perceptions from program implementers at the district and community level. The interventions recommended to minimize the impact of the main causes of food insecurity and malnutrition in Mozambique (identified

as natural disasters, high food prices, food habits/ consumption of poor nutritional foods, practices of food security and nutrition, seasonality of food, availability of nutritive food and prices and dependency on rain fed agriculture/ climate variability) includes training at all levels (health, nutrition and hygiene education), dissemination of good practices in agriculture, livestock and nutrition (introduction of new crops, sanitation practices, kitchen demonstrations, use high nutritious foods, better water management, conservation and drainage for use in agriculture and other, dissemination of native plants that helps the reduction of hunger and malnutrition, soil conservation techniques, use of improved pos harvest technologies, dissemination of better varieties), increase support to vulnerable groups (children, pregnant and lactating women, HIV affected and infected, chronically ill,), establish and improve early warning and monitoring systems and capacity for Risk Analysis, support the production and distribution of fortified products and food supplement, support the creation of community assets to increase the household income, increase local purchase in surplus areas, support the promotion of farmers associations and provide humanitarian assistance when needed.

## ACKNOWLEDGEMENTS

The Mozambique Comprehensive Food Security and Vulnerability Analysis (CFSVA) used primary data from the Vulnerability Analysis (VA) assessment carried out during the period of May- October 2009, with the fieldwork conducted in August - September 2009. The VA exercise was coordinated by the multi-sectoral Vulnerability Assessment Group (GAV) of the National Secretariat for Food Security and Nutrition (SETSAN) with technical assistance from WFP and other UN and International Agencies and NGOs. WFP was also involved in the preparation of the tools, data analysis and reporting, having the opportunity to include in the tools the additional questions related to CFSVA besides the questions for vulnerability analysis.

Additional analysis of this data was done for the CFSVA report.

WFP wishes to express its appreciation to eng Marcela Libombo, SETSAN coordinator, and her staff, at Central and Provincial levels, for their support during this entire exercise.

# TABLE OF CONTENTS

<b>1. INTRODUCTION</b>	<b>19</b>
1.1. COUNTRY CONTEXT	19
1.2. POLITICAL AND ECONOMIC BACKGROUND	20
1.3. POLICIES AND TRENDS	20
1.3.1. National Policies	20
1.3.2. Institutional Coordination	22
1.4. SCOPE OF THE REPORT	22
1.4.1. Background	22
1.4.2. Approach	22
1.4.3. Analytical Framework	23
1.4.4. Key concepts	23
<b>2. SURVEY METHODOLOGY</b>	<b>25</b>
2.1. SAMPLING	25
2.2. INSTRUMENTS	25
<b>3. HUMAN AND SOCIAL CAPITAL</b>	<b>26</b>
3.1. DEMOGRAPHICS	26
3.1.1. Household population by age and sex	26
3.1.2. Household composition	26
3.1.3. Household Headship	27
3.2. EDUCATION	28
3.3. HEALTH	31
3.3.1. Chronic illness and Disability	31
3.3.2. Orphans	32
3.3.3. Death of household member	33
3.4. SUMMARY	34
<b>4. PHYSICAL CAPITAL</b>	<b>36</b>
4.1. HOUSING STRUCTURE AND FACILITIES	36
4.2. ASSET OWNERSHIP AND ASSET WEALTH CATEGORIES	38
4.3. SUMMARY	40
<b>5. ECONOMIC CAPITAL AND LIVELIHOOD STRATEGIES</b>	<b>41</b>
5.1. LIVELIHOOD ACTIVITIES AND GROUPS	41
5.2. REMITTANCES	44
<b>6. NATURAL CAPITAL</b>	<b>47</b>
6.1. ACCESS TO LAND AND AGRICULTURAL PRODUCTION	47
6.1.1. Access to land	47
6.1.2. Size of area cultivated	48
6.1.3. Harvest: duration of food reserves and main constraints	49
6.1.4. Cultivation trends: changes and reasons	50
6.2. SEEDS	51
6.3. POST HARVEST	53
6.4. PROCESS: MAIZE MILLING	54
6.5. LIVESTOCK	54
6.6. SUMMARY	56
<b>7. FOOD CONSUMPTION</b>	<b>57</b>
7.1. DIET DIVERSITY AND FOOD SOURCES	57
7.1.1. Composition of diet	57
7.1.2. Food Sources	58
7.2. HOUSEHOLD FOOD CONSUMPTION SCORE	61
7.2.1. Food Consumption Score Methodology	61
7.2.2. Food Consumption Groups (August 2009)	61
7.2.3. Comparison with other studies	64
7.3. MAJOR FACTORS ASSOCIATED WITH FOOD CONSUMPTION	66
7.3.1. Human and Social Capital	66
7.3.2. Food Consumption and Livelihoods	67
7.3.3. Physical, Natural and Economic Capital	67
7.4. CHANGE IN CONSUMPTION AND PURCHASE	68
7.4.1. Change in consumption	68
7.4.2. Changes in quantities purchased	69
<b>8. RISKS AND VULNERABILITY CONTEXT</b>	<b>70</b>
8.1. HAZARDS	70
8.1.1. Floods	70

8.1.2.	<i>Droughts</i> .....	71
8.1.3.	<i>Cyclones</i> .....	72
8.1.4.	<i>Earthquakes</i> .....	72
8.2.	<b>SHOCKS AND RESPONSES</b> .....	73
8.2.1.	<i>Number of shocks</i> .....	73
8.2.2.	<i>Main shocks</i> .....	74
8.3.	<b>COPING STRATEGIES</b> .....	75
8.3.1.	<i>Comparison with other studies</i> .....	77
8.3.2.	<i>Food rationing</i> .....	78
8.4.	<b>ASSISTANCE</b> .....	80
<b>9.</b>	<b>FOOD SECURITY AND VULNERABILITY ANALYSIS</b> .....	<b>83</b>
9.1	– FOOD SECURITY GROUPS .....	83
9.2	– FOOD SECURITY BY PROVINCE .....	84
9.3	– FOOD SECURITY BY INCOME ACTIVITIES .....	85
<b>10.</b>	<b>HEALTH AND NUTRITION</b> .....	<b>86</b>
10.1	MORTALITY .....	86
10.2	MORBIDITY .....	86
10.3	NUTRITION OF YOUNG CHILDREN .....	87
10.4	MICRONUTRIENT INDICATORS .....	88
10.5	HIV AND AIDS .....	89
<b>11.</b>	<b>MARKET ANALYSIS</b> .....	<b>91</b>
11.1.	PRICE ANALYSIS .....	91
11.3	SEASONALITY .....	95
11.4	MARKET SYSTEMS, PRICES AND FLOWS, REGIONAL .....	98
<b>12.</b>	<b>FOOD SECURITY AND VULNERABILITY PROFILES</b> .....	<b>102</b>
<b>13.</b>	<b>CONCLUSIONS</b> .....	<b>106</b>
<b>14.</b>	<b>RECOMMENDATIONS</b> .....	<b>112</b>

## ACRONYMS

AF:	Household ( <i>Agregado Familiar</i> )
AU:	African Union
CAADP:	Comprehensive Africa Agriculture Development Programme
CDC:	Centers for Disease Control and Prevention
CSI:	Coping Strategies Index
DAO:	Delivering As One
DHS:	Demographic and Health Survey
ESAN:	Food Security and Nutrition Strategy
FAO:	Food and Agriculture Organisation
FCS:	Food Consumption Score
FNIS:	Food and Nutrition Insecurity
FNS:	Food and Nutrition Security
FRELIMO:	Liberation Front of Mozambique
GAM:	Global Acute Malnutrition
GAV:	Vulnerability Analysis Committee
HDR:	Human Development Report
HH:	Household
HRAF:	Human Right to Adequate Food
INE:	National Institute of Statistics
IOF:	Household Budget Survey
MDG:	Millennium Development Goal
MIC:	Ministry of Commerce and Industry
MICS:	Multiple Indicator Cluster Survey
MINAG:	Ministry of Agriculture
NCHS:	National Centre for Health Statistics
NEPAD:	The New Partnership for Africa's Development
NGO:	Non Governmental Organisation
PARPA:	Poverty Reduction Strategy Paper
PDA:	Personal Digital Assistant
PEDSA:	Strategic Plan for the Agriculture Development Sector
PEN:	National Strategic Plan for the Fight against HIV/AIDS
PPS:	Probability Proportional to Size
PQG:	Government's Five-Year Plan
RENAMO:	The Mozambican National Resistance
RGPH:	General Population and Habitation Census
SADC:	Southern African Development Community
SETSAN:	Technical Secretariat for Food Security and Nutrition
SPSS:	Statistical Package for Social Science
TLU:	Tropical Livestock Unit
UN:	United Nations
UNDAF:	United Nations Development Assistance Framework
UNDP:	United Nations Development Programme
UNICEF:	The United Nations Children's Funds
WFP:	World Food Programme
WHO:	World Health Organization



## LIST OF TABLES

Table 4.1: Asset ownership by type of asset and Zone .....	35
Table 5.1: Summary of livelihood profiles .....	38
Table 6.1: Livestock ownership by Province and livelihood groups .....	52
Table 7.1: Contribution of production / purchase by province and livelihood group .....	58
Table 7.2: Food items, groups and weights for calculation of FCS .....	58
Table 7.3: Distribution of weekly consumption (by food group) of the food consumption groups .....	59
Table 7.4: Changes in consumption by Province and livelihood group .....	65
Table 8.1: Assistance by key vulnerable characteristics .....	78
Table 11.1: Informal cross border trade of MAIZE by source and destination country (MT) .....	97

## LIST OF FIGURES

Figure 1.1: Population by province (2007).....	17
Figure 1.2: Food and Nutrition Security Conceptual Framework.....	21
Figure 3.1: Population by age and sex (% of individuals) .....	24
Figure 3.2: Household size by province .....	25
Figure 3.3: Percentage of elderly and female headed households by province .....	25
Figure 3.4: Children's educational status by province (North) .....	26
Figure 3.5: Children's educational status by province (Central) .....	26
Figure 3.6: Children's educational status by province (South) .....	27
Figure 3.7: Educational status of orphans and non-orphans by province (North) .....	27
Figure 3.8: Educational status of orphans and non-orphans by province (Central) .....	28
Figure 3.9: Educational status of orphans and non-orphans by province (South) .....	28
Figure 3.10: Percentage of disabled and chronically ill members by age group .....	29
Figure 3.11: Percentage of households with chronically ill or disabled members by province .....	29
Figure 3.12: Percentage of orphans (boys and girls) by age .....	30
Figure 3.13: Parental status of children 0-17 years by Province .....	30
Figure 3.14: Estimated number of orphans by Province .....	31
Figure 3.15: Age of the recently deceased members by Province .....	31
Figure 3.16: Earning and illness of recently deceased members by Province .....	32
Figure 4.1: Poor quality housing by Province and zone .....	33
Figure 4.2: Time to collect drinking water in dry season, by Province .....	33
Figure 4.3: Percentage of households using drinking water from unimproved source by Province and Zone .....	34
Figure 4.4: Percentage of households with poor quality sanitation by Province and Zone .....	35
Figure 4.5: Asset wealth for Peri-urban households by Province .....	36
Figure 4.6: Asset wealth of Rural households by Province .....	37
Figure 5.1-5.3 - % of food crop farmers, casual labourers and salaried HHs by Province .....	40
Figure 5.4: Livelihood groups by Province .....	41
Figure 5.5: % of households receiving remittances in past 12 months, by type and Province .....	41
Figure 5.6: Change in remittances in past 6 months by Province .....	42
Figure 5.7: Percentage of households receiving remittances by livelihood group .....	43
Figure 6.1: Percentage of households with access to arable land, by Province and Zone .....	44
Figure 6.2: Location of farming land by Province .....	45
Figure 6.3: Size of area cultivated by Province .....	45
Figure 6.4: Reasons for not accessing enough land by Province and Zone .....	46
Figure 6.5: Duration of harvest by Province .....	47
Figure 6.6: Percentage of households cultivating less in the current season .....	48
Figure 6.7: Source of seeds for main crops .....	49
Figure 6.8 – 6.13: Percentage of HHs buying maize, beans, rice, sorghum, millet and potato seeds .....	49
Figure 6.14: Harvest conservation by province .....	50
Figure 6.15: Maize milling by Province and Zone .....	51
Figure 7.1: Number of days foods consumed per week – Northern Provinces .....	54
Figure 7.2: Number of days foods consumed per week – Central Provinces .....	55
Figure 7.3: Number of days foods consumed per week – Southern Provinces .....	55
Figure 7.4: Sources of foods consumed by consumption group and Zone .....	56
Figure 7.5: Sources of foods consumed in peri-urban zones by Province .....	56

Figure 7.6: Sources of foods consumed in rural zones by Province .....	57
Figure 7.7: Main sources for particular food items .....	57
Figure 7.8: Progressive increase in consumption by FCS value .....	59
Figure 7.9: Food consumption categories by Province – Peri-urban Zones .....	60
Figure 7.10: Food consumption categories by Province – Rural Zones .....	60
Figure 7.11: Percentage of households with poor food consumption by Province .....	61
Figure 7.12: Trends of poor and borderline consumption .....	61
Figure 7.13: Critical areas according to the FCS (2005-09) .....	62
Figure 7.14: Comparison of percentage of HH with poor consumption – 2008 to 2009 .....	63
Figure 7.15: Key demographic characteristics by food consumption groups .....	63
Figure 7.16: Food consumption groups by Livelihood profiles .....	64
Figure 7.17: Consumption groups by asset wealth .....	65
Figure 7.18: Food availability on the market .....	66
Figure 8.1: Flood Prone Areas .....	67
Figure 8.2: Drought affected areas (2005-08) .....	68
Figure 8.3: Cyclone frequency (2000-08) .....	69
Figure 8.4: Earthquake vulnerable areas .....	69
Figure 8.5: Main shocks by Province (all households) .....	70
Figure 8.6: Households reporting shocks and the mean CSI by Province (peri-urban zone) .....	72
Figure 8.7: Households reporting shocks and the mean CSI by Province (rural zones) .....	72
Figure 8.8: Households reporting shocks and the mean CSI by Livelihood group .....	73
Figure 8.9: CSI trend analysis by beneficiary status .....	73
Figure 8.10: Critical areas according to the CSI (2004-09) .....	74
Figure 8.11: Medium to high rationing households by food consumption group and Province .....	75
Figure 8.12: Medium to high rationing households by food consumption group and Livelihood .....	76
Figure 8.13: Assistance by type and Province (rural zones) .....	77
Figure 8.14: Assistance by type and Province (peri-urban zones) .....	77
Figure 9.1: Food security groups by Province .....	81
Figure 9.2: Food security groups by income activities .....	81
Figure 10.1: Trends in Under five and Infant Mortality, by domain .....	82
Figure 10.2: Two-week period prevalence of Fever in Children < 5 years of age .....	83
Figure 10.3: Stunting and Underweight in Children < 5 years by Province .....	83
Figure 10.4: Wasting and Low birth weight by Province .....	84
Figure 10.5: Micronutrient indicators by Province .....	85
Figure 10.6: Prevalence of HIV by residence .....	85
Figure 10.7: Prevalence of HIV by Province – Women and men aged 15-49 years .....	86
Figure 11.1: Trends of the Basic Food Basket for Central Region (2004-2009) .....	87
Figure 11.2: Trends of the Basic Food Basket for Northern Region (2004-2009) .....	88
Figure 11.3: Trends of the Basic Food Basket for Southern Region (2004-2009) .....	88
Figure 11.4: Costs of a household basic food basket .....	89
Figure 11.5: Cost variation of the basic food basket without fruits and vegetables in November .....	90
Figure 11.6: Cost variation of the basic food basket without fruits and vegetables in November by Province .....	90
Figure 11.7: Comparative analysis of changes of cereal production by region .....	91
Figure 11.8: Maize prices in Massinga – Southern region .....	92
Figure 11.9: Maize prices in Gorongosa – Central region .....	92
Figure 11.10: Maize prices in Manica – Central region .....	93
Figure 11.11: Maize prices in Nampula – Northern region .....	93
Figure 11.12: Maize prices in Pemba – Northern region .....	94
Figure 11.13: Maize prices Lichinga – Northern region .....	94
Figure 11.14: Informal exports of maize by country, year and month .....	95
Figure 11.15: Trends in informal flows of maize out of Mozambique .....	95
Figure 11.16: Trends in informal flows of maize into Mozambique .....	96
Figure 11.17: Informal exports of maize from Mozambique to Malawi .....	96
Figure 11.18: Maize retail prices in selected border points (US\$ cents per kg) .....	97

# 1. INTRODUCTION

## 1.1. COUNTRY CONTEXT

Mozambique covers a land area of about 800 thousand sq. km, with a long and flat coast, a total population of 20.226.296 people<sup>2</sup>, and a population growth rate of 2.4% per year.

Mozambique is classified as low-income, food-deficit country<sup>3</sup>. In the 2009 HDR it was ranked 172<sup>nd</sup> out of 182 countries<sup>4</sup>. It is considered to be one of the poorest in the world, with 54% of the population below the national poverty line, 63% of rural children in absolute poverty, and life expectancy estimated at 47.1 years for men and 51.8 years for women<sup>5</sup>.

Mozambique is prone to a wide range of natural disasters that regularly cause serious damages and set back the economic growth. The devastating floods of 2000 and 2001 and the drought of 2002 and 2003 are examples of this vulnerability.

The country faces a yearly food deficit of about 500,000 MT in cereal equivalent after commercial imports and food assistance<sup>6</sup>. The population continues facing undesirable levels of chronic vulnerability and food insecurity. Country's development is hindered by lack of human-resource capacity which is, in turn, stimulated by HIV and AIDS and low enrolment/completion rates in the higher levels of primary school.

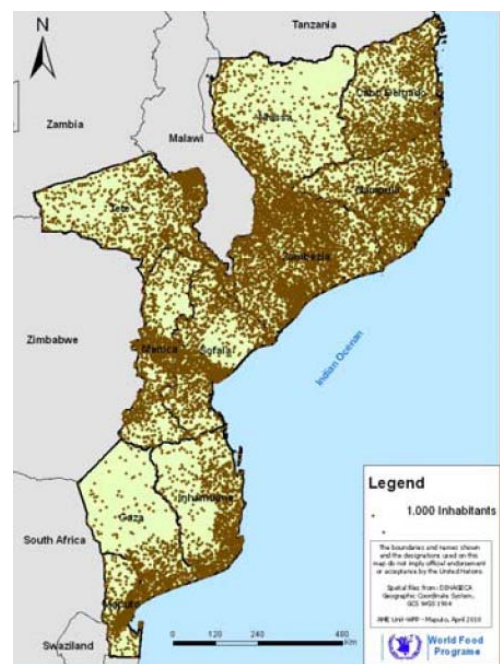
HIV and AIDS fuel vulnerability by attacking people's lives and livelihoods and undermining development gains. The country has an HIV infection prevalence of 16% and counts more than 1.8 million orphans, of which 510,000 are due to HIV and AIDS. Due to the scale and severity of the pandemic, the number of orphans has increased in the past years. School enrolment rate is at 95% for the first levels of primary education, but it drops to 13% in 6<sup>th</sup> and 7<sup>th</sup> grades. The completion rate is 76% for grades from 1 to 5, but decreases sharply in grades 6 and 7 - in particular, down to 31% in urban areas and only 7% in rural areas.

Unfavourable climatic conditions, economic shocks (i.e., increasing prices of staples, reduced employment opportunities and growing poverty) exacerbate the situation by negatively affecting the households' resources, thus reducing the ability to access sufficient food and income in a sustainable fashion. This complex scenario, combined with the decreased resiliency of poor households to shocks due to the exhausted resources, demands attention in vulnerability and food security assessment and monitoring in order to recognise and address them in time to avert a humanitarian crisis within the country.

Although children's nutritional status has improved in the country as a whole, there are still significant problems; especially in North where high levels of chronic malnutrition are a reflection of poor access to services (i.e. water and sanitation facilities, health care and immunisation), inappropriate feeding practices and low levels of maternal education.

Despite all these challenges, the country has high potentialities: large quantities of under-used fertile land, a long coastline rich of opportunities for fisheries, tourism and trade, and a geographic location that comprises three vital transport corridors. Over the last ten years, macro-economic indicators have shown significant improvements in economic growth complemented by advances in human and

**Figure 1.1: Population by province (2007)**



<sup>2</sup> Source: 2007 CENSUS

<sup>3</sup> Source: 2009 FAO classification

<sup>4</sup> Source: 2008/9 United Nations Development Programme (UNDP) Human Development Report

<sup>5</sup> Source: INE 2008

<sup>6</sup> Source: Food Balance, MINAG/ MIC

social development. Lastly, the Government's tight control of spending combined with financial sector reform, successfully reduced inflation from 70% in 1994 to less than 5% in 1998-1999, and IMF indicated an economic growth of 6.2% in 2009, slightly over 2008.

## 1.2. POLITICAL AND ECONOMIC BACKGROUND

Mozambique is a constitutional democracy and the country has benefited from political stability since the end of the civil war. These factors have facilitated the economic growth and the reduction of the number of people living below the poverty line.

Since December 1999, The Mozambican Council of Ministers approved the Southern African Development Community (SADC) Trade Protocol with the purpose of creating a free trade zone among consumers in the SADC region. The actual implementation of the Protocol began in 2002 and its target is to have an overall zero-tariff within the region by 2015.

Mozambique benefits from a strong commitment of the international donor community. The down side of this is the creation of a high level of aid dependency, with about 50% of the annual government spending met through external assistance. The economic structure of the country, characterized by a very small formal sector, lacks the broader tax base to effectively reduce the level of aid dependency; this represents a significant challenge for the country. Another consequence of aid is that external assistance introduces a significant demand for coordination and harmonisation of both aid and policies.

Positive milestones in furthering the Paris Declaration Agenda have been recorded in the country, particularly with the advent of the new aid and funding modalities. Predictability of aid flows, however, is still low, especially in the medium term. A factor contributing to this unpredictability is the political and legal inability of many donors to commit resources in the mid-to long-run as well as aid conditionality<sup>7</sup>. Unpredictability lowers the ability of the Government to utilise aid effectively as a development resource, and has a potential negative effect on macroeconomic stability in the short run.

## 1.3. POLICIES AND TRENDS

### 1.3.1 National Policies

Issues related to food security have been recognized at different levels and mainstreamed into key government documents:

The **ESAN II** defines Food Security and Nutrition (FSN) as a right of all people, at all times, to have physical, economic and sustainable access to food that is adequate in terms of quantity, quality and acceptance within the cultural context, in order to satisfy their needs and food preferences, for a healthy and active life. It acknowledges the following pillars of FSN:

- Sufficient Production and Availability of food for consumption
- Better physical and economic Access to food
- Appropriate Use and Utilization of food;
- Adequacy (so that food is socially, environmentally and culturally acceptable), including the absorption of nutrients by the body
- Stability of food consumption across the time.

The ESAN II considers Food as a Human Right (HRAF) and has set a list of indicators and targets for 2015. The HRAF includes the following dimensions:

- i) *Respect* – it means that the State should not, by means of laws, public policies or actions, block or hamper the realization of human rights and it should create mechanisms to restore these rights.
- ii) *Protect* – it means that the State must guarantee to the inhabitants of its territory against actions of third parties, among who are companies, organizations or individuals who violate human rights.

---

<sup>7</sup> Source: UNDP 2009

- iii) *Promote* – it means that the State should engage proactively in activities aimed at strengthening people’s access to resources, means and their utilization, with a view to guaranteeing their human rights.
- iv) *Provide for* – it refers to the obligation of the State to guarantee food, adequate housing and education.

The Poverty Reduction Strategy Paper or **PARPA II** (2006-2009) considers FSN as a cross-cutting issue to be integrated into various policies and strategies of the Governmental sectors. Sector policies are complementary and stress the importance of fighting absolute poverty and, in turn, FNIS. PARPA II has specific FSN indicators and considers the HRAF as an approach to be adopted in the country.

The **PEN III** (National Strategic Plan for the Fight against HIV/ AIDS) 2010-14, aims at reducing the number of new HIV infections, improving the well being of people living with HIV/AIDS and limiting the impact of the pandemic on national development. It highlights the need for the multi-sectoral approach; results based management; and the respect for the socio-cultural context. The strategic components are: risk and vulnerability reduction; prevention; care and treatment and impact mitigation.

**The Plano Quinquenal do Governo, or PQG** includes food and nutritional security as one of its cross-cutting issue. In order to combat hunger and acute / chronic malnutrition, it suggests the following key strategies: i) increment the food availability in quantity and quality to cover population’s caloric needs; ii) promote capacity development to increase household’s ability to access food; iii) promote the correct use and utilisation of food.

The Strategic Plan for the Agriculture Development Sector (**PEDSA 2010-2019**) identifies the following priorities: Food security and nutrition; national production competitiveness and increase of farmers’ income, and a sustainable use of natural resources and environmental protection. As a result it sets the following objectives:

- i) Increase food production
- ii) Increase production for the market
- iii) Increase competitiveness of farmers
- iv) Sustainable use of soils, water and forests
- v) Institutional development

The NEPAD vision aims at promoting African-led accelerated growth and sustainable development, eradicating poverty and food insecurity. The specific agenda for agricultural development was endorsed by the Heads of State and government, as the **Comprehensive Africa Agriculture Development Programme (CAADP)** (the AU Maputo Decision, June 2003, Maputo, Mozambique). CAADP responds to Africa’s critical need for positive, sustainable growth in the agricultural sector. It represents Africa’s framework for bringing about the required institutional and policy reforms and greater levels of investment that will drive the agricultural sectors towards its productivity growth targets. The CAADP framework comprises a set of targets defined and agreed collectively at all levels:

- improved the productivity of agriculture to attain an average annual production growth rate of 6%, with particular attention to small-scale farmers, especially women;
- dynamic agricultural markets within countries and between regions;
- integrated farmers into the market economy, with improved access to markets that enable Africa to become a net exporter of agricultural products based on its comparative and competitive advantage;

The UN system in Mozambique supports the Government through a formalized **UN Development Assistance Framework (UNDAF)**, a plan that outlines the activities and modalities by which the UN assists in the achievement of development goals prioritized by the Government. As detailed in the current UNDAF (2007-2011), the UN is expediting the implementation of the UN Reforms, a variety Joint Programming modalities and the Paris Declaration on Aid Effectiveness. The draft UNDAF recognizes the UN goal for 2011-2014 as “Reduced poverty and disparities leading to improved human development of Mozambicans particularly the most vulnerable”. The main areas of focus are: Social Services/ Social Protection Governance; HIV/AIDS; Environment/Climate Change; Empowerment of Women and girls; Food Security and Nutrition;

The **First Millennium Development Goal (MDG I)** “Eradicate extreme poverty and hunger” is the one most closely linked to food security and nutrition. It proposes two main targets: i) Reduce by half the proportion of people living in absolute poverty by 2015; and ii) reduce by half the proportion of people suffering from hunger by 2015. In Mozambique, poverty rate decreased from 69% in 1996/97 to 54% in 2002/03 (source: IAF, 2002/03).

### 1.3.2. Institutional Coordination

According to the Resolution 16/98 of 23 of December the institutional coordination of the Food Security and Nutrition arena is ensured through SETSAN. The SETSAN is a multi-sectoral body that works under the Ministry of Agriculture. It comprises 10 government ministries, UN agencies and NGOs. Recent evaluations reported that institutional framework underestimated FSN issues, limiting advocacy, human and financial resources allocations, and decentralization. So far, coordination has been well taken, but require further strengthening, increased participation of civil society. Activity planning has been challenging particularly on the links and communication with provincial level.

## 1.4. SCOPE OF THE REPORT

### 1.4.1 Background

Policies, strategies and programmes for the most vulnerable groups constitute an essential element to support and build resilience of the vulnerable groups. The availability of vulnerability data is essential in order to assist and inform decision makers and particularly government, civil society and development partners. Within this context, in Mozambique, national-level surveys are conducted to provide statistics that are representative at national and provincial level. In particular:

The National Institute of Statistics (INE) in coordination with UNICEF conducted a Multiple Indicator Cluster Survey (MICS) in late 2008 that provides information on demographics, health, nutrition, education, water and sanitation, and mortality. It is also currently undertaking the IOF (*Inquérito ao Orçamento Familiar*- Households Budget Survey), that will provide information on household income and expenditures. Both surveys provide data at national level and provincial level.

The Technical Secretariat for Food Security and Nutrition (SETSAN) through the Vulnerability Analysis Committee (GAV) periodically (i.e. every 3-5 years) leads comprehensive vulnerability surveys to inform decision makers about the current food security and nutrition situation. A Food Security and Nutrition baseline survey was conducted late 2006 (6,763 household interviews). Follow up surveys were conducted in May 2007 and May 2008, with each covering around 3,700 households.

The latest follow up survey on Food Security and Nutrition was conducted in August 2009, covering just over 4,000 households and providing representative results at provincial and national level. Main findings of the assessment are reported in the “*Relatorio da Monitoria da Situacao de Seguranca Alimentar e Nutricional em Mocambique*” (SETSAN, 2009).

WFP Mozambique is currently designing its Country Strategy Document (CSD) which outlines WFP’s contribution to the Government efforts to reduce hunger, food insecurity and malnutrition. This CFSVA report aims at providing more specific information on food security and vulnerability to facilitate the CSD preparation. The report builds on the *Relatorio da Monitoria da Situacao de Seguranca Alimentar e Nutricional em Mocambique (2009)*, and include specific data on:

1. The number of food insecure and vulnerable people in the country (how many are they?)
2. The geographical distribution of the food insecure and vulnerable people (where are they?)
3. The characteristics of the food insecure and vulnerable groups (who are they?)
4. Driving forces of food insecurity and vulnerability (why are they food insecure?)
5. Their capacity to absorb shocks (resiliency)

### 1.4.2. Approach

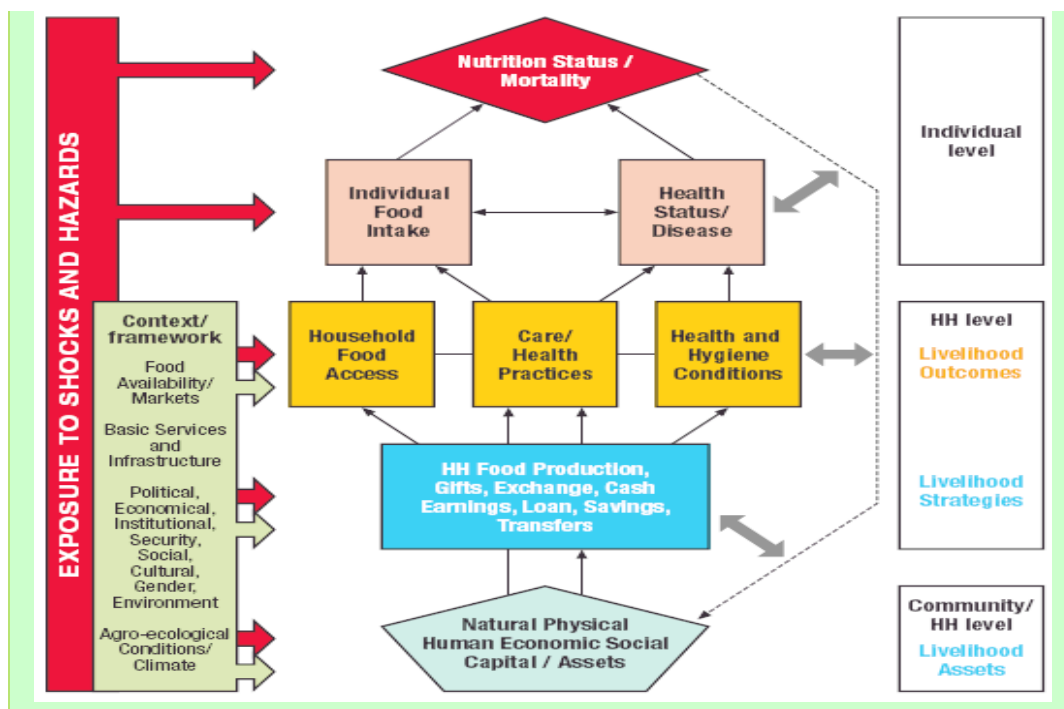
As mentioned above, the present report builds on findings reported in the *Relatorio da Monitoria da Situacao de Seguranca Alimentar e Nutricional em Mocambique* (SETSAN, 2009) and include additional findings from a literature review and secondary data analysis of the key factors affecting food security, as well as the primary data provided by SETSAN/ VAC regarding the August 2009 assessment.

The secondary data review included: the National Population Census (2007), the Demographic and Health Survey (DHS, 2003), the Multiple Indicator Cluster Survey (MICS, 2008). Key studies and research papers were also consulted as well as data collected on an annual basis (precipitation/rainfall, price data and crop production, satellite imagery, GIS).

### 1.4.3. Analytical Framework

The report follows the logic of the Food and Nutrition Security Conceptual Framework as shown in Figure I below. First the human, social, natural, physical and economic capitals are presented, including a discussion of livelihood strategies. Next, food consumption and nutrition data are examined. The different components are analyzed to identify the key issues related to food insecurity and malnutrition.

Figure I.2: Food and Nutrition Security Conceptual Framework



### 1.4.4. Key concepts

**Food security** exists when “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”.<sup>8</sup> Food security is understood as a multidimensional function of:

1. **Food availability:** the amount of food physically available to a household (micro level) or in the area of concern (macro level) through all forms of domestic production, commercial imports, reserves and food aid;
2. **Food access:** the physical (road network, market) and economic ability (own production, exchange, purchase) of a household to acquire adequate amounts of food; and
3. **Food utilization:** the intra-household use of the food and the individual’s ability to absorb and use nutrients (function of health status).

The three dimensions (availability, access and utilization) correspond to three of the five pillars promoted by the ESAN II. In addition, the ESAN II promotes the issue of adequacy (social, cultural environmental and physical) and stability of consumption across the time. Even if these two concepts are not clearly visible in the framework they are considered in the actual analysis, especially by looking at the sustainability of the livelihood strategies.

<sup>8</sup> World Food Summit, 1996.

Food security is an outcome of the livelihood strategies adopted by households. A **livelihood strategy** is an organized set of lifestyle choices, goals, values, and activities influenced by biophysical, political, economic, social, cultural and psychological components. In simple terms, livelihood strategies are the behavioural strategies and choices adopted by people to make a living (including how people access food; earn income; allocate labour, land and resources; their patterns of expenditure; the way they manage and preserve assets; how they respond to shocks; and the coping strategies they adopt).

Livelihood strategies are based upon the **assets** or capital available to households, which include human, social, natural, physical and financial resources. A livelihood strategy is **sustainable** when “it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.”<sup>9</sup>

---

<sup>9</sup> DFID, 1999. *Sustainable Livelihoods Guidance Sheet*. Department for International Development.



## 2. SURVEY METHODOLOGY

### 2.1. SAMPLING

The sampling was drawn to provide estimates on a set of food and nutritional security indicators at national, peri-urban/rural and provincial levels, with the exemption of the provincial capitals and all large towns which were excluded from the survey.

The survey was based on a stratified and multi-stage sample. It was done in two stages: i) in each province (except in *Nampula* and *Zambézia*), 40 census enumeration areas were selected with probability proportional to population size (PPS). In *Nampula* and *Zambézia*, 60 census enumeration areas were selected, owing to the greater contribution of their populations to the country's total; ii) subsequently a list of households (AFs) was made in each selected enumeration areas, and a systematic sampling of 12 AFs in peri-urban areas and of 9 AFs in rural areas was made. The list of the enumeration areas and of cartographic material was provided by the General Population and Habitation Census III (III RGPH).

The survey covered 97% of the sampled enumeration areas as few areas were not reachable during the field work. In addition, 4.113 of the 4.521 sampled AFs were successfully interviewed (corresponding to a response rate of 91%). Given that the major source of sample error is linked to the enumeration areas covered, it was necessary to adjust the final weights, especially for the provinces of the southern region. There was a final weight adjustment of 9.8% for *Inhambane*, 6.2% for *Gaza* and 3.5% for *Maputo* Province. In the other provinces adjustments remained below 1.7%. In each province, the sample was stratified at urban / rural level and is self-weighted. For the computation of national level estimates, adjustment weights were used.

### 2.2. INSTRUMENTS

Three instruments were used for primary data collection: a household questionnaire administered to randomly selected households; a community questionnaire; and focus group discussions. All the questionnaires were developed in Portuguese.

The **household questionnaire** was composed mainly of questions with response options provided by enumerators.<sup>10</sup> The instrument focused on: (1) demographics; (2) housing and facilities; (3) agricultural production and management; (4) maize storage, (5) household market behaviours, (6) livelihood activities, (7) productive/non-productive assets; (8) expenditures; (9) food sources and consumption; and (10) shocks and coping strategies. The demographic section included an individual roster to better explore the food security and vulnerability of chronically ill individuals and orphans. Anthropometric indicators were not collected because recent data on malnutrition were available from the 2008 MICS.

The **Community questionnaire** focused on population, natural disaster and land access, vulnerable groups/assistance, poverty and food insecurity, agriculture, market and prices, health and nutrition, infrastructures (water, electric network, etc.), education and priorities for the community.

**Focus group discussions** collected information on household perception on socio-economic change; availability and utilization of community funds; education; health; nutrition and access to improved water.

Data collection began at the end of August / beginning of September, and took approximately 20 days to be completed. For some teams the field work took longer due to access constraints. Data was collected with PDAs and imported in SPSS (Statistical Package for Social Science) for data analysis.

---

<sup>10</sup> The questionnaire included a consent form to protect respondents. Participation was voluntary, and respondents did not receive any money or other compensation for participating.

### 3. HUMAN AND SOCIAL CAPITAL

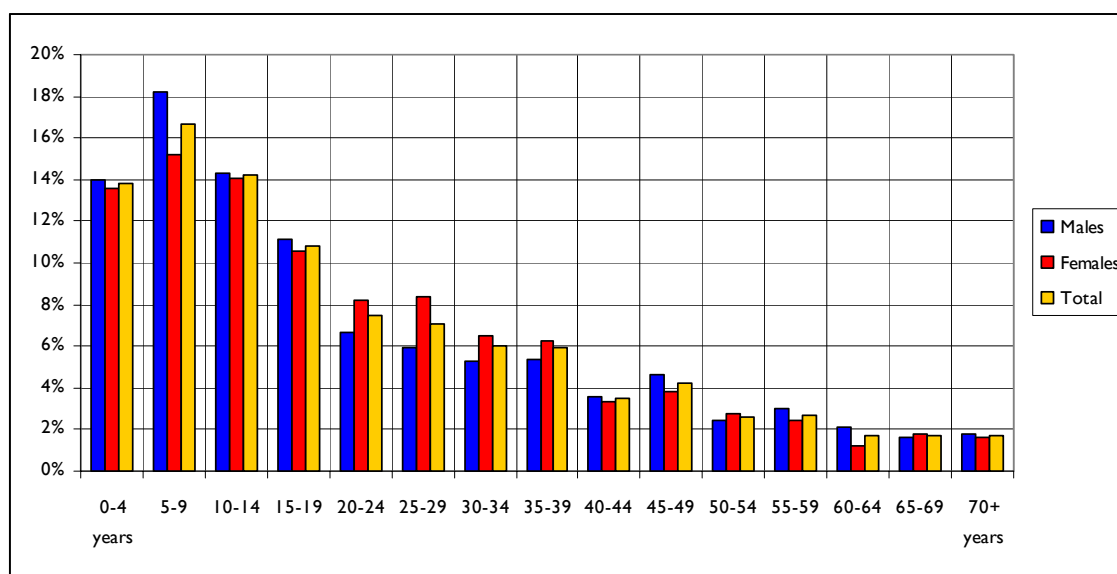
#### 3.1. DEMOGRAPHICS

As mentioned in the chapter above, more than 4,000 households were interviewed. From these households, information from 9,579 males and 9,979 females was collected, relating to health and education.

##### 3.1.1. Household population by age and sex

As indicated in the graph below, most of the members were between the ages of 0 and 14 years, making up about 45% of the population and indicating a very young population in Mozambique. The male to female distribution was skewed towards males in the youngest and 45-49 years age groups and towards females from 20 to 39 years of age. There also tends to be more elderly men than elderly women.

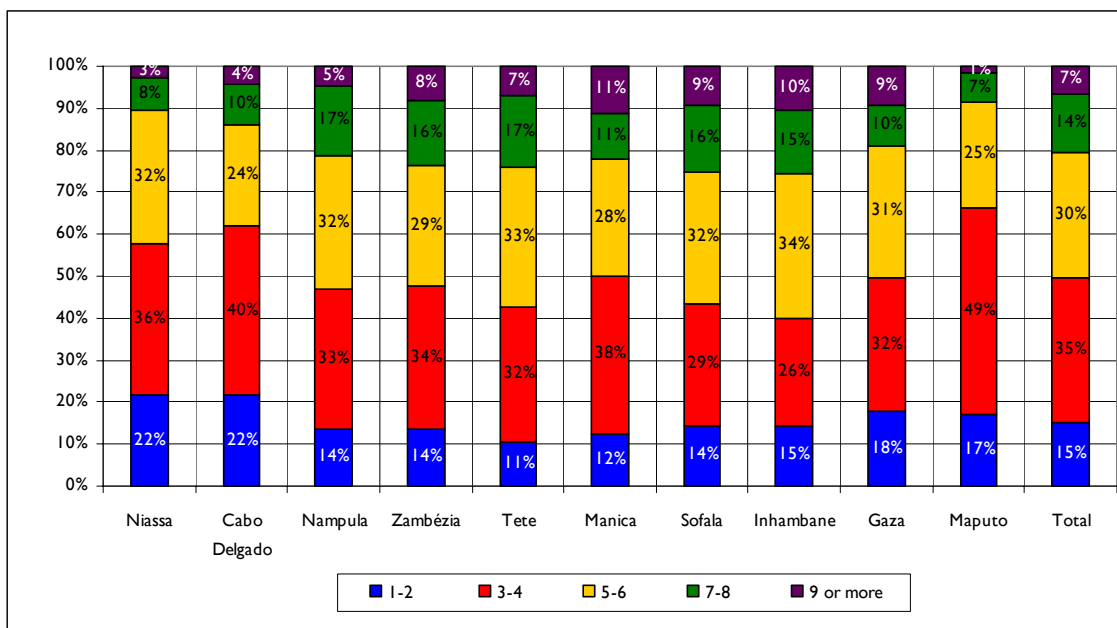
**Figure 3.1: Population by age and sex (% of individuals)**



##### 3.1.2. Household composition

For the sample, the average household size was 4.8 persons and the median was 5 persons. The largest average household size was in *Inhambane* (5.3) while the smallest was in *Maputo* (4.0). The chart below confirms that one-quarter of the households in *Zambézia*, *Sofala* and *Inhambane* had 7 or more members while more than 60% of households in *Cabo Delgado* and *Maputo* provinces had 4 or fewer members. Peri-urban households were larger in *Niassa*, *Nampula*, *Zambézia*, *Inhambane* and *Maputo* provinces but were smaller than rural in *Manica*, *Sofala* and *Gaza* provinces. There were no differences in household size between peri-urban and rural areas for *Cabo Delgado* and *Tete* provinces.

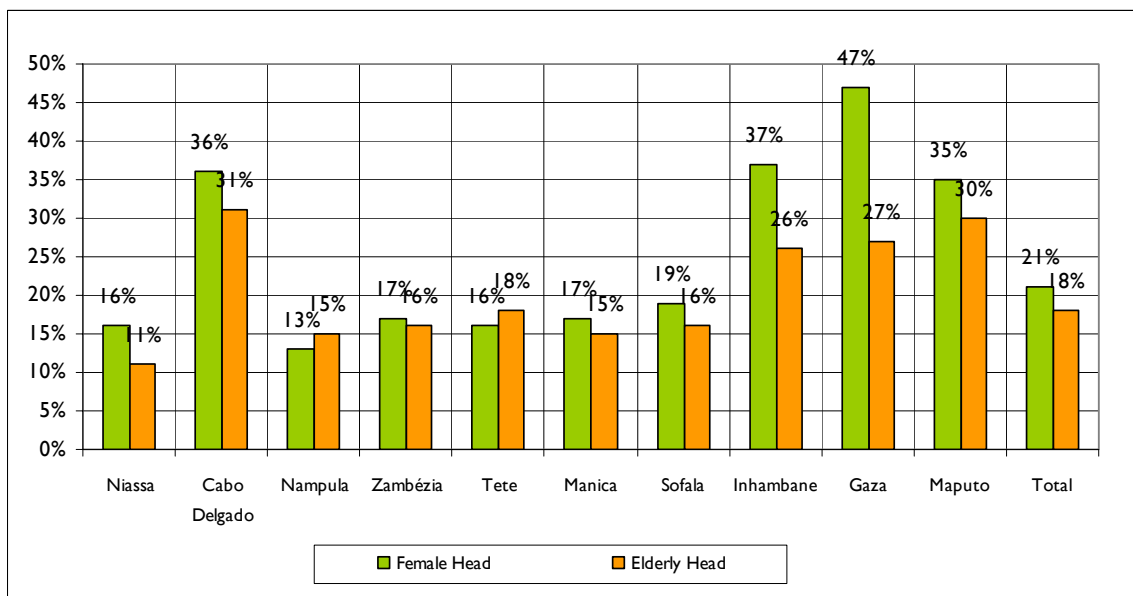
**Figure 3.2: Household size by province**



### 3.1.3. Household Headship

In total, 21% of the households were headed by women and 18% were headed by a person 60 years or older. The chart below shows that the highest percentage of female headed households was found in *Gaza*, followed by *Inhambane* and *Cabo Delgado* provinces while the lowest percentage was found in *Nampula*. Female-headed households were more commonly found in peri-urban areas compared to rural except for *Zambézia*, *Inhambane* and *Maputo* provinces.

**Figure 3.3: Percentage of elderly and female headed households by province**

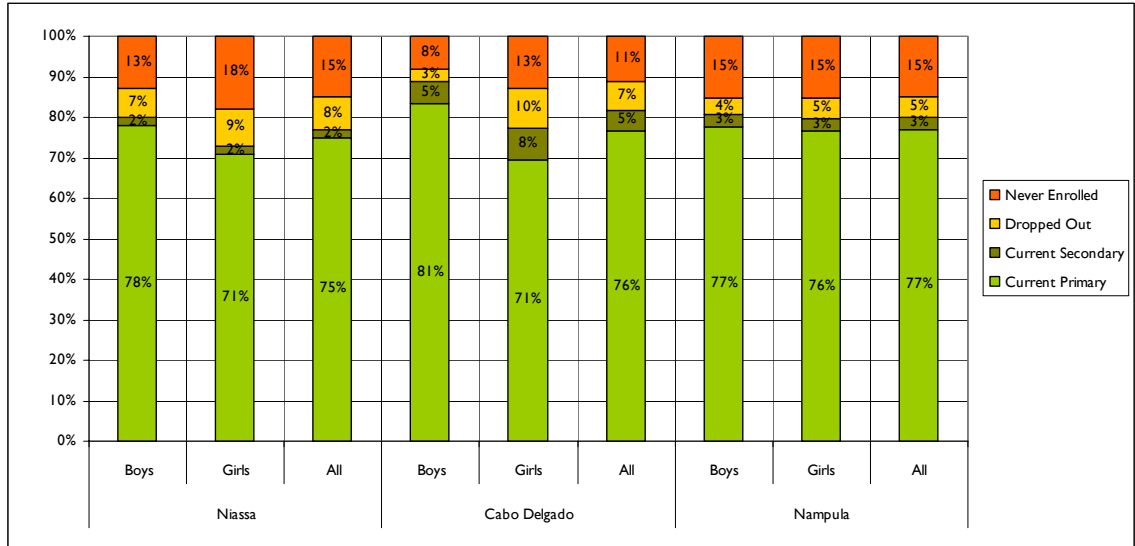


Elderly headed households were most commonly found in *Cabo Delgado* and *Maputo* provinces and least likely to be found in *Niassa* province. Households with an elderly head were more likely to be found in rural areas compared to peri-urban except for *Cabo Delgado*, *Nampula* and *Zambézia* provinces.

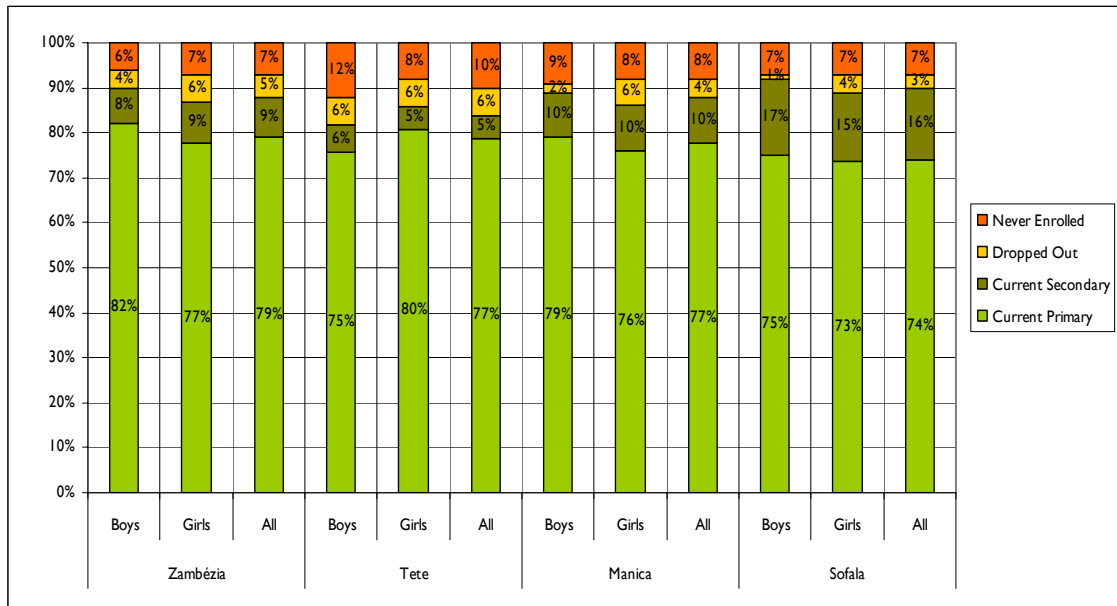
### 3.2. CHILDREN EDUCATION

The survey also collected information on current enrolment for school-aged children and reasons for absence. In general, nearly 80% of eligible children 6-17 years of age were enrolled and attending primary school with another 7% enrolled and attending secondary school. About 5% had dropped out in recent years and another 10% had never enrolled. The charts that follow outline the status by province and sex of children.

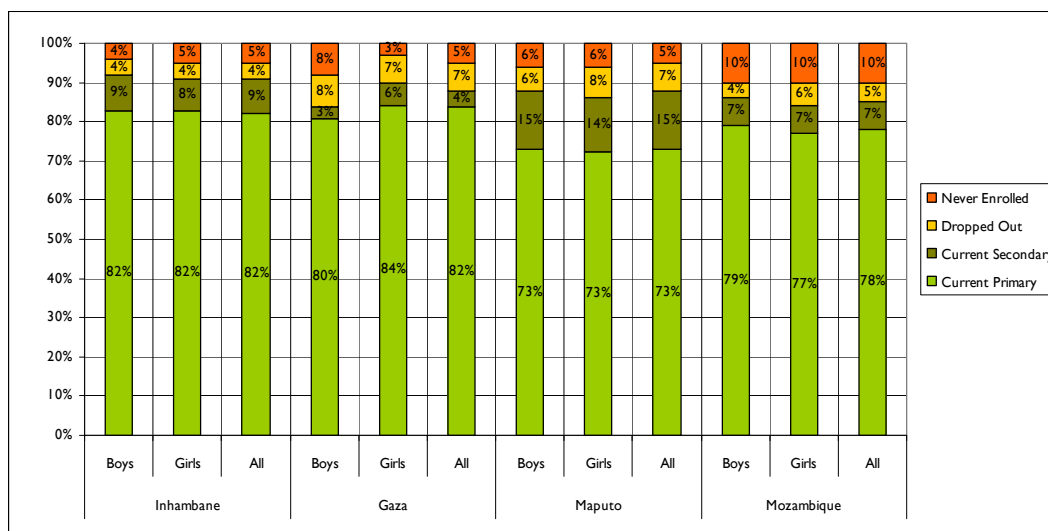
**Figure 3.4: Children’s educational status by province (North)**



**Figure 3.5: Children’s educational status by province (Central)**



**Figure 3.6: Children’s educational status by province (South)**

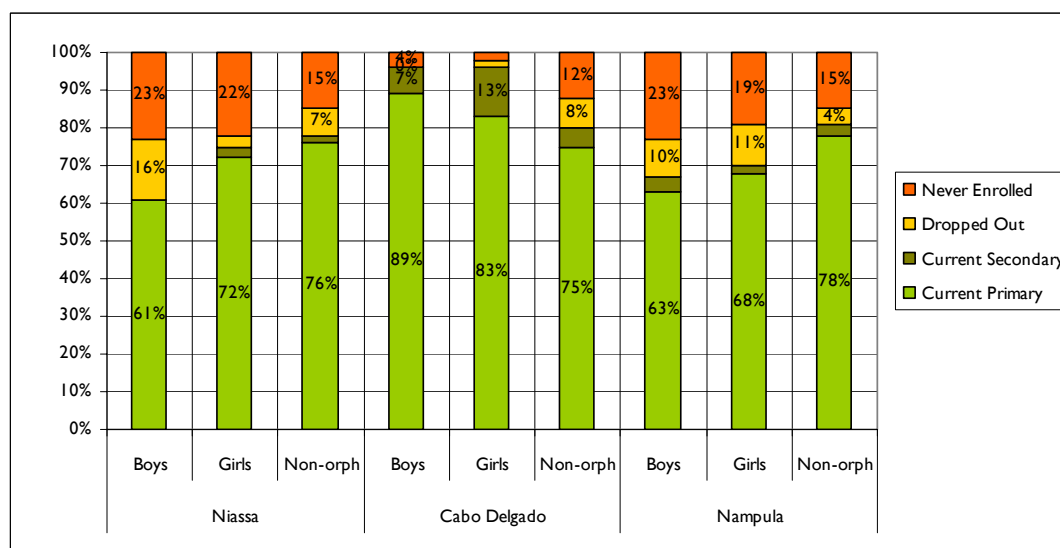


When comparing enrolment of boys and girls by Province, the following observations are made:

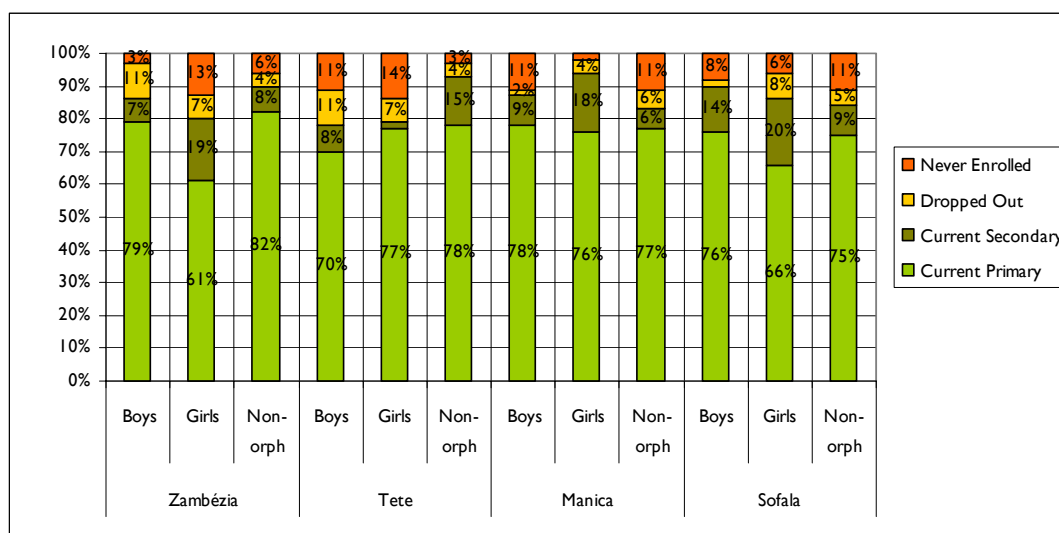
- Enrolment for girls is lower than boys in *Niassa* (-7%), *Cabo Delgado* (-7%), *Zambézia* (-4%), *Sofala* (-4%) and *Manica* (-3%). It is the same or higher in all other provinces.
- The groups with the highest percentage of children ‘never enrolled’ are girls in *Niassa* (18%) and both boys and girls in *Nampula* province (15%).
- The highest reported drop-outs were found among girls in *Cabo Delgado* (10%), girls in *Niassa* (9%) and boys in *Gaza* (8%) provinces.
- The highest percentages of children that were enrolled and attending secondary school were found in *Sofala* (16% - both boys and girls) and *Maputo* (15% -both).
- The overall highest enrolment was found amongst boys in *Sofala* (92%), boys in *Inhambane* (91%), boys in *Zambézia* (90%) and girls in *Gaza* (90%).
- In every province, peri-urban enrolment was higher than rural, except for *Cabo Delgado*.

The following graphs compare the enrolment of boy and girl orphans with non-orphans, by province. In *Niassa*, *Nampula*, *Zambézia*, *Tete*, *Gaza* and *Maputo* provinces, enrolment of orphans was lower than of non-orphans. For the other provinces, it was higher.

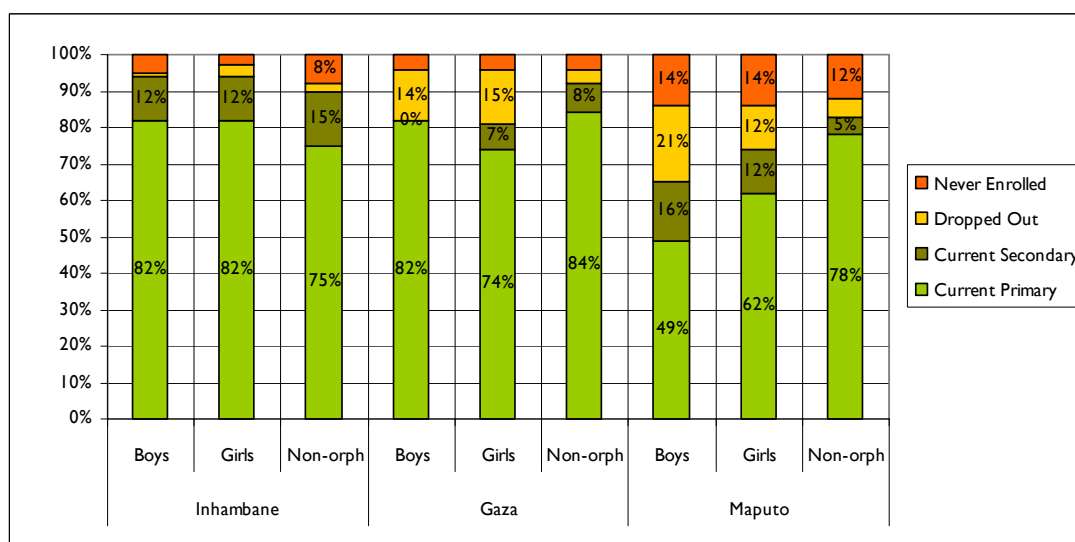
**Figure 3.7: Educational status of orphans and non-orphans by province (North)**



**Figure 3.8: Educational status of orphans and non-orphans by province (Central)**



**Figure 3.9: Educational status of orphans and non-orphans by province (South)**



The following observations can be made about enrolment of orphan boys and girls compared with non-orphans:

- The highest overall enrolment of orphans was found amongst boys in *Cabo Delgado* (96%), followed by girls in *Manica* (94%) and both boys and girls in *Inhambane* (94%).
- The highest levels of secondary school enrolment for orphans are found amongst girls in *Sofala* (20%), followed by girls in *Zambézia* (19%) province.
- Lowest overall levels of enrolment for orphans were found amongst boys in *Niassa* (61%), boys in *Nampula* (63%) and boys in *Maputo* (65%).
- The highest levels of drop out amongst orphans are also found amongst boys in *Maputo* (21%), boys in *Niassa* (16%), boys in *Zambézia* (11%) and boys in *Tete* (10%).
- Lastly, the highest levels of 'never enrolled' for orphans are found amongst boys in *Niassa* (23%) and *Nampula* (23%).

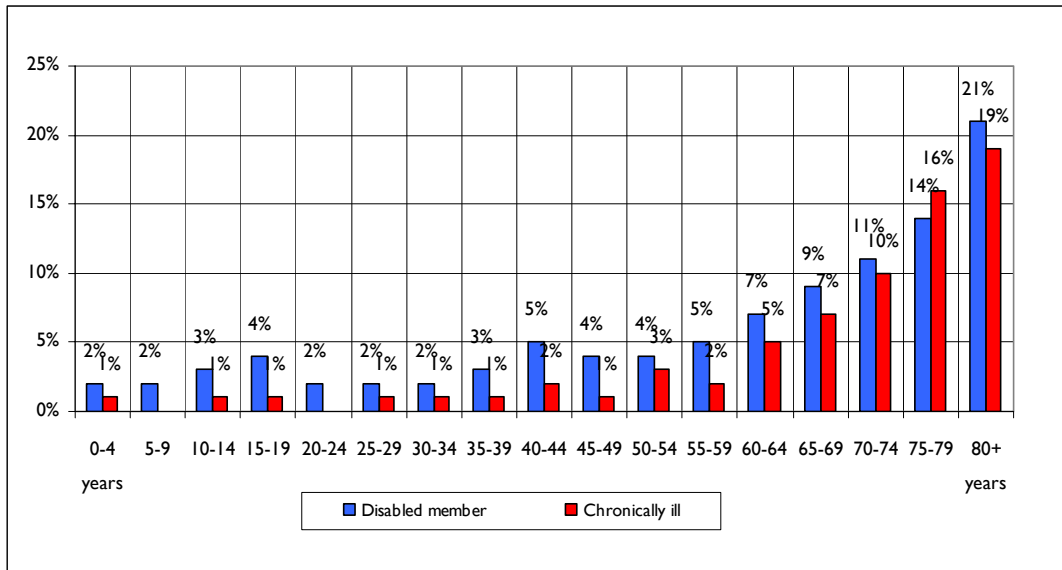
Overall, orphan boys are less likely to be enrolled and attending school than girls while in some provinces orphan girls are more likely to be enrolled and attending school than even the non-orphan children.

### 3.3. HEALTH

#### 3.3.1 Chronic illness and Disability

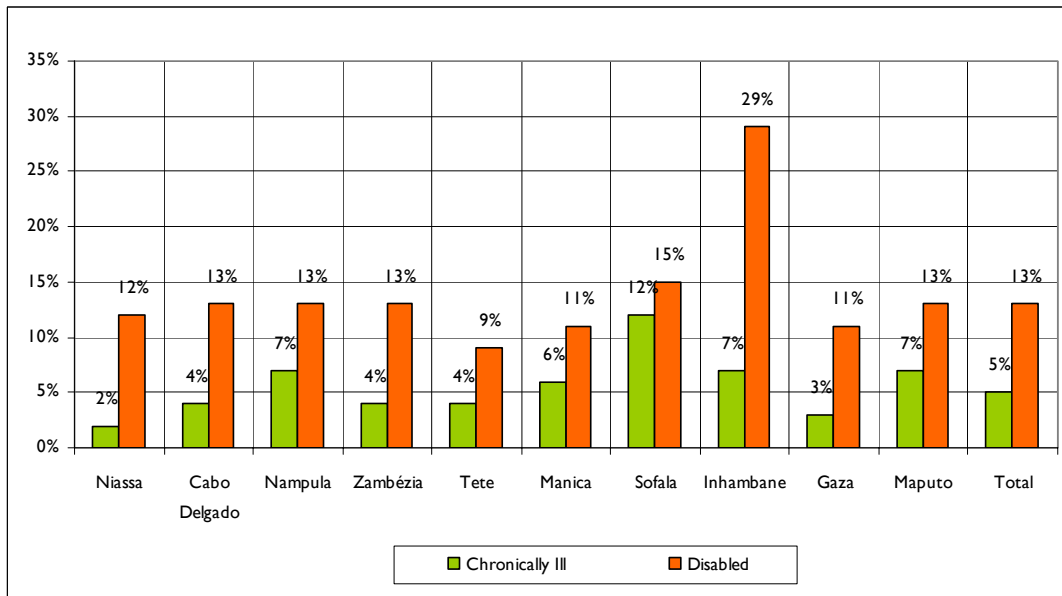
The current health and physical status was assessed for each household member during the survey, including illness for less than three months or longer than three months and whether the member was physically or mentally disabled. The chart below shows the percentage of household members either chronically ill or disabled by age group. For both, the percent of ill persons increases greatly amongst older people.

**Figure 3.10: Percentage of disabled and chronically ill members by age group**



By province, households in *Sofala* were the most likely to have a chronically ill member while those in *Niassa* were the least likely, as shown in the chart below. Disabled members were most likely to be found in households in *Inhambane* province and least likely to be found in *Tete*.

**Figure 3.11: Percentage of households with chronically ill or disabled members by province**



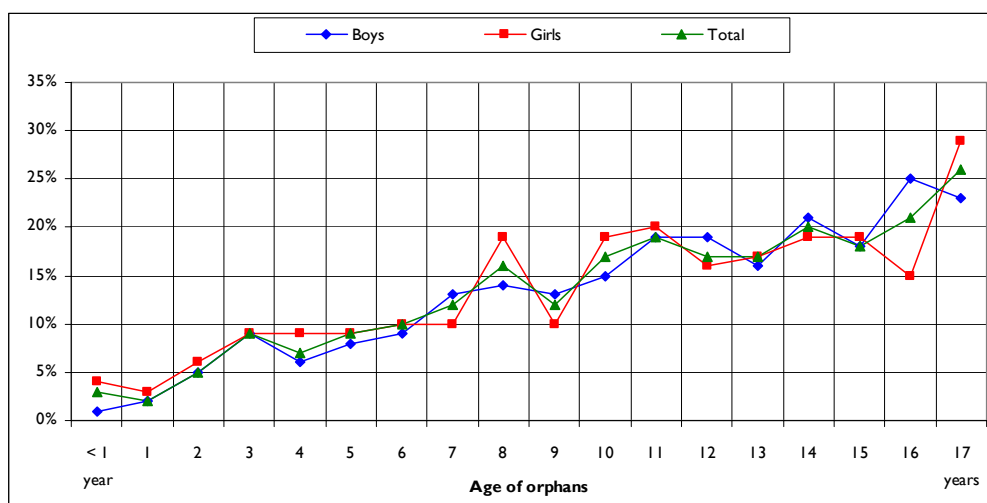
In over 60% of the cases, the chronically ill person went for treatment but this varied greatly by province. Nearly all chronically ill persons in *Sofala*, *Inhambane*, *Cabo Delgado* and *Zambézia* sought

treatment while only 15% in *Maputo* and 17% in *Tete* went for treatment. The most often cited reasons were the use of local healers, lack of qualified medical personnel and also a lack of money for treatment and/or travel.

### 3.3.2. Orphans

Orphan status was determined for children 0-17 years of age. An orphan is defined as a child who has one or both parents dead or missing. In all, 13% of the children in the survey households were orphans with no difference between boys and girls. Two percent of the children were maternal orphans, 8% were paternal orphans and 3% were double orphans. The chart below shows the orphan status of children by age and sex. As expected the likelihood of becoming an orphan increases with age.

**Figure 3.12: Percentage of orphans (boys and girls) by age**



By province, households in *Gaza* were the most likely to be hosting orphans, followed by those in *Maputo* and *Zambézia* as indicated in the chart below. Households in *Niassa*, *Cabo Delgado* and *Nampula* were the least likely to be hosting orphans. In most provinces, households in peri-urban areas were more likely to be hosting orphans than those in rural areas except for *Maputo* and *Nampula* provinces.

**Figure 3.13: Parental status of children 0-17 years by Province**

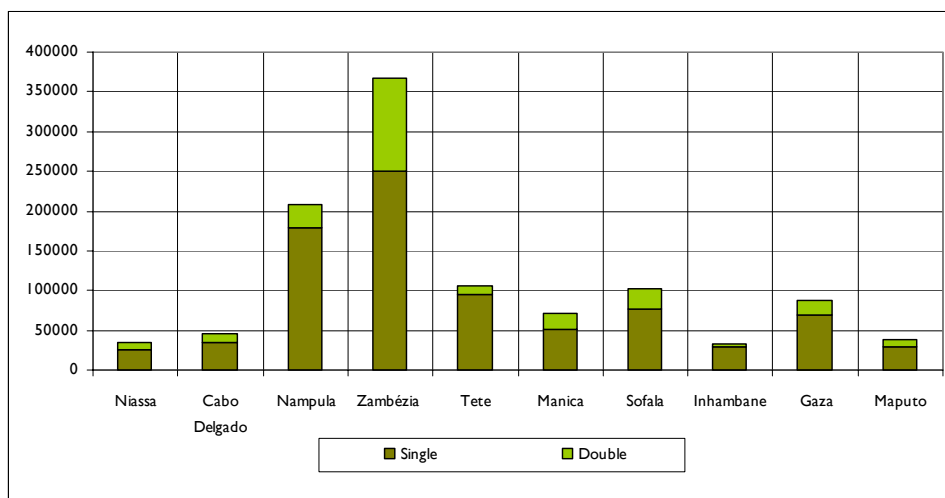


Using the percentage of orphans and the weights developed for the analysis from INE it was possible to estimate the number of orphans in each province in rural and peri-urban areas. This is presented



in the graph below. The highest estimated number of orphans is found in *Zambézia* which also has the largest rural population in the country. The second highest is found in *Nampula* which also has a high rural population. The lowest absolute numbers of orphans are found in *Inhambane* and *Niassa* rural areas.

**Figure 3.14: Estimated number of orphans by Province**

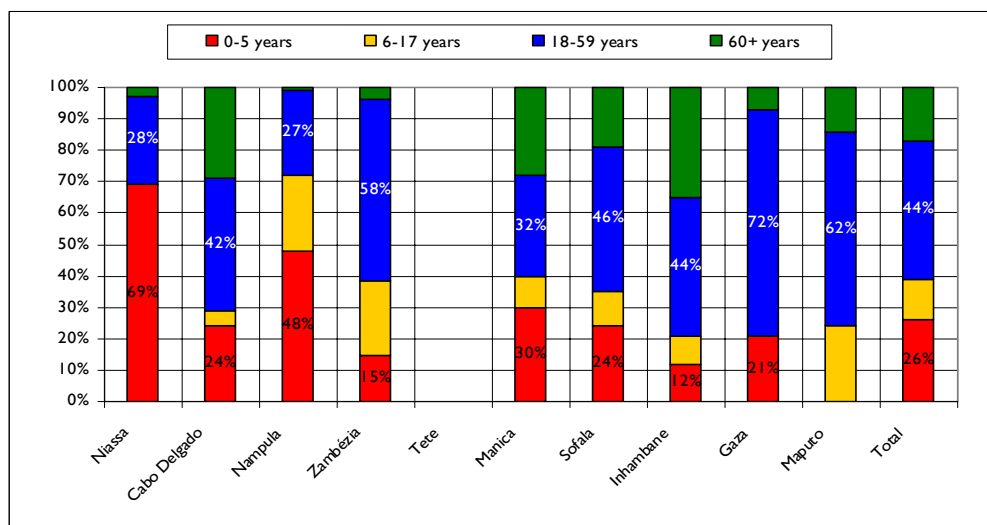


### 3.3.3. Death of household member

The recent death of a household member can be the result of many things yet it is an important factor in understanding vulnerability in rural households. Overall, only 4% of the households reported the death of a member in the past 12 months. This ranged from a high of 11% of the households in *Cabo Delgado* and *Sofala* and 7% in *Inhambane* to 3-4% in the other provinces. Only 2% of households in *Niassa*, 1% in *Maputo* and none in *Tete* reported the death of a member in the past year. This is also a proxy indicator of HIV-affected households.

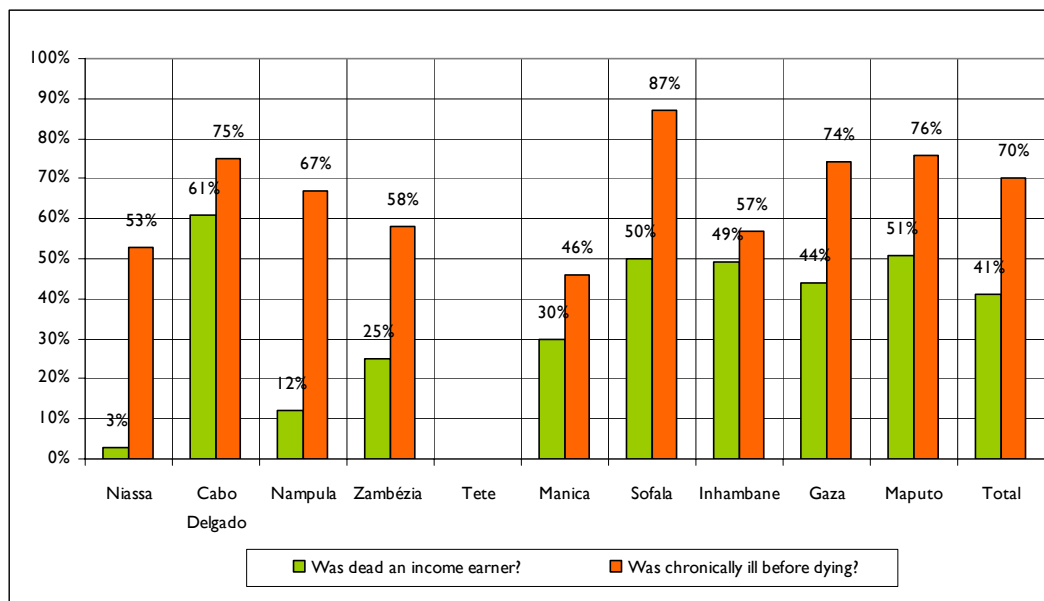
Overall, about two-thirds of the deaths were male but with variations by province. There were more female than male deaths in *Niassa* and *Inhambane* provinces and equal numbers in *Manica* and *Sofala*. In *Niassa* and *Nampula*, the deaths were mostly children while in *Inhambane* and *Manica* about one-third of the deaths were elderly. Deaths of working-age members were most common in *Gaza*, followed by *Maputo* and *Zambézia* provinces.

**Figure 3.15: Age of the recently deceased members by Province**



The chart below shows the percentage households where the dead person was an income earner and if the person suffered from chronic illness before dying, which is sometimes used as a proxy for HIV and AIDS.

**Figure 3.16: Earning and illness of recently deceased members by Province**



In *Cabo Delgado*, the recent dead were the most likely to be an income earner, followed by *Maputo* and *Sofala* provinces. Hardly any of the recent dead in *Niassa* and *Nampula* were an income earner which correlates well with the fact that most of those deaths were children. In *Sofala*, nearly all of the recently deceased had suffered from a chronic illness before dying, followed by about three-quarters in *Cabo Delgado*, *Gaza* and *Maputo* provinces.

### 3.4. SUMMARY

In this chapter the analysis of background household characteristics related to vulnerability has been done, with a summary presented in the table below. For each key indicator, it outlines the provinces with the higher percentages.

Vulnerability characteristics	Provinces where the vulnerability characteristic is more frequent	
Highest % female-headed households	Gaza (47%) Inhambane (37%)	Cabo Delgado (36%)
Highest % elderly-headed households	Cabo Delgado (31%)	Maputo (30%)
Highest % of never enrolled children	Girls in Niassa (18%)	Boys and girls in Nampula (15%)
Lowest enrolment level for orphans	Boys in Niassa (61%) Boys in Nampula (63%)	Boys in Maputo (65%)
Highest level of never enrolled orphans	Boys in Niassa (23%)	Nampula (23%)
Highest % of HHs with Chronically ill members	Sofala (12%)	
Highest % of HHs with disabled	Inhambane (29%)	
Highest % of HHs hosting orphans	Gaza (26%)	Zambézia (22%)
Highest % of HHs with recent death of family member	Cabo Delgado (11%)	Sofala (11%)

*Niassa* and *Nampula* seem to have the major shortcomings in terms of education as they particularly low enrolment levels for both children and orphans. In terms of demographic characteristics of the households, *Cabo Delgado* shows serious results on the percentage of female and elderly headed households and households with a recent death.

According with last surveys (MICS2008), only 36% of population has access to health facilities within 30 minutes walking distance and the ratio of health professionals to population – 3 doctors and 21 nurses for 100.000 habitants – is still of concern. Child mortality, although on track to reach MDG4, is among the highest in Africa at 138 deaths in the 0-4 age group per 1000. The maternal mortality ratio of 579 deaths per one hundred thousand live births remains persistently high, as is neonatal mortality at 37 deaths per 1,000 live births.

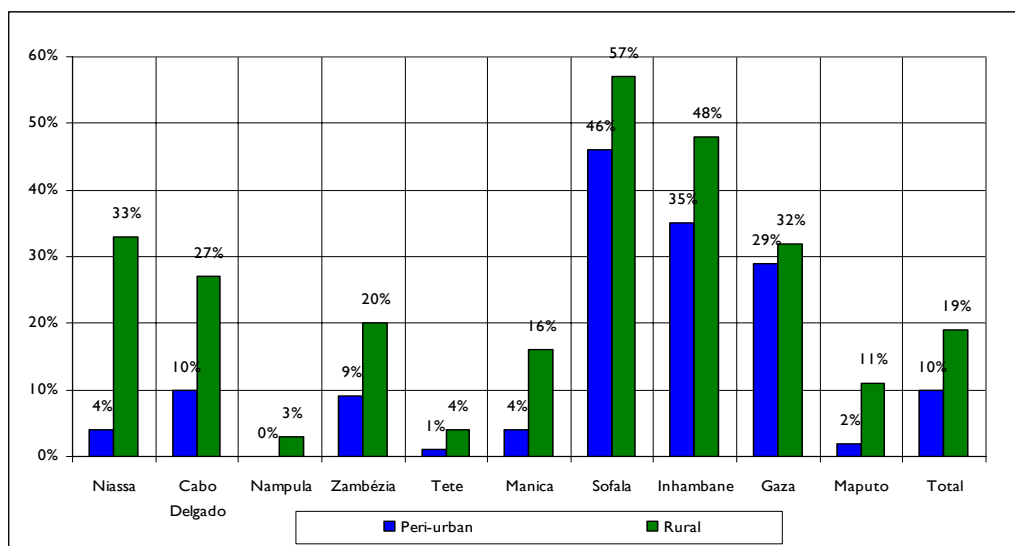
Access to safe drinking water and sanitation remains very scarce, and morbidity and mortality due to diarrhea and cholera outbreaks are still common. Only two-fifths of households have access to safe drinking water and there is large discrepancy between rural and urban and peri-urban households (30 percent and 70 percent respectively – 2008 MICS). Similarly, only nineteen percent of households have access to improved sanitation facilities and most of these are in urban/peri-urban households (2008 MICS). If current trends continue, it is estimated that the MDG target particularly related to rural sanitation and safe drinking water will not be met.

## 4. PHYSICAL CAPITAL

### 4.1. HOUSING STRUCTURE AND FACILITIES

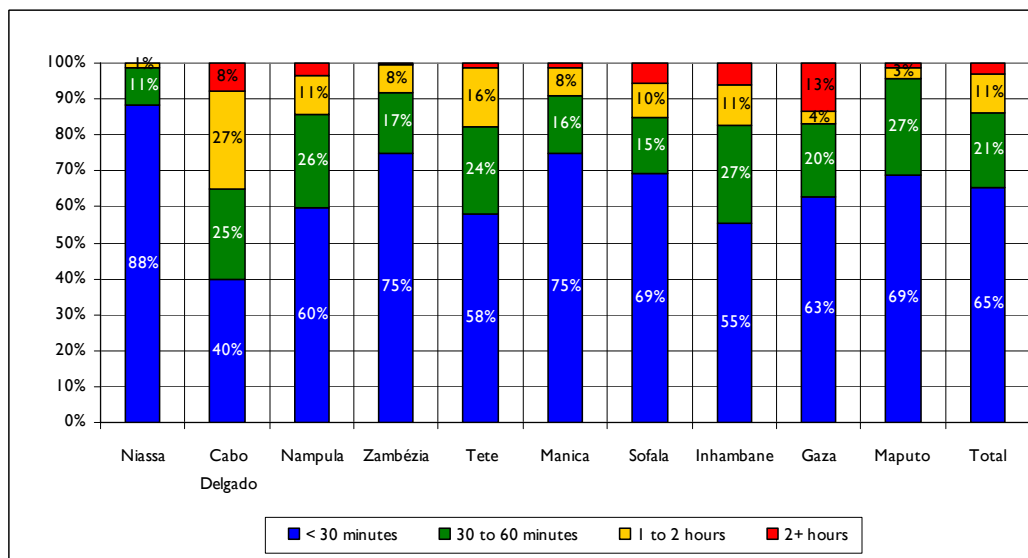
For most houses in rural Mozambique, the roof is made of either thatch or zinc sheets. Starting in the north more than 90% of the houses in *Niassa*, *Cabo Delgado* and *Nampula* have a thatch roof and as one moves south, more and more are made of zinc sheets so in *Inhambane* and *Gaza* about 70% have zinc roofs increasing to nearly 90% in *Maputo* province. For purposes of this survey, poor quality housing is defined as one where the roof is made of either thatch or plastic AND the floor is made of the same material. Overall, only 10% of the peri-urban houses were of poor quality compared to 19% of rural houses. As indicated in the chart, poor quality housing was more common in rural areas and most common in *Sofala* province, followed by *Inhambane* and *Gaza* provinces. The best quality housing is found in *Nampula* and *Tete* provinces.

**Figure 4.1: Poor quality housing by Province and zone**



Safe drinking water was defined as that which is either from a tap or protected well while water from other sources was considered unsafe for humans. The chart below outlines the time it takes for households to fetch water, including travel and waiting times, during the dry season.

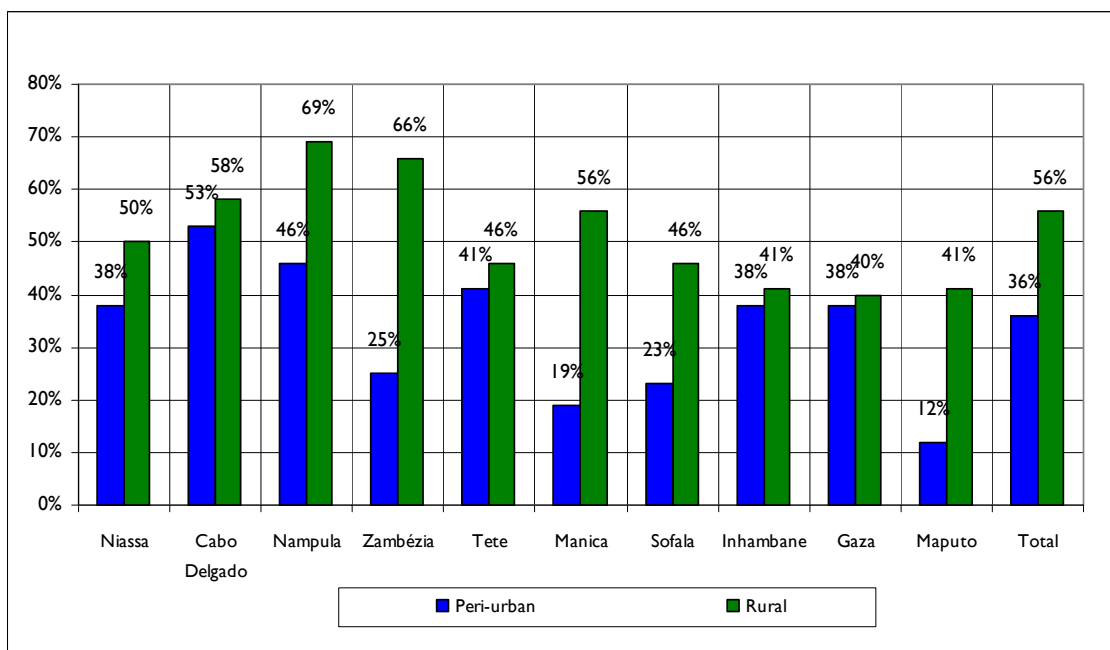
**Figure 4.2: Time to collect drinking water in dry season, by Province**



In all, households in *Niassa* have the best access to water with nearly 90% spending less than 30 minutes per day for this activity. Next is *Maputo* province where nearly all households can fetch water in an hour or less. The worst access is found amongst households in *Cabo Delgado* where about one-third of the households spend more than one hour collecting water. In certain parts of *Gaza* province, households are spending two hours or more to collect water.

The chart below outlines the percentage of households by province and zone that are using drinking water from unimproved sources. In general, access to drinking water from improved sources is better in peri-urban areas. Rural households in *Nampula* are the most likely to be using drinking water from unimproved sources, followed by those in *Zambézia* and *Cabo Delgado*. Access to improved drinking water is best for rural households in *Gaza*, *Inhambane* and *Maputo* provinces. For peri-urban households, those in *Maputo* have the best access to water from improved sources, followed by *Manica* and *Sofala*. The worst access for peri-urban households is found in *Cabo Delgado*.

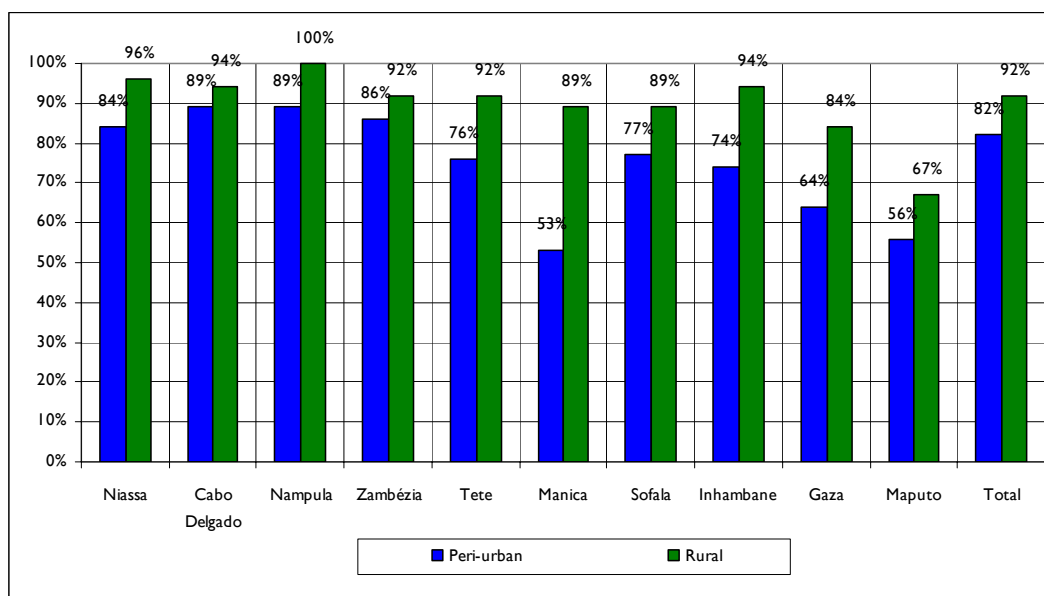
**Figure 4.3: Percentage of households using drinking water from unimproved source by Province and Zone**



More than 40% of the households in *Sofala* treat their water, followed by one-quarter in *Manica* and *Maputo* provinces. Only 6% of households in *Niassa* and 8% in *Tete* reported treating their water before drinking.

Very few households have access to flush/pour toilets or improved ventilated latrines for sanitation. In all provinces, the peri-urban households had better access to good sanitation compared to rural, but overall, more than 80% had poor quality sanitation compared to more than 90% in rural areas. The worst sanitation was found amongst rural households in *Nampula* where all were using open pit latrines or the bush for defecation. In *Maputo* province, about two-thirds were using poor quality sanitation in rural areas and just over half in peri-urban areas. However, peri-urban households in *Manica* had the best access to good sanitation for the entire sample.

**Figure 4.4: Percentage of households with poor quality sanitation by Province and Zone**



Most households use wood as fuel for cooking, in both peri-urban and rural areas. However, in the peri-urban areas of *Zambézia*, *Tete*, *Manica*, *Sofala* and *Maputo* 20-30% of households are using charcoal ‘vegetais’ for cooking. In rural areas, wood is used by nearly all households except in *Maputo* province where some rural households are also using charcoal ‘vegetais’.

Most households are using either wood or paraffin for lighting in both rural and peri-urban areas. However, electricity is used by nearly half the peri-urban households in *Maputo* and for over 30% of peri-urban households in *Zambézia*, *Manica* and *Gaza* provinces. Electricity is used by very few rural households except in *Maputo* where about one-quarter are using electricity. Solar panels are being used by 4% of peri-urban households and 7% of rural households in *Cabo Delgado* and also by 4% of peri-urban and 2% of rural households in *Inhambane* province.

#### 4.2. ASSET OWNERSHIP AND ASSET WEALTH CATEGORIES

The survey collected data on asset ownership from each household (21 assets, both productive and non-productive). The table below shows the percentage of households owning at least one of the particular assets listed.

**Table 4.1: Asset ownership by type of asset and Zone**

	Productive			Non-productive			
	Peri-urban	Rural	Total	Peri-urban	Rural	Total	
Hoe	92%	96%	95%	Chair	64%	55%	59%
Mortar	76%	79%	78%	Bed	69%	50%	57%
Machete	73%	76%	75%	Radio	54%	48%	50%
Axe	58%	65%	62%	Bicycle	43%	49%	47%
Sickle	24%	27%	26%	Table	54%	39%	45%
Mill	6%	4%	5%	Watch	28%	20%	23%
Fishing net	5%	3%	4%	Mobile phone	28%	14%	20%
Sewing machine	4%	3%	3%	Television	15%	4%	8%
Canoe	3%	3%	3%				
Plough	1%	3%	2%				
Oxcart	2%	3%	2%				

Agricultural tools were the most commonly owned assets - this reflects the important role that agriculture has on households’ livelihoods. In particular, almost all the households have at least a hoe (95%) and a large majority owns at least one mortar (78%) and a machete (75%), whereas tractors

(1%), grades (1%) and oxcarts (2%) are virtually non-existent, thus confirming that agriculture in Mozambique is poorly mechanized. In general, differences between peri-urban and rural areas are statistically significant, but not large.

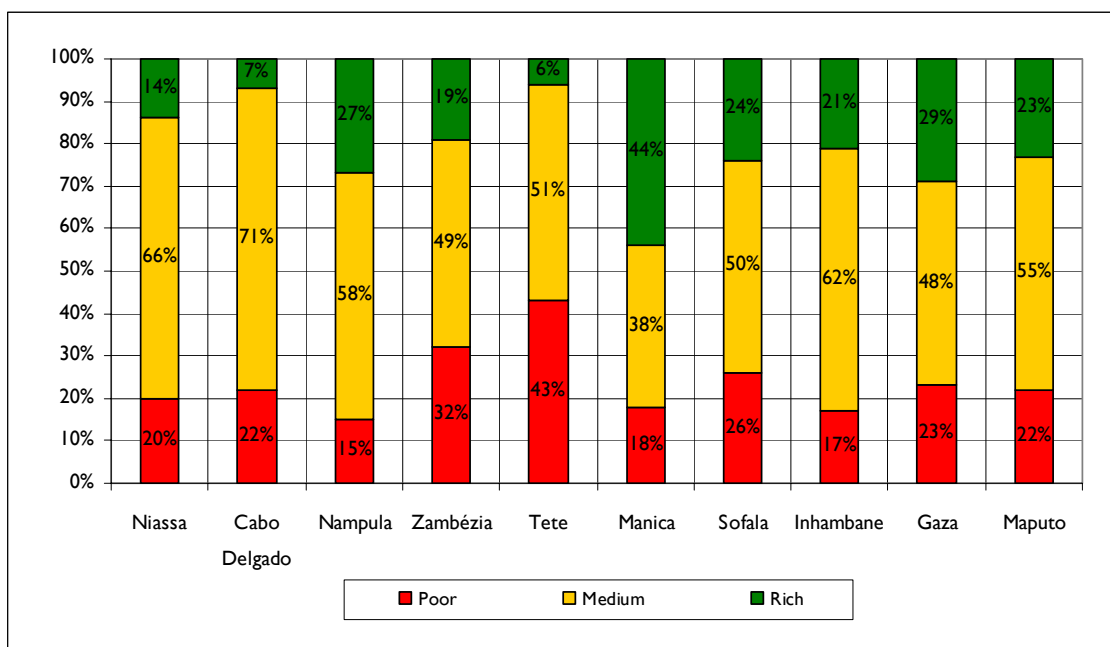
Among the non-productive assets, chairs (59%) and beds (57%) are the most commonly owned assets, followed by radio (50%), bicycle (47%) and table (45%). Watches (23%), mobiles (20%) and particularly TV (8%) can be considered as luxury assets, and are less commonly owned, especially in rural areas. Differences in ownership between urban and rural areas are large and statistically significant.

The survey collected data on asset ownership from each household (21 assets, both productive and non-productive). The data was then analysed considering whether the households own that particular asset or not. Then households were classified as asset 'poor' (0-4 different types of assets), asset 'medium' (5-9) or asset 'rich' (10 or more).

Peri-urban households are slightly better off than rural households in terms of asset wealth and that one-quarter of all households are asset poor, 58% are 'medium' and 17% are asset 'rich'. In this survey, asset poverty is significantly related to quality of housing, food consumption and share of monthly expenditure for food.

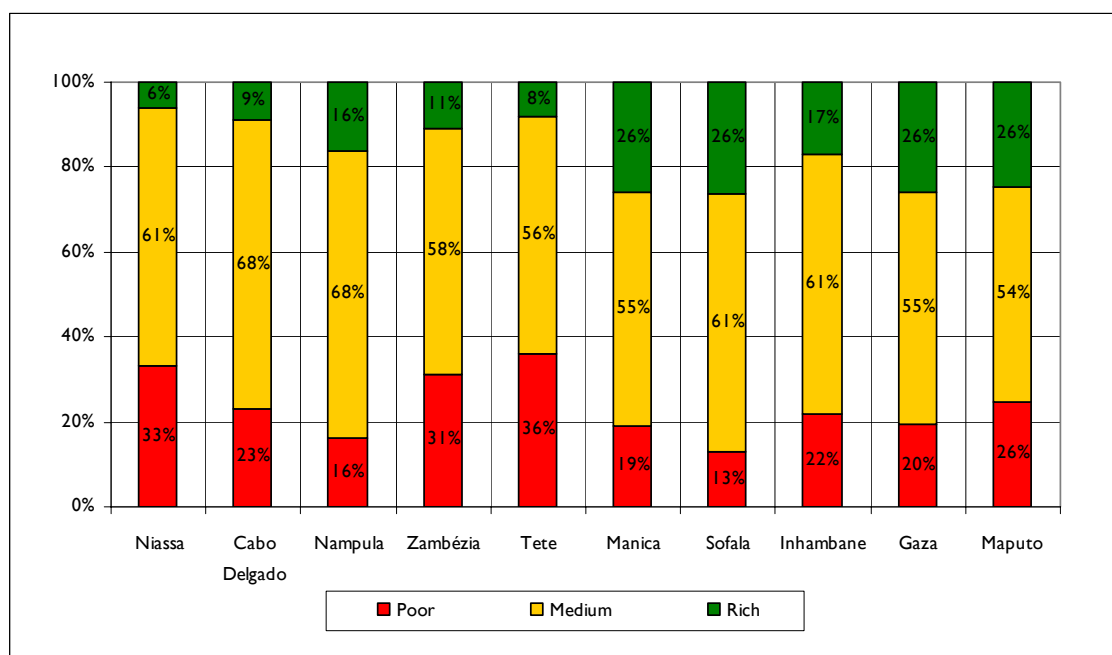
The chart below shows that households in *Manica* are the most likely to be asset rich for peri-urban areas while those in *Nampula* are the least likely to be asset poor. Overall, in terms of asset poverty in peri-urban areas, households in *Tete* are the worst off.

**Figure 4.5: Asset wealth for Peri-urban households by Province**



The chart below shows asset wealth of rural households by Province. Households in *Sofala* are the least likely to be asset poor while those in *Manica*, *Sofala*, *Gaza* and *Maputo* are the most likely to be rich. Rural households in *Niassa* are the least likely to be asset rich.

**Figure 4.6: Asset wealth of Rural households by Province**



#### 4.3. SUMMARY

The table below outlines the provinces that have a poor performance on key indicators related to quality of housing, sanitation and asset ownership. Sanitation seems to be an issue particularly in *Nampula*, where 94% of the households have unimproved water and none use an improved toilets.

Vulnerability characteristics	Provinces where the vulnerability characteristic is more common
<b>Highest % HHs with poor quality housing</b>	Sofala (51%) Inhambane (44%) Gaza (31%)
<b>Highest % of HHs with water from unimproved sources</b>	Niassa (95%) Nampula (94%) Cabo Delgado (93%)
<b>Lowest % of HHs treating water before drinking</b>	Niassa (6%) Tete (6%)
<b>Highest % of HHs with unsafe sanitation</b>	Nampula, in particular rural Nampula (100%)
<b>Highest % of asset poor households</b>	Tete (37%) Niassa (31%) Zambézia (32%)



## 5. ECONOMIC CAPITAL AND LIVELIHOOD STRATEGIES

### 5.1. LIVELIHOOD ACTIVITIES AND GROUPS

Households were asked to name their three most important livelihood activities and estimate the contribution (in %) to overall household livelihood for each activity. The main livelihood activities named by peri-urban households were food crop production (35%), casual labour (26%), salary (21%), remittances (15%) and cash crop production (10%). In rural areas, the sources named were similar – 45% of households relied on food crop production, 30% on casual labour, 13% on cash crop production, 11% on remittances and 9% on petty trade.

The estimated contribution of each activity to total income was analyzed using multivariate techniques in order to group households on the base of the combination of their main activities. 14 distinct main livelihood groups were identified, the larger being the *Food Crop Farmers* (25%), the *Casual Labourers* (14%) and the *Salaried* (10%). The table below describes the main livelihood activities for each group and the presence of selected vulnerability characteristics.

In terms of wealth, the *Assisted households* (households that rely on various types of assistance: food assistance, gifts, begging) are the most likely to be asset poor (44%), followed by the *Casual labourers* (41%). The *Salaried* are the most likely to be asset rich, followed by the *Small businessmen*. Looking at background characteristics, the *Assisted households* report high percentage on several indicators (e.g., % of households with chronically ill members, % of female-headed households, % elderly-headed households). This is not surprising because these characteristics are often used to target different form of assistance. Lastly, fishermen are more likely to live with unsafe water and sanitation.

**Table 5.1: Summary of livelihood profiles**

Livelihood group	% of asset poor HHs	% HHs with unsafe sanitation	% HHs with unsafe water	% HHs with CI member	% HHs with disabled member	% HHs hosting orphans	% female headed HHs	% elderly headed HHs
<b>Food Crop Farmers</b> <i>(19% of peri-urban; 29% of rural, 23% in total)</i> Households depending nearly entirely on food-crop production for their livelihoods. The relative contribution of this activity to the overall livelihood of the household is estimated at 84%.	23%	93%	57%	4%	10%	15%	18%	17%
<b>Casual labourers</b> <i>(13% of peri-urban; 14% of rural, 14% in total)</i> Households depending entirely on casual labour. The relative contribution of this activity to the overall livelihood of the household is estimated at 93%.	41%	87%	44%	3%	15%	16%	13%	21%
<b>Salaried</b> <i>(16% of peri-urban; 7% of rural, 13% in total)</i> Households relying mainly on salaries (88%)	10%	71%	27%	4%	12%	21%	7%	14%
<b>Cash Crop Farmers</b> <i>(7% of peri-urban; 9% of rural, 8% in total)</i> Cultivation of cash crop is the main activity contributing to 68% of the total income. Yet, this group rely also on cultivation of food crops (15%)	19%	92%	48%	7%	11%	13%	18%	15%
<b>Remittance receivers</b> <i>(8% of peri-urban; 8% of rural, 7% in total)</i> These households depend on remittances (76%), supplemented with some production and sales of food crops (16%).	34%	86%	43%	8%	12%	23%	41%	46%

Livelihood group	% of asset poor HH s	% HHs with unsafe sanitation	% HHs with unsafe water	% HHs with CI member	% HHs with disabled member	% HHs hosting orphans	% female headed HHs	% elderly headed HHs
<b>Small business households</b> (7% of peri-urban; 5% of rural, 6% in the total) These households depend on small business (76%), supplemented with some production food crops (9%).	14%	81%	43%	5%	11%	17%	10%	14%
<b>Petty traders</b> (6% of peri-urban; 6% of rural, 6% in total) These households depend on petty trading (67%), supplemented with some production and sales of vegetables (12%).	19%	88%	58%	9%	19%	15%	13%	18%
<b>Skilled traders</b> (4% of peri-urban; 5% of rural, 4% in total) These households depend on skilled trading (77%), supplemented with some production and sales of food crops (8%).	29%	93%	43%	6%	14%	13%	21%	14%
<b>Brewers</b> (4% of peri-urban; 5% of rural, 4% in total) These households depend on skilled trading (69%), supplemented with some production and sales of food crops (9%) and casual labor (8%).	26%	93%	54%	6%	12%	27%	10%	30%
<b>Agro-pastorals</b> (2% of peri-urban; 5% of rural, 4% in total) Livestock is the main activity for this group, contributing 64% to the total livelihood. It is supplemented by cultivation of food crops (13%) and casual labor (10%).	21%	95%	53%	8%	11%	19%	21%	19%
<b>Pensioners</b> (5% of peri-urban; 2% of rural, 3% in total) Pensions contribute to 66% of the total livelihood, complemented by some mining (7%) and cultivation of food crops (9%).	15%	87%	41%	15%	24%	21%	45%	22%
<b>Fishermen</b> (4% of peri-urban; 3% of rural, 3% in total) Households relying mainly on fishing (83%)	33%	97%	59%	2%	7%	16%	10%	8%
<b>Assisted HHs</b> (3% of peri-urban; 2% of rural, 2% in total) These households rely on various type of assistance: gifts represents 54% of the total livelihood, begging contribute to 17% and food aid is 15%	44%	90%	39%	20%	17%	22%	54%	64%
<b>Builders</b> (1% of peri-urban; 2% of rural, 1% in total) These households depend on construction (79%), supplemented with some production and sales of food crops (8%).	19%	96%	52%	0%	18%	25%	10%	4%
<b>Total</b>	25%	88%	48%	6%	13%	17%	20%	18%

The maps visualize the distribution of the three main livelihood groups (*Food crop farmers*, *Casual labourers* and *Salaried workers*) across the provinces.

*Food crop farmers* are the more commonly found in Niassa province (41%), while the *Casual labourers* are more likely to be found in Gaza province (27%). The *Salaried workers* are more commonly found in Maputo (28%) and Sofala (18%) provinces.

Figure 5.1 - % of food crop farmers HHs by Province

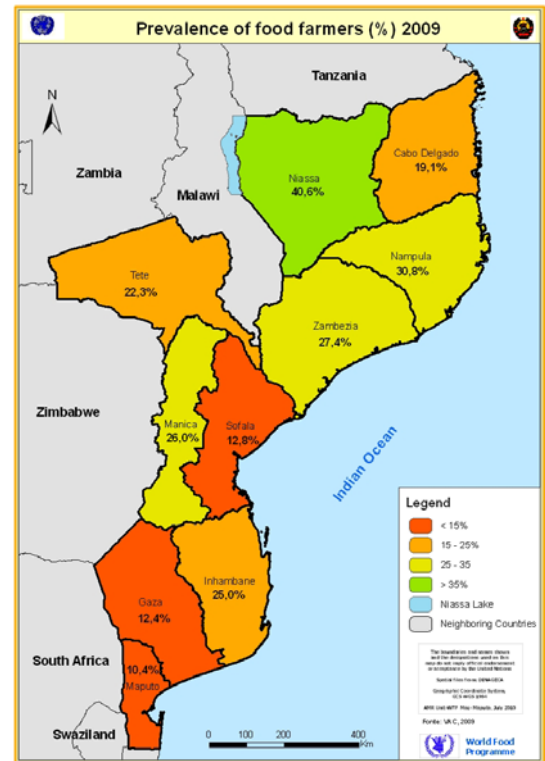


Figure 5.2 - % of casual labourers by Province

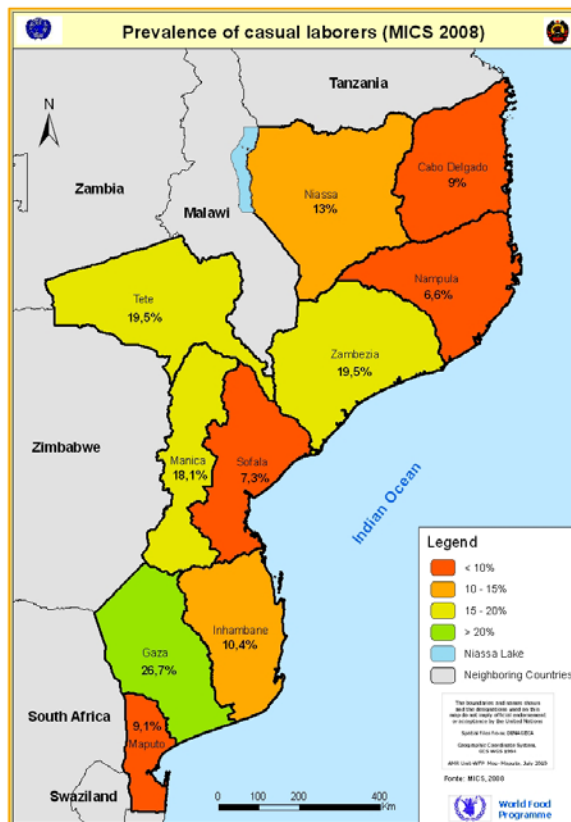
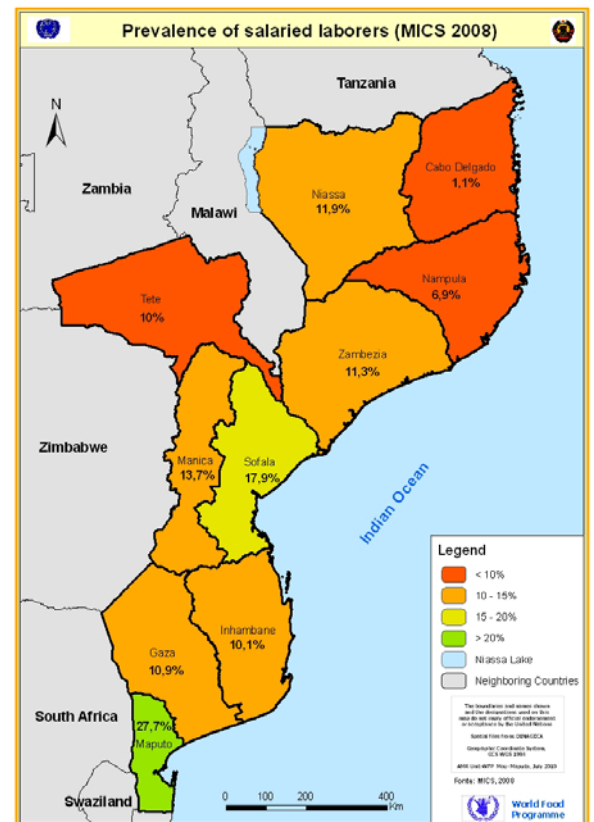
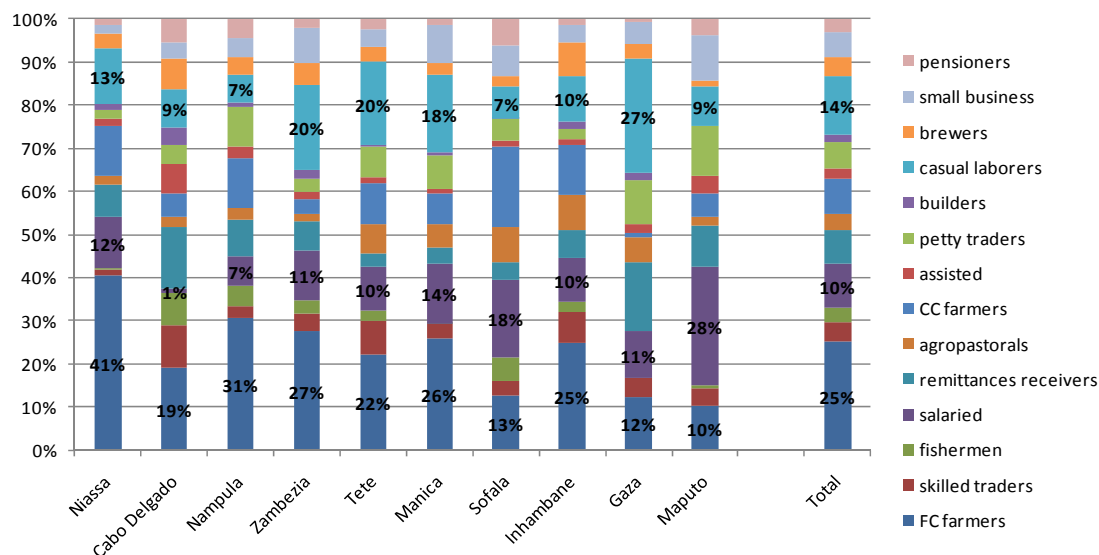


Figure 5.3 - % of salaried HHs by Province



A more comprehensive picture is provided in the chart below, where all the livelihood groups are considered. It clearly shows that the highest concentration of assisted households (ie. HHs relying on a combination of gifts, beginning and food aid) is found in *Cabo Delgado*.

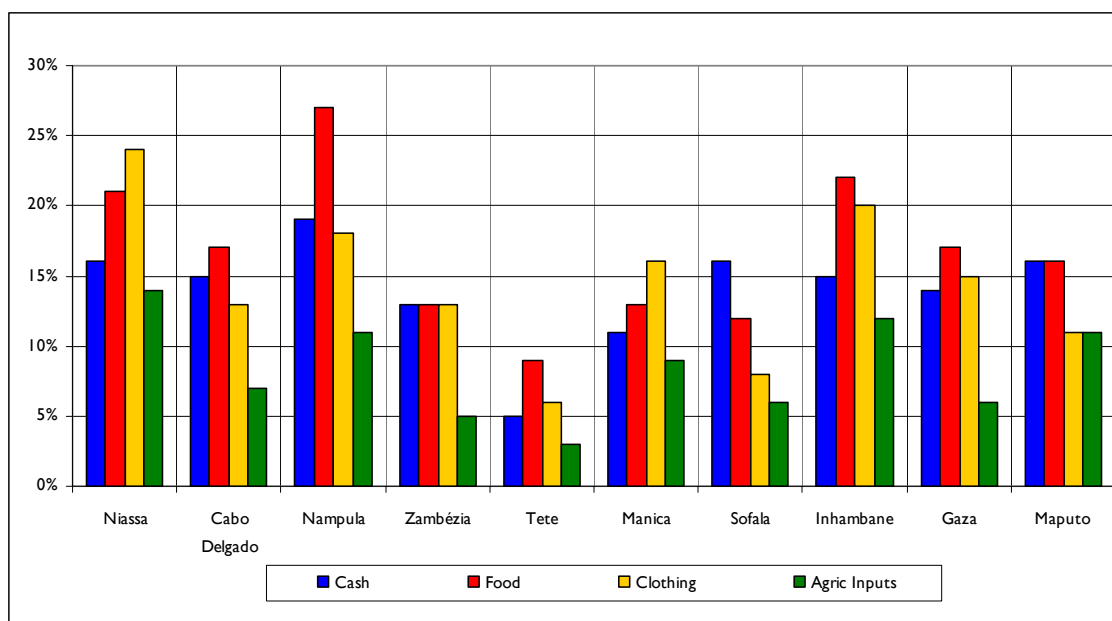
**Figure 5.4: Livelihood groups by Province**



## 5.2. REMITTANCES

In the survey, households were asked if they had received any remittances of cash, food, clothing or agricultural inputs in the past 12 months. In addition, they were asked if the remittances had changed over the past 6 months. The chart below shows that households in *Nampula* were the most likely to have received a cash remittance in the past year, followed by households in *Niassa*, *Sofala* and *Maputo* while households in *Tete* province were the least likely. In previous assessments remittances received by HH were higher in southern provinces of *Gaza* and *Inhambane*, mainly from their relatives working in South Africa.

**Figure 5.5: Percentage of households receiving remittances in past 12 months, by type and Province**

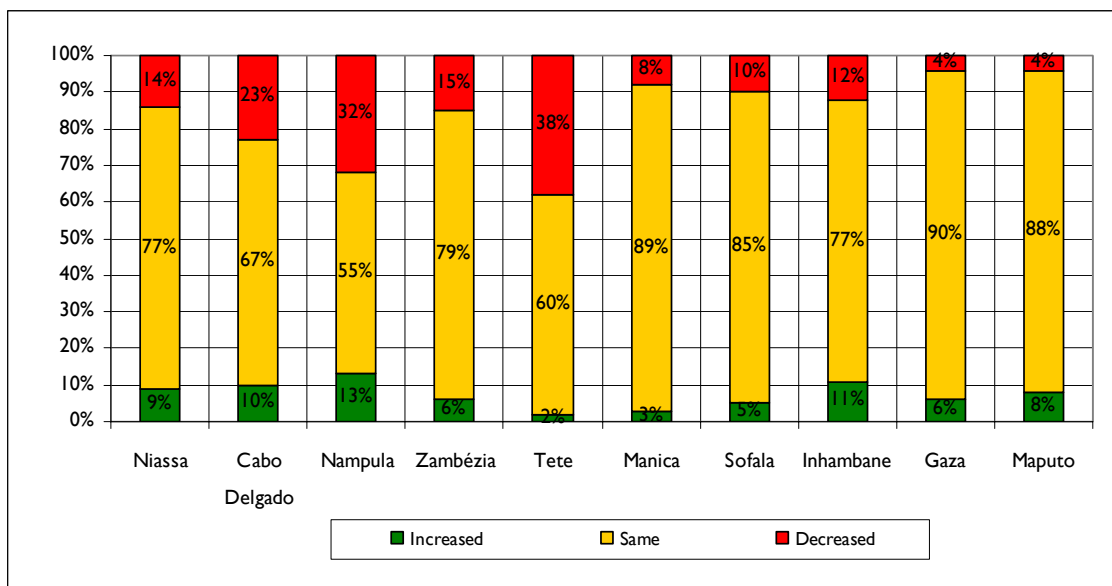


Households in *Nampula* were also the most likely to have received a food remittance in the past 12 months, followed by those in *Niassa* and *Inhambane*. Households in *Tete* were the least likely to have received food remittances. In terms of clothing remittances, *Niassa* had the highest percentage of recipient households, followed by *Inhambane* and *Nampula* while households in *Tete* were again the least likely recipients.

Lastly, *Niassa* province had the highest percentage of households that received agricultural inputs in the past 12 months, followed by *Inhambane*, *Nampula* and *Maputo*. Households in *Tete* were again the least likely recipient of remittances.

The chart below shows that for recipient households, nearly 40% of households in *Tete* reported a decrease in the amount over the past 6 months, followed by one-third in *Nampula* province. However, *Nampula* also had the highest percentage of households reporting an increase in remittances followed by *Inhambane* and *Cabo Delgado*. Households in *Gaza* were the least likely to experience any changes in remittances.

**Figure 5.6: Change in remittances in past 6 months by Province**

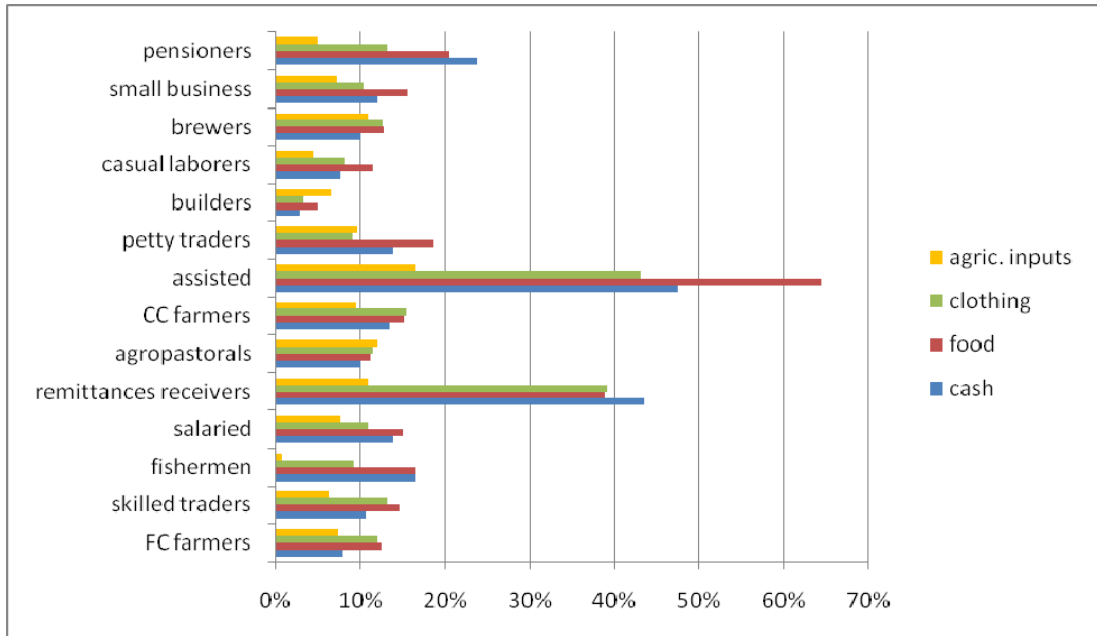


For those that reported a decrease, 85% of households in *Tete* reported a decrease or more than 1/2 of normal, followed by nearly three-quarters of households in *Zambézia* and *Manica*, indicating unstable or irregular sources of remittances. However, only 30% of recipient households in *Gaza* reported decreases of more than 1/2 of normal while about 45% of recipient households in *Nampula* reported decreases of less than 1/2 of normal.

Remittances of cash and food were more common in peri-urban households compared to those in rural areas while there was no difference in clothing or agricultural input remittances. There were also no differences between the zones in terms of changes in the past 6 months except for those reporting a decrease; the amount was generally greater for rural households.

The chart below shows that when looking at livelihood groups, the *Assisted households* were the most likely to receive any type of remittances, followed by households in the *Remittance receivers* and the *Pensioners* livelihood groups. In general, households in the *Builders* livelihood group were the least likely to receive any remittances. Households in the *Casual labourers* group were also less likely to receive any remittances.

**Figure 5.7: Percentage of households receiving remittances by livelihood group**



In terms of changes, the *Assisted* households (35%) were also the most likely to report a decrease in remittances over the past 6 months, followed by the *Petty traders* (26%) and *Builders* (26%).

## 6. NATURAL CAPITAL

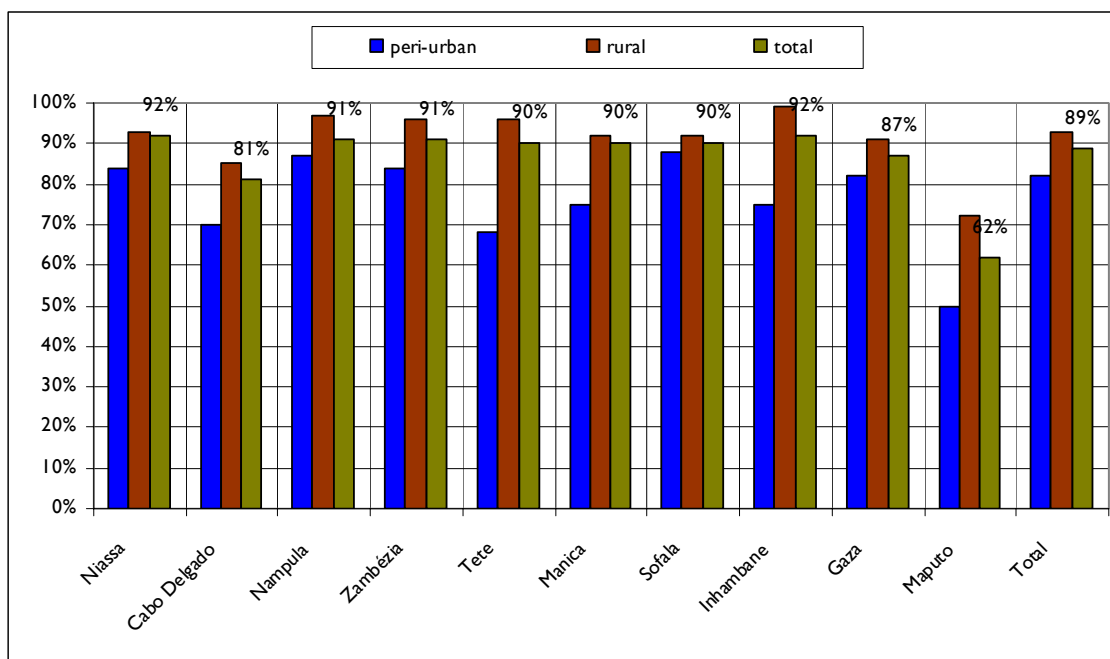
The following topics have been studied: access to land and agricultural production, seeds, post harvest, process and livestock. At present there is no recent studies and documentation on environmental degradation in Mozambique. This is an issue that needs to be surveyed and analysed.

### 6.1. ACCESS TO LAND AND AGRICULTURAL PRODUCTION

#### 6.1.1. Access to land

In Mozambique land belongs to the State and cannot be sold or rented. Households with access to land can either use it to produce crops for consumption and for marketing/sales. For this reason land entitlement is an important source of livelihood. The vast majority of the households (89%) have access to arable land. Access is significantly higher ( $p < 0.05$ ) amongst household in rural areas (93%) than in peri-urban areas (82%). Households in *Maputo* province have the lowest access to arable land (62%), followed by households in *Cabo Delgado* (81%).

**Figure 6.1: Percentage of households with access to arable land, by Province and Zone**



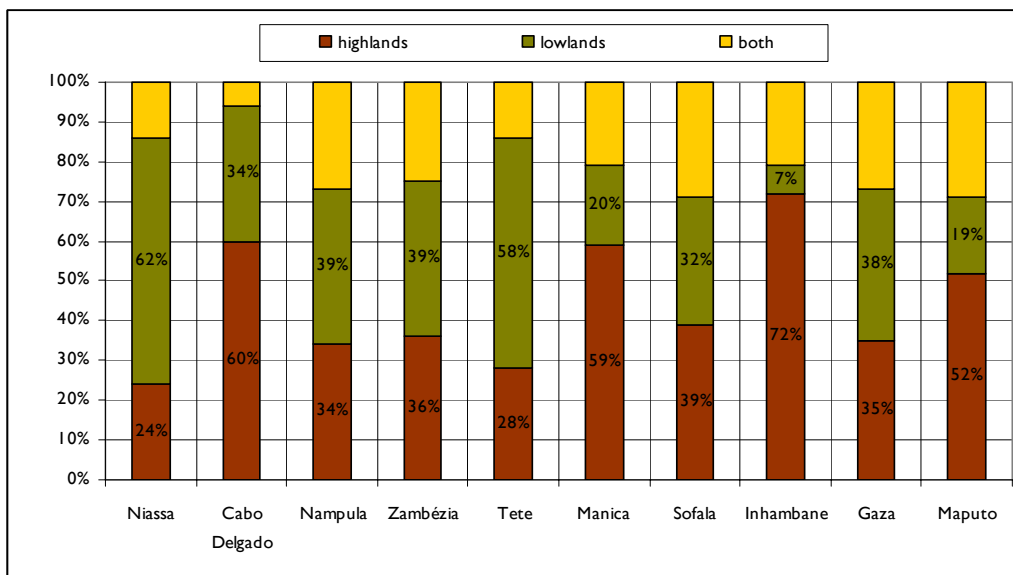
By livelihood group, nearly all households in the *Food crops farmers*, the *Cash crops farmers* and *Agro-pastoralist* groups have access to land as well as those in the *Builders* group. Households that are less likely to have access to arable land are those in the *Assisted* group (50%) and the *Salaried* group (68%). While the *Salaried* households are less likely to be engaged in farming and are more likely to be living in peri-urban areas, the *Assisted* households do not have a sustainable activity as main source of livelihood. Therefore, poor land access is more problematic for this group.

About half of the households inherited access to their land from their families. Yet, about 14% received access from local/central authorities and 19% accessed it without a formal authorization. Receiving access to land from authorities is more common amongst household in *Manica* (30%), *Maputo* (28%) and *Sofala* (26%) provinces, while the informal access to land is most common amongst households in *Niassa* (54%) and is relatively common amongst households in *Cabo Delgado* and *Sofala* provinces.

Nearly 40% of farming households cultivated only in the highlands which makes them exclusively dependent on rain-fed agriculture. *Inhambane*, *Manica* and *Cabo Delgado* provinces are the places where highland farming is particularly common. Another 40% of households cultivated exclusively in the lowlands. This was most common amongst farming households in *Niassa* (62%) and *Tete* (58%)

provinces. The remaining 20% of the households has farming land both in the lowlands and highlands; this is least common amongst farming households in *Niassa* (6%) and most common amongst households in *Sofala* and *Maputo* provinces. Farming both in the highlands and lowlands can be the result of coping to rainfall uncertainty because it allows farmers to maintain the same level of production even in case of a unfavourable climatic event such as drought or flooding.

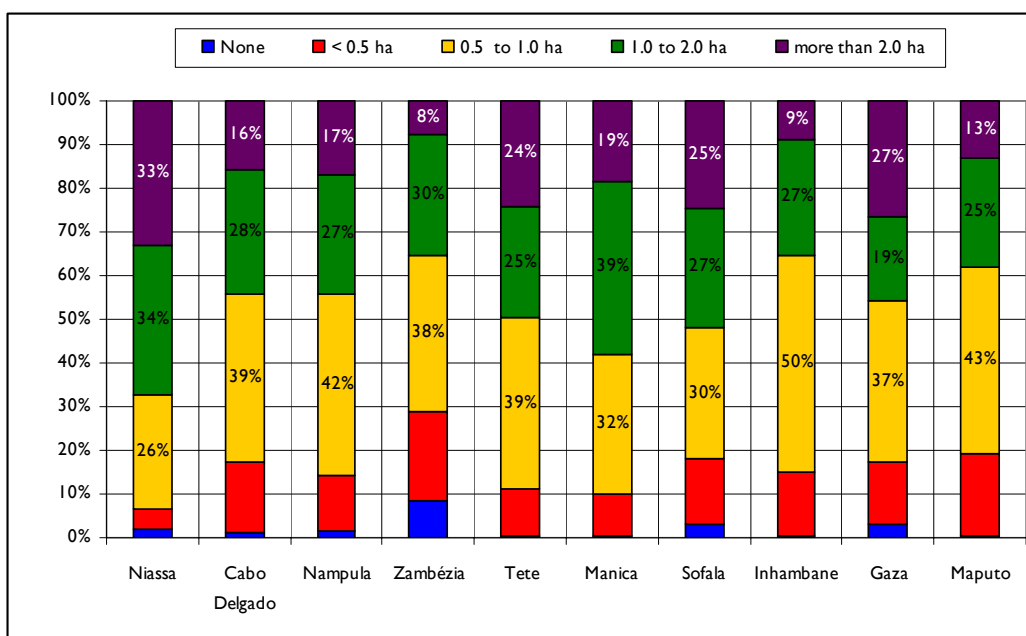
**Figure 6.2: Location of farming land by Province**



### 6.1.2. Size of area cultivated

Households with access to land were classified according to the amount of land cultivated in the current season (08/09). Overall, more than half of the households are small farmers cultivating 1 hectare or less. The percentage of small farmers is higher in *Inhambane*, *Maputo* and *Zambézia* whereas the highest percentage of big farmers is in *Niassa*. Fortunately, the percentage of households with access to land who did not cultivate during the current season is very low (1.2%) and does not present any pick in a specific province.

**Figure 6.3: Size of area cultivated by Province**



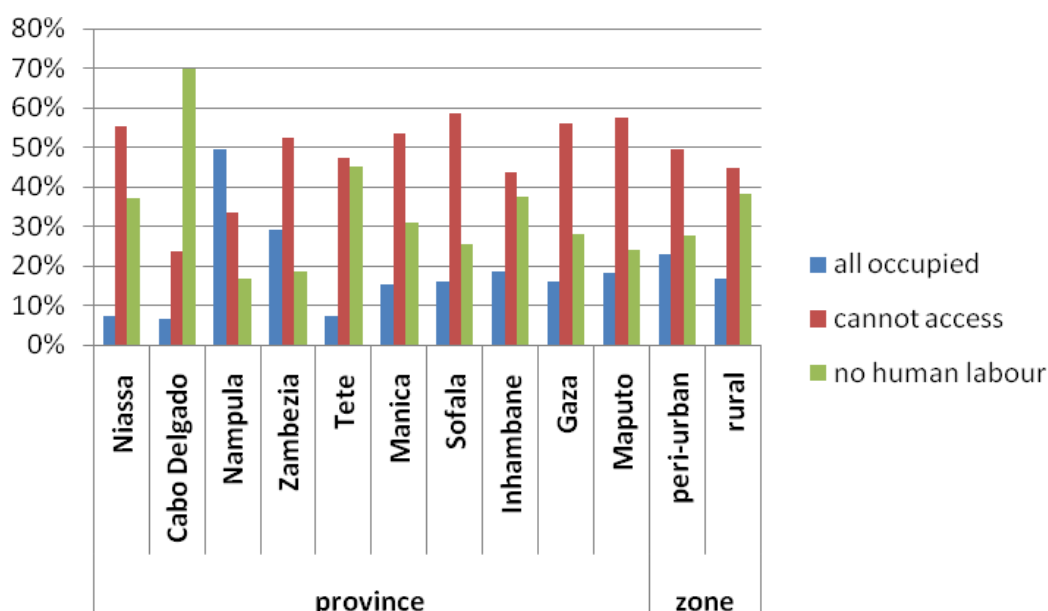


More than 80% of the households reported to have enough land to produce enough food for their families' needs. As expected, the percentage is significantly lower in the peri-urban areas (76%) as opposed to rural areas (84%). In addition, it is lower in the provinces of *Maputo* (69%), *Cabo Delgado* (70%) and *Sofala* (75%).

Having enough land to satisfy the household's food requirement is not necessarily a proxy of food security as long as the households engage into other activities. Yet, it is worth exploring the reasons for not having enough land because it helps identifying the main challenges faced by the farming households. Out of the households without sufficient land, one-fifth (25%) explained that the surrounding land was entirely occupied / farmed by other households; one-third (33%) cannot afford more land because the lack of human labour/tools would not enable them to cultivate more and 43% cannot access the uncultivated land mostly because they are hindered by the community leader.

The percentage of households reporting lack of enough labour is significantly ( $p < 0.05$ ) higher in rural areas (38%) than in peri-urban areas (27%). It is particularly high amongst households in *Cabo Delgado* (73%), followed by *Tete* (52%), *Manica* (41%) and *Inhambane* (41%). In the Human Capital chapter *Cabo Delgado* stands out for being the province with the higher combination of vulnerability characteristics (i.e. high percentage of female and elderly headed households and high percentage of households with deceased members). It is therefore not surprising to find in this province the highest percentage of households reporting lack of human labour.

**Figure 6.4: Reasons for not accessing enough land by Province and Zone**



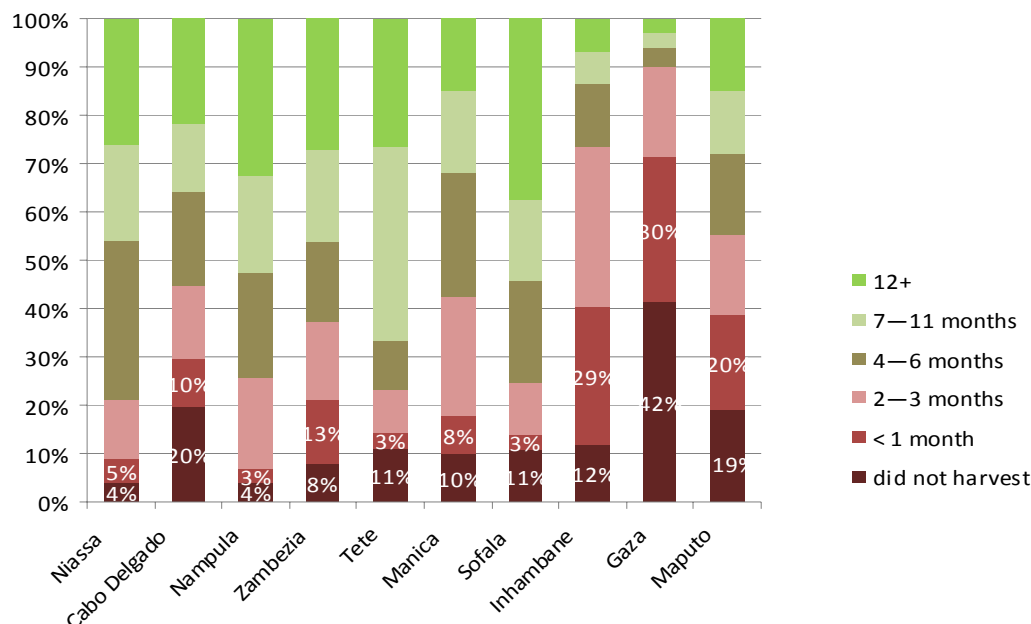
### 6.1.3. Harvest: duration of food reserves and main constraints

Households were asked if they harvested in the current season (2008/09) and to estimate how long their maize and bean production lasted. In all, 11% did not harvest at all; in 9% of the households the production lasted one month or less; in 16% it lasted 2-3 months; in 19% 4-6 months; in 20% between 7 and 12, and the remaining 26% reported 12 months or more. While there is no large difference between rural and peri-urban areas, some striking differences exist between the provinces. The provinces of *Gaza* and *Inhambane* are where households had either very little production or none at all. These two provinces are located in arid and semi arid areas, where livestock activities are significant

It is not surprising to see that the duration that maize and bean harvest lasts is positively associated with wealth and amount of land cultivated. Within the three livelihood groups that rely mainly on agriculture (*Food crop farmers*, *Cash crop farmers* and *Agropastoralists*) the percentage of households whose harvest lasted at least 7 months is fairly high (58%, 65% and 51% respectively). Yet, by province some are far from this trend: i) *Food crop farmers* living in *Inhambane* and *Gaza* where 9% had

a harvest that lasted 7 months or more, *Agropastoralists* in *Gaza* (10%) and *Cash crop farmers* in *Inhambane* (9%) and *Gaza* (0%).

**Figure 6.5: Duration of harvest by Province**



Most of the households (63%) mentioned that production costs/seeds are the main **reason** for bean and maize production not to exceed 12 months, 25% reported lack of human labour and 22% cited insufficient land. Production costs/seeds are the main problem throughout the country, except in *Cabo Delgado* – where post-harvest loss is the main problem (60% of the households) – and in *Maputo*, where 46% of the households mentioned lack of human labour.

#### 6.1.4. Cultivation trends: changes and reasons

Households were asked to report if there was a change in the amount of land cultivated in the current season compared to the previous and if they expect a modification in the amount of land cultivated in the next season. Reasons for the change were also explored.

At country level, almost half of the households (47%) cultivated the same amount of land in the 2008/09 season as in the 2007/08 season; one third of the households increased the amount of land cultivated and the remaining 20% cultivated less land. The percentage of households cultivating less land during the current season was significantly higher ( $p < 0.05$ ) in urban areas than in rural settings (24% versus 19%). Geographical differences are shown in the map below.

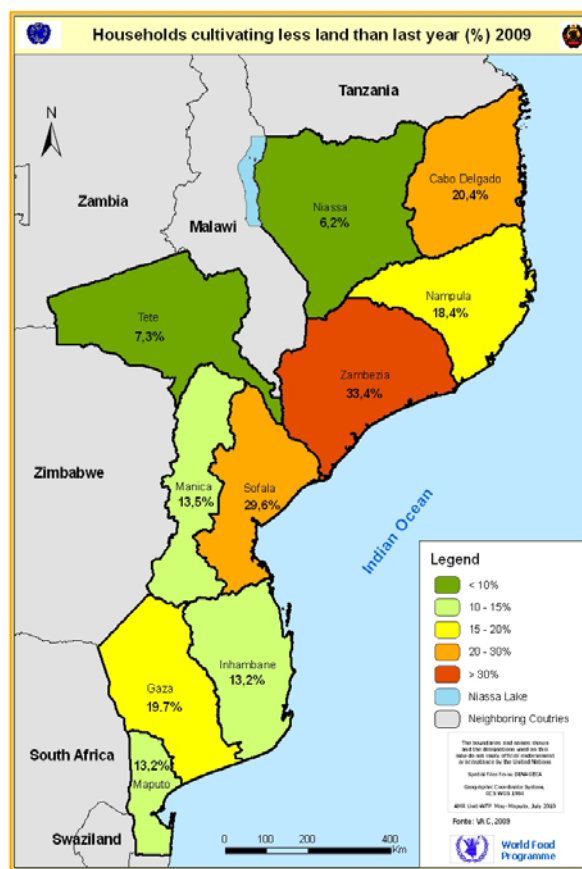
Households in *Zambézia* (33%) and *Sofala* (30%) provinces are more likely to report a decrease in area cultivated. Households in *Niassa* and *Tete* provinces are the least likely to have reduced areas under cultivation.

By livelihood, households relying on *Remittances* (32%) and *Assistance* (31%) were most likely to report a decrease in the amount of land cultivated. In all, small holder farmers are more likely to experience a reduction in the amount of land cultivated.

Climatic problems is the main reason for cultivating less (mentioned by 62% of the households), followed by lack of human labour (21%), pest/crop diseases (16%) and disease or illness of a household member (16%). Climate is the main problem for all the livelihood groups and for all the farmers, disregarding the amount of land cultivated. In addition, this seems to be the main issue throughout the country, except in *Niassa* and *Maputo* provinces, where lack of human labour and land access are the main issue.

Households are optimistic about the next season. Only 2% expect a decrease in the amount of land cultivated, half expect an increase and the remaining 47% predict stability in the amount of land under cultivation. Positive expectations are higher in *Cabo Delgado* and *Niassa*, and among the *Cash crop farmers*.

**Figure 6.6: Percentage of households cultivating less in the current season**



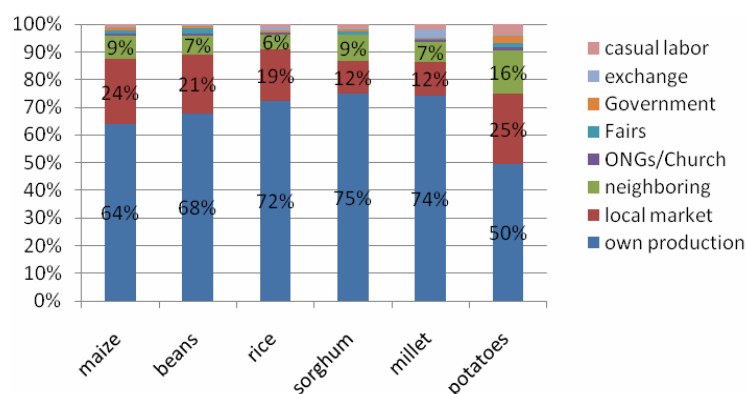
## 6.2. SEEDS

Seeds represent an important element of agricultural production and, as a consequence, of food availability. The study looked at seed sources for the current and next season of the main crops (maize, beans, rice, sorghum, millet and potatoes) and at their quality.

In light of the fact that production costs / seeds were the main problem affecting harvest's duration, the analysis of seeds' sources and quality becomes of particular interest because it suggests areas of interventions and helps identifying areas / groups that would be particularly hit if a shock/rapid change occurs. Findings are summarized below:

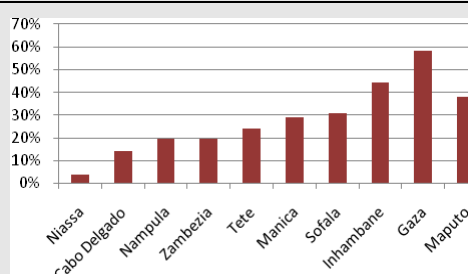
Overall the main source of seeds for cultivation are from farmers' own stocks (68% of households), followed by purchase in the local market (20%) and neighbours (8%). According to the households, the main source of seeds for the next season will be from own stocks (73%) and purchase at the local market (15%) while support from the government is expected to increase from 1% of the current season to 4% of the next season as the Government begins to introduce activities under the Green Revolution. The chart below shows that for all the crops saving seeds from their own production is a main source. Purchase on local market is less relevant for sorghum and millet.

**Figure 6.7: Source of seeds for main crops**

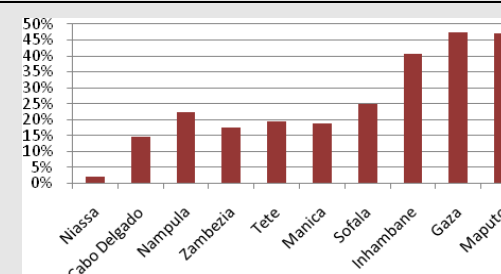


By province, some interesting differences exist. Without differentiating by crop, own stock plays a major role in *Niassa* (89%) and a minor role in *Gaza* (40%), *Inhambane* (41%) and *Maputo* (44%). In these provinces purchase on the market plays a more important role: half of the farmers in *Gaza* buy on the local market, 41% in *Maputo* and 38% in *Inhambane*. Therefore, in case of a sharp increase in the seeds' price, farmers in these areas will be particularly affected. The relevance of purchase for each crop is represented in the charts below.

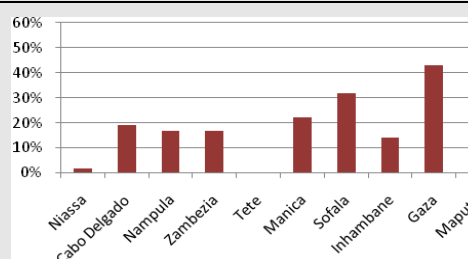
**Figure 6.8: Percentage of HHs buying maize seeds**



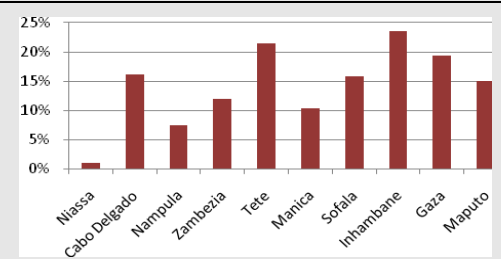
**Figure 6.9: Percentage of HHs buying bean seeds**



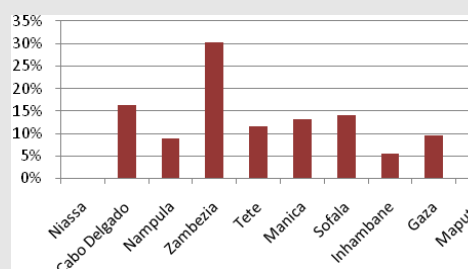
**Figure 6.10: Percentage of HHs buying rice seeds**



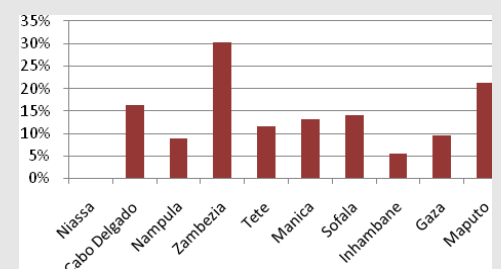
**Figure 6.11: Percentage of HHs buying sorghum seeds**



**Figure 6.12: Percentage of HHs buying millet seeds**



**Figure 6.13: Percentage of HHs buying potatoe seeds**



- Asset poor households rely a bit less on own seed stocks - 61% compared 69% of the asset medium and rich households. They relied slightly more on borrowing seeds from neighbours.

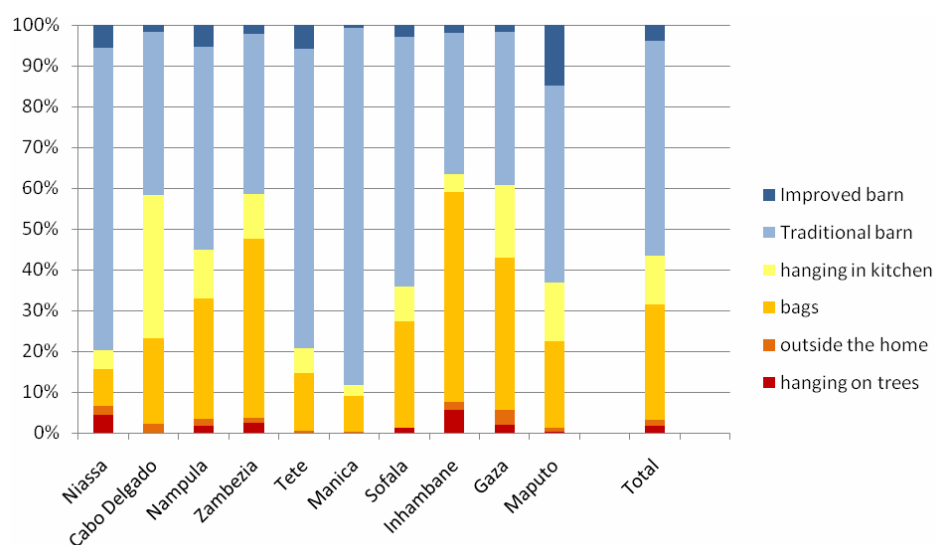
- Dependency on local market decreases as the amount of land under cultivation increases - 41% of the households who didn't cultivate purchase seeds on the market, the percentage decreases gradually and goes down to 14% among the farmers with 2 ha or more. Vice versa, the importance of own production increases as long as the amount of land cultivated increases. A similar pattern is predicted for the next season.
- The quality of seeds is generally good. The percentage of households that reported to use seeds of good/very good quality ranges between 81% for millet and 87% for maize. Household in *Inhambane* and *Tete* provinces reported generally lower seed quality. In *Inhambane* the percentage of households with good/very good seeds ranges between 26% (potatoes cuttings) and 68% (rice seeds). In *Tete*, the percentage ranges between 0% (rice seeds) and 68% (maize seeds).

It's important to note that large quantities of free or subsidized seed have been distributed to small-scale farmers in Mozambique under post-war resettlement and drought/flood relief programs. A joint study by ICRISAT and World Vision assessed the impact of relief seed distribution, the adoption of new varieties distributed through relief programs, and the performance of local systems. While there was undoubtedly a need for well-targeted emergency assistance, seed losses associated with war, drought, and floods appear to have been overestimated. Village seed systems are remarkably efficient in meeting seed requirements and maintaining varietal diversity, even under drought or flood conditions. However, there remains scope for improving household seed selection and storage practices. In addition, sustainable seed supply systems (both community-level and commercial) are needed to improve the access of small-scale farmers to new varieties. Despite massive demand for seed for public distribution efforts, domestic production capabilities remain small, and most seed is still imported. The problems include shortages of breeder seed, poor market infrastructure, high marketing costs, uncertainty about the levels of commercial seed demand, and farmer dependence on free seed.

### 6.3. POST HARVEST

Households were asked about the preservation of their harvest. More than half of the households stored their harvest in traditional barns while improved barns are rarely used (4% of the households). The remaining 44% use conservation strategies that facilitate harvest's deterioration more than barns. In particular, 12% hang it in the kitchen, 28% used bags, and 3% put it outside. The large majority of households (85%) do not use any product to preserve the harvest, either because products are not available (42%) or because they were not aware about the efficacy of the products themselves.

**Figure 6.14: Harvest conservation by province**



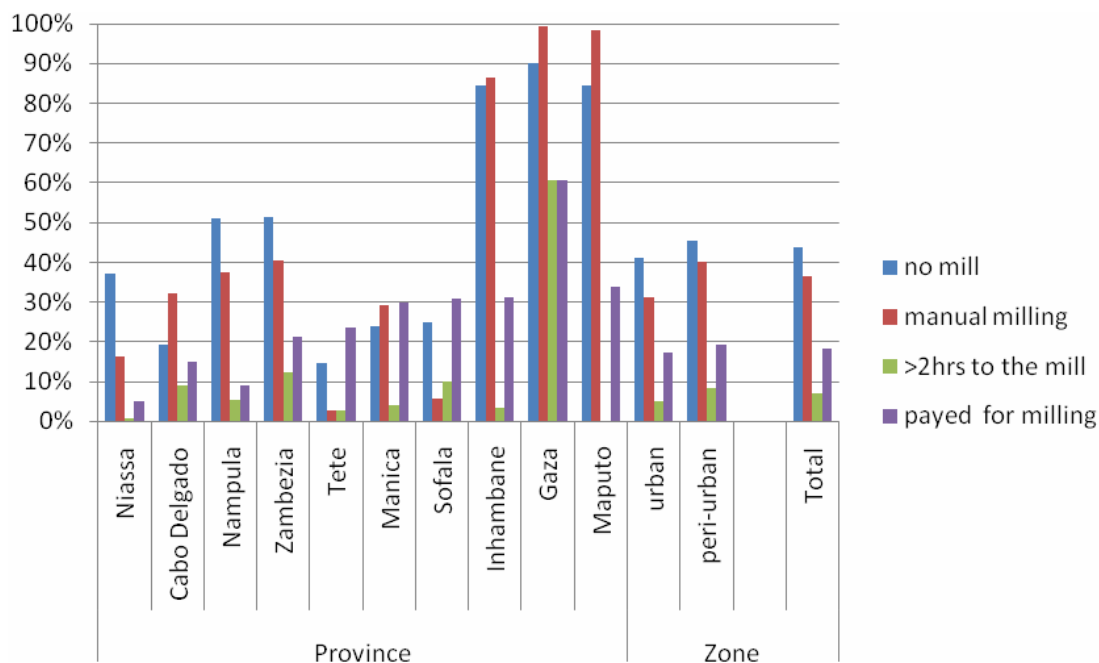
*Cabo Delgado* and *Inhambane* are the provinces with the worst profiles in terms of harvest conservation. Here the low percentage of households with an improved / traditional barn is combined with an extremely scarce use of preservation products. In *Inhambane* products are rarely used because not available; in *Cabo Delgado* poor availability and lack of awareness are both present.

By livelihood group, the *Assisted households*, *Pensioners* and *Agropastoralists* are the least likely to use barns. Barns utilization is positively associated with wealth and with the amount of land cultivated.

#### 6.4. PROCESS: MAIZE MILLING

In total, 44% of the surveyed households live in a village with a mill and 64% use it for milling their maize. Households in *Inhambane*, *Gaza* and *Maputo* provinces have the greatest difficulty milling maize because a high percentage of households in these provinces live in a village with no mill and processing maize manually is very expensive. In addition, the majority of the households have to walk more than 2 hours to reach the milling location and have to pay for processing the maize.

**Figure 6.15: Maize milling by Province and Zone**



#### 6.5. LIVESTOCK

Along with land, livestock represent an important livelihood asset, especially for the households living arid and semi-arid rural areas and are engaged into pastoralism or agropastoralism. The survey collected information on the number of oxen, goats, donkeys, pigs and poultry owned this year and the previous year. They also reported if they sold some animals and the reason for selling. The table below summarises the percentage of households with at least one type of animal as well as the average Tropical Livestock Unit (TLU) by province and livelihood group.

**Table 6.1: Livestock ownership by Province and livelihood groups**

	at least an ox	at least a goat/sheep	at least a pig	at least a donkey	at least a poultry	mean TLU	Increased TLU
<b>Total</b>	<b>6%</b>	<b>24%</b>	<b>10%</b>	<b>1%</b>	<b>59%</b>	<b>0.47</b>	<b>38%</b>
Niassa	2%	12%	2%	0%	48%	0.19	47%
Cabo Delgado	1%	16%	5%	2%	56%	0.22	38%
Nampula	5%	26%	12%	0%	56%	0.32	32%
Zambézia	0%	10%	6%	0%	59%	0.12	36%
Tete	13%	37%	17%	1%	57%	<b>0.87</b>	45%
Manica	19%	45%	11%	1%	73%	<b>0.94</b>	48%
Sofala	3%	27%	12%	0%	64%	0.64	38%
Inhambane	20%	40%	33%	3%	76%	0.70	44%
Gaza	26%	41%	20%	6%	67%	<b>1.57</b>	50%
Maputo	8%	18%	3%	0%	41%	0.58	29%
Food crop farmers	6%	24%	11%	1%	63%	0.42	42%
Skilled traders	4%	22%	7%	1%	65%	0.28	51%
Fishermen	5%	19%	3%	0%	49%	0.26	33%
Salaried	6%	21%	7%	0%	49%	0.40	29%
Remittances	3%	17%	13%	1%	49%	0.35	37%
Agropastorals	21%	60%	32%	2%	85%	<b>1.74</b>	51%
Cash Crop farmers	9%	36%	20%	2%	72%	0.68	44%
Assisted households	3%	6%	2%	1%	40%	0.25	31%
Petty traders	11%	29%	11%	1%	56%	<b>0.95</b>	33%
Builders	1%	27%	4%	3%	65%	0.37	38%
Casual labourers	5%	18%	7%	0%	51%	0.20	35%
Brewers	6%	22%	12%	1%	71%	0.53	37%
Small business	5%	22%	8%	0%	59%	0.40	36%
Pensioners	4%	23%	1%	0%	57%	0.28	44%

- Poultry is main type of livestock with 59% of the households owning at least one bird, followed by goats and/or sheep (24%)
- Compared with the previous year, there is a generalized increase in the amount of livestock owned by the households. Indeed, almost 40% of households had an increase in the TLU index, while 30% showed a decline and the rest remained the same.
- Households in *Gaza*, *Manica* and *Tete* provinces are more likely to own livestock (TLU equal to 1.6, 0.9 and 0.9 respectively). In particular, *Gaza* shows values much higher than the national average on all the animals. Here, one fifth of the households (26%) own at least one ox, 41% at least a goat, 67% at least a chicken/duck/etc. It is interesting to report that in *Gaza* and *Manica* the percentage of *Agropastoralist* households is above the national value, but it is not the highest, as it is in *Sofala* and *Inhambane*.
- Obviously the *Agropastoralist* households have the highest mean TLU and the highest percentages of ownership, followed by the *Petty trader* households which particularly own goats / sheep.
- It is not surprising that the *Agropastoralists* tend to sell / exchange animals more than other groups (followed by petty traders) because they tend to have larger amount of livestock and to use as capital. Data shows that *Agropastoralists* tend to sell goats and poultry especially to meet daily expenditures and buy food, and to sell/exchange oxen mainly sold to buy food and meet emergency expenditures. These findings suggest the importance of tracking particularly oxen selling / exchange for this group because they can be a sign of a decline in households capability to face normal expenses.

## 6.6. SUMMARY

Like in the previous chapters, results related to natural capital have been summarized into a table that outlines the provinces with a poor performance on key indicators.

Maize processing is particularly challenging for households in *Gaza*, followed by those in *Maputo* province. In *Gaza* the vast majority of the households don't have the mill in their village (*aldeida*) and 64% of them live more than 2 hours travelling time from the mill. All of them have to process the maize manually and the majority pay for milling.

*Zambézia* province has the highest percentage of small farmers, cultivating nothing or less than 0.5 ha, and reported the highest decrease in crop production during the current season. In terms of harvest duration, signs of concern come from *Gaza*, where 72% of the households with land reported that they did not harvest at all or that the harvest lasted less than a month.

Indicators	Provinces where the vulnerability characteristic is more frequent
% HH with less access to land	Maputo (62%), especially peri-urban Maputo
% HHs farming only in the highlands (exclusively rain-fed)	Inhambane (72%) Cabo Delgado (60%) Sofala (59%)
% HHs cultivating nothing or <0.5 ha	Zambézia (22%) Maputo (19%)
% HHs with no / short harvest (less than a month)	Gaza (72%) Inhambane (41%)
% HHs cultivating less than the previous season	Zambézia (33%) Sofala (30%)
% HHs living in a village with no mill	Gaza (90%) Inhambane (84%) Maputo (84%)
% HHs living at more than 2 hours from the mill	Gaza (64%)
% HHs milling manually	Gaza (99%) Maputo (99%) Inhambane (86%)
% HHs that have to pay for milling	Gaza (61%)



## 7. FOOD CONSUMPTION

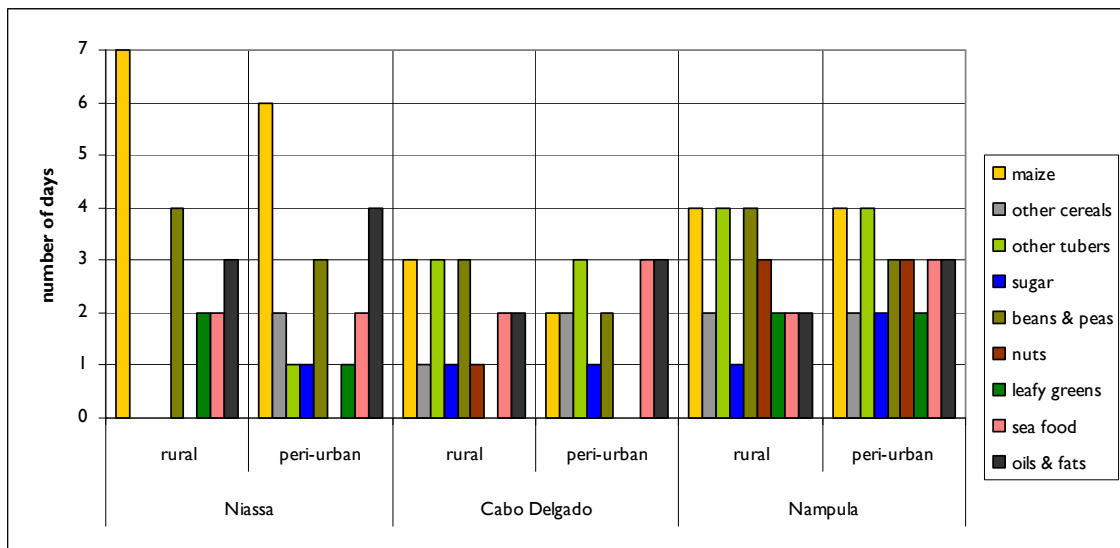
### 7.1. DIET DIVERSITY AND FOOD SOURCES

Research has shown that dietary diversity<sup>11</sup> and frequency are a good proxy of food security at household level. The study collected data on food consumption: the variety and frequency of different foods consumed over a 7-day recall period was recorded. Data were analysed separately (item by items) and then combined into an indicator (the food consumption score) that takes into account the frequency, diversity and the nutritional value of the food consumed.

#### 7.1.1. Composition of diet

The charts below show the median number of days foods/food groups were eaten during a seven day period, for both rural and urban households in each province. In *Niassa*, rural households are mainly living on daily consumption of maize plus beans/peas 4 days per week and oil/fats only 3 days. They also consume leafy green vegetables and fish/shell fish about 2 days per week. Peri-urban households in *Niassa* have a slightly more diversified diet by adding other cereals twice a week and also eating tubers and sugar at least once a week. Similar interpretations can be made for the other provinces in the chart.

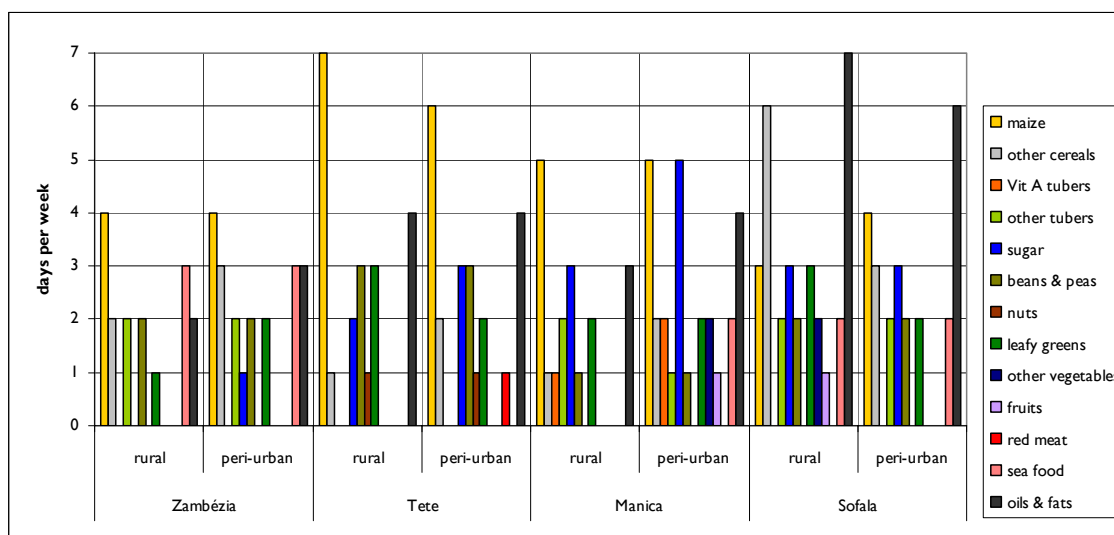
**Figure 7.1: Number of days foods consumed per week – Northern Provinces**



For central provinces, consumption is more diverse, except in *Zambézia* where most households rely on starches and some fish/shellfish for regular consumption. In general, peri-urban consumption is more diverse than rural except for households in *Sofala* province. It is also important to note that the main staple food changes from cassava in the North, to maize in the South, with Central region having a combination of the two staples in their diets.

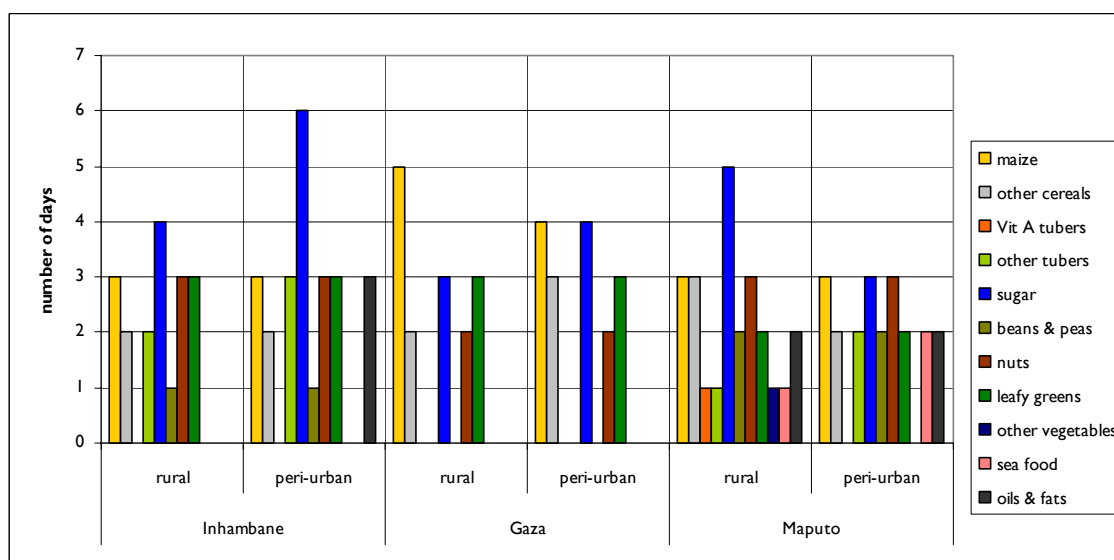
<sup>11</sup> Dietary diversity is defined as the number of individual foods or food groups consumed over a given period of time

**Figure 7.2: Number of days foods consumed per week – Central Provinces**



Households in peri-urban areas of *Inhambane* have a more diverse diet than those in rural areas while rural households in *Maputo* appear to have a more diverse diet than in peri-urban areas. In general consumption in *Gaza* is poor with rural households that tend to consume maize 5 days a week, other cereals the remaining 2 days and then sugar, nuts and greens a few times a week with peri-urban households eating the same foods but at slightly different frequencies.

**Figure 7.3: Number of days foods consumed per week – Southern Provinces**



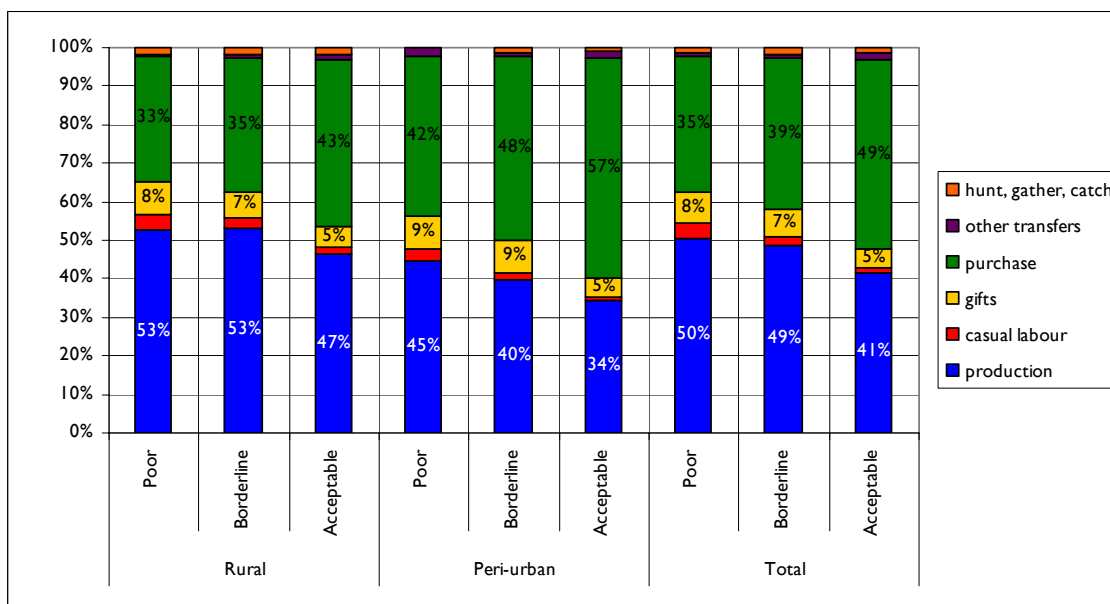
### 7.1.2. Food Sources

Households were asked about main sources of the different foods they consumed. This information is very useful to understand the sustainability of the current consumption and to identify groups that are likely to face challenges in case a specific shock occur (e.g., decrease in crop production, increase in market prices, disruption of food assistance).

The chart below compares food sources by consumption groups and rural/peri-urban zone. As expected, rural households rely more on own production to access their food compared to peri-urban households who rely more on purchase. However, by consumption group, those with 'poor' consumption rely less on purchase than those with 'borderline' or 'acceptable' both in rural and peri-

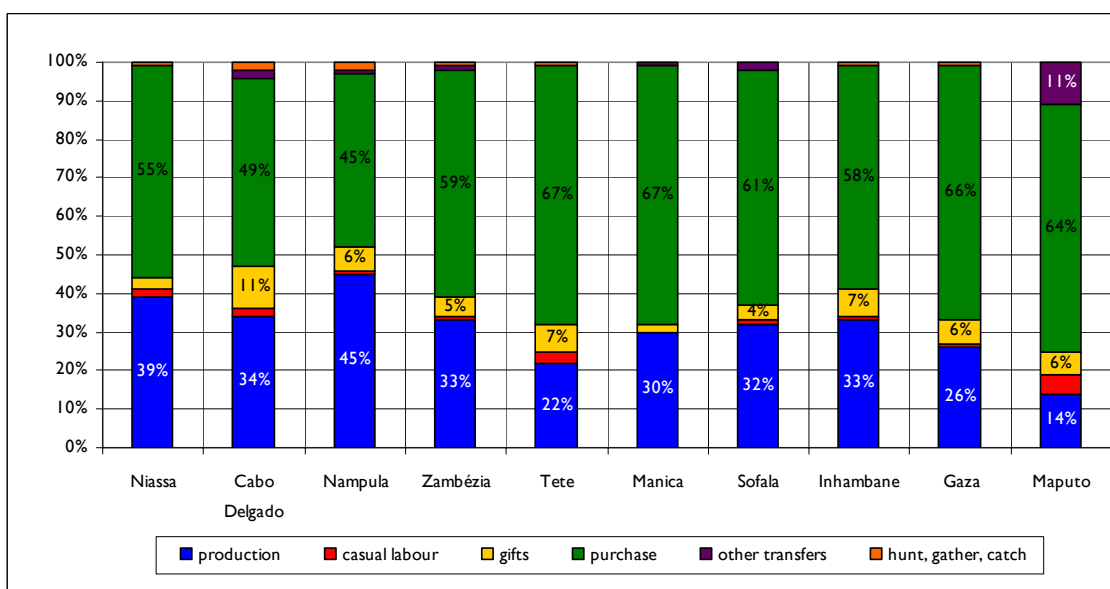
urban areas - this relationship is more pronounced in peri-urban settings. The households with 'acceptable' consumption rely less on gifts than the others, regardless of zone.

**Figure 7.4: Sources of foods consumed by consumption group and Zone**



The chart below shows the source of food for peri-urban zones by province. By region, the peri-urban households in the Northern provinces tend to rely on own production more than the others. Peri-urban households in *Cabo Delgado* source 11% of their food from gifts which is much higher than in any other province. About two-thirds of the food consumed by peri-urban households in *Tete*, *Manica* and *Gaza* provinces is accessed through purchase which is higher than the other provinces. In *Maputo* province, peri-urban households are unique in that they acquire about 11% of their food from other transfers such as borrowing, food assistance and bartering. They also have the highest percentage of food accessed through casual labour (*ganho ganho*).

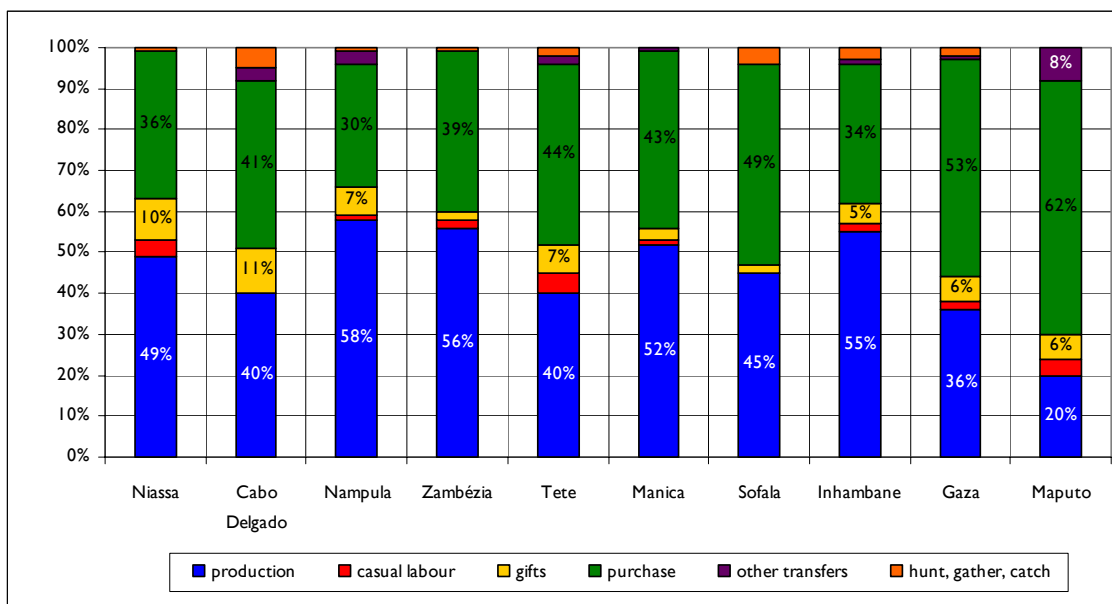
**Figure 7.5: Sources of foods consumed in peri-urban zones by Province**



As expected, households in rural areas access more of their food from own production with the greatest reliance amongst households in *Nampula*, *Zambézia* and *Inhambane* and the least in *Maputo*

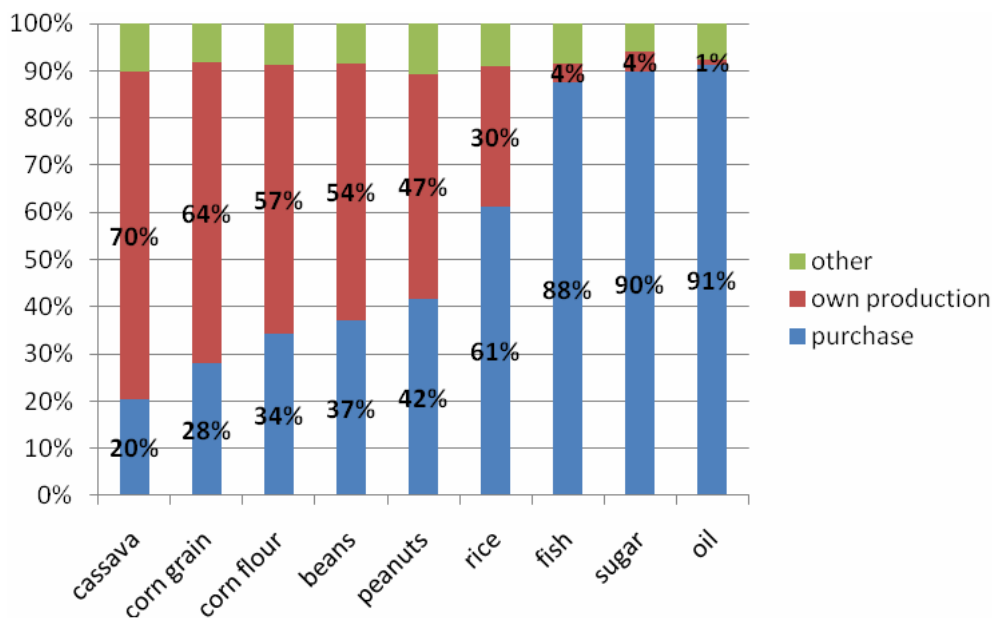
province households. Reliance on gifts is similar to peri-urban households yet slightly more of food for rural households in *Cabo Delgado*, *Sofala* and *Inhambane* comes from hunting, gathering or fishing.

**Figure 7.6: Sources of foods consumed in rural zones by Province**



Looking at the different types of food, own production is the main source for cassava (70% of the households), corn grain (64%), corn flour (57%), beans (54%) and peanuts (47%) whereby purchase is the main source for fish (88%), sugar (90%) and oil (91%).

**Figure 7.7: Main sources for particular food items**



The table below provide more insight on the usual food sources. In particular, for the key food items consumed in the country, it points out the provinces that heavily rely on purchase or production. This information helps forecasting the impact that an increase in price can have in the different provinces.

**Table 7.1: Contribution of production / purchase by province and livelihood group**

	Purchase more relevant in:	Production more relevant in:
<b>Cassava</b>	• Tete (46%)	• Nampula (83%)
<b>Maize grain</b>	• Gaza (56%)	• Niassa (84%)
<b>Maize flour</b>	• Gaza (79%) • Maputo (69%)	• Niassa (84%) • Manica (81%)
<b>Beans</b>	• Sofala (75%)	• Nampula (79%)
<b>Peanuts</b>	• Gaza (83%)	• Nampula (72%)
<b>Rice</b>	• Gaza (89%) • Tete (87%)	• Zambézia (48%) • Nampula (47%)
<b>Fish</b>	• Zambézia (95%)	• Inhambane (8%)

## 7.2. HOUSEHOLD FOOD CONSUMPTION SCORE

### 7.2.1. Food Consumption Score Methodology

The analysis of the consumption of various foods does not take into account the nutritious values of the items consumed, whereas the Food Consumption Score (FCS) reflects the diversity and frequency (number of days per week) of the food items consumed by households. FCS is a standardized frequency weighted diet diversity score.<sup>12</sup> It is therefore a good proxy indicator of household food security. The FCS is computed by grouping together the food items for which consumption was assessed over a seven-day recall period. The frequency represents the number of days the food was consumed in one week, ranging from '0' (never) to '7' (every day). A weight is assigned to each food group based on nutritional quality. All food groups and weights are presented in the following table. The FCS is the sum across food groups of the product of frequency by weight.<sup>13</sup>

**Table 7.2: Food items, groups and weights for calculation of FCS**

	Food Items	Food Group	Weight
1.	Cereals: corn, wheat, sorghum, rice, bread; Roots and tubers: manioc, sweet potatoes; Banana	<b>Staples</b>	2
2.	Pulses: peanuts, beans	<b>Pulses</b>	3
3.	Vegetables: including green leafy vegetables, shoots	<b>Vegetables</b>	1
4.	Fruits	<b>Fruits</b>	1
5.	Animal Proteins: fish, meat, eggs	<b>Meat &amp; fish</b>	4
6.	Milk & milk products	<b>Milk</b>	4
7.	Oil and fats	<b>Oil</b>	0.5
8.	Sugar	<b>Sugar</b>	0.5

Once the FCS is computed, two thresholds (21 and 35) are used to distinguish consumption level. The thresholds define three groups: households with **poor** consumption ( $\leq 21$ ); **borderline** consumption ( $> 21$  and  $\leq 35$ ); and **acceptable** consumption ( $> 35$ ).

### 7.2.2. Food Consumption Groups (August 2009)

Using the FCS and the 21 / 35 cut-off, at country level 9.1% of the households had a poor consumption; 18.3% had a borderline consumption and 72.6% an acceptable consumption. In terms of absolute figures, this corresponds to an estimate of 309,100 households with poor consumption households, 624,100 with borderline consumption and 2,471,400 with acceptable consumption.<sup>14</sup> By

<sup>12</sup> Ruel M. 2003. Operationalizing Dietary Diversity: A Review of Measurement Issues and Research Priorities. *Journal of Nutrition* 133 (11 suppl. 2) 3911S-3926S.

<sup>13</sup> Quantities consumed are not included in the FCS. Only food items consumed as a substantial meal during the seven-day recall period were recorded.

zone, 7% of peri-urban households and 11% of rural households had poor food consumption while 16% of peri-urban and 20% of rural households had borderline consumption, leaving only 78% of urban and 66% of rural households with acceptable food consumption.

**Table 7.3: Distribution of weekly consumption (by food group) of the food consumption groups**

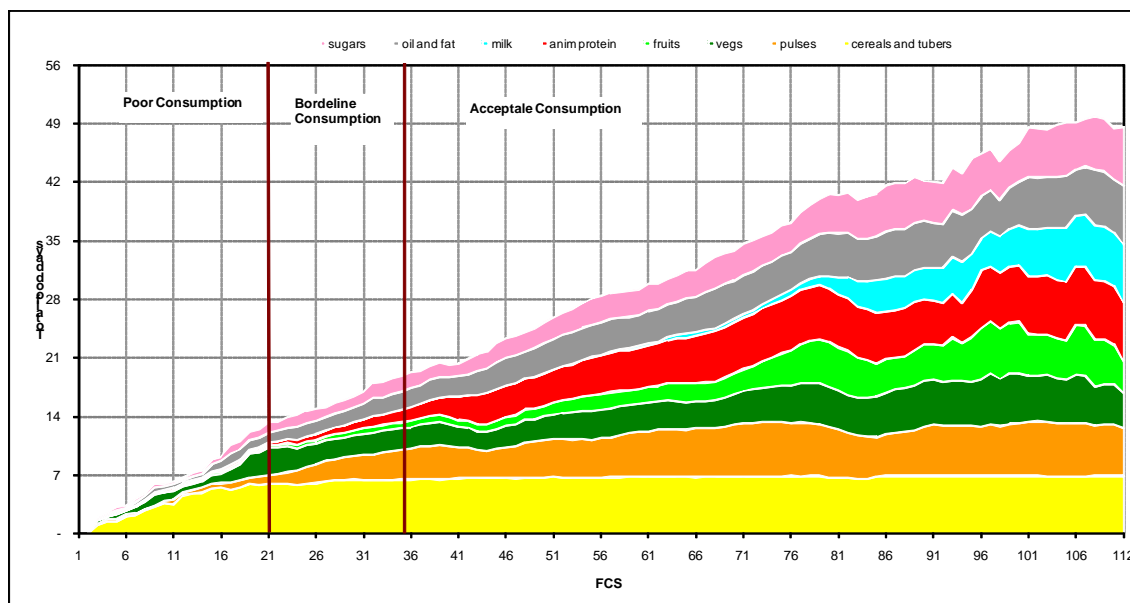
Food consumption groups	%	Estimated number of HHs (peri-urban + rural)	Food groups (weekly consumption)										FCS average
			Cereals	Tubers	Pulses	Vegetables	Fruits	Animal protein	Oil	Sugar	Milk	CSB	
Poor	9.1%	309,100	4.9	0.6	1.8	0.2	0.2	0.8	0.6	0.0	0.0	15.2	
Borderline	18.3%	624,100	6.3	2.5	2.6	0.6	0.9	1.8	1.5	0.0	0.0	28.8	
Acceptable	72.6%	2,471,400	6.8	4.7	3.1	1.7	4.1	3.5	2.7	0.4	0.3	54.1	
Mozambique	100 %	3,404,600	6.5	3.9	2.9	1.4	3.2	3.0	2.3	0.3	0.3	46.1	

The diet of the households with **poor food consumption** was exclusively based on staples (consumed five days per week) with some contribution of vegetables (consumed 2 days in a week). Animal and vegetable proteins were essentially absent from the diet of this group (averages are 0.6 for pulses, 0.2 for animal proteins and 0 for milk).

The households with **borderline consumption** were eating cereals on daily basis; pulses and vegetables are consumed almost 3 times a week. They showed greater consumption of almost all food items compared to households with poor consumption. This was especially evident for pulses (2.5 day/week compared to 0.6 days/week for the poor consumption group), followed by oil, animal proteins, vegetables and sugar.

The households with **acceptable food consumption** eat cereals daily and frequently consume pulses and animal proteins (4.1 and 4.7 respectively). Vegetables and oil are also significantly present in the diet (3.1 and 3.5 respectively).

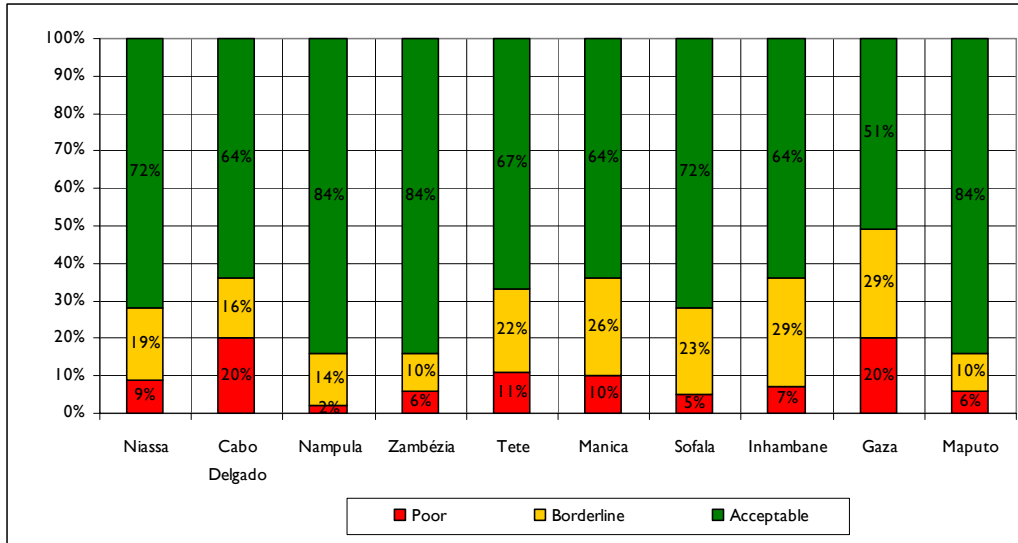
**Figure 7.8: Progressive increase in consumption by FCS value**



The chart below shows that in peri-urban zones, there is quite a variation between provinces in terms of food consumption. Peri-urban households in Gaza have the worst consumption, with only half reaching acceptable levels of consumption. In *Cabo Delgado*, *Manica* and *Inhambane*, only about two-thirds of the peri-urban households have acceptable levels of consumption. Food consumption is best

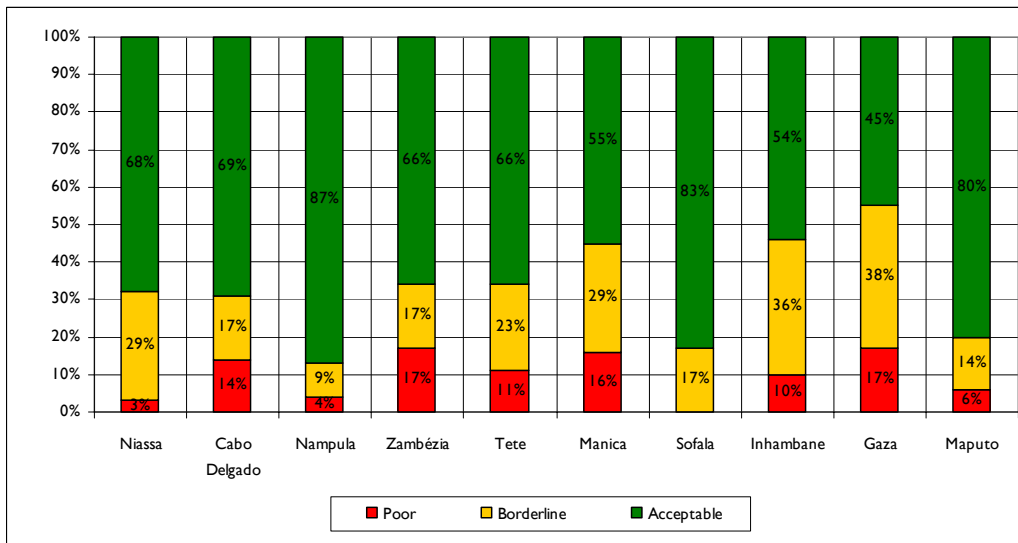
in *Nampula* peri-urban areas, followed by *Zambézia* and *Maputo* where 84% of the households have acceptable consumption.

**Figure 7.9: Food consumption categories by Province – Peri-urban Zones**

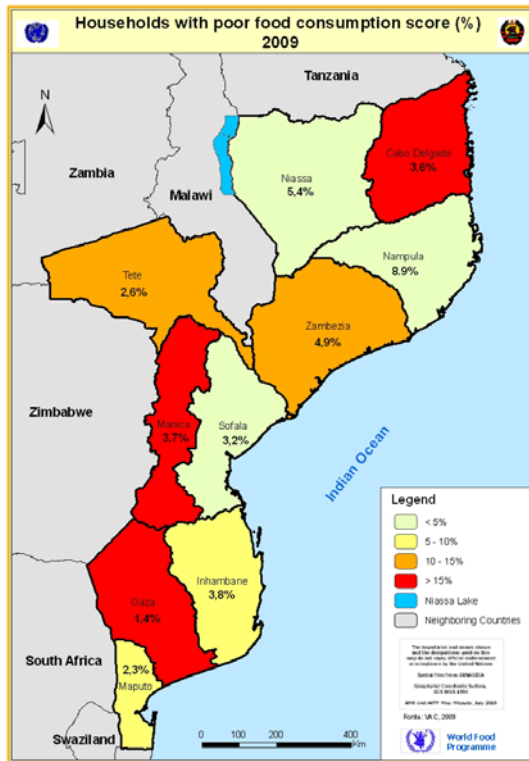


For rural zones, households in *Gaza* also have the worst consumption with only 45% achieving acceptable levels and 17% with poor consumption. Around 55% of the rural households in *Manica* have acceptable consumption – 16% have poor consumption. *Zambézia* province has 17% of rural households with poor consumption but two-thirds also have acceptable consumption. Overall, the best levels of consumption in rural zones are found in *Nampula*, *Sofala* and *Maputo* provinces where more than 80% of the households have acceptable consumption.

**Figure 7.10: Food consumption categories by Province – Rural Zones**



**Figure 7.11: Percentage of households with poor food consumption by Province**



The map on the left shows the geographic distribution of households with poor consumption by province. The highest percentage of households with poor/borderline consumption are found in *Gaza* (53%), followed by *Manica* (44%) and *Inhambane* (43%).

Also households in *Cabo Delgado* have a serious food security profile: here the prevalence of acceptable consumption is not as low as in the above provinces (68%), but the percentage of poor consumption households is as high as 15%. During the 12 months prior to the assessment, many households reported to have been hit by a shock (31%). This can easily explain the surprising results on this province and the large difference with last year.

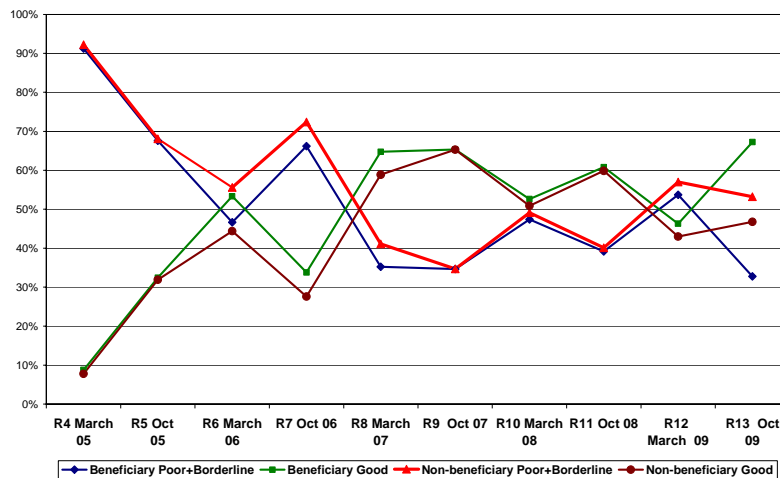
Vice versa, *Maputo* province and the strip composed by *Nampula*, *Zambézia* and *Sofala* show the highest percentage of households with acceptable consumption.

### 7.2.3. Comparison with other studies

The food consumption score is measured twice a year during the WFP Community and Household Surveillance System/Post-Distribution Monitoring (CHS/PDM)<sup>15</sup>.

The longitudinal analysis of the CHS data suggests that the percentage of households with poor / borderline consumption has decreased during the past 5 years (2005-09), which means that households' access to food has improved. In March and October 2005, March and October 2006, more than 50% of

**Figure 7.12: Trends of poor and borderline consumption**

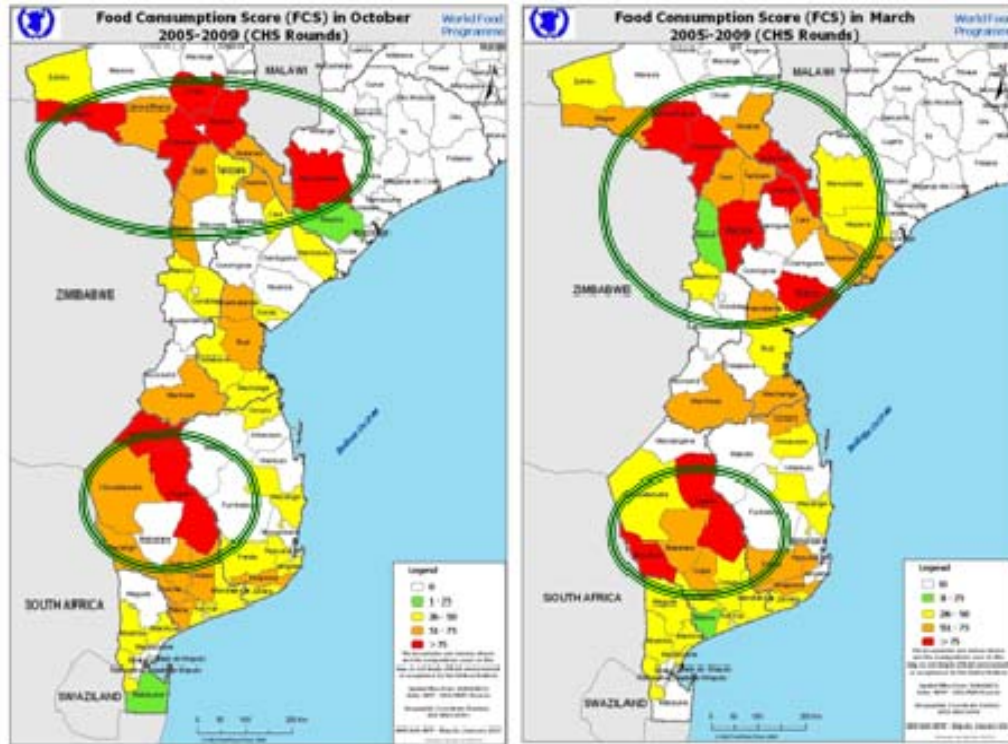


<sup>15</sup> The Community and Household Surveillance (CHS) is a regional initiative in operation since 2003, covering several countries in Southern Africa (Mozambique, Zambia, Zimbabwe, Lesotho, Malawi and Swaziland). WFP's primary objective is to use the CHS to measure the outcome of WFP food aid interventions, looking at the short- to medium-term effects of food aid to beneficiary households, and trends in livelihoods and food security situation.



households reported poor/borderline consumption, whereas the most favourable periods were March 2007 and October 2007 (35-40% of households with poor/borderline consumption). During the latest round (October 2009) the percentage of households with unacceptable consumption was approximately 41%. In addition, the CHS/PDM results indicate that the most critical districts are located in the south of *Tete* and the south of *Gaza*.

**Figure 7.13: Critical areas according to the FCS (2005-09)**

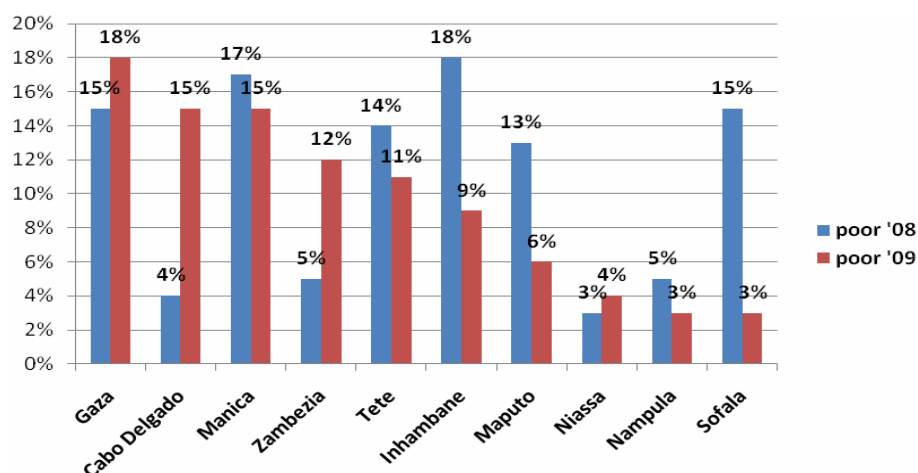


The CHS/PDM data are particularly useful to monitor the food security status of the assisted areas/beneficiary households and get an understanding of the intra-province variations (i.e., to identify critical districts within the provinces). Yet, CHS/PDM data are not strictly comparable with the findings from a National Vulnerability Assessment. Even when results are reported only for the non-beneficiaries, CHS surveys focus only on assisted areas<sup>16</sup>. In addition, the presence of food assistance in the sampled communities introduces a bias in comparing the monitoring data with the survey data. With these caveats in mind, an attempt has been made to triangulate the CHS findings with the 2009 data from the vulnerability assessment. It can be noted that, on *Gaza*, there is convergence of results (classified as critical by the CHS and the worst in the 2009 national vulnerability assessment), whereas *Tete* has a better profile than expected. However, the analysis of the coping strategies will highlight the presence stressful food rationing in this province (see food rationing paragraph).

The 2009 results from the national vulnerability assessment have been compared against the 2008 findings from the same exercise. The figure below helps the comparison. *Gaza* and *Manica* are confirmed to be among the most food insecure provinces; *Niassa* and *Nampula* are confirmed as the most food secure. *Tete* has a similar position (intermediate) both in 2008 and 09. Major changes can be noted in *Sofala* and *Maputo* (strong improvement) and in *Cabo Delgado* and *Zambézia* (strong decline in consumption). As mentioned above, the shock frequency has been particularly high in *Cabo Delgado* as compared to the other provinces and this can explain the difference between 2008 and 2009.

<sup>16</sup> In Mozambique, WFP presence is limited in the provinces of *Niassa* and *Cabo Delgado*, where only school feeding activities are implemented.

**Figure 7.14: Comparison of percentage of HH with poor consumption – 2008 to 2009**



### 7.3. MAJOR FACTORS ASSOCIATED WITH FOOD CONSUMPTION

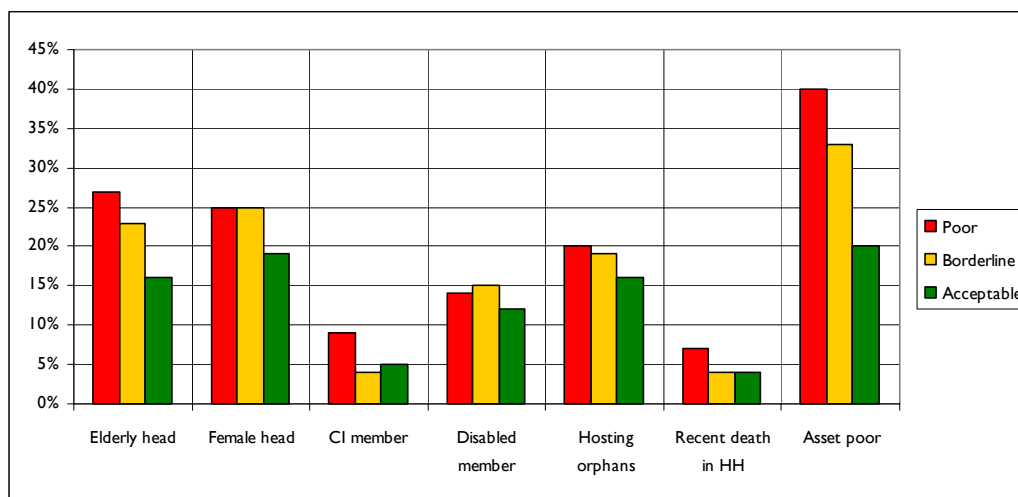
#### 7.3.1. Human and Social Capital

For targeting purposes, it is important to explore the background characteristics of households with poor food consumption.

In terms of demographic characteristics, the main distinguishing feature of the households with 'poor' consumption is that they tend to have an elderly head. In addition, they are the most likely to have experienced the recent death of a member, to have a chronically ill member and to be hosting orphans compared to the other groups<sup>17</sup>.

There is no difference between 'poor' and 'borderline' consumption households and the occurrence of female headship, although it is higher than in households with 'acceptable' consumption. In general, households with 'acceptable' consumption are less likely to have key demographic characteristics that are signs of vulnerability.

**Figure 7.15: Key demographic characteristics by food consumption groups**



<sup>17</sup> Differences are statistically significant at 0.05 level.

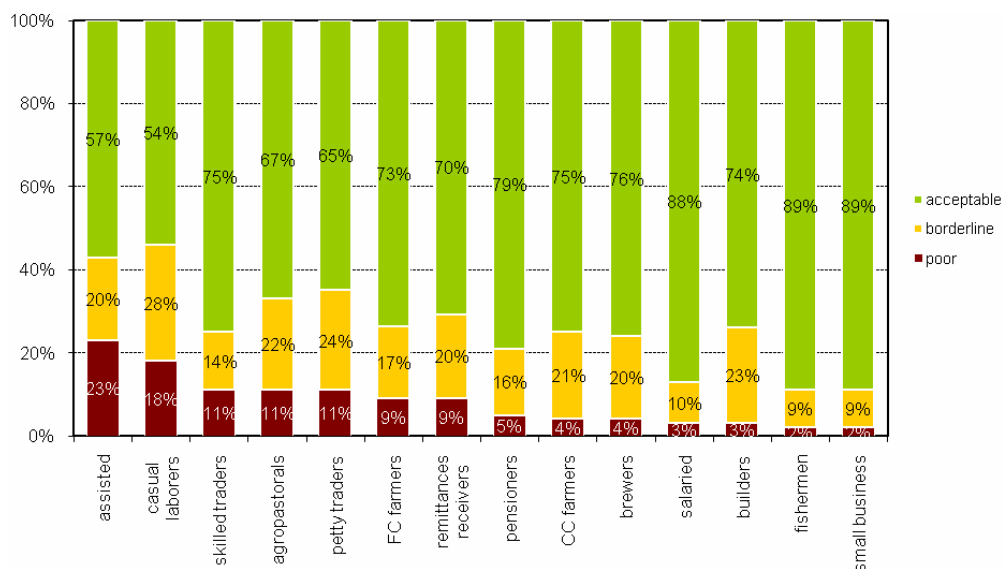
### 7.3.2. Food Consumption and Livelihoods

There are several differences in consumption across the livelihood groups. The *Assisted* group has the highest percentage of households with poor consumption (23%), a fairly high prevalence of borderline consumption (20%) and the second lowest prevalence of acceptable consumption (57%). It is worth to remember that food assistance is only one of the various types of support that these households receive. Most of them heavily rely on begging and gifts (non-formal support). It is therefore not surprising to see that these households struggle in achieving acceptable consumption levels.

The profile of the *Casual labourers* is also problematic: this group has the second highest percentage of households with poor consumption (18%), the highest percentage with borderline consumption and the lowest with acceptable consumption.

Poor consumption among the *Petty traders* and *Agro-pastoralists* is not as high as the previous two groups (it stands to 11%), however only 65% and 67% of them have an acceptable consumption and this makes their food security profile more serious. *Fishermen*, *Small business* and *Salaried* households show the best food consumption profile.

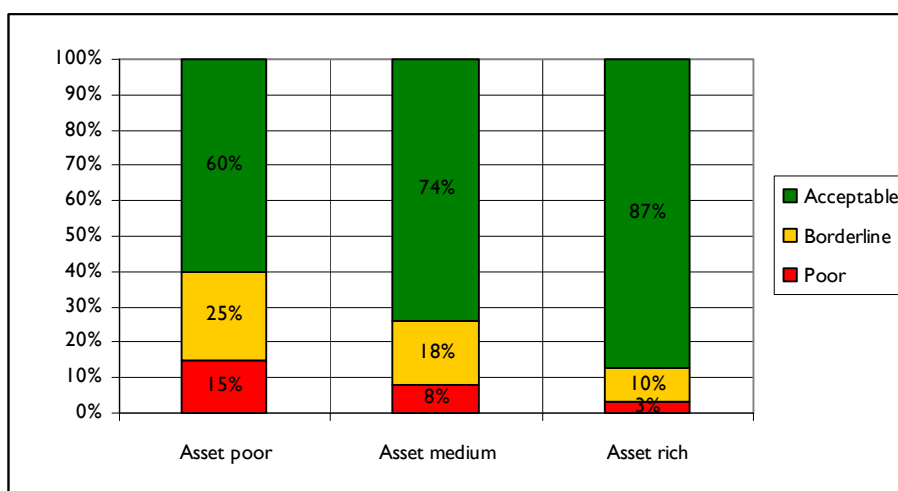
**Figure 7.16: Food consumption groups by Livelihood profiles**



### 7.3.3. Physical, Natural and Economic Capital

There is a clear relationship between asset wealth and household food security as measured by food consumption, suggesting that asset ownership can be efficiently used to target households for food assistance. As asset wealth decreases, the percentage of households with acceptable consumption also decreases, from 87% for asset rich, 74% for asset medium households and 60% for asset poor households.

**Figure 7.17: Consumption groups by asset wealth**



As mentioned above, agricultural production strongly influences food availability, especially for the households who rely mainly on agriculture, such as the cash and food crops farmers or the agropastorals. It is therefore interesting to explore the association between agriculture and food consumption in order to get a first understanding of the main driving forces to food insecurity.

At the bivariate level, there is no clear association between access to land and good consumption level, most likely due to the fact that households with no land engage into other activities. Looking only at the households with land, it has been observed that consumption does not have a clear relationship with the amount of land cultivated, but a clear positive relationship has been noted between consumption and duration of harvest, except for the households who did not harvest at all.

## 7.4. CHANGE IN CONSUMPTION AND PURCHASE

### 7.4.1. Change in consumption

During the survey, households were asked to mention if there was a decrease in consumption for maize, maize meal, rice, or cassava.

Overall, more households reported a decrease in rice consumption (23%), followed by maize (10%), maize flour (7%) and cassava (6%). While there is no clear linear relationship between decrease in consumption of staple foods and food consumption level or wealth level, some differences exist between provinces and livelihood groups. In general, decrease in consumption is more common amongst households in *Maputo*, *Sofala*, *Gaza* and *Nampula* and among households in the *Fishermen* and *Pensioner* livelihood groups. The table below provides more details on each food item.

**Table 7.4: Changes in consumption by Province and livelihood group**

Decrease in maize consumption	Decrease in maize meal consumption	Decrease in rice consumption	Decrease in cassava consumption	Decrease in consumption of 2 or more foods
Nampula (17%) Gaza (15%)	Nampula (13%) Inhambane (11%)	Nampula (37%) Sofala (41%)	Sofala (19%)	Maputo (19%) Sofala (19%) Gaza (18%) Nampula (18%)
Fishermen (32%)	Fishermen (19%)	Agropastorals (34%)	Remittance receivers (11%)	Fishermen (27%) Pensioners (21%)

Households were asked if they substituted with the consumption of other food items due to the increase in price of cereals. Overall, 20% of the households reported that they preferred other foods. Most of them reported an increase in consumption of cassava (57%), followed by maize meal (11%). The asset poor and medium households were more likely to switch to other foods compared with the asset rich ( $p < 0.05$ ). This clearly suggests that the rich households can better manage the

increased price of cereals and have more chances to maintain their usual diet. Households with borderline consumption tend to change their diet more than those with poor and acceptable consumption, although only the difference with the acceptable groups is statistically significant.

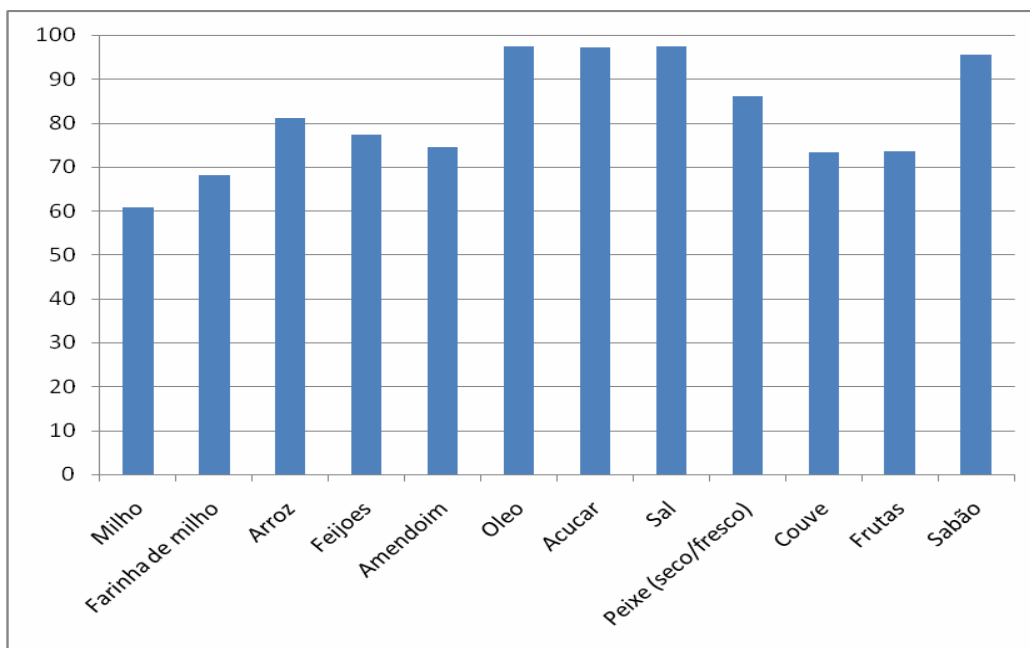
Cassava is the preferred alternative regardless of the level of consumption and wealth. However, the asset rich tend to choose among a larger variety of items, as they buy also vegetables, fruits, bread and maize.

Households in *Inhambane* (46%), *Cabo Delgado* (32%), *Sofala* (30%) and *Gaza* (29%) tend to consume other foods more than households in other provinces. Interestingly, there are differences in the preferred alternatives. While in *Inhambane* and *Cabo Delgado* cassava is certainly the main alternative to maize, in *Gaza* bread is also important, and in *Sofala* maize meal is the main alternative (58%) of the households.

### 7.4.2. Changes in quantities purchased

About 70% of the households confirmed that a functioning market was available in their communes. Most of these local markets mainly sell manufactured products such as oil, soap, sugar, salt as well as maize and rice. Few markets have vegetables and fruits.

**Figure 7.18: Food availability on the market**



During the survey households were asked to report if the quantity of maize, maize flour, rice and cassava purchased at the market changed over the last year. The majority of the households (78%) reported either no decline or a decline only on one item while 16% of the households reported a decline in the purchase of 3 or 4 of the suggested items.

Rice purchase show the largest decline, with 23% of the households reporting a decrease in the quantity of rice bought on the market. In addition, 16% of the households reported a decrease in maize purchase, 11% a decrease in maize flour purchase and 10% a decrease in cassava. The decline in purchase is particularly clear in *Sofala*, where 25% of the households reported a decline in 3 or 4 items, followed by *Nampula* (18%).

## 8. RISKS AND VULNERABILITY CONTEXT

### 8.1. HAZARDS

Due to its geographical location, Mozambique is likely to suffer from a variety of adverse climatic events such as drought, flood and cyclone. Indeed, consecutive disasters have affected the country over the past five years increasing the vulnerability of the population living in disaster-prone areas. In addition, many of these areas affected by natural disasters are also where HIV and AIDS are having a major impact on the vulnerability of much of the population and where chronic food insecurity is widespread.

Since the country is characterized by great irregularity in rainfall, it is battered either by excessive rains that cause floods in the main river basins, or by suffer insufficient rains leading to prolonged drought, water management systems pay an important role, particularly at HH level. Major tropical storms or cyclones also hit its vast coast line.

#### 8.1.1. Floods

The geographic location of the country, a long coast line extending for more than 2,500 km, a very flat topography and its location downstream of nine main river basins in Southern Africa, make Mozambique highly susceptible to seasonal floods.

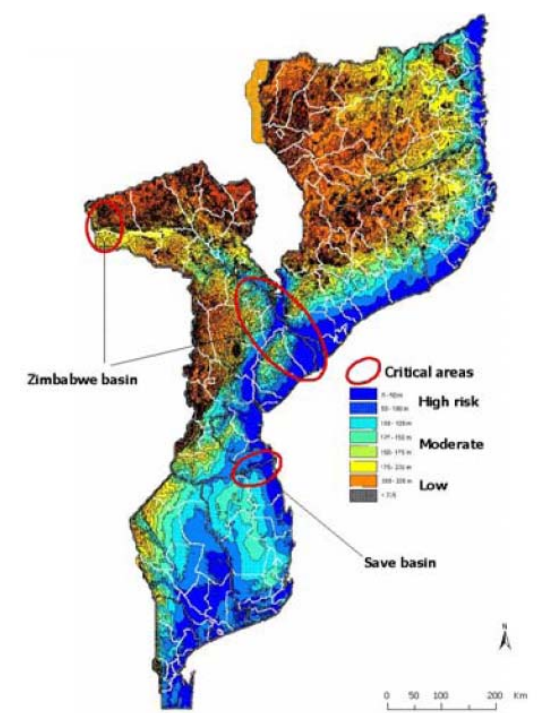
A large part (52%) of the Mozambican territory is included in international river basins. Mozambique shares with the other southern African countries nine basins, four of them located in the south and three in the centre. The remaining two basins are the *Zambezi* and the *Rovuma* (the only one where Mozambique is not at the downstream end of the river). Except *Rovuma*, all the other eight basins have their flood plains totally inside Mozambique; therefore floods that occur in country are mainly originated from intense rainfall in the upstream countries, stressing the needs for a strong coordination between countries, good communication channels and integrated water resources management.<sup>18</sup>

Flooding is a regular seasonal phenomenon along the seven major rivers that cross Mozambique. Probability is at the highest throughout the rainy season (from September to March). In particular, the peak period for floods occurs between October and March in the south and between January and April in the north, mainly due to heavy rains in the country and/or in the countries upstream.

The impact of floods on livelihoods is very broad, including the destruction of livelihood assets and infrastructures and the devastation of crops. During the 2000 floods, 700 people died and 550,000 had to be relocated, and Mozambique's annual economic growth rate was reduced from 8% to 2 percent.

Floods are potentially very destructive, but they also have a benefit of flood-recession agriculture. The people most at risk of a flood are those living along the river basins, particularly downstream. Only along the Zambezi valley about half million people could be affected, out of a total population of 2.8 million.

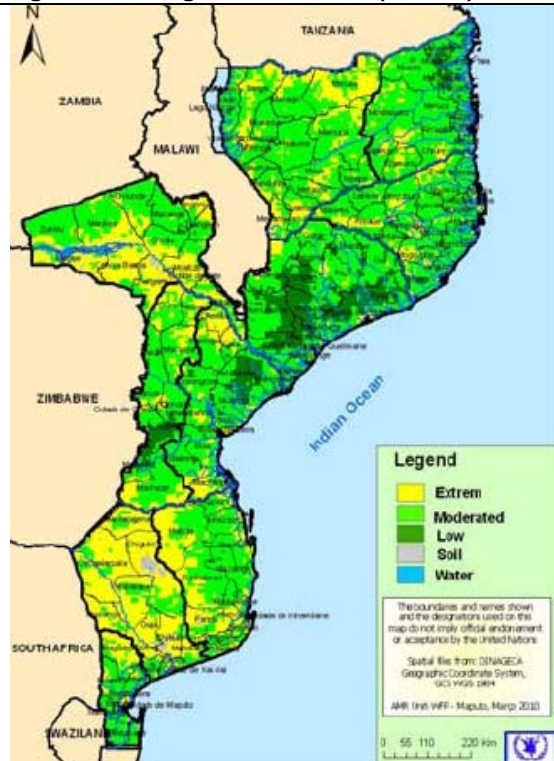
**Figure 8.1: Flood Prone Areas**



<sup>18</sup> "Managing water disasters and minimizing the vulnerability of Mozambique floods", Minister R. White

## 8.1.2. Droughts

Figure 8.2: Drought affected areas (2005-08)



Drought is the most frequent natural disaster and occurs every three to four years. Drought conditions are relatively recurrent in the southern and central regions of Mozambique, and account for a large part of the vulnerability in the country due to their impact on food security and livelihoods. It is estimated that droughts contributed to the death of about 4,000 people between 1980 and 2000. The main problem is that affected populations do not have sufficient time to recover from the economic and social impacts provoked by droughts between one cycle and the next. While the situation has improved in recent years due to increased agricultural production and food security, communities are still suffering from the effects of the prolonged drought that began in 2007.

Since agriculture and livestock are the main livelihood activities for the rural population in Mozambique, and more than 95% of the crop production is from rain-fed agricultural (i.e., very limited use of irrigation) harvests are conditioned by rainfalls and drought cycles. Drought is the major reason for harvest losses and, therefore, for the depletion of income sources of many vulnerable households.

The frequency of droughts is increasing over the years due to climate change and populations do not have the capacity to recover from one drought cycle to the next.

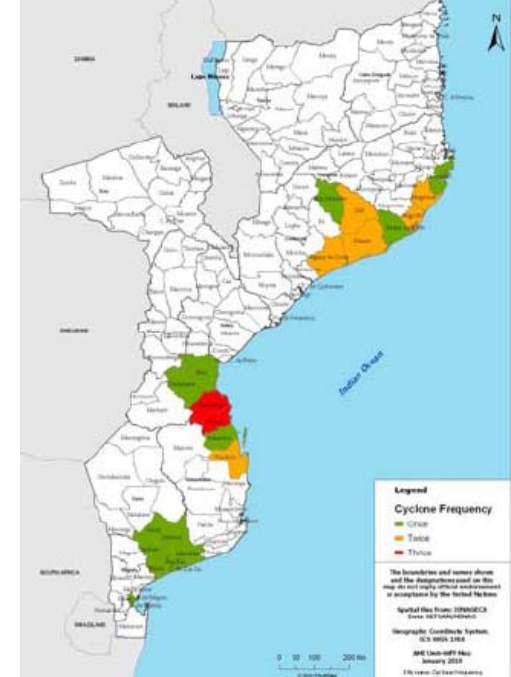
### 8.1.3. Cyclones

Almost the entire coastal area of Mozambique is highly vulnerable to cyclones.

Eleven cyclones reached the coast of Mozambique during the last 10 years. Historical data show that the districts most affected since 1960 are along the coast, in the provinces of *Nampula* (Angoche), *Zambézia* (Nicoadala), *Sofala* (Dondo and Buzi) and *Inhambane* (Vilankulos and Massinga). In particular, the most at risk areas is between Pemba and Angoche and near Beira.

The cyclone season runs from November to April, along with rainy season and coinciding with the main agriculture season. Most households affected by cyclones lost houses, food reserves, crops and fruit trees, and faced acute food shortages.

Figure 8.3: Cyclone frequency (2000-08)



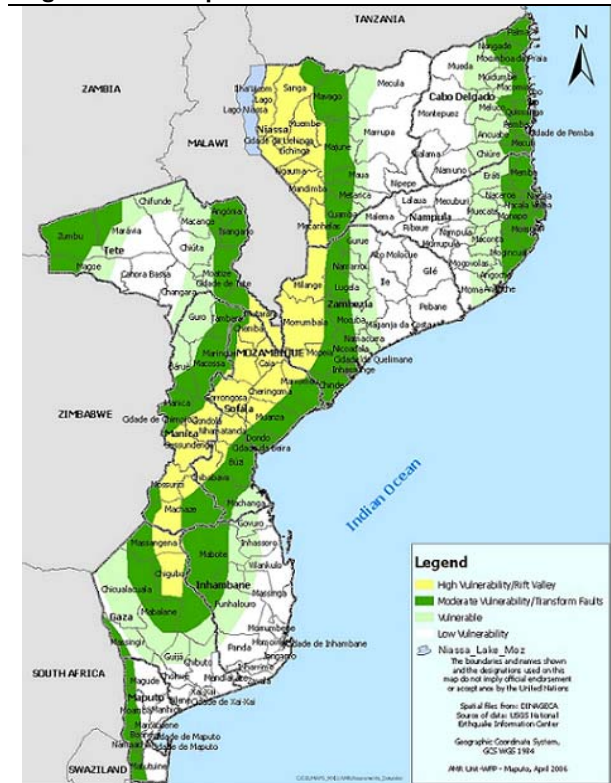
### 8.1.4. Earthquakes

Given their proximity to the East Africa Rift system, the central and northern provinces are prone to earthquakes.

Figure 8.4 shows the areas that are more subjected to earthquakes. Some of the areas at risk are densely populated, such as the districts of *Nampula* and *Zambézia* as well as the Zambezi River basin.

Obviously, the actual number of population at risk depends on the location of earthquake epicentre. For example, Chimoio, an important Mozambican provincial capital is located in a highly vulnerable area. Beira, a second provincial capital is located in a moderately vulnerable area.

Figure 8.4: Earthquake vulnerable areas





#### 8.1.4. Climate Change

Mozambique is a country exposed to extreme climatic events and vulnerable to climate variability and changes, due to its geographic location and the fragile socio-economic situation. Mozambique encompasses great spatial and temporal climatic variability. Most rivers in the country have high fluxes during 3 to 4 months and very low influxes during the rest of the year. The levels and distribution of rainfall during the wet season varies from year to year, as is characteristic of the southern African region, and rain is concentrated in a very short period of time and coincides with the hurricane season. Wetter and drier periods have been a recurrent feature in Mozambican history, where the drier periods often building up into severe droughts.

According to INGC (National Institute for Disaster Management), Climate Change has already affected livelihoods in Mozambique. Over the last 45 years, the average temperature in the country has increased by 1.6 °C. Rains have also been delayed, affecting therefore the crop cycle. It is expected that in the next 50 years, the average maximum temperatures will increase by 2.5-3 °C.

Climate stressors such as droughts and floods are likely to intensify due to future climate change, which may lead to higher temperatures, uncertain changes in rainfall, drying, intense rainfall events, a shortage of freshwater, reduced agricultural production, as well as rising sea levels and the inundation of some coastal areas. Some negative impacts of droughts include the loss of crops, drying of water sources, and reduction of grazing areas, loss of human and animal lives, and degradation of ecosystems and loss of biodiversity. Floods have resulted in the loss of lives and property, loss of crops, outbreak of diseases, and displacement of people. Cyclones often cause the destruction of infrastructure, disruption of water, sanitation and electricity supply systems, loss of lives, and displacement of people.

The INGC report “Study regarding the impact of climate change on the risk of disasters in Mozambique **“(Estudo sobre o impacto das alterações climáticas no risco de calamidades em Moçambique)”** also confirms this trend. It is stated that the country is not well equipped in terms of infrastructures against floods and cyclones and the climate change adaptation mechanisms. INGC forecasts the following events for the next coming years, stating that the country is not equipped in terms of infrastructures against floods and cyclones:

- As a result of the climatic events, the risk of natural disasters in Mozambique will increase during the next 20 years
- Temperature could increase by 2.5-3 °C
- The rainy seasons will be delayed
- An increase of the average precipitation in the south by 25%
- An increases of the flood peaks by 25% in the South
- A reduction in precipitation in the Central Region, increasing therefore the risk of droughts
- An increase in precipitation in the North
- No variation in terms of risk to droughts or floods in the North
- The Coastal regions are more vulnerable to natural disasters due to the low existent protection against cyclones and rising sea levels

## 8.2. SHOCKS AND RESPONSES

The survey aimed at identifying the mains shocks that affected household well-being, their severity and household capability to recover from them.

### 8.2.1. Number of shocks

Eleven percent of the sampled households reported that they had experienced occasions when they were not able to buy enough food or to cover other essential expenditure during the 12 months previous to the survey, with no difference between peri-urban and rural areas.

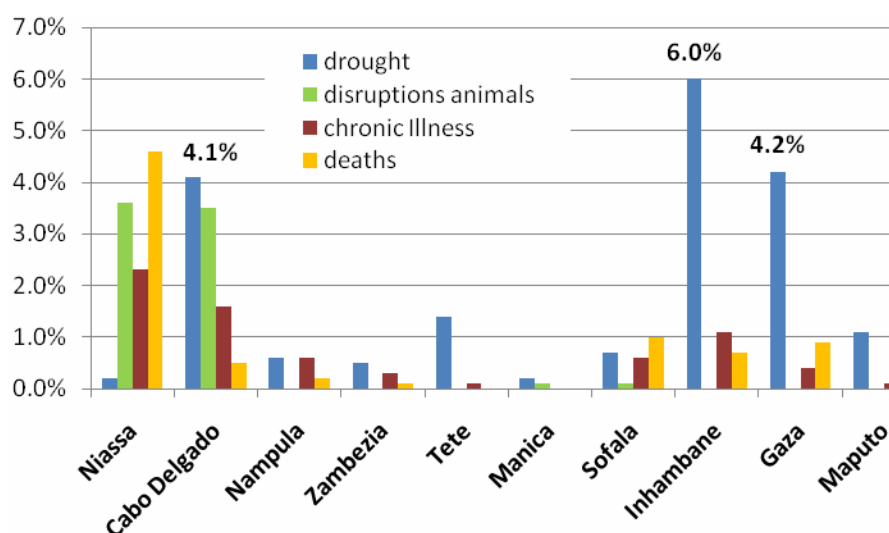
Seven percent of the households reported being affected by one shock, 4% mentioned more than one shock. The incidence of the shocks was highest in *Cabo Delgado* where 21% of the households reported one shock and 10% reported more than one. In *Inhambane* 21% of the households were affected by one shock and 4% by more than one. Households in *Gaza* (20%) and *Niassa* (17%) were also likely to be affected by at least one shock.

By livelihood group, households in the *Remittances*, the *Assisted*, the *Pensioners* and the *Petty traders* groups were more likely to report at least one shock. However this is expected as these groups are more vulnerable due to their reliance on external support which is not always reliable. However, it is less expected to see the high shock frequency among the *Petty traders*. For the same reason, it is not surprising to see that the reported shock frequency decrease as long as asset wealth and food consumption increase.

### 8.2.2. Main shocks

As mentioned earlier, only 11% of the households reported an extraordinary event that affected their household food security. When considering all of the households in the survey, drought was most often mentioned, by 4% of all households. Illness is also a critical issue: 1.5% of the households mentioned the loss of a household member, 1.4% reported the serious illness of a member, and 0.5% reported the death of the HH head. In addition, 1.2% of the households reported problems caused by wild animals.<sup>19</sup>

**Figure 8.5: Main shocks by Province (all households)**



The incidence of shocks remains small throughout the country. However, some differences can be easily identified.

- Irregular rains were reported more often by households in *Inhambane*, *Cabo Delgado* and *Gaza*.
- Attacks of wild animals are an issue only in *Niassa* and *Cabo Delgado* and virtually absent in the rest of the country.
- *Niassa* is also the province that is particularly concerned by the problem of illness / death of household members.

When considering only the households reporting a shock, the following highlights the types and frequency of shocks by province:

- **Niassa** – Death of HH member (27%), wild animal attacks (21%), chronic illness of HH member (13%)
- **Cabo Delgado** – Poor/irregular rainfall (44%), high level of animal diseases (35%), death of household member (15%)
- **Nampula** – Loss or theft of assets (63%), poor/irregular rains (31%), chronic illness of HH member (25%)
- **Zambézia** – Poor/irregular rainfall (36%), chronic illness of HH member (21%), loss or reduced income of HH member (21%)

<sup>19</sup> Other shocks were reported by the households, but the text highlights only the main ones.

- **Tete** – Poor/irregular rainfall (48%), death or loss of livestock (27%), high prices of inputs (26%)
- **Manica** – Wild animal attacks (48%), poor/irregular rainfall (38%), loss or reduced income of household member (20%)
- **Sofala** – Death of household member (30%), poor/irregular rainfall (20%), chronic illness of household member (18%)
- **Inhambane** – Poor/irregular rainfall (78%), chronic illness of household member (13%), death of household member (9%)
- **Gaza** – Poor/irregular rainfall (71%), unusually high illness of humans (16%), death of household member (14%)
- **Maputo** – Poor/irregular rainfall (78%), floods (72%), death of household member (20%), high price of inputs (20%).

### 8.3. COPING STRATEGIES

During the survey, households were asked to mention how many times a series of coping strategies for addressing shortfalls in food supply<sup>20</sup> were adopted during the 30 days prior to the data collection. The frequency and severity of the strategies have been combined into a single score: the Coping Strategy Index (CSI). The CSI measures the level of stress of the households in accessing food. A low score on the CSI means a reduced stress on the household ability to access food (relatively better food security).

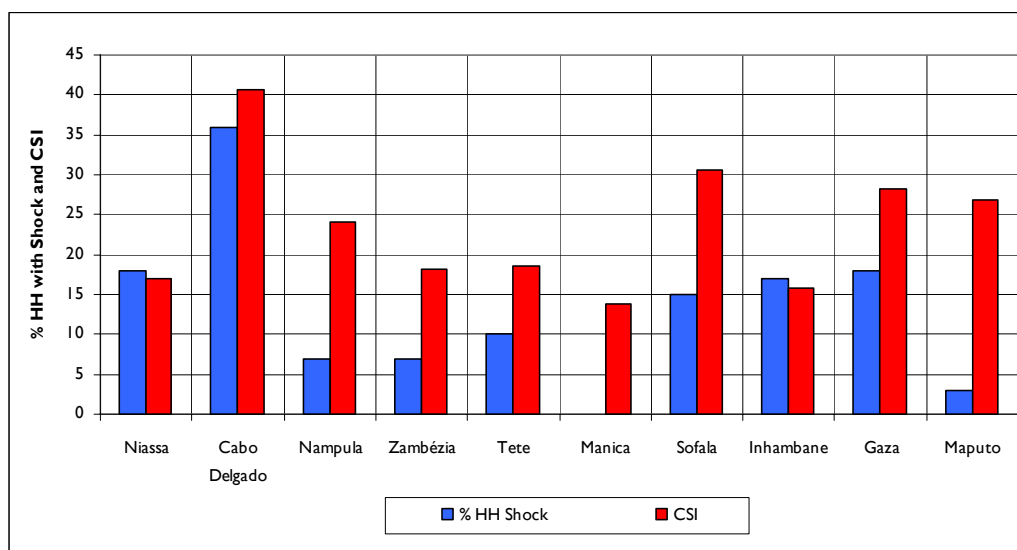
Overall, the average CSI was equal to 25. It was slightly higher amongst the rural households (25.7) compared with the households in peri-urban areas (24).

The chart below shows the percentage of households reporting a shock in the past 12 months and the mean coping strategies index (CSI) for the households in peri-urban zones, by province. Households in *Cabo Delgado* were the most likely to have experienced a shock that negatively affected food security, followed by those in *Niassa*, *Gaza* and *Inhambane*. Households in *Cabo Delgado* also had the highest CSI, indicating the highest levels of stress in the peri-urban areas of the country. Households in *Sofala*, *Gaza* and *Maputo* province also had fairly high CSI but much lower reported shocks.

---

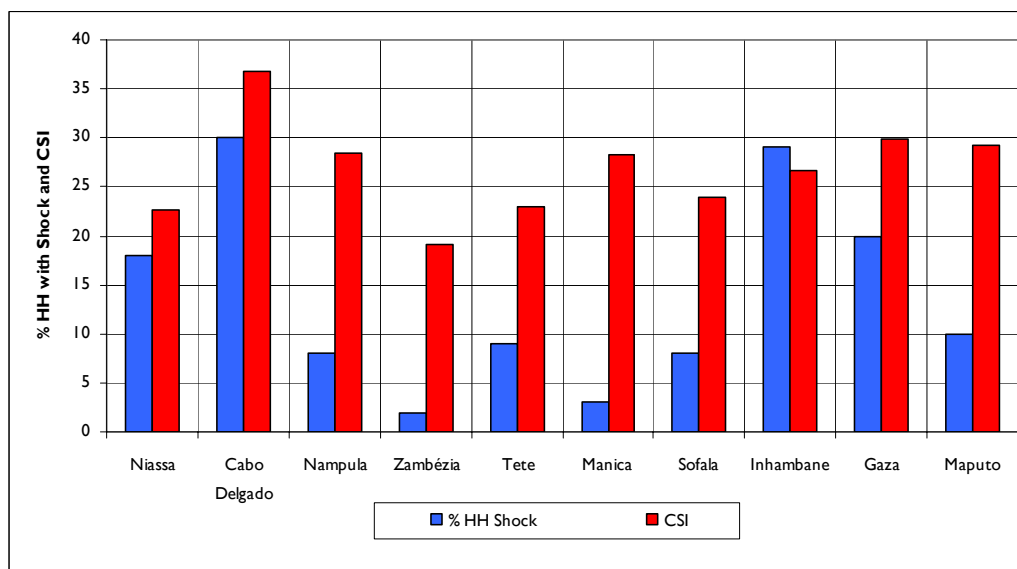
<sup>20</sup> Coping strategies assessed: skipping meals, reducing portion sizes, reducing the number of meals, borrowing food, eating less preferred foods, eating wild foods, eating immature crops, begging and engaging in casual labor. The CSI was computed by taking into consideration all these strategies and country-specific weights. The frequency classification is: Never: households has not once used this strategy in the past 30 days; Seldom: a strategy has been used no more than 3 times in the recall period (i.e. just 3x out of the last 30 days); Sometimes: strategy has been used at least once every week in the past 30 days, but no more than twice a week (i.e. between 4 and 11 days in a month); Often: the strategy has been used more than twice a week, but not every day (i.e. 12 or more days in the month but not everyday); Daily: the strategy has been used every single day for the past 30 days

**Figure 8.6: Households reporting shocks and the mean CSI by Province (peri-urban zone)**



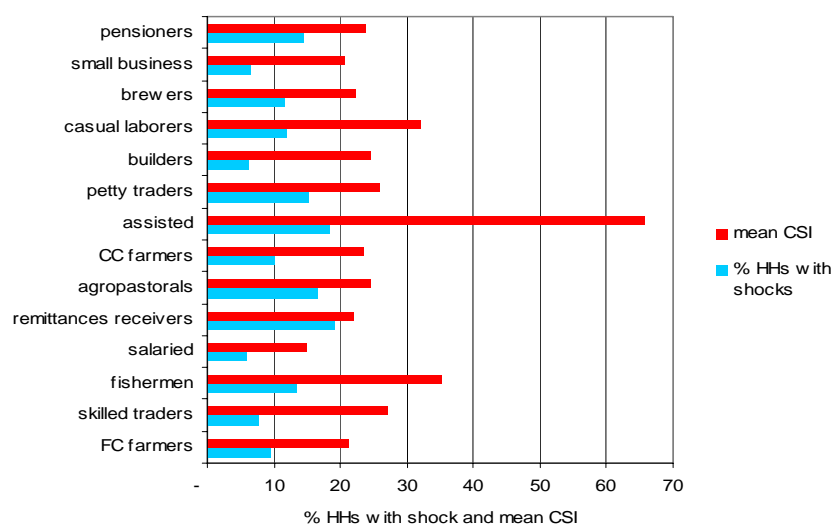
The percentage of households experiencing shocks and the CSI by province for rural households is in the chart below. Again, households in *Cabo Delgado* are the most likely to report a shock that affected household food security, followed by those in *Inhambane*, *Gaza* and *Niassa* provinces. Households in rural *Zambézia* and *Manica* are the least likely to experience a shock. The CSI was also highest amongst rural households in *Cabo Delgado*, followed by *Gaza*, *Maputo*, *Nampula*, *Manica* and *Inhambane*. The CSI indicates higher stress amongst households in these provinces with particular linkages for HIV and AIDS in *Gaza* and *Maputo*. Households in *Zambézia* are the least stressed of all in rural areas.

**Figure 8.7: Households reporting shocks and the mean CSI by Province (rural zones)**



By livelihood group, the *Remittance* households were the most likely to report a shock to household food security in the past 12 months, followed by the *Assisted* households and the *Agropastoralists*. The group least affected by shocks in the past year are the *Salaried* and households who rely mainly on *Construction*. The levels of stress as measured by the CSI were twice as high in the *Assisted* households compared to any other group. The next highest CSI was found in the *Fishermen* and *Casual labourers* while the lowest levels of stress were found in the *Salaried* households.

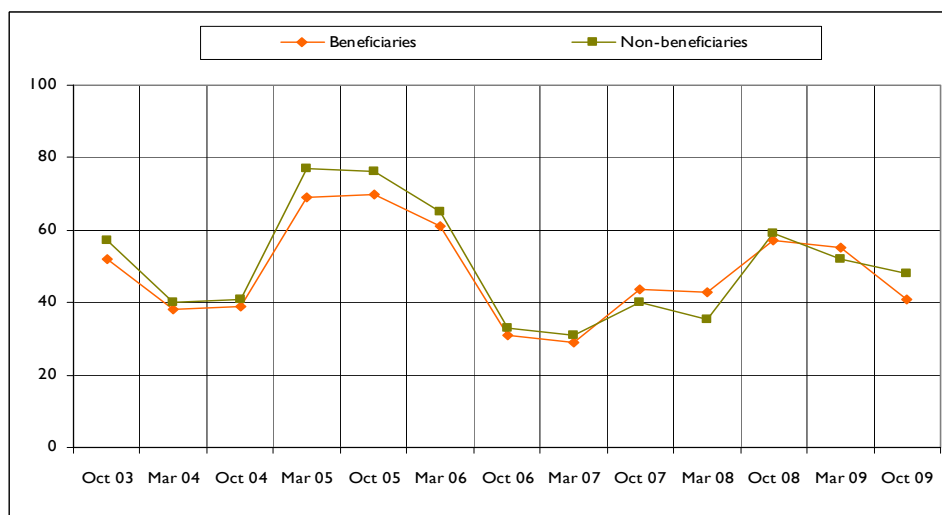
**Figure 8.8: Households reporting shocks and the mean CSI by Livelihood group**



### 8.3.1. Comparison with other studies

Likewise the FCS, also the CSI is regularly collected during the WFP Community and Household Surveillance System/Post-Distribution Monitoring (CHS/PDM)<sup>21</sup> and has been adopted by the SETSAN in the National Vulnerability Assessments.

**Figure 8.9: CSI trend analysis by beneficiary status**



The historical analysis suggests that the CSI is affected by the agricultural season reduced or delayed rainfall, seed loss, failed crop development and poor harvests strongly affect the households regardless of beneficiary status.

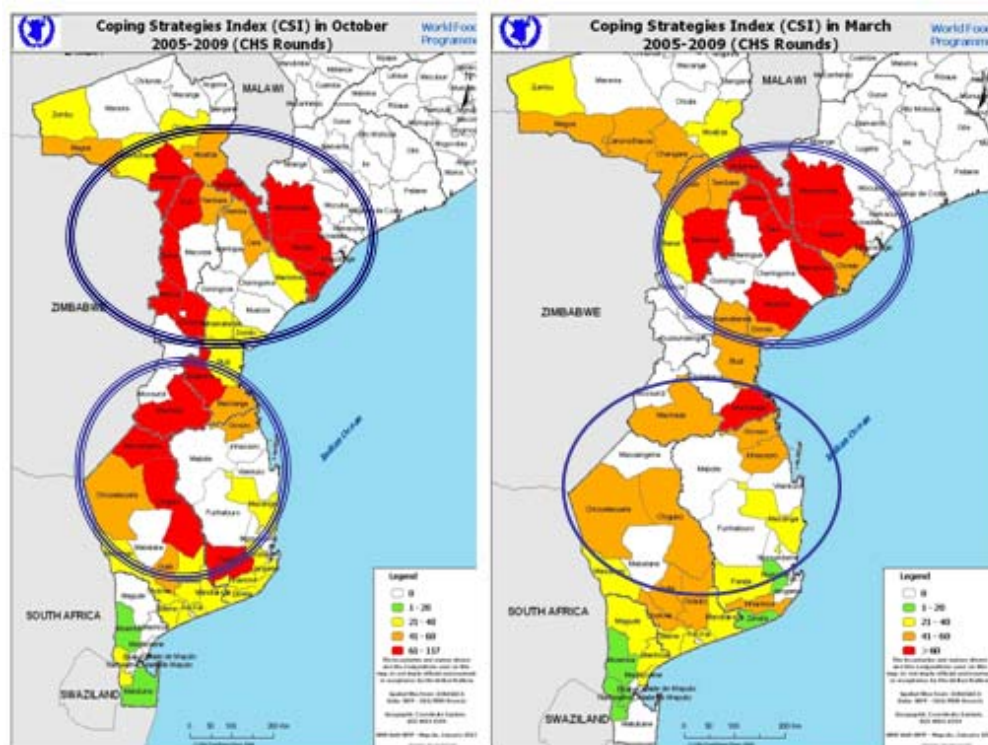
During the past five years, the CSI has reached a minimum of 30 and a maximum of 77; and an average of fifty. The most critical periods were March and October 2005, and March 2006. The least critical were October 2006 and March 2007.

The analysis shows that there is larger use of coping strategies during the lean season (October onwards), when there is little / none cereal stocks, and no food in the fields. This is particularly

<sup>21</sup> The Community and Household Surveillance (CHS) is a regional initiative in operation since 2003, covering Southern African (Mozambique, Zambia, Zimbabwe, Lesotho, Malawi and Swaziland). WFP's primary objective is to use the CHS to measure the outcome of WFP food aid interventions, looking at the short- to medium-term effects of food aid to beneficiaries and non-beneficiary households, and trends in livelihoods and food security situation.

evident for the southern region. March tends to be better because of the proximity to harvest time, when green maize, leaves and other vegetables are available, and households can begin to sell these products. The most critical districts belong to west Gaza and South Tete.

**Figure 8.10: Critical areas according to the CSI (2004-09)**



### 8.3.2. Food rationing

As mentioned above a variety of coping strategies have been used to measure the difficulties and the level of stress of the households in accessing food. These strategies fall into four main categories: dietary change, short-term measures to increase food availability, short-term measures to decrease the number of household members and rationing / managing the food short-fall.

This section focuses on the food rationing strategies,<sup>22</sup> and outlines the provinces and livelihood groups with higher tendency to adopt food rationing strategies. The justification for this analysis is that food rationing / managing strategies, being generally more severe than other mechanisms, can better isolate households with notable challenges in accessing food and help complete the picture derived from the food consumption groups.

To simplify the interpretation, the frequencies of each food rationing strategies have been pulled together to compute a simple additive index. According to the score on this index, households have been divided into 2 groups: households with little to no tendency to apply food rationing strategies and households with medium / high tendency to food rationing.<sup>23</sup>

Overall, 12% of the households reported a medium to high tendency to food rationing, of which 2% have a poor consumption, 2% a borderline consumption and 8% an acceptable consumption. Fortunately the proportion of households with both **medium to high** tendency to food rationing **and poor consumption** is very low, but from the food security perspective it is also important to pay attention to the 2% of borderline and 8% of acceptable consumption households who adopt food

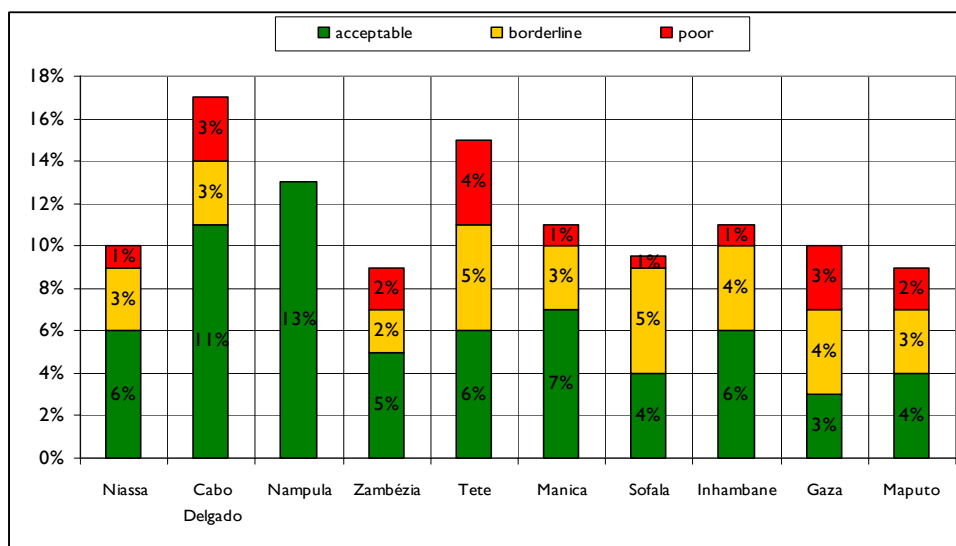
<sup>22</sup> i.e., *Spend days without eating, reduce adult consumption to allow children to eat, limit portions at meal time, reduce no. of meals a day*

<sup>23</sup> Frequency of use of the coping strategies has been assigned a value (0; 0.5; 1.5; 5; 7). Secondly, a cut off has been identified and households have been divided into 2 groups. After careful observation households with values between 0 and 6 have been put into the "null to low food rationing" group; households with a score above 6 have been included in the "medium to high rationing" group. The cut-off of 6 corresponds to all the each strategies **sometimes** during the 30 days prior to the survey.

rationing mechanisms in order to maintain an acceptable level of consumption. Since these households apply with a certain frequency food rationing mechanisms, they can be considered as vulnerable to food insecurity.

The tendency towards food rationing is strongly and significantly ( $p < 0.05$ ) associated with food consumption: 17% of the households with poor consumption reported a medium to high tendency to food rationing compared with 13% of the borderline households and 10% of the acceptable consumption households. Similarly, 16% of the asset poor households have a medium to high tendency to rationing food, against 11% and 6% of the asset medium and rich. The chart below shows the percentage of medium to high tendency to food rationing by food consumption groups and province. The combination of the two results helps completing the scenario reached with the food consumption score.

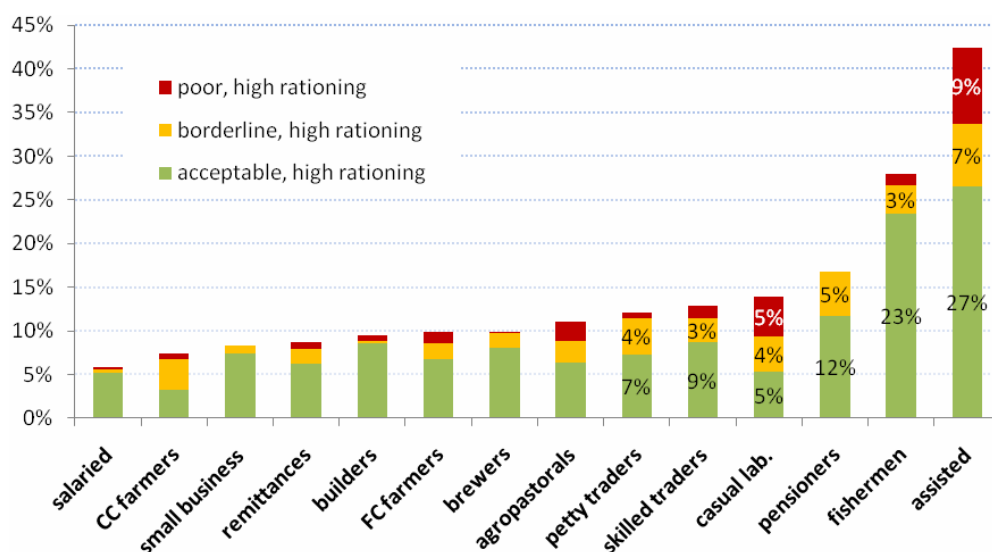
**Figure 8.11: Medium to high rationing households by food consumption group and Province**



- Households in *Cabo Delgado* show a serious food security profile. The percentage of households with poor consumption is high, at 15% and the households applying food rationing strategies is the highest (17%).
- *Tete* gives also signs of concerns. Looking at the food consumption groups, this province does not turn out to be one of the most vulnerable to food insecurity. However, a notable percentage of households (15%) show a medium to high tendency towards food rationing.
- The highest levels of poor and borderline consumption are found in *Gaza* (53%), *Inhambane* (43%) and *Manica* (44%) provinces and they also have a tendency towards food rationing close to the national value (between 10-11 percent).
- Looking at the food consumption score values, *Nampula* is the province with the best consumption with 85% having acceptable consumption. Yet, a 12% have a medium to high tendency towards food rationing.

Similar considerations can be made on the livelihood groups. The chart below shows the percentage of medium to high tendency to food rationing by food consumption group and livelihood groups.

**Figure 8.12: Medium to high rationing households by food consumption group and Livelihood**



The following conclusions can be made:

The **Assisted households** confirm to have a very serious food security profile. Not only they are the group with the highest proportion of poor consumption households (23%), but they show an extremely strong tendency towards food rationing behaviours. Indeed, 43% of them have a medium / strong tendency towards food rationing; the prevalence is very high also among the households with acceptable consumption. As mentioned above, these results are not surprising because the 'assisted households' rely, not only food assistance, but also begging and gifts. Due to his lack of regularity and stability, such informal type of support exposes individuals to stressful coping mechanisms more than the formal type of support.

Also the **Casual labourers** have a negative profile. From the FCS classification they already resulted as a group with bad consumption (46% with poor/borderline consumption). Now, the coping analysis shows that they do not reach the extreme values of the assisted, but have values above the national average (14%). Since the 'casual labourers' is one of the largest livelihood groups in the country, in terms of absolute numbers, having a 14% on this group is more concerning than having a 43% among the assisted households.

**Petty traders** and **agropastorals** have an acceptable consumption much below the national average and (65% and 67% respectively) and report a tendency towards food rationing above the average.

Despite an overall very good level of consumption (89% have acceptable consumption), **Fishermen** show signs of concern. After the assisted households, this is the group with the highest tendency towards food rationing mechanisms (27%).

As with regard the other two main livelihood groups identified during the analysis (**Salaried** and **Food crop farmers**) the analysis confirms the very good status of the salaried, whose consumption is very good and tendency towards food rationing the lowest, and that the food crop farmers' profile is close to the national average.

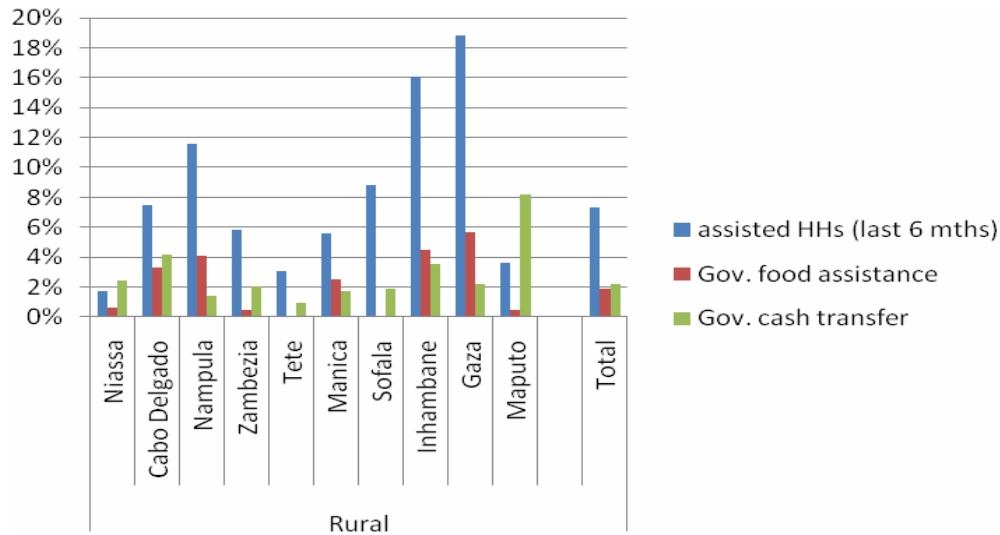
#### 8.4. ASSISTANCE

Overall, 8.4% of the households benefited from a support programme of any type during the 6 months before the survey; only 2.1% received Government food assistance and the same percentage received Government cash transfers. The percentage of households covered by a support programme of any type was significantly higher ( $p < 0.05$ ) in peri-urban areas (10%) than in rural (7%), whereas there is no large difference between rural and urban on food assistance / cash transfers provided by the Government.



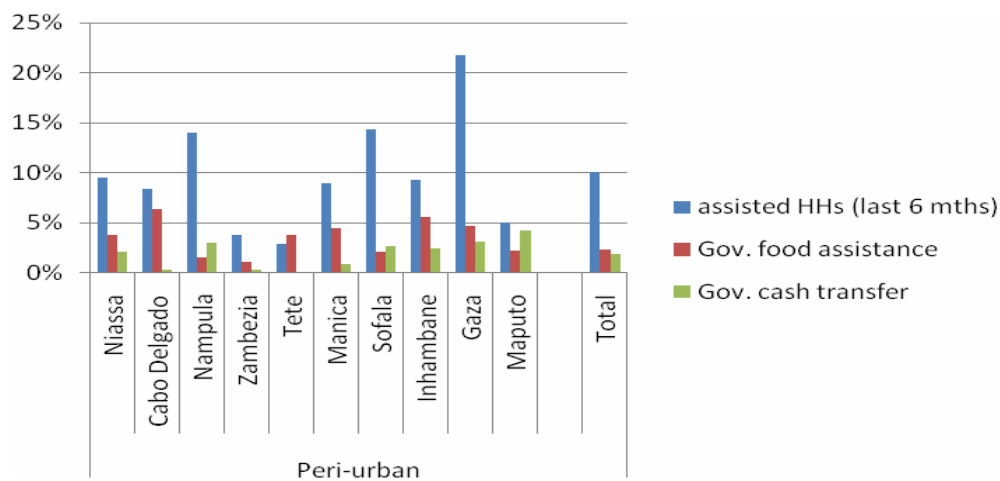
Results have been disaggregated at the province and rural/urban level in order to better capture the geographical distribution of the assistance. In rural settings, households in *Gaza* and *Inhambane* are the most likely to receive formal assistance, followed by *Nampula*. In peri-urban areas, households in *Gaza* province are the most likely to be assisted, followed by those in *Sofala* and *Nampula*. Implementation of cash transfers seems to be particularly high in rural *Maputo*, whereas Government food assistance is more present in rural *Gaza*. Households in *Tete* (both rural and peri-urban) and rural *Niassa* are the least likely to receive assistance (3% and 2% respectively).

**Figure 8.13: Assistance by type and Province (rural zones)**



Countrywide, the type of assistance / support that is most frequently provided is the distribution of mosquito nets (28% of the households reported to have received it), followed by school assistance (materials, food, etc.) (21%), agricultural inputs (18%), seeds (16%), financial and nutrition support (15%).

**Figure 8.14: Assistance by type and Province (peri-urban zones)**



The percentage of households being assisted has been cross tabulated by key demographic indicators to understand if the assistance is effective in targeting. As shown in the table below, the implementation of support projects is a bit higher among the households with vulnerable characteristics. Differences are not very large but are statistically significant ( $p < 0.05$ ).

Regarding the livelihood groups, *Pensioners* and *Assisted* households received more frequently support as opposed to other livelihood groups (18% of them reported assistance), they are followed by *Remittance* and *Agropastoralists* (12%) households. Government's food assistance was particularly high among the *Assisted* households (16%); this is not surprising since food aid is one of the main livelihood activities for this group.

Households with poor food consumption were more likely to receive assistance (11%) as opposed to those with borderline (7%) or acceptable consumption (8%). It is surprising to see that 12% of the asset rich households reported to receive assistance compared with 9% of the asset medium and 5% of the asset poor.

**Table 8.1: Assistance by key vulnerable characteristics**

Demographic characteristics	% HHs
Not elderly headed HH	8%
<b>Elderly headed</b>	<b>12%</b>
Male headed HH	8%
<b>Female headed HH</b>	<b>9%</b>
Less than 80% of effective dependents	8%
<b>80% of more of effective dependents</b>	<b>12%</b>
No chronically ill member(s)	8%
<b>Chronically ill member(s)</b>	<b>12%</b>
No orphans	8%
<b>Hosting orphans</b>	<b>10%</b>
Absence of HIV proxies	8%
<b>Presence of HIV proxies</b>	<b>13%</b>
Low number of vulnerability characteristics	8%
Intermediate number of vulnerability characteristics	8%
<b>High number of vulnerability characteristics</b>	<b>14%</b>

receive assistance compared with 9% of the asset medium and 5%

## 9. FOOD SECURITY AND VULNERABILITY ANALYSIS

One of the objectives of the survey was to determine the levels and geographic distribution of food insecurity using household level data. Following WFP corporate guidance, indicators of food access were used to classify households as being 'food secure', 'vulnerable' or 'food insecure' where vulnerable households are likely experiencing **acute** food insecurity and the food insecure are likely to be **chronically** food insecure.

Analysis was done using three key variables from the household data:

- **Food consumption score:** A measure of current household food security
- **Number of different types of assets:** A measure of wealth or ability to access food
- **Coping strategies index:** A measure of stress on the household, related to food access

Cluster analyses were used to create 4 distinct food security groups with the following characteristics:

	<b>N</b>	<b>FCS</b>	<b># assets</b>	<b>CSI</b>
Acute	847,000	42	5	57
Chronic	1,155,000	35.5	5	4
Food secure	728,000	45	9	5
Better-off	683,000	71	9	9

### 9.1 – FOOD SECURITY GROUPS

**Acute food insecurity** – These households are characterised by having 4 persons on average. They are the most likely to be headed by a woman (32%) or an elderly person (22%) as well as to have a disabled member (15%) or chronically ill member (8%). They are also the most likely to have experienced the recent death of a household member (6%). Seventeen percent of the households are hosting orphans which is not different from the other groups. About half the households have access to drinking water from improved sources while only 7% have adequate sanitation.

Only 84% of these households have access to arable land while 65% live in rural areas. Just over half own any livestock. More than 40% of the households are asset poor while 46% of their monthly expenditure is for food, the highest of all groups. Only 9% are receiving assistance through a programme. Nearly 20% of the households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the highest of all groups. The main shocks reported were:

- Poor/irregular rainfall (45%)
- Theft or loss of assets (19%)
- High price of inputs (15%)
- Wild animal attacks (11%)

**Chronic food insecurity** – These households are characterised by having 4 persons on average. Only 12% are headed by a woman and 20% headed by an elderly person, the second highest of all groups. Eleven percent have a disabled member, 5% have a chronically ill member and only 4% have experienced the recent death of a member. Seventeen percent are hosting orphans. Less than half of these households access drinking water from improved sources, the lowest of all groups while only 7% have adequate sanitation.

Around 93% of these households have access to arable land while 68% live in rural areas – the highest of all groups for both. While more than 60% own any livestock more than 40% of the households are asset poor and 45% of their monthly expenditure is for food, the second highest of all groups. Only 6% are receiving assistance through a programme which is the lowest of all groups. Ten percent of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups. The main shocks reported were:

- Poor/irregular rainfall (45%)
- Death of a family member (16%)
- Wild animal attacks (14%)
- Chronic illness of HH member (14%)

**Food secure** – These households are characterised by having 5 persons on average. Only 12% of the households are headed by a woman and 18% are headed by an elderly person. Fourteen percent have a disabled member, 4% have a chronically ill member and only 3% have experienced the recent death of a member, the lowest of all groups. Sixteen percent are hosting orphans. Around half of these households access drinking water from improved sources, while 17% have adequate sanitation.

Over 90% of these households have access to arable land while 57% live in rural areas. Nearly 80% own any livestock but none of the households are asset poor and 41% of their monthly expenditure is for food. Only 8% are receiving assistance through a programme. Only 8% of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups. The main shocks reported were:

- Poor/irregular rainfall (33%)
- Death or illness of livestock (22%)
- Wild animal attacks (19%)
- Chronic illness of HH member (19%)

**Better-off** – These households are characterised by having 5 persons on average. Fourteen percent of the households are headed by a woman and only 12% are headed by an elderly person, the lowest of all groups. Eleven percent have a disabled member, 4% have a chronically ill member and 4% have experienced the recent death of a member. Eighteen percent are hosting orphans, the highest of all groups. Around two-thirds of these households access drinking water from improved sources, while 19% of them have adequate sanitation – the highest of all groups for both.

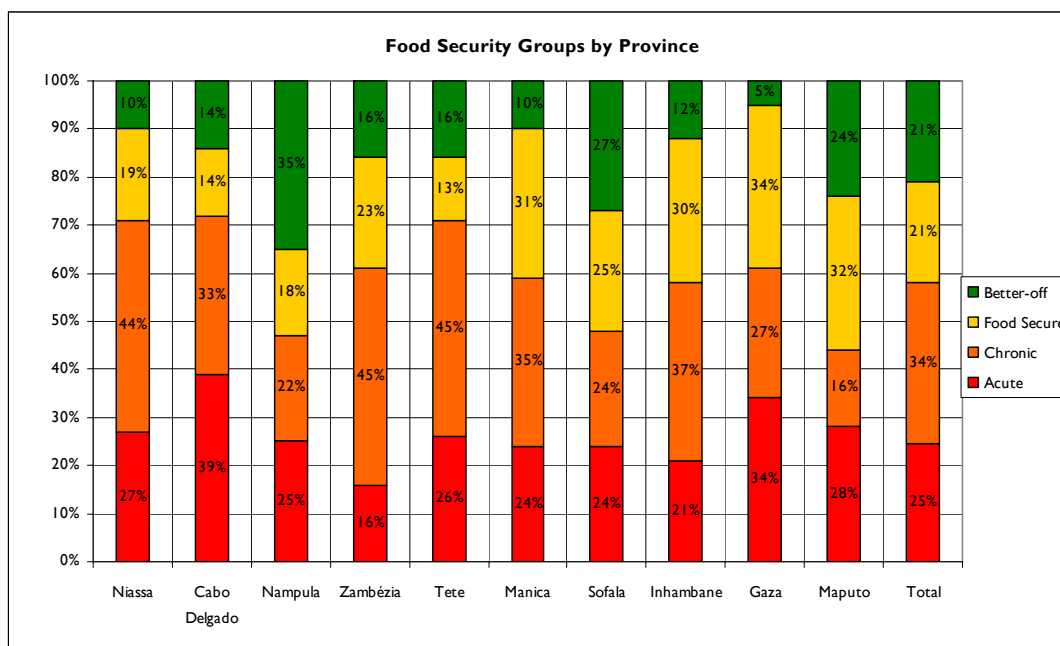
Around 85% of these households have access to arable land while only 46% live in rural areas, the lowest of all groups. Around two-thirds own any livestock and 4% of the households are asset poor but only 38% of their monthly expenditure is for food, the lowest of all groups. Thirteen percent are receiving assistance through a programme which is the highest of all groups. Only 5% of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups. The main shocks reported were: Loss or theft of assets (34%)

- Death of a HH member (20%)
- Illness or death of livestock (17%)
- Poor/irregular rainfall (15%)

## 9.2 – FOOD SECURITY BY PROVINCE

The chart below shows the distribution of the food security groups by Province. The highest percentage of acutely food insecure are found in *Cabo Delgado* (39%), followed by *Gaza* (34%) and *Maputo* (28%) provinces. The highest percentage of chronically food insecure households is found in *Tete* (45%) and *Zambézia* (45%) provinces, followed by *Niassa* (44%). *Nampula* province has the highest percentage of Better-off households (35%), followed by *Sofala* (27%) and *Maputo* (24%) provinces. Overall, the highest percentage of acute + chronic food insecure households is found equally in *Niassa*, *Cabo Delgado* and *Tete* provinces.

Figure 9.1: Food security groups by Province

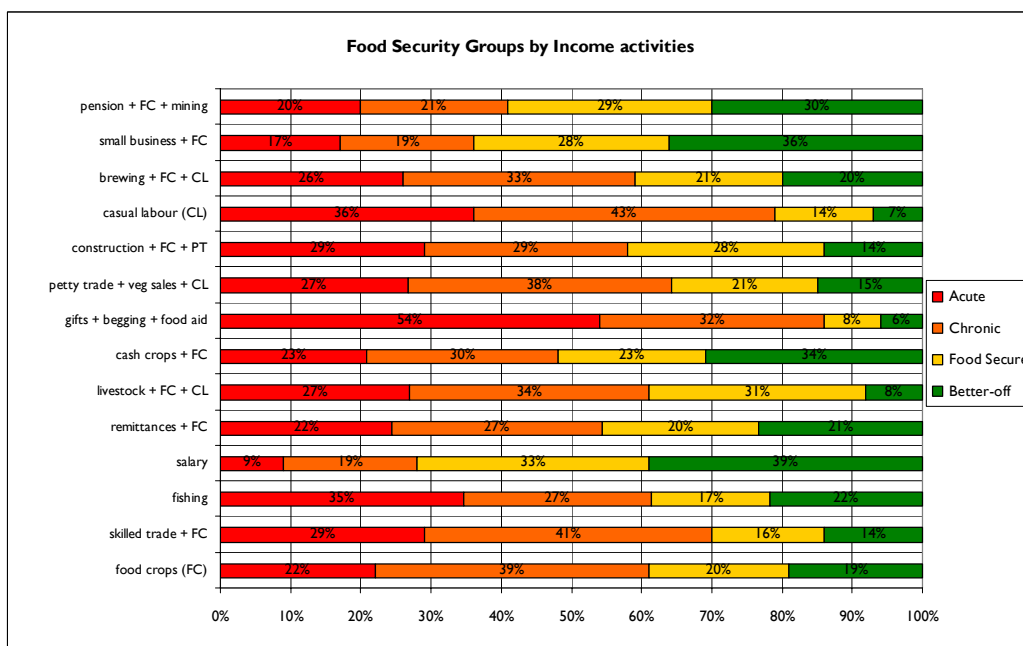


### 9.3 - FOOD SECURITY BY INCOME ACTIVITIES

The income activity group that has the highest percentage of acutely food insecure households is the **assisted households** group (54%), followed by the **casual labourers** (36%) and **fishermen** (35%) groups. The group with the highest percentage of chronically food insecure is the **casual labourers** group (43%), followed by **skilled traders** (41%) and the **food crop farmers** (39%) groups.

The group with the highest percentage of Better-off households was the **salaried** group (39%), followed by **small business households** (36%) and **cash crop farmers** (34%). Overall, only 14% of the **assisted households** group is food secure, followed by only 21% of the **casual labourers** group.

Figure 9.2: Food security groups by income activities



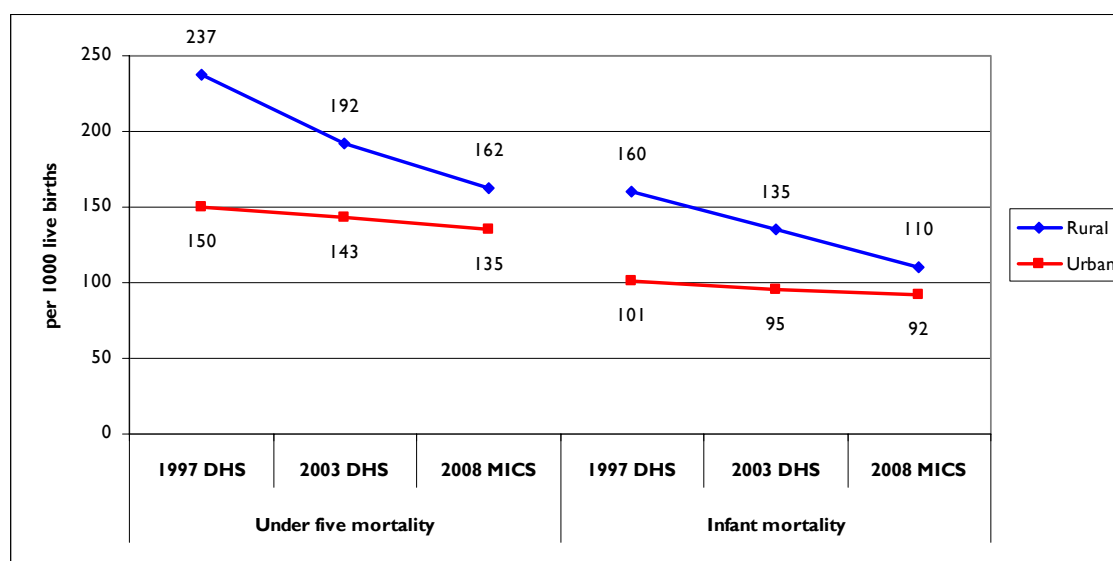
## 10. HEALTH AND NUTRITION

This section summarizes the recently released findings of the 2008 Multiple Indicator Cluster Survey (MICS) conducted by the Ministry of Health and UNICEF. The survey was designed to track progress towards achieving Millennium Development Goals (MDGs) related to health and nutrition as well as to provide an updated picture of the health and nutrition situation of young children and to support the preparation of the Second Plan of Action for Reduction of Absolute Poverty (PARPA II). MICS results are representative at provincial level.

### 10.1 MORTALITY

The 2008 MICS shows that the levels of mortality in children continue to decrease when compared to the 1997 and 2003 DHS. Under 5 mortality rates are at 138 deaths per 1,000 live births, down from 153 in 2003 and 201 in 1997. Infant mortality is at 93 deaths/1,000 live births, which is lower than 101/1,000 in 2003 and 135/1,000 in 1997. Decreases are mostly due to improvements in rural areas (see chart below).

**Figure 10.1: Trends in Under five and Infant Mortality, by domain**



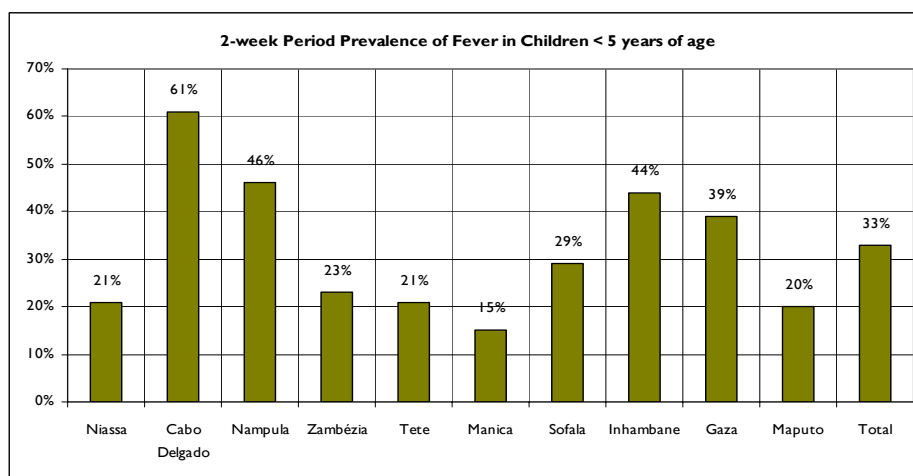
By province the child mortality rate is highest in *Zambézia* (205/1,000 live births), followed by *Cabo Delgado* (180), *Tete* (174) and *Gaza* (165). It is slightly lower in *Manica* (154) and *Nampula* (140) provinces and lowest in *Niassa* (123), *Inhambane* (117) and *Maputo* (108) provinces. Although cause of death is not recorded in this survey, it is likely that the elevated levels in *Gaza* province may be a result of the higher rate of HIV infection in the province and movement of people between South Africa and Mozambique.

### 10.2 MORBIDITY

The MICS found that 18% of the children had experienced diarrhoea at least once in the two weeks prior to the survey which was higher than 14% in the 2003 DHS. However, it is not clear whether the two surveys were carried out at the same time of the year since prevalence of diarrhoea tends to be higher in the rainy season. The highest prevalence was found among children in *Nampula* (23%) and the lowest in *Niassa* (13%).

Nearly one-quarter of the children had experienced fever in the two weeks prior to the survey, down from 27% in 2003. The CFSVA survey measured recent fever and found that 33% of the children < 5 years of age had experienced fever in the previous two weeks ranging from a high of 61% in *Cabo Delgado*, to a low of 16% in *Manica*. The rates by province are illustrated in the chart below. In most provinces, reported fever was higher amongst children in urban areas except in *Maputo*, *Inhambane* and *Manica* where it was higher amongst children in rural areas and in *Nampula* where there was no difference between areas.

**Figure 10.2: Two-week period prevalence of Fever in Children < 5 years of age**

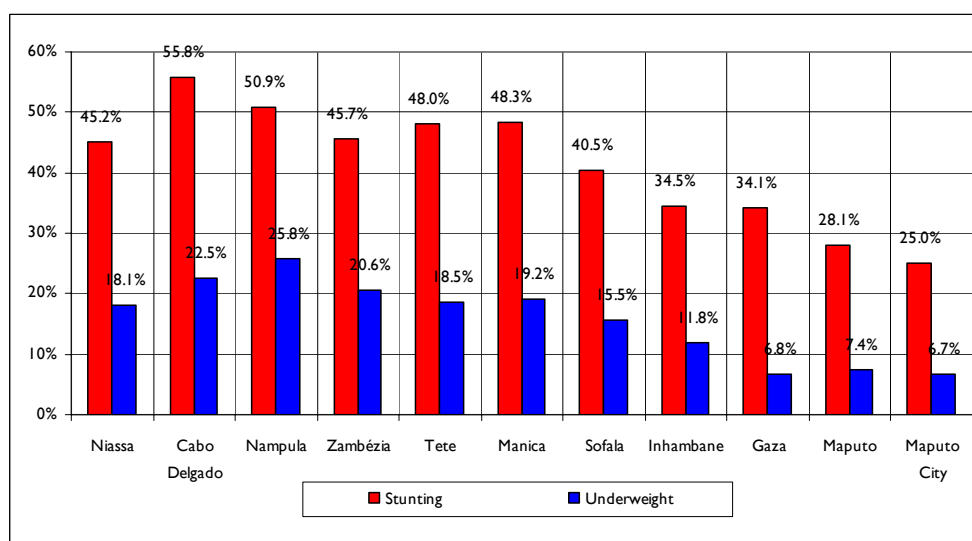


### 10.3. NUTRITION OF YOUNG CHILDREN

The 2008 MICS found that there have been some improvements in the prevalence of malnutrition over the past five years, with acute malnutrition or wasting<sup>24</sup>, decreasing from 5% in 2003 to 4% in 2008. The prevalence of chronic malnutrition or stunting<sup>25</sup> has decreased from 48% in 2003 to 44% in 2008, which is quite a remarkable improvement. Lastly, the prevalence of underweight<sup>26</sup> has also decreased from 20% to 18% during the same time period.

However, by province, there are still areas where the prevalence of malnutrition is still unacceptable. The chart below shows that the highest prevalence of stunting is found in *Cabo Delgado* province where more than 55% of the children are chronically malnourished. More than half the children in *Nampula* province are stunted. The levels of chronic malnutrition decrease from north to south and are lowest in *Maputo* province and city.

**Figure 10.3: Stunting and Undevelopment in Children < 5 years by Province**



<sup>24</sup> 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.

<sup>25</sup> 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.

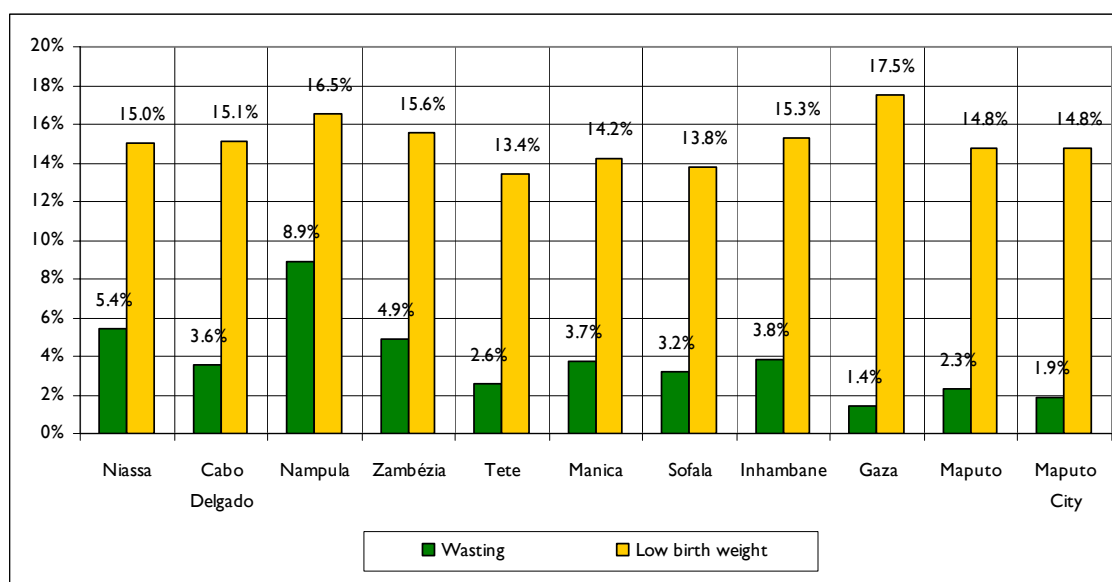
<sup>26</sup> An **underweight child** has a weight-for-age Z-score that is below -2 SD based on the NCHS/CDC/WHO reference population. This condition can result from either chronic or acute malnutrition or a combination of both.

Similarly the prevalence of underweight in young children is highest among children in the northern provinces of *Nampula* and *Cabo Delgado* and are lowest in the southern provinces of *Gaza* and *Maputo/Maputo city*.

Factors that may influence the north-south differential in malnutrition could include maternal health and well-being, feeding practices such as exclusive and extended breastfeeding and the consumption of tubers rather than maize. Additional factors could include access and utilisation of ante-natal care and children’s access to timely and appropriate immunisations and other neo-natal care.

Acute malnutrition is highest among children in *Nampula* province, followed by *Niassa*, as illustrated in the chart below. For the rest of the provinces, the prevalence is less than five percent which is considered acceptable. The chart also shows the percentage of children that were born weighing less than 2500 grams, which is, for full-term babies, considered to be low birthweight. Interestingly, the highest incidence of low birthweight babies is found in *Gaza* province and not in the north. This again could have something to do with the high levels of HIV infection in the rural areas and also reflecting the higher levels of child mortality in that province. For the rest of the provinces, the incidence of low birthweight does not vary much.

**Figure 10.4: Wasting and Low birth weight by Province**



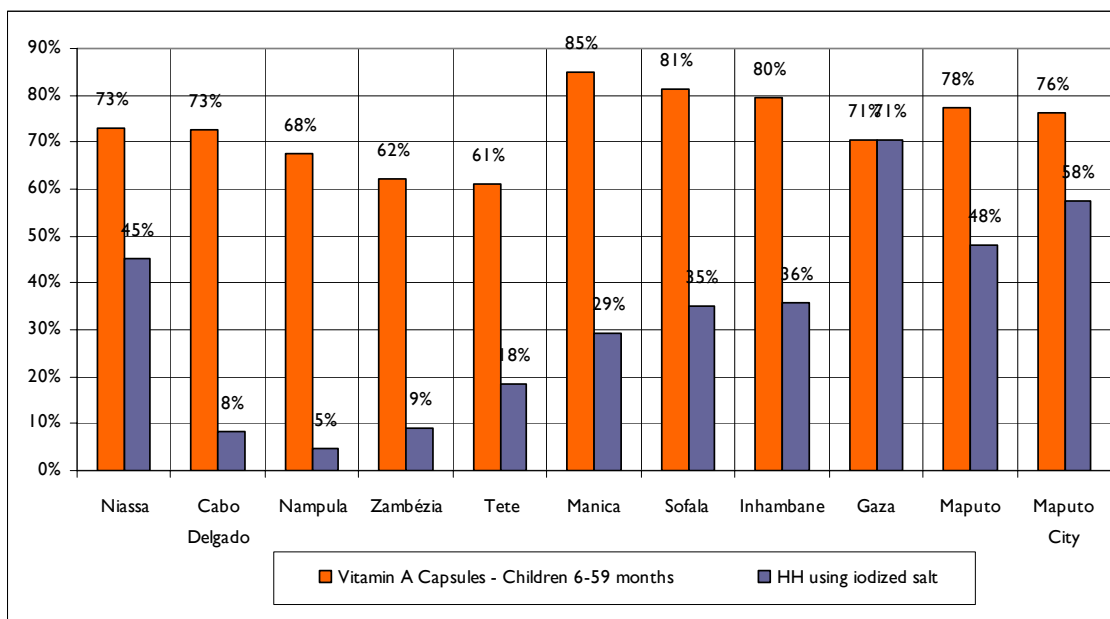
## 10.4 MICRONUTRIENT INDICATORS

The MICS also assessed the coverage of vitamin A supplementation programmes as well as the household use of adequately iodised salt. Vitamin A coverage was best in *Manica* province, followed by *Sofala* and *Inhambane* and was the worst in *Tete* and *Zambézia* where less than two-thirds of children 6-59 months received a vitamin A capsule.

Use of adequately iodised salt varied greatly across the country, being extremely low in *Nampula*, *Cabo Delgado* and *Zambézia* and quite high in *Gaza* province. There are a lot of small scale local salt producers in the coastal areas and most do not have equipment or expertise to produce iodised salt despite efforts of the Government. The high levels in *Gaza* could be a reflection of their access to salt from South Africa.



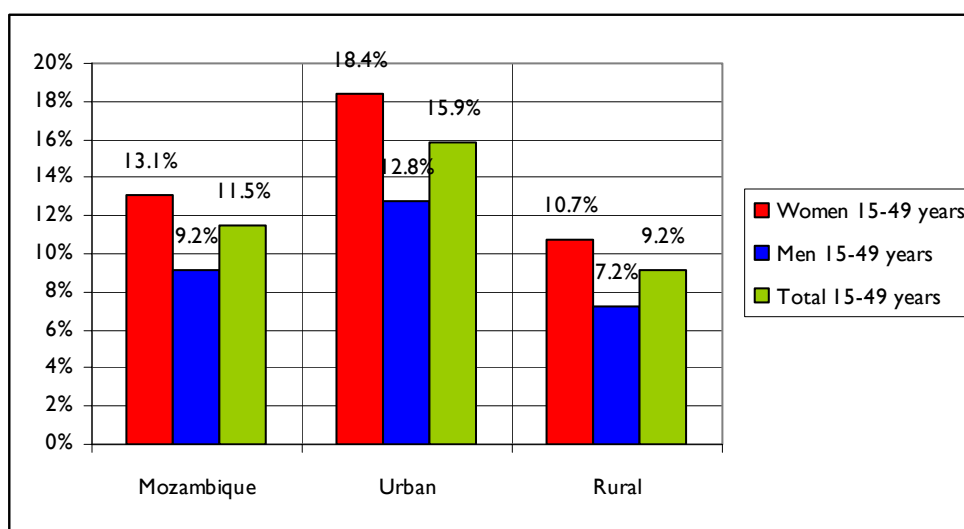
**Figure 10.5: Micronutrient indicators by Province**



### 10.5. HIV AND AIDS

In Mozambique, HIV prevalence is one of the highest in the world. In 2007, prevalence among adults (15-49) was estimated at 16% using data collected at the clinics. The recent “National survey on the prevalence, risks, behaviours and information on HIV and AIDS in Mozambique” (INSIDA, 2009) included the collection of blood samples on a subset of women and men in reproductive age (15-49) thus offering a more accurate estimate of HIV prevalence at national and provincial level. According to the 2009 data, HIV prevalence is at 11.5% countrywide. The chart below shows that women are more likely to be infected than men and that both men and women in urban areas are more likely to be infected than their counterparts in rural areas.

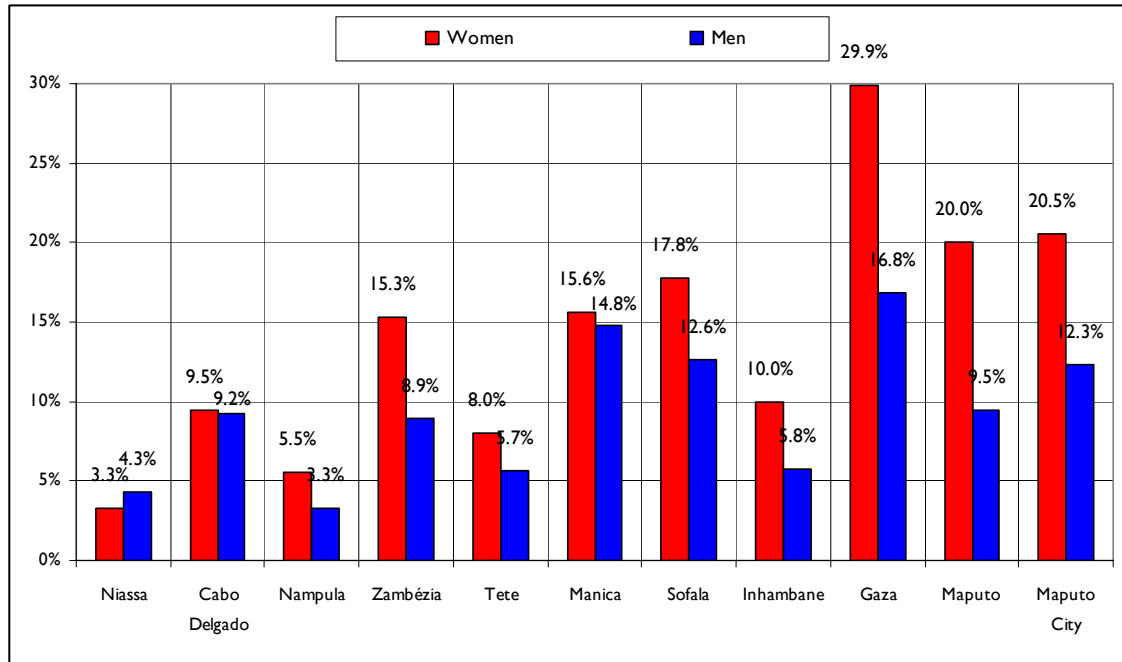
**Figure 10.6: Prevalence of HIV by residence**



By age, there are differences in HIV prevalence between women and men. In general, the prevalence of infection increases with age for both groups, but for women, it peaks in the 25-29 year age group (16.8%) and for men, not until the 35-39 years age group (14.2%). For the 50-54 year age group, 12.7% of women are infected compared to 10.6% of men.

There are quite substantial differences in infection prevalence by Province, even between sexes. In general infection is lower in the Northern provinces and increases as one moves south. Figure 10.7 below shows that women in Gaza province are the most likely to be infected of all groups in Mozambique.

**Figure 10.7: Prevalence of HIV by Province – Women and men aged 15-49 years**



The 2009 *Impacto Demografico do SIDA* estimated there were 96,000 deaths due to HIV (of which 33,000 were men and 42,000 were women), representing about 22% of the mortality cases. It also reported approx 510,000 made orphans because of HIV and 48,000 children below 18 years) in need of ART. These estimates have strong implication on life expectancy on the vulnerability of the new generations and on food security. HIV has indeed an immediate impact on household food security by increasing health expenditures, reducing human labor availability and creating a care demand. In the longer term, households are captured within the cycle of poverty and vulnerability and tend to deplete their productive assets and land and cannot invest properly on the younger generation.

## 11. MARKET ANALYSIS

### 11.1. PRICE ANALYSIS

Prices analysis was done using the Agricultural Market Information System SIMA/MINAG data. The analysis of the cost variation of the basic food basket considered the composition of the food basket defined by the Ministry of Health (MISAU) as the minimum quantity/type of product that one person should consume monthly.

The **food basket includes** 3 kg rice, 9.1 kg maize flour, 2.0 kg dry beans, 0.5 kg groundnuts, 3.5 kg dry fish, 0.5 litre cooking oil, 1.2 kg sugar, 1.0 kg salt, 3.4 kg fresh vegetables and 3.6 kg fruits per month per person.

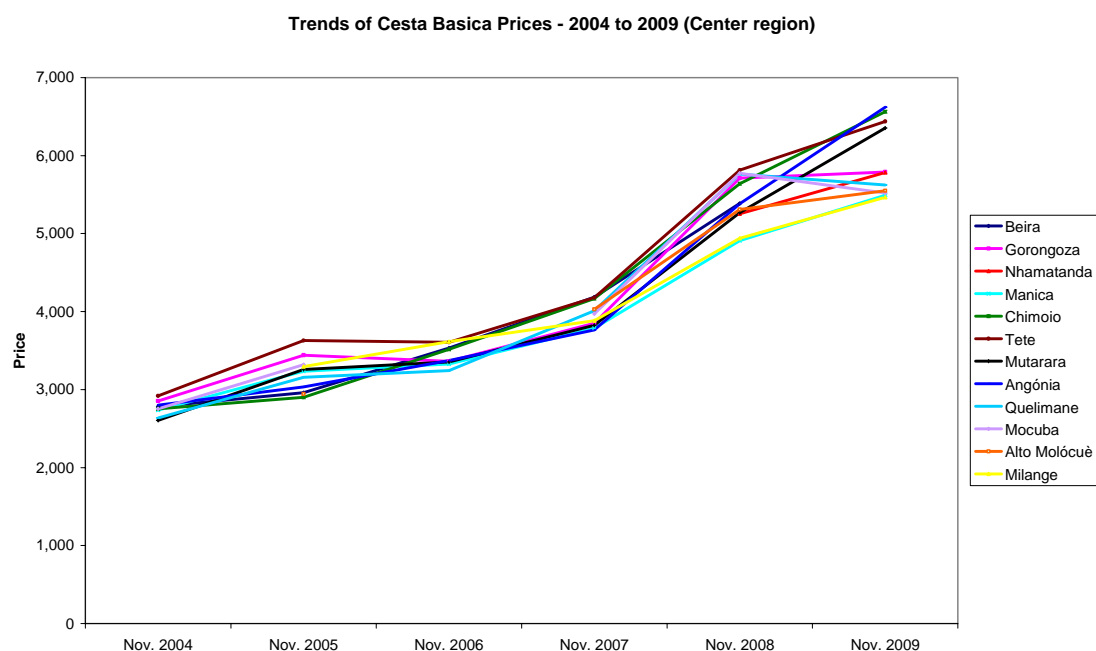
Between 2004 and 2009, the prices of basic food commodities followed a strong upward trend on all markets (Figures 11.1, 11.2 and 11.3). However in September 2009, prices of several food products (maize, rice, cooking oil, butter bean and groundnuts) were lower compared to the same period of 2008. Prices decreased sharply especially in the districts of *Manica* (45%), *Gorongosa* (42%) and *Nhamatanda* (40%) (Central region), while in *Xai-Xai* and *Chókwè* (Southern region), there was no price variation between September 2008 and 2009. In September 2009, the lowest prices (below 6.00 Mts/kg) were observed in *Gorongosa*, *Mocuba*, *Alto Molócué* and *Lichinga*. Prices above 8.00 Mts/kg, were observed in *Maputo*, *Chókwè*, *Pemba* and *Cuamba*.

The price of rice decreased by 18% in *Gorongosa*, 13% in *Nhamatanda* and 11% in *Chimoio* Districts. In the southern region there were no significant variations of the rice price. The reduction of consumer prices of rice was because of low demand of this product due to low price of maize in same markets. The highest rice prices, 25.00 Mts/kg or more, were practiced in *Manica*, *Chimoio*, *Tete city*, *Mutarara*, *Ribaué*, *Lichinga* and *Cuamba*, markets that are distant from ports.

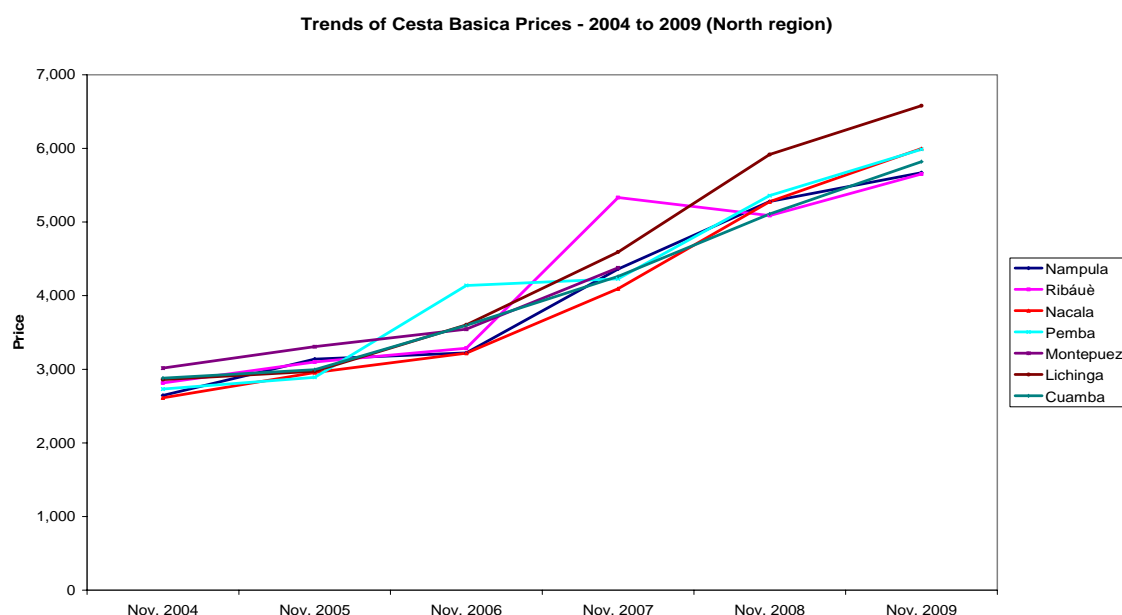
Consumer prices of beans increased in *Xai-Xai* (6%), *Chókwè* (12%), *Nhamatanda* (29%), *Chimoio* (33%) and *Mutarara* (28%). Prices of small groundnuts increased in *Chókwè* (26%), *Gorongosa* (23%) and *Chimoio* (13%). These prices are between 18.00 Mts/kg in *Mocuba* and 43.00 Mts/kg in *Chókwè* and *Chimoio*.

In most markets it was also observed a decrease of the prices of cooking oil, mainly in *Massinga*, *Mutarara* and *Nampula*, were the reduction was up to 30 percent. Prices of cooking oil varied between 38.00 Mts/lit to 70.00 Mts/lit.

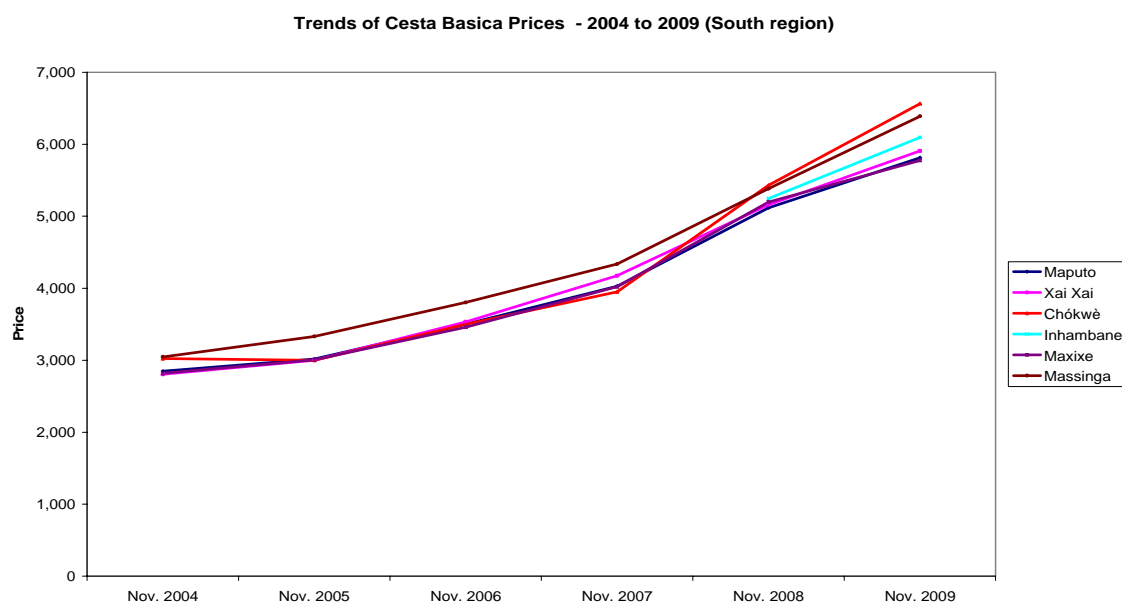
**Figure 11.1: Trends of the Basic Food Basket for Central Region (2004-2009)**



**Figure I.2: Trends of the Basic Food Basket for Northern Region (2004-2009)**



**Figure I.3: Trends of the Basic Food Basket for Southern Region (2004-2009)**



## 11.2 ANALYSIS OF BASIC FOOD BASKET

The analysis of the cost variation of the basic food basket considered the composition of the food basket defined by the Ministry of Health (MISAU) as the minimum quantity/type of product that one person should consume monthly. The **food basket includes** 3 kg rice, 9.1 kg maize flour, 2.0 kg dry beans, 0.5 kg groundnuts; 3.5 kg dry fish, 0.5 litre cooking oil, 1.2 kg sugar, 1.0 kg salt, 3.4 kg fresh vegetables and 3.6 kg fruits per month per person. However, for this analysis it was excluded vegetables and fruit because SIMA- MINAG (Agricultural Market Information System- Ministry of Agriculture) does not collect monthly the prices of all listed vegetables and fruits.

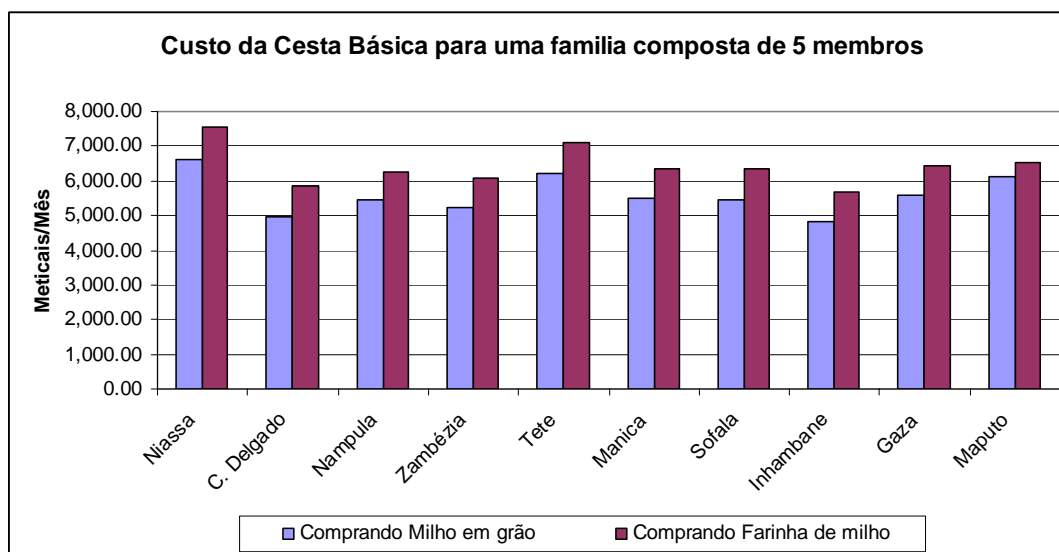
Taking into account that among the cereals, maize flour is the most important product in household food consumption (9.1 kg of maize flour against 3 kg of rice), two costs of the basic food basket were calculated considering two main sources of maize flour:

- a) households that buy maize grain or consume maize from their own production, which price includes the local market price plus the milling costs of 2,00 Mts/kg; and
- b) households that buy commercial manufactured (industrial milling) maize flour (most expensive source).

Considering the prices collected in between June and July 2009 by SIMA/MINAG, the average cost of a basic food basket for a household with 5 members is 6.380,00 Mts/month for those who buy industrially processed maize flour and 5.556,00 Mts/month for those who consume maize grain from their own production or buy maize grain on the market and take it to small mills.

In districts such as Mandimba (*Niassa*), Nacala (*Nampula*), Mopeia and Morrumbala (*Zambezia*), Magoé and Tsangano (*Tete*), Machaze (*Manica*), Muanza and Marromeu (*Sofala*), where manufactured maize flour (*farinha de milho*) is more expensive, a household that consumes maize from their own production or that buy maize in the market may save 1.000,00 Mts/month or more that can be used to buy other goods. In the southern region, where most people do not process maize in mills, costs may decrease slightly, about 100,00Mts/month.

Figure 11.4: Costs of a household basic food basket

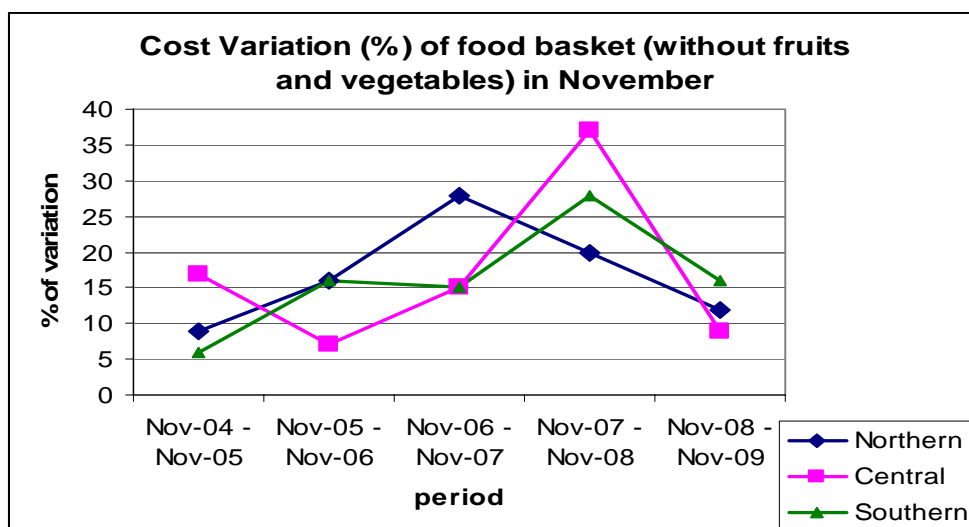


The cost of basic food basket varied a lot between the provinces. The provinces where the basic food basket is the most expensive are *Niassa* and *Tete*. The high cost of the main staple food commodities in these two districts is related to the higher prices of rice, cooking oil and commercial fish. In *Inhambane* and *Zambézia* provinces, the lower cost of the basic food basket can be explained by the low price of local fish (fresh or dried) due to the river access (*Zambézia*) and the coastal fishing opportunities (*Inhambane*).

For the trend analysis of costs of basic food basket of the past 5 year, it was considered the prices of November each year and the variation between 2 consecutive years.

Figure 11.5 shows that the percentage of variation in the cost of the food basket is very different between each region. The central provinces experienced the highest cost variations between 2004-2005 and 2007-2008. The highest cost variations occurred in 2007-2008 in the southern region while in the northern region it happened in 2006-2007. In all regions the cost variation decreased in 2008-2009.

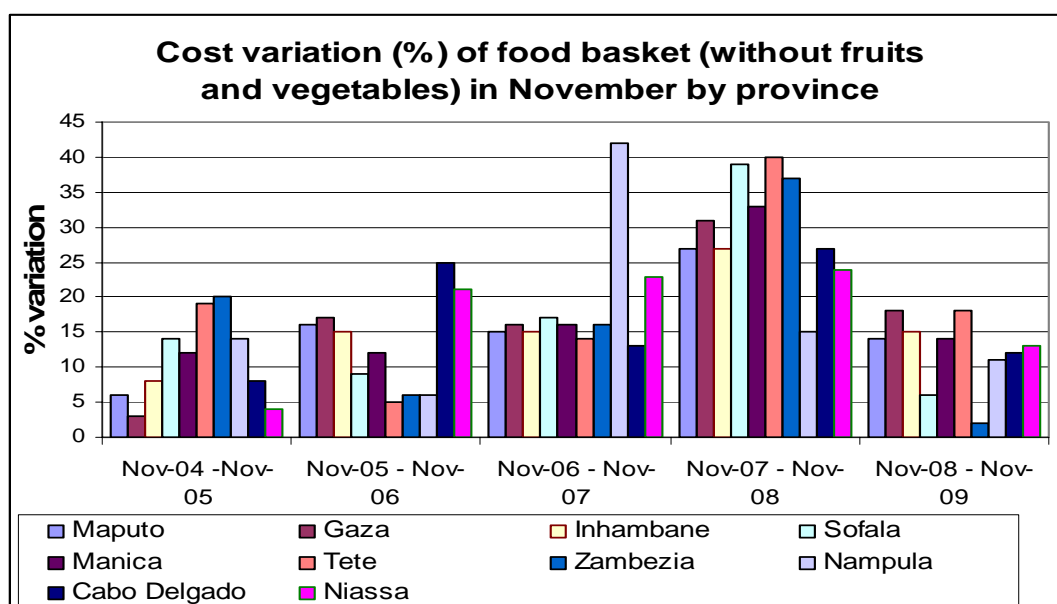
Figure 11.5: Cost variation of the basic food basket without fruits and vegetables in November



The increase of cost of the food basket in 2007-2008 is related to the high food price crisis occurred in that period, due to the sharp increase of fuel prices. The cost reduction in 2008-2009 may be influenced by the good production mainly of maize, beans and groundnut.

The analysis of the cost variation of the food basket by province indicates that the impact of global and country events differs in each province. Data shows that the high food prices in 2007-2008 caused the highest increase of cost of food basket in all provinces except in Nampula province, where the highest variation occurred in 2006-2007. In 2004-2005 the highest variation of food basket cost was observed in Zambezia and Tete (central region). In 2005-2006 was in Cabo Delgado and Niassa (North), in 2006-2007 was significantly in Nampula, in 2007-2008 reached the highest variation in Tete, Sofala and Zambezia. In 2007-2008 the variation reduced in all provinces, almost to half of 2007-2008 in Tete, Sofala and Zambezia. This trend indicates that the variation of cost of the basic food basket occurred mainly in central region while in southern region it seems more stable.

Figure 11.6: Cost variation of the basic food basket without fruits and vegetables in November by Province



### 11.3 SEASONALITY

To identify the seasonality patterns a consultation was held with partners. In Mozambique, typical, good, and bad years were identified. When placed along a timeline, it appears that in recent times the number of years between bad ones (red font) is shortening, whilst the times between good ones (green font) is increasing. However, given there is no information on what the food security status during these years was as well as this limited time series, this information is only indicative of the increase in frequency of 'bad year'. It should also be noted that there were two previous bad years identified – 1983 and 1992 – which also suggest that the time periods between 'bad years' has been shortening in recent years.

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
------	------	------	------	------	------	------	------	------	------	------	------	------

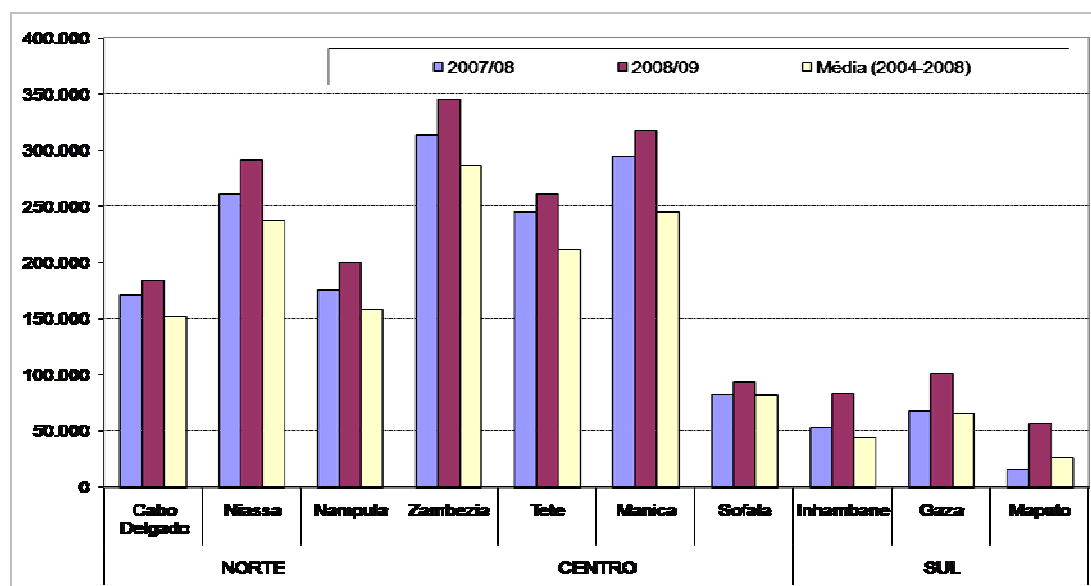
As per annex 2

#### 11.3.1 Market prices of major food and cash crops: seasonality

The 14% increase of cereal production compared to 2007/08 and 26.5% compared to the average of the past 5 years confirms that the agriculture season of 2008/2009 was satisfactory. The analysis of the agriculture production by region indicates that there was an increase of 9.6 % in the northern region compared to previous year and 19.5% compared to the average of the past 5 years. In the Central region there was an increase of 8.5% and 12.3% compared to past year and average of past 5 years, respectively. In the southern region there was an increase of 77% and 81% respectively.

The food balance sheet indicates a national deficit of 558, 000 Mt for 2009/2010 due to rice and wheat that is not enough produced in country.

Figure 11.7: Comparative analysis of changes of cereal production by region



The analysis of maize real prices during the period 2004-09, show that in general major variations of prices of local maize grain were registered in 2005 and 2008, due to its lower production in 2004/05 and substantial increase of rice prices in 2008 linked to lower production of maize in 2007/08. In 2006 and 2007, there was no significant variation of maize grain prices.

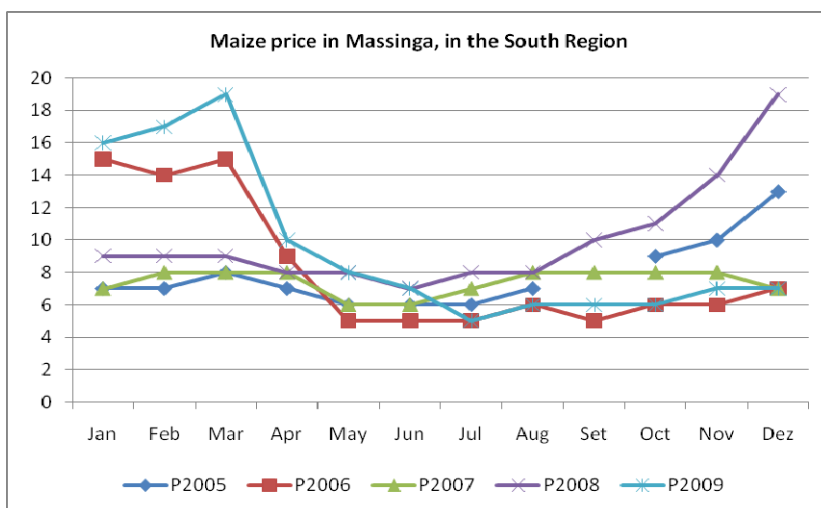
Maize price fluctuations in Mozambique are mainly influenced by the production that highly depends on rainfall. Prices generally start decreasing around harvest period, from February- March and the minimum prices occur in May. From July the prices start increasing and reaching the highest price in January-February.

The households with low income and low cereal production are the most affected people, having difficult access to food mainly during the lean season period of October- February, when there is more supply than demand.

**Southern Region:** This is the region with the lowest maize production, considered as the most deficit region of the country. Markets in this region are supplied by maize mainly coming from production areas of central region along the year. The analysis of the past 5 years indicates that the lowest prices are reached in this region during the period of May- December 2006. No significant prices changes were observed in 2007 and 2009.

For example, *Chokwe* market in this southern region showed that there was a significant increase of maize price from January until March 2006 and 2009 and from August -December 2008. In 2007 the maize price was stable along the year. In 2008 the price was stable until August, and then increased being almost the double in December.

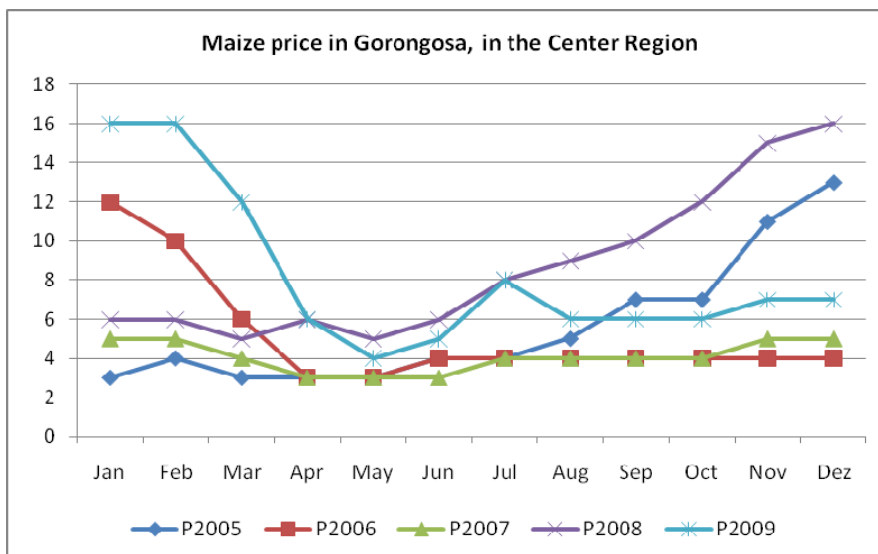
**Figure 11.8: Maize prices in Massinga – Southern region**



**Central region:** *Manica* and *Sofala* are the main sources of maize grain to the southern markets. In *Gorongosa* market, maize prices were lower than 4 MT/kg between January and May 2005. Maize prices increased up quickly and they reached 13 MT/kg in December of the same year. From January 2006, price decreased until May again and kept stable along remaining 2006, 2007 and until May 2008. In 2007 the maize prices was stable along the year and the lowest in the past 5 years.

The 2008 was the year with the highest degree of variation. Prices reached the triple between May 2008 and January 2009 in *Gorongosa* (from 5.00 Mts/kg to 16.00 Mts/kg) and more than double in *Manica* (from 7.00 Mts/kg to 17.00 Mts/kg). Maize prices decreased sharply from February to May 2009 and remained low until December.

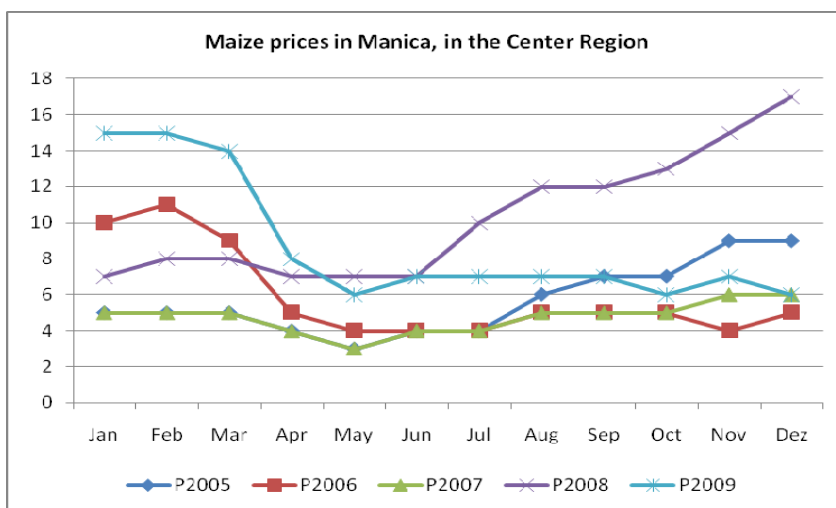
**Figure 11.9: Maize prices in Gorongosa – Central region**





The demand of maize grain in the productive areas of this region is very high and includes the informal traders from southern region and other districts (e.g.: *Machanga*) with food deficit, some of them with INSAN pockets, milling companies and animal stock producers.

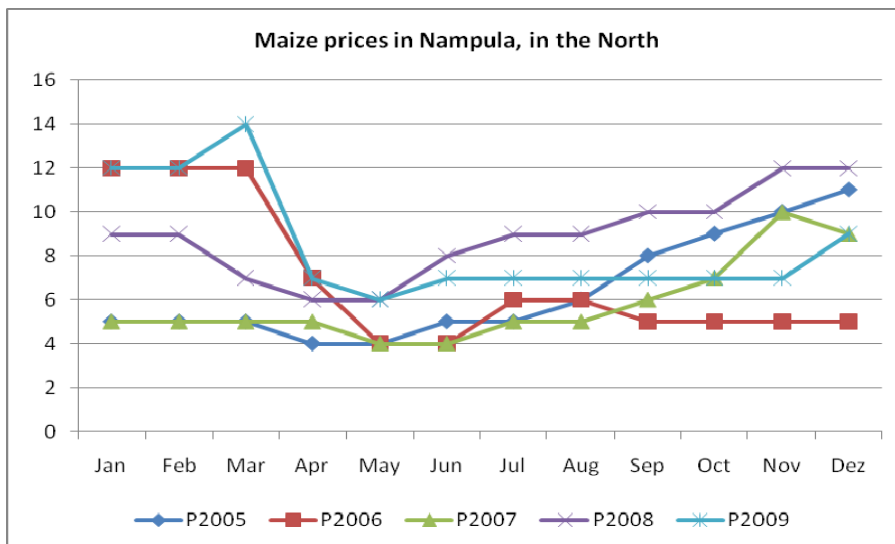
**Figure 11.10: Maize prices in Manica – Central region**



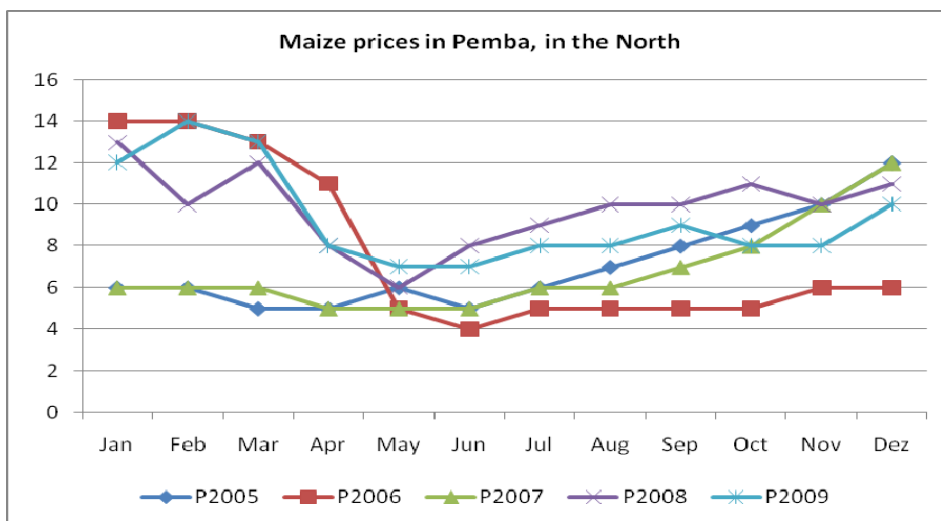
In Manica, maize prices were stable since 2005 until January 2008. Prices began to increase in June 2008 and doubled from June to February 2009. Maize prices decreased from March 2009 until May

**Northern Region:** The north region is the surplus area of cereal production. Prices in this region are lower than in southern and central regions. In *Nampula* and *Pemba* maize prices tend to increase from May to December. It may be due to the fact that mainly in *Nampula*, the consumed maize comes from *Zambézia* province. (*Mocuba*, *Alto Molocue* and *Gurué*) where there is more demand due to Malawian traders and trading companies (Export Marketing e V&M). In *Lichinga* there was small variation in the past 5 years, mainly the increase between May and December, and the decrease from March to May each year. Consumption of cassava mainly in the coastal area also reduces the demand of maize grain.

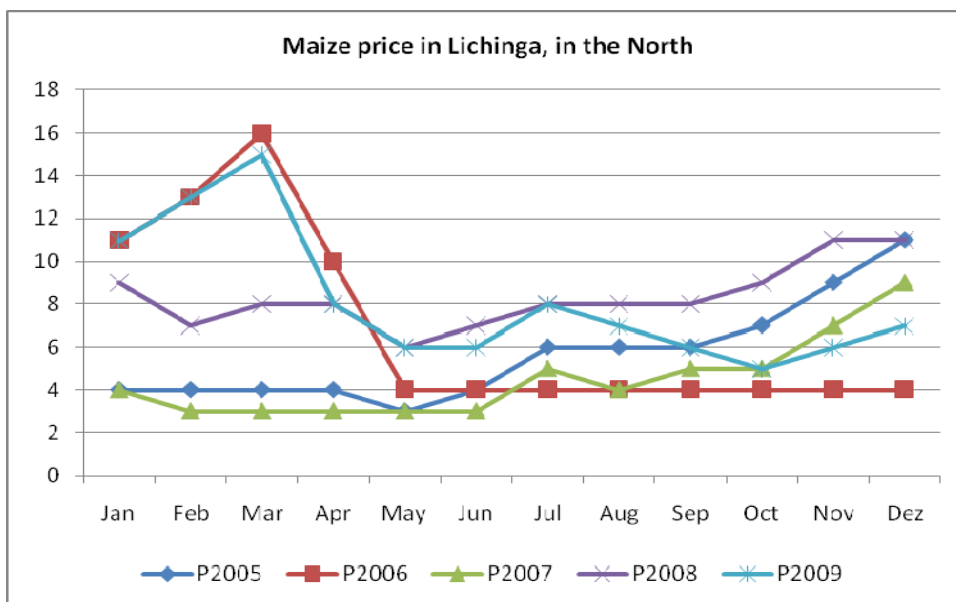
**Figure 11.11: Maize prices in Nampula – Northern region**



**Figure 11.12: Maize prices in Pemba – Northern region**



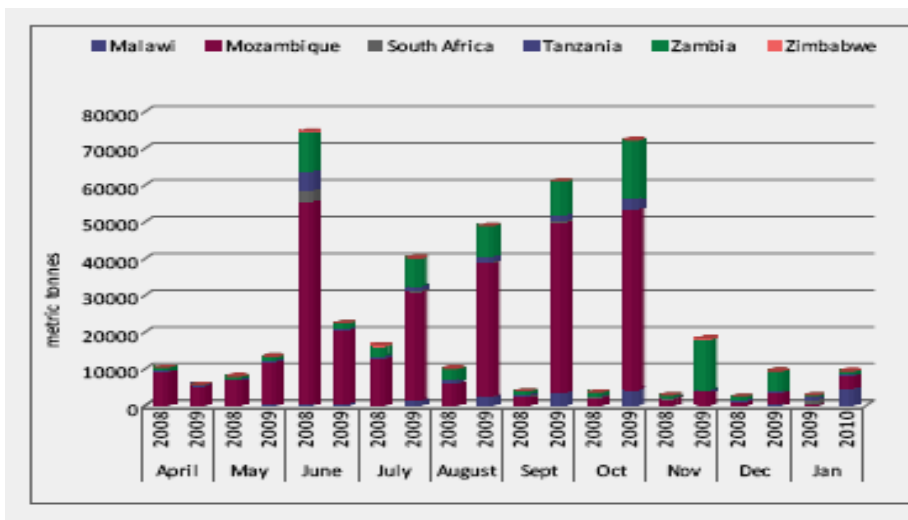
**Figure 11.13: Maize prices Lichinga – Northern region**



#### 11.4 MARKET SYSTEMS, PRICES AND FLOWS, REGIONAL

Since 2004, data on informal cross border food trade has been collected through a regional joint project of WFP and FEWSNet. The project includes 24 border sites of 8 countries. In Mozambique, there are 12 sites for data collection, being 10 along the border with Malawi, 1 border site with Zambia and 1 with Zimbabwe.

**Figure 11.14: Informal exports of maize by country, year and month**

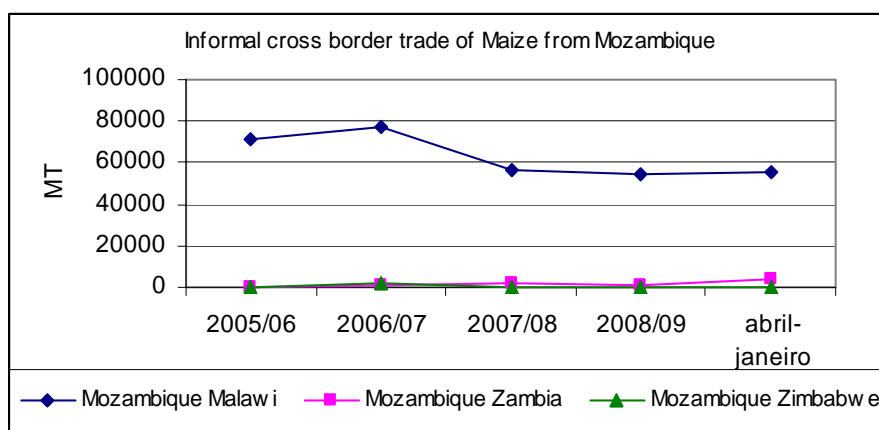


The data show that Mozambique is the main informal exporter of maize compared to other neighbor countries. In 2008-09 Mozambique represented 56 % of the total maize export share of the region, followed by Zambia (34 percent), Malawi (7 percent) and Tanzania (3 percent).

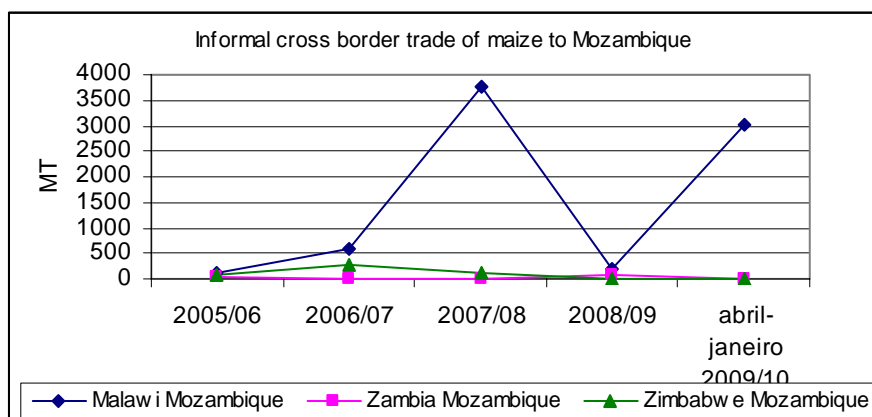
The volume from Mozambique to Malawi is the most significant cross border trade, compared to other neighbor countries. Data since 2004 also shows that the amount of maize exported to Malawi has been decreasing slightly since 2006-07. The volume of import from other countries to Mozambique was in general less than 500 MT with few peaks of import from Malawi, such as the 4,000 Mt in 2007-08 and 3,000 MT for first quarter of 2010.

The volume of beans export from Mozambique is very low compared to maize export. The bean export to Malawi during the period of April 2009 to January 2010 (2,294 MT) increased 5% compared to the same time last year. Within the region, Zambia topped the list with a 45 % total export share of beans, followed by Mozambique that represent 32 % and followed by Tanzania (19 %).

**Figure 11.15: Trends in informal flows of maize out of Mozambique**

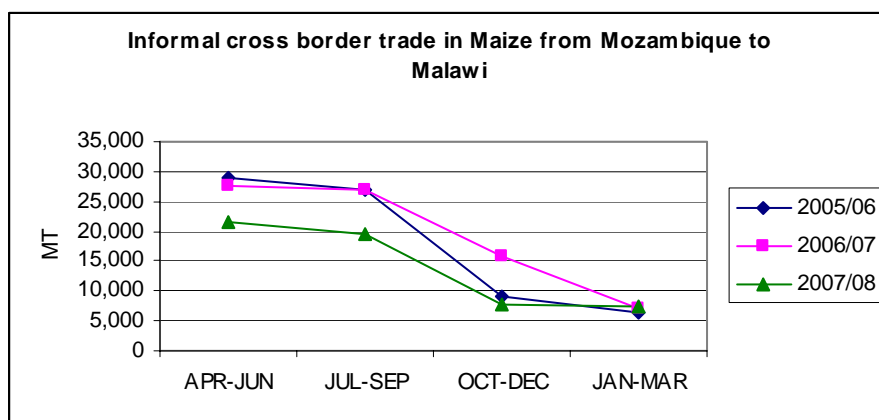


**Figure 11.16: Trends in informal flows of maize into Mozambique**



Analysis of the seasonality of cross border trade shows that the informal exports of maize from Mozambique to Malawi reach a peak between April to June, that corresponds to post harvest period. The volume of export decreases along the year being the lowest volume during January-March. In 2009 the peak of maize export happened between June and October.

**Figure 11.17: Informal exports of maize from Mozambique to Malawi**

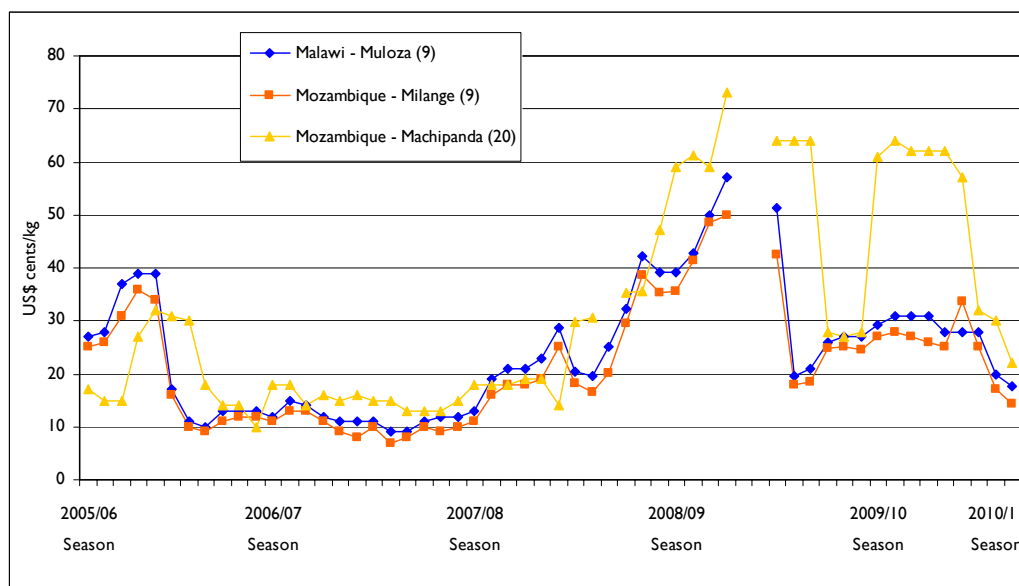


The export of beans from Mozambique to Malawi occurs mainly during July-September although it has been slightly decreasing along the years. January- March period is when there was the lowest volume of exports.

The following figure shows the nominal maize grain prices (in USD equivalent) and the associated monthly percentage changes. The following figure shows that *Muloza* in Malawi and *Milange* in Mozambique follow the same seasonal pattern. It is not really the case with the price in *Machipanda* which increase more in 2008 and 2009.

The January 2010 nominal maize prices are higher than the same time last year despite good harvests in many monitored countries last season. High production costs last season, including rising fuel and transport costs have contributed in keeping prices at these higher levels. With the hunger season reaching its peak, prices are now expected to rise steadily until the next harvest comes on to the markets in May/June 2010 (WFP and FewsNet Informal Cross Border Food Trade in Southern Africa Issue 57, January 2010).

**Figure 11.18: Maize retail prices in selected border points (US\$ cents per kg)**









The volume of maize export from Mozambique to Malawi reached 77,000 MT/year. The 2006-07 commercial year may be considered as a good year for trade between Mozambique and Malawi (Source: WFP and FEWSNet *Informal Cross Border Food Trade in Southern Africa*, Issue 56, November/December 2009)


**Table 11.1: Informal cross border trade of MAIZE by source and destination country (MT)**


Source	Destination	Total 05/06 season	Total 06/07 season	Total 07/08 season	Total 08/09 season	Total 09/10 Season	Cumulative Apr - Feb 08/09	Cumulative Apr - Feb 09/10
Mozambique	Malawi	71,218	77,394	56,078	54,223	60,399	53,025	57,835
Mozambique	Zambia	49	1,269	2,113	865	4,462	865	4,349
Mozambique	Zimbabwe	5	2,085	11	178	1,761	172	1,761
Zambia	Mozambique	55	2	0	60	130	54	130
Malawi	Mozambique	133	591	3,755	203	6,124	194	5,973
Zimbabwe	Mozambique	85	294	129	2	8	1	8


## 12. FOOD SECURITY AND VULNERABILITY PROFILES

Cabo Delgado	Asset Poverty	Food consumption	Nutrition
	Poor: 23%	Poor: 15% (49,700 HH)	Wasting: 4%
	Medium: 69%	Borderline: 17% (54,600 HHs)	Underweight: 22%
	Rich: 8%	Acceptable: 68% (224,800 HHs)	Stunting: 56%
<p><b>Food Availability:</b> 60% of the farmers cultivate exclusively in the highlands, which is the second highest percentage in the country. 17% of the farmers did not cultivate at all or cultivated less than 0.5 ha in 2008/09. 20% of the households mentioned a decrease in the amount of land cultivated.</p> <p><b>Food Access:</b> The percentage of households with poor consumption is 15% and the proportion of households adopting food rationing strategies is the highest (17%) of all provinces. In terms of access, 38% of the food consumed comes from production and 43% from purchase.</p> <p>Households have the highest percentage of households reporting at least one shock (31%) and also the highest CSI (38).</p> <p>Access to safe water and sanitation facilities are very poor compared to other provinces: more than half of the households use water from unimproved sources and 92% have unsafe sanitation.</p>			
Nampula	Asset Poverty	Food consumption	Nutrition
	Poor: 15%	Poor: 3% (23,000 HHs)	Wasting: 9%
	Medium: 63%	Borderline: 12% (96,300 HHs)	Underweight: 26%
	Rich: 22%	Acceptable: 85% (708,600 HHs)	Stunting: 51%
<p><b>Food Availability:</b> The percentage of HHs with land only in the highland is below the national value (34%) and the percentage of farmers with little or no harvest is the lowest (7%).</p> <p><b>Food Access:</b> This province with the best food consumption with 85% of households having acceptable consumption. <i>Nampula</i> has the highest share of current food consumption from own production (51%). Yet, 13% has a medium to high tendency towards food rationing. With a CSI close to the mean (26) and only 8% reporting shocks, households in the province do not appear to be experiencing stress.</p> <p>The province has the second highest stunting rate, and the highest underweight and wasting levels. Water source and sanitation facilities are worse than other provinces: more than half of the households use water from unsafe sources and 94% have unsafe sanitation.</p>			
Niassa	Asset Poverty	Food consumption	Nutrition
	Poor: 31%	Poor: 4% (8,200 HHs)	Wasting: 5%
	Medium: 62%	Borderline: 28% (61,900 HHs)	Underweight: 18%
	Rich: 8%	Acceptable: 68% (150,100 HHs)	Stunting: 45%
<p><b>Food Availability:</b> Niassa has the lowest percentage of farmers with land exclusively in the highlands, the lowest percentage of farmers who did not cultivate or cultivated less than 0.5 ha and the second lowest percentage of farmers with little to no harvest (9%). Only 6% of the farmers reported a decrease in the amount of land cultivated (the minimum).</p> <p><b>Food Access:</b> There are only 4% of HH with poor consumption but 28% with borderline. Seventeen percent of households reported a shock, the average CSI is low (22). Tern percent of households have medium to high tendency towards food rationing.</p> <p>Just less than half of the households use water from unsafe sources (the same percentage as the national average), but almost all the households (95%) use unsafe sanitation facilities. Stunting is the lowest of all Northern provinces. <i>Niassa</i> has the lowest HIV prevalence of all provinces (3.7%).</p>			

Zambézia	Asset Poverty	Food consumption	Nutrition
	Poor: 32%	Poor: 12% (100,800 HHs)	Wasting: 5%
	Medium: 54%	Borderline: 14% (113,100 HHs)	Underweight: 21%
	Rich: 14%	Acceptable: 74% (603,800 HHs)	Stunting: 46%
<p><b>Food Availability:</b> Agricultural production is overall positive although it has the highest percentage of farmers who cultivated less land during the 2008/09 season. This could partially explain the deterioration in food consumption.</p> <p><b>Food Access:</b> despite the sharp increase in poor consumption (comparison is with the 2008 data); Zambézia has highest percentage of HH with acceptable consumption (74%). The positive food security situation is corroborated by the lowest CSI (19), the lowest percentage of households with food rationing tendency (8%) and the second lowest percentage of households reporting shocks (3%).</p> <p>In Zambézia conditions of water and sanitation reflect those of the entire country, with 48% of the households using unsafe water and 89% unsafe sanitation.</p>			
Sofala	Asset Poverty	Food consumption	Nutrition
	Poor: 21%	Poor: 3% (6,800 HHs)	Wasting: 3%
	Medium: 55%	Borderline: 20% (49,600 HHs)	Underweight: 15%
	Rich: 25%	Acceptable: 77% (188,400 HHs)	Stunting: 40%
<p><b>Food Availability:</b> The percentage of households with land only in the highland is in the average (39%). The percentages of farmers who did not cultivate at all or cultivated less than 0.5 as well as the percentage with little to no harvest are not particularly concerning, but 30% of farmers reported a decrease in the amount of land cultivated.</p> <p><b>Food Access:</b> Sofala is one of the provinces with the highest level of acceptable consumption (77%). Purchase has an important role as source of food - it contributes to 56% of the current consumption. Despite a CSI slightly above the mean (28), the percentages of households reporting shocks and with the tendency to adopt food rationing strategies are below the national values (10% for both).</p> <p>One-third of the households use water from unimproved sources, which is the second lowest after Maputo, and 82% of the households use unsafe sanitation, which is the third lowest percentage.</p>			
Tete	Asset Poverty	Food consumption	Nutrition
	Poor: 37%	Poor: 11% (39,600 HHs)	Wasting: 3%
	Medium: 56%	Borderline: 23% (82,000 HHs)	Underweight: 18%
	Rich: 8%	Acceptable: 66% (236,000 HHs)	Stunting: 48%
<p><b>Food Availability:</b> The percentage of farmers with land only in the highlands, the percentage that didn't cultivate at all or cultivated less than 0.5 ha are both below the national values (28% and 11% respectively). Similarly, the percentage of farmers with little to no harvest is low (14%) as is the percentage with a decrease in the amount of land cultivated (7%).</p> <p><b>Food Access:</b> Only two-thirds of the households have acceptable consumption yet only 36% of the food consumed comes from own production. In addition 15% of the households have a medium to high tendency towards food rationing. The CSI has a mean of 22 (below the national value) and 10% of the households reported at least one shock. The level of asset poverty is highest amongst households in this province.</p> <p>In Tete, 45% of the households use water from unimproved sources and 89% have unsafe sanitation. Although there is a low prevalence of acute malnutrition (3% wasting), Tete province has the highest prevalence of stunting of any in the central region.</p>			

Manica	Asset Poverty	Food consumption	Nutrition
	Poor: 19%	Poor: 15% (33,200 HHs)	Wasting: 4%
	Medium: 53%	Borderline: 28% (61,900 HHs)	Underweight: 19%
	Rich: 29%	Acceptable: 57% (123,700 HHs)	Stunting: 48%
	<p><b>Food Availability:</b> Manica has the second highest percentage of households cultivating exclusively in the highlands (59%). The percentage of farmers who did not cultivate at all or cultivated less than 0.5 ha during 2008/09 is low (10%) compared with the national value. In addition, the percentage with little to no harvest is 17% and the percentage of HHs reporting a decrease in the amount of land cultivated is below the national average (14%).</p> <p><b>Food Access:</b> Manica is the province with the second highest percentage of households with unacceptable consumption (44% with poor or borderline). However, the tendency towards food rationing that is close to the national value (11%). The CSI (26) is just above the national value but the percentage of households with at least a shock is the lowest (2%).</p> <p>Half of households use unsafe water and 84% unsafe sanitation. These values are both close to the national value. Prevalence of malnutrition is similar to other provinces in the Central region.</p>		

Inhambane	Asset Poverty	Food consumption	Nutrition
	Poor: 20%	Poor: 9% (7,800 HHs)	Wasting: 4%
	Medium: 62%	Borderline: 34% (28,000 HHs)	Underweight: 11%
	Rich: 19%	Acceptable: 57% (47,300 HHs)	Stunting: 34%
	<p><b>Food Availability:</b> Inhambane has the highest percentage of households cultivating exclusively in the highlands (71%). Fifteen percent of farmers did not cultivate or cultivated less than 0.5 ha during 2008/09 and only 13% of the farmers reported a decrease in the amount of land cultivated. Despite this, a high percentage of households (41%) reported a little to no harvest.</p> <p><b>Food Access:</b> Inhambane is the province with the second highest level of unacceptable consumption (43% of poor or borderline). The tendency towards food rationing is close to the national value (11%). The CSI (25) is just below the national value but the percentage of households with at least one shock is the second highest (25%).</p> <p>Water sources conditions are above the national value (40% with water from unimproved sources) and sanitation facilities reflect the national average (88%).</p>		

Gaza	Asset Poverty	Food consumption	Nutrition
	Poor: 21%	Poor: 18% (32,600 HHs)	Wasting: 1%
	Medium: 52%	Borderline: 35% (61,400 HHs)	Underweight: 7%
	Rich: 27%	Acceptable: 47% (84,100 HHs)	Stunting: 34%
	<p><b>Food Availability:</b> Only 35% of the farmers cultivate exclusively in the highlands; 17% did not cultivate at all or cultivated less than 0.5 ha in 2008/09 and 20% of the households reported a decrease in the amount of land cultivated. These estimates are not particularly serious if compared to the national values, but the vast majority of the households (72%) reported a little to no harvest. Gaza is the province where milling process is particularly difficult. All the households practice manual milling. Mill location is frequently outside the village and far. Lastly the majority of the households have to pay for processing the mill.</p> <p><b>Food Access:</b> Gaza is the province with the highest level of unacceptable consumption (53% of poor/borderline) and its tendency towards food rationing is close to the national value (10%). The mean CSI is 29 (the highest after Cabo Delgado) and a considerable proportion of households (17%) reported a decrease in consumption on 2 items or more. 20% of the households reported being hit by a shock.</p> <p>Compared with other province, water and sanitation are relatively good. 39% of the households use unsafe water and 76% unsafe sanitation. Gaza has the highest HIV prevalence of all provinces (25.1%) and the highest for women (29.9%)</p>		



## Maputo

### Asset Poverty

Poor: 24%

Medium: 55%

Rich: 21%

### Food consumption

Poor: 6% (7,400 HHs)

Borderline: 12% (15,300 HHs)

Acceptable: 82% (104,600 HHs)

### Nutrition

Wasting: 2%

Underweight: 7%

Stunting: 28%



**Food Availability:** In *Maputo*, approximately half of the farming households have land only in the highlands and a considerable proportion of households had no/short harvest (39%). Maize milling is not as problematic as it is in *Gaza*, but still difficult.

**Food Access:** *Maputo* is the province with second best food consumption profile (82% have acceptable consumption) and shows a notable improvement when compared against the 2008 National Vulnerability Assessment. *Maputo* is the province most dependent on purchase for food consumption (62% of the food comes from purchase) and therefore it requires a special attention in case of a sharp increase of food commodities. Even if the CSI is above the national average (28), the percentage of households reporting a shock is much smaller than other areas (7%).

*Maputo* is the province with the best hygienic condition at the household level. Only 28% of the households use water from unimproved sources and 62% use unsafe sanitation facilities – which is extremely low if compared with the national value (82%). *Maputo* province has the second highest prevalence of HIV infection in the country (19.8%) and the highest for men (19.8%)

## 13. CONCLUSIONS

Mozambique continued to have relatively strong economic growth with the Gross Domestic Product in each one of the last five years was above 6.5%, economic inflation reached its level lowest of the decade (3.75% in 2009) and the State reached an important milestone on the road to financial autonomy when for the first time in the recent history of Mozambique more than half of the State Budget is financed by the country's own funds.

Consumption-oriented poverty is estimated by focusing on the incidence of poverty rate, which refers to the percentage of the population living below the poverty line. The incidence of poverty in 2008/09 is estimated at 54.7% of the population at national level. This is a reduction of poverty by 12.1 percentage points (pp) compared to 1996/97, when the incidence was estimated at 69.4%. In 2002/03 the poverty incidence rate was 54.1%, which means that between 2002/03 and 2008/09 there were no statistically significant changes in the levels of poverty. The number of people below the poverty line increased from 9.9 million to 11.7 million people, due to the growth of the population, which was 3 million between 2002/03 and 2008/09. The rural areas have 56.9% of the population below the poverty line and the urban areas have 49.6% of the population below the poverty line while in 2002/03 rural poverty was 55.3% and urban poverty 51.5%. All regions had a reduction of poverty between 1996/97 and 2002/03, and this continued in 2008/09, except for the central region in which poverty increased by 14.2 percentage points. Currently, the northern region has a lower incidence of poverty, with 46.5% of the population below the poverty line, than the central region with an incidence of poverty of 59.7% and the southern region with 56.9%.<sup>27</sup> The three main constraints pointed in the same report indicate that: very low or zero growth rates for agricultural productivity, together with climate shocks (floods, cyclones and droughts), aggravated terms of trade due to big increases of international food and fuel prices and the HIV/AIDS epidemic, more mature in the central region of the country. Gender and regional disparities are also significant for most of the indicators monitored.

### Human Capital

Education level of household heads and household composition play a major role in food security. The study found that 21% of the households are headed by women and 18% are headed by a person aged 60 years or older. The highest percentage of female headed households is found in *Gaza*, followed by *Inhambane* and *Cabo Delgado* provinces while the lowest percentage was found in *Nampula*.

In general, nearly 80% of eligible children 6-17 years of age are enrolled and attending primary school with another 7% enrolled and attending secondary school. *Niassa* and *Nampula* seem to have the major shortcomings in terms on education as they particularly low enrolment levels for both children and orphans.

About 6% of households in Mozambique live with one chronically ill member, 14% live with at least one disabled member and 13% have at least one single orphan. The recent death of a household member can be the result of many things yet it is an important factor in understanding vulnerability in rural households. Overall, only 4% of the households reported the death of a member in the past 12 months. This ranged from a high of 11% of the households in *Cabo Delgado* and *Sofala* and 7% in *Inhambane* to 3-4% in the other provinces. In terms of demographic characteristics of the households, *Cabo Delgado* shows serious results on the percentage of female and elderly headed households and households having experienced a recent death.

Government studies indicate that the provinces presenting the highest levels of deprivation, such as Zambezia and Nampula where 40 per cent of Mozambicans live, receive lower allocations per capita for health, education and water than other provinces.

These factors considered in this study as vulnerability factors, associated to poor services access are closely associated with food insecurity.

---

<sup>27</sup> MDG Mozambique report 2010, based on IOF- *Inquerito ao Orcamento Familiar*

## Physical Capital

Physical capital enhances household food security and their resilience to shock. Housing quality, access to safe sanitation and asset ownership as a wealth proxy were analyzed. Sanitation seems to be an issue particularly in *Nampula*, where 94% of the households have drinking water from an unimproved source and none use safe toilets. In terms of asset poverty, the highest percentages of asset poor households are found in *Tete* (37%), *Niassa* (31%) and *Zambézia* (32%) provinces.

## Economic capital and livelihood strategies

In this study, 14 distinct main livelihood groups were identified, the larger being the *Food Crop Farmers* (25%), the *Casual Labourers* (14%) and the *Salaried* (10%).

The highest concentration of *Assisted* households (i.e. households relying on a combination of gifts, beginning and food aid) is found in *Cabo Delgado*.

The study paid particular attention to remittances and has demonstrated that households in *Nampula* were the most likely to have received a cash remittance in the past year, followed by households in *Niassa*, *Sofala* and *Maputo* while households in *Tete* province were the least likely. It's interesting to note as well that in average 15% of households have reported a decrease of these remittances over the past year, with huge variation across provinces.

## Natural capital

Access to land is not yet a major issue in rural areas although it tends to become one in peri urban areas. Access is significantly higher ( $p < 0.05$ ) in rural areas (93%) than in peri-urban areas (82%). Households in *Maputo* province are the least likely to have access to agricultural land (62%), followed by *Cabo Delgado* (81%). Half of the households inherited land from family. Yet, there is a sizeable percentage that received it from local/central authorities (14%) or accessed it without a formal authorization (19%).

Thirty-nine percent of the households farmed only in the *highlands*, and this make them exclusively dependent on rain-fed agriculture.

Overall, more than half of the households are small farmers cultivating 1 hectare or less. *Zambézia* has the highest percentage of small farmers (cultivating nothing or less than 0.5 ha) and reported the highest decrease in crop production during the current season.

It is not surprising to see that the duration of maize and bean harvest is positively associated with wealth and amount of land cultivated. Within the three livelihood groups that rely mainly on agriculture (i.e., *Food crop farmers*, *Cash crop farmers* and *Agro-pastoralists*) the percentage of households whose harvest lasted at least 7 months is fairly high (58%, 65% and 51% respectively). Signs of concern come from *Gaza*, where 72% of the households with land reported that they did not harvest at all or that they had a very short harvest (duration less than a month).

Overall own production is the main source of seeds (mentioned 68% of the times), followed by purchase in the local market (20%) and getting from neighbours (8%). Half of the households (53%) stored their harvest in traditional barns while improved barns are rarely used (4% of the households). The large majority of households (85%) do not use any product to preserve the harvest.

Milling facilities are not broadly available. Maize processing is particularly challenging in *Gaza*, followed by *Maputo*. In *Gaza* the vast majority of the households don't have the mill in their village and 64% of them live at more than 2 hours from the mill.

Along with land, livestock represent an important livelihood asset, especially for the households living in rural areas that are engaged into pastoralism or agropastoralism. Compared with the previous year, there is a generalized increase in the amount of livestock owned by the households. Households in *Gaza*, *Manica* and *Tete* provinces are the most likely to own livestock (TLU equal to 1.6, 0.9 and 0.9 respectively).

Mozambique is a country particularly prone to natural hazards caused by extreme weather events in the form of serious droughts, floods and tropical cyclones. Since 1976, the country has suffered from at least 45 significant natural disasters, and it ranks third amongst the African countries most exposed

to risks from weather-related hazards<sup>28</sup>. Moreover, the effects of climate change are already being felt in Mozambique. There is evidence that temperatures have increased and that the rainfall pattern has changed appreciably leading to more unpredictable and intense floods and more frequent and persistent droughts. The consequent increases in crop failure worsen food insecurity, Sea level rise and cyclones are a rising threat to the population and coastal infrastructure (like ports and tourism facilities). Together, loss of agricultural production and infrastructure, water stress, and increases in water and insect borne diseases could lead to further displacement of people. The estimated overall impact of climate change on GDP for Mozambique would be substantial, averaging 3.5% of GDP even in the most conservative climate change models and as high as 13.6% in the most pessimistic scenarios<sup>29</sup>.

### Food Insecure Households: how many are they? Where are they?

One of the objectives of the survey was to determine the levels and geographic distribution of food insecurity using household level data. Following WFP corporate guidance, indicators of food access were used to classify households as being 'food secure', 'vulnerable' or 'food insecure' where vulnerable households are likely experiencing **acute** food insecurity and the food insecure are likely to be **chronically** food insecure.

Analysis was done using three key variables from the household data:

- **Food consumption score:** A measure of current household food security
- **Number of different types of assets:** A measure of wealth or ability to access food
- **Coping strategies index:** A measure of stress on the household, related to food access

Cluster analyses were used to create 4 distinct food security groups:

- (1) **Acute food insecure** household, with poor food consumption = 25%;
- (2) **Chronic food insecure** households = 34%;
- (3) **Food secure and (4) Better-off** households = 41%.

### Food insecure Households: who are they?

**Acute food insecurity** – These households are characterized by having 4 persons on average. They are the most likely to be headed by a woman (32%) or an elderly person (22%) as well as to have a disabled member (15%) or chronically ill member (8%). They are also the most likely to have experienced the recent death of a household member (6%).

Only 84% of these households have access to arable land while 65% live in rural areas. Just over half own any livestock. More than 40% of the households are asset poor while 46% of their monthly expenditure is for food, the highest of all groups. Only 9% are receiving assistance through a programme. Nearly 20% of the households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the highest of all groups.

**Chronic food insecurity** – These households are characterized by having 4 persons on average. Only 12% are headed by a woman and 20% headed by an elderly person, the second highest of all groups. Eleven percent have a disabled member, 5% have a chronically ill member and only 4% have experienced the recent death of a member. Seventeen percent are hosting orphans. Less than half of these households access drinking water from improved sources, the lowest of all groups while only 7% have adequate sanitation.

Around 93% of these households have access to arable land while 68% live in rural areas – the highest of all groups for both. While more than 60% own any livestock more than 40% of the households are asset poor and 45% of their monthly expenditure is for food, the second highest of all groups. Only 6% are receiving assistance through a programme which is the lowest of all groups. Ten percent of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups.

---

<sup>28</sup> 2009 Global Assessment Report on Disaster Risk Reduction, UNISDR, 2009.

<sup>29</sup> World Bank. 2010. EACC country case study: Mozambique.

**Food secure** – These households are characterized by having 5 persons on average. Only 12% of the households are headed by a woman and 18% are headed by an elderly person. Fourteen percent have a disabled member, 4% have a chronically ill member and only 3% have experienced the recent death of a member, the lowest of all groups. Sixteen percent are hosting orphans. Around half of these households access drinking water from improved sources, while 17% have adequate sanitation.

Over 90% of these households have access to arable land while 57% live in rural areas. Nearly 80% own any livestock but none of the households are asset poor and 41% of their monthly expenditure is for food. Only 8% are receiving assistance through a programme. Only 8% of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups

**Better-off** – These households are characterized by having 5 persons on average. Fourteen percent of the households are headed by a woman and only 12% are headed by an elderly person, the lowest of all groups. Eleven percent have a disabled member, 4% have a chronically ill member and 4% have experienced the recent death of a member. Eighteen percent are hosting orphans, the highest of all groups. Around two-thirds of these households access drinking water from improved sources, while 19% of them have adequate sanitation – the highest of all groups for both.

Around 85% of these households have access to arable land while only 46% live in rural areas, the lowest of all groups. Around two-thirds own any livestock and 4% of the households are asset poor but only 38% of their monthly expenditure is for food, the lowest of all groups. Thirteen percent are receiving assistance through a programme which is the highest of all groups. Only 5% of these households reported an unusual event or shock that affected their food security in the 6 months prior to the survey, the second highest of all groups.

The income activity group that has the highest percentage of acutely food insecure households is the **assisted households** group (54%), followed by the **casual labourers** (36%) and **fishermen** (35%) groups. The group with the highest percentage of chronically food insecure is the **casual labourers** group (43%), followed by **skilled traders** (41%) and the **food crop farmers** (39%) groups.

Country wide, food availability from domestic production and imports is usually adequate, but there is a marked north-south difference, with production concentrated in the North while in the South, which is more densely populated, production is lower and more erratic. Agricultural production is also subject to huge variations due to climate uncertainty and recurrent droughts, particularly in the semi-arid areas. In consequence, pockets of acute food and nutrition insecurity develop and re-appear periodically. Market development is relatively poor, with weak information systems and infrastructures, conditions that limit food access to the poorest segments of the population.

## Nutrition

The report uses the recently released findings of the 2008 Multiple Indicator Cluster Survey (MICS) conducted by the Ministry of Health and UNICEF to document health and nutrition factors.

A slight improvement in malnutrition prevalence can be observed over the past five years: **acute malnutrition (wasting)**<sup>30</sup> decreased from 5% in 2003 to 4% in 2008; **chronic malnutrition (stunting)**<sup>31</sup> decreased from 48% in 2003 to 44% in 2008; **underweight**<sup>32</sup> decreased from 20% to 18%.

However, by province, there are still areas where the prevalence of malnutrition is still unacceptable. The highest prevalence of stunting is found in *Cabo Delgado* province where more than 55% of the children are chronically malnourished. More than half the children in *Nampula* province are stunted. The levels of chronic malnutrition decrease from north to south and are lowest in *Maputo* province and city. Similarly the prevalences of underweight in young children is highest among children in the northern provinces of *Nampula* and *Cabo Delgado* and are lowest in the southern provinces of *Gaza* and *Maputo/Maputo city*.

<sup>30</sup> 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.

<sup>31</sup> 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.

<sup>32</sup> An **underweight child** has a weight-for-age Z-score that is below -2 SD based on the NCHS/CDC/WHO reference population. This condition can result from either chronic or acute malnutrition or a combination of both.

Stunting is a threat to an individual's and a nation's development because of its impact on intellectual and physical capacity. More than 55% of the children in Cabo Delgado and more than half of the children in Nampula province are stunted. Stunting is the manifestation of insufficient food, health and care in the period before and during pregnancy and in the first 2 years of a child's life. Micronutrient deficiencies such as anaemia due to iron deficiency are a major public health issue in Mozambique.

## HIV/ AIDS

In Mozambique, HIV prevalence is one of the highest in the world. In 2007, prevalence among adults (15-49) was estimated at 16% using data collected at the clinics. The recent "National survey on the prevalence, risks, behaviours and information on HIV and AIDS in Mozambique" (INSIDA, 2009) included the collection of blood samples on a subset of women and men in reproductive age (15-49) thus offering a more accurate estimate of HIV prevalence at national and provincial level. According to the 2009 data, HIV prevalence is at 11.5% countrywide.

The INSIDA shows that women are more likely to be infected than men and that both men and women in urban areas are more likely to be infected than their counterparts in rural areas. By age, there are differences in HIV prevalence between women and men. In general, the prevalence of infection increases with age for both groups, but for women, it peaks in the 25-29 year age group (16.8%) and for men, not until the 35-39 years age group (14.2%). For the 50-54 year age group, 12.7% of women are infected compared to 10.6% of men.

There are quite substantial differences in infection prevalence by Province, even between sexes. In general infection is lower in the Northern provinces and increases as one moves south. INSIDA shows that women in Gaza province are the most likely to be infected of all groups in Mozambique (29.9%).

The 2009 *Impacto Demografico do SIDA* estimated there were 96,000 deaths due to HIV (of which 33,000 were men and 42,000 were women), representing about 22% of the mortality cases. It also reported approx 510,000 made orphans because of HIV and 48,000 children below 18 years) in need of ART. These estimates have strong implication on life expectancy on the vulnerability of the new generations and on food security. HIV has indeed an immediate impact on household food security by increasing health expenditures, reducing human labor availability and creating a care demand. In the longer term, households are captured within the cycle of poverty and vulnerability and tend to deplete their productive assets and land and cannot invest properly on the younger generation.

## Markets

Maize price fluctuations in Mozambique are mainly influenced by the production that highly depends on rainfall. Prices generally start decreasing around harvest period, from February- March and the minimum prices occur in May. From July the prices start increasing and reaching the highest price in January-February.

The households with low income and low cereal production are the most affected people, having difficult access to food mainly during the lean season period of October- February, when there is more supply than demand.

Considering the prices collected in between June and July 2009 by SIMA/MINAG, the average cost of a basic food basket for a household with 5 members is 6.380,00 Mts/month for those who buy industrially processed maize flour and 5.556,00 Mts/month for those who consume maize grain from their own production or buy maize grain on the market and take it to small mills. The cost of basic food basket varied a lot between the provinces. The provinces where the basic food basket is the most expensive are Niassa and Tete. The high food prices in 2007-2008 caused the highest increase of cost of food basket in all provinces except in Nampula province, where the highest variation occurred in 2006-2007. Although this is convenient to the local

Since 2004, data on informal cross border food trade has been collected through a regional joint project of WFP and FEWSNet. Mozambique is the main informal exporter of maize compared to other neighbor countries. In 2008-09 Mozambique represented 56 % of the total informal maize export share of the region, followed by Zambia (34 percent), Malawi (7 percent) and Tanzania (3 percent). Although this process could bring benefits to the farmers, over long term and at national level it represents an economic loss.

Market integration, between north/ center as surplus and south as deficit are a concern, promoting integration of farmers / informal traders in local market systems and increasing local consumption of locally produced food continues to be a challenge.

## 14. RECOMMENDATIONS

Recognizing that program response and design can be strengthened by drawing upon information outside of assessments results, the WFP Country Office has undertaken a series of consultative steps with Government and partners in order to build upon and complement the CFSVA findings, with qualitative and contextual data, together with perceptions from program implementers at the district and community levels.

To support this process, the OMJ Regional Bureau and WFP Program Design Division (OMXD) have conducted 2 in-country missions to facilitate a series of consultative workshops. The first consultations held in 2 of the WFP field sub-offices have focused mainly on strengthening the assessment processes, linking CFSVA assessment findings to the program design through the use of a seasonal livelihood analysis.

The second consultation in Maputo has focused more on reaching a consensus among partners to agree upon the key food insecurity issues in Mozambique looking holistically at what is happening, what is changing, and what is needed to be successful in meeting future needs, including brainstorming on opportunities for improved progress towards increased food security in Mozambique and on the future direction and priorities for WFP in Mozambique. The final goal of this approach being to test the CO's ideas on future direction/priorities and to initiate discussions aimed at reaching a consensus with the Government at different levels (national, provincial, district), re-affirming priorities for inclusion in the country strategy (and subsequently designing CO interventions for the next operational phase).

We summarize here the key discussions and outcome of this Food security and Nutritional Analysis Round table. The 2 days consultation has built strongly on the revised analysis and brought the National Policy framework into the picture.

The interventions recommended to minimize the impact of the main causes of food insecurity and malnutrition in Mozambique (natural disasters, high food prices, food habits, practices of food security and nutrition, seasonality of food, food availability and prices and dependency on rain fed agriculture) includes training at all levels (health, nutrition and hygiene education), dissemination of good practices in agriculture, livestock and nutrition (introduction of new crops, sanitation practices, kitchen demonstrations, , use of improved ways of water collection , better use of technologies for better use of water for agriculture, dissemination of native plants that helps the reduction of hunger and malnutrition, soil conservation techniques, use of improved post harvest technologies, dissemination of better varieties), increase support to vulnerable groups (children, pregnant and lactating women, HIV affected and infected, chronically ill,), establish and improve early warning and monitoring systems and capacity for Risk Analysis, support the production and distribution of fortified products and food supplement, support the creation of community assets to increase the household income, increase local purchase in surplus areas, support the promotion of farmers associations and provide humanitarian assistance when needed.

Addressing inequality and inequity will entail a completely different approach to implementing the MDGs, including social protection programmes, such as cash and in-kind transfers, as well as public works and school-feeding programmes and community-based insurance schemes.

Finally, it is recommended that WFP focus in the following:

1. **Food security and nutrition** directly linked to achieving MDG1, 4, 5 and 6. Food security and nutrition are also prerequisites to meet the other MDGs and IADG'S particularly MDG 2, and MDG 7. Achieving MDG1 and the hunger target remains a major challenge in Mozambique. While Mozambique is on track to meet the MDG target (1.8) on reducing the percentage of underweight children (low weight for age), stunting (low height for age) levels are alarmingly high at 44%.

2. Support the implementation of the ESAN II, PASAN II and the multi-sectoral action plan for reducing chronic malnutrition; the strategy to provide nutritional support to children, pregnant and lactating women and adolescents; and the PEN III highlight the importance of food security and nutrition in combating HIV/AIDS. This should include increasing the understanding of food and nutrition security, including food security and nutrition information systems, such as crop monitoring, markets and prices surveillance, household food consumption and nutrition monitoring; and support



for institutional development at all levels (central, provincial and district) and for strengthening the national capacity to advocate, coordinate and manage the progressive implementation of food security and nutrition strategies

3. Support the finalization and implementation of the Multisectoral Plan of Action for the Reduction of Chronic Undernutrition which includes interventions across the life cycle (adolescents, women of reproductive age and children under 2 years of age), interventions to improve access to and utilisation of nutritious foods, as well as interventions addressed at the central level like strengthening the country's capacity for nutrition, strengthening multisectoral coordination and strengthening food and nutrition surveillance.

4. Support investments in the trade sector, market infrastructure, linking farmers to markets through local food purchases and providing farmers with credit. This will include developing national capacities to store, process and fortify food, development of the policy and standards (establish codes and standards for agricultural products; reinforce the food quality control systems, including legislation and inspection, control laboratories, food quality and safety information, and implementation of risk analysis frameworks

5. Especially in the South, initiatives will have to involve a focus on water management, reforestation, and comprehensive food security initiatives in the arid and semi arid areas. Safety nets, and protection and promotion of livelihoods for the chronically insecure will need to be a critical part of such initiatives, this will take in consideration the seasonality of the needs and food security situation.

6. Supporting the reinforcement of the role of **Social Protection** within poverty reduction policies, taking into account its potential impacts on the achievement of the MDGs and IADG's, will be one of the priorities of UN policy support. A comprehensive social protection approach with a mix of tools (both contributory and non-contributory) helps ensure that no group is excluded from the development process in the country. Additionally, social protection enables marginalized groups particularly women led households to participate in the economy and thus to create economic growth and development, both through their contributions as consumers – with high impact on the level of local demand – and as producers. It also brings the opportunity to reduce social and economic disparities, improving vulnerable people conditions.

7. In response to the vulnerability of Mozambique to natural disasters, **Vulnerability Reduction** has become a key concern for Government. Guided by the Hyogo Framework Approach, since 2008 the emphasis should be on strengthening institutional capacities and to evolve from a reactive approach (emergency preparedness and response to extreme events) to a proactive risk reduction approach (fostering prevention, risk mitigation and early recovery) to lessen the impacts of extreme events on the lives of vulnerable communities exposed to disaster risks.

8. Support sustainable preparedness and response capacity within government and civil society institutions, through a focus on the strengthening of national disaster management structures at various levels, disaster preparedness, emergency management, early warning systems and early recovery interventions, particularly at local level and for the most disadvantaged people. As well as Government's master plan for disaster mitigation, through hazard risk analysis, and by implementing social protection schemes such as food/voucher-based employment programmes which build disaster-proof and climate-proof assets and infrastructure, increase the resilience, and adaptive capacity of the communities taking into account the needs and potential of both women and men.