



INSTITUTO NACIONAL DE ESTATÍSTICA

Food insecurity assessment based on food consumption statistics derived from the 2002/03 Mozambique household budget survey

Summary Report

Maputo, Mozambique
March 2008



Funded by the European Union through the EC-FAO Food Security
Information for Action Programme
<http://www.foodsec.org>



Instituto Nacional de Estatística

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Foreword

The National Institute of Statistics (INE in Portuguese) is very pleased to present this report on food insecurity assessment based on food consumption statistics derived from the 2002/03 Mozambique Household Budget Survey, which took roughly six months to prepare, by a national team of three senior officers from INE, the Food Security and Nutrition Technical Secretariat (SETSAN in Portuguese), and the Ministry of Agriculture. This report is the product of activities carried-out within the framework of the EC-FAO Food Security Information for Action Programme implemented by the Food and Agriculture Organization (FAO) of the United Nations through the Statistics Division and with the financial support of the European Union. This technical report was presented to national and international users of food security information in the National Seminar on Food Security Statistics and Multisectoral Perspectives, held on 22 November during the African Week on Statistics 19-23 November 2007 at the International Conference Centre 'Joaquim Alberto Chissano' in Maputo, Mozambique. I wish to take the occasion to thank all participants in the National Seminar for their contributions.

The findings used data collected in the National Household Budget Survey (IAF in Portuguese) conducted in 2002-03, in particular data on food consumption and expenditure, economical access to food, energy and energy-yielding macro-nutrients by people according to income levels, geographical location and other household characteristics. It was possible to obtain the results presented by using data from a sample of more than 8700 households representing all households in Mozambique.

I am especially grateful to FAO for its technical assistance, as well as for sharing the Food Security Statistics Module (FSSM) software. Special thanks are also necessary for the help received in the training activities concerning the use of the FSSM in Maputo and in the International Demonstration Centre of Food Security and Consumption Statistics, Rome, Italy. I thank FAO for helping with the delivery of a preliminary version to national and international stakeholders in food security issues in the National Seminar.

My thanks, for the technical work of the national team led by Mr Camilo Amade from INE, to Mr António Paulo from the Ministry of Agriculture and to Mr Osvaldo Comé from the Food Security and Nutrition Technical Secretariat (SETSAN in Portuguese). My thanks also go to Mr Valeriano Levene, INE Vice-President of the Economic Area and Mr Azarias Nhanzimo, INE Director of Economic and Business Statistics.

I hope that this report provides good, useful, general information and data to help in government policy planning concerning food deprivation and poverty reduction. I also wish to point out that we would be grateful to receive any comments or suggestions concerning the contents of this document, as this will help us to improve any future publications we make as well as our database.

Maputo, Mozambique, November 2007

João Dias Loureiro

INE President

EXECUTIVE SUMMARY

This summary report provides a brief assessment of food insecurity in Mozambique at the national and provincial level based on food consumption statistics derived from data collected in the 2002/03 Mozambique Household Budget Survey (Inquérito aos Agregados Familiares, IAF 2002/03) using the FAO methodology.

At national level, in 2002-03, around 29 percent of the Mozambican population were food deprived, daily consuming less than the minimum dietary energy requirement (MDER) of 1617 Kcal/person. At sub-national level the highest prevalence of food deprivation occurred in the provinces of Maputo and Gaza, with around 55 percent of the total population and the lowest prevalence was in the provinces of Sofala and Manica with about 26 percent. Food deprivation in the rural population (23 percent) was lower than in the urban population (52 percent).

All population groups in the lowest income group quintile were food deprived. Analysing food deprivation according to the gender of household head the study found a difference, as 35 percent for female headed households and 28 percent for male headed households were food deprived. Concerning the prevalence of food deprivation according to the age of the household head the higher prevalence occurred on the two oldest age groups (31-59 years and 60 or more year). Analysing in terms of economic activity, the study found that people engaged in the agricultural sector showed the lowest proportion of food deprived, which is significant since most of the country population were within this sector. This indicates that the population living in rural areas were less food deprived although with more income deprivation.

The prevalence of critical poverty, which refers to the proportion of population living on less than the cost of the balanced MDER valued at protein, fat and carbohydrate prices from the lowest income level population, was marginally lower than the prevalence of food deprivation at all levels.

On average, a Mozambican consumed about 1990 Kcal/person/day, of which 70 percent was from carbohydrates, 19 percent from fats and 11 percent from proteins. This pattern seems to be acceptable, even though relatively low for proteins and relatively high for carbohydrates. In order to acquire this amount of food, a Mozambican spent during the survey period on average 5.34 Meticais/person/day corresponding to about 54 percent of the total consumption expenditure. About 45 percent of food was from purchases and 52 percent came from own production, while less than one percent was consumed away from home and around two percent came from other sources.

Finally, with a Gini coefficient of dietary energy consumption due to income was equal to 12.7 percent and a coefficient of variation of dietary energy consumption due to income of about 23 percent means inequalities in access to food were moderate.

ABBREVIATIONS

ADER	Average Dietary Energy Requirement
CV	Coefficient of variation
DEC	Dietary Energy Consumption
FAO	Food and Agriculture Organization of the United Nations
FBS	Food Balance Sheet
FSSM	Food Security Statistical Module
HDI	Human Development Index
IAF	Inquérito aos Agregados Familiares
INE	National Institute of Statistics
MDER	Minimum Dietary Energy Requirement
MDG	Millennium Development Goals
PCFP	Prevalence of Critical Poverty
USDA	US Department of Agriculture
WFS	World Food Summit
WHO	World Health Organization
QC	Community Questionnaire
QCG	Households Characteristics Questionnaire
QDD	Daily Household Expenses Questionnaire
QDR	Monthly Household Expenses and Income Questionnaire

I. BACKGROUND

Mozambique is a country located in Southeast Africa with a population of about 20.5 million people according to the preliminary results of the 2007 Population Census, and distributed among 11 provinces, with Maputo being the capital city. The country shares a border with South Africa and Swaziland to its southwest, with Zimbabwe, Malawi and Zambia to its northeast, and with Tanzania to its north. A long coast of almost 3000 km borders the east.

A ten-year war of liberation against Portuguese colonialism was followed by 16 years of civil war a few years after its independence, and the aftermath has had a terrible marked effect on the Mozambican population. The population often lacks education and productive skills, particularly in the poverty-ridden countryside, which suffers from a lack of basic infrastructure. According to projections from the population census conducted by 1997, the median age is 17.9 years, with more than 43 percent of the population younger than 15 years.

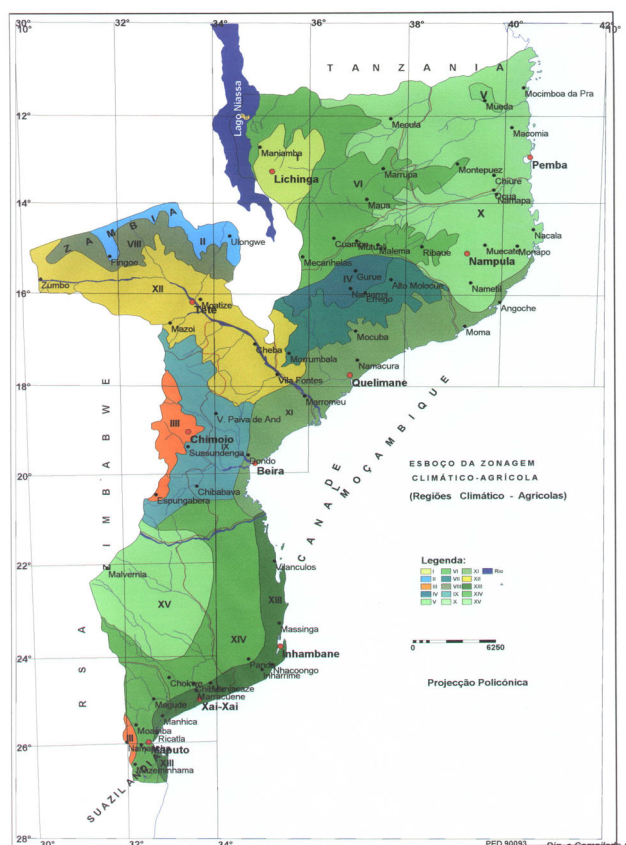
With a GDP per capita of US\$263 in 2003 with a growth rate of 6.5 percent and a Human Development Index¹ (HDI) of 0.413, Mozambique has made a remarkable improvement since 1992, after the cease-fire of the civil war. According to the latest estimates the GDP rose by about 8.0 percent in 2006 compared to the previous year, with a GDP per capita of US\$394 and a HDI of 0,456.

In view of this economic and historical background, it appears important to assess the situation of food insecurity in the country based on food consumption statistics at national and sub-national level, to identify the population groups that are at risk of being food insecure. This report attempts to give a quick snapshot of the situation in Mozambique with respect to food, by providing some key indicators on food security statistics based on food consumption data derived from the latest household survey conducted in Mozambique in 2002/03 (IAF 2002/03).

Any interpretation of the food security statistics shown in this study should bear in mind the context of the country in which the collection of the food consumption data took place. During the 2002-03 period Mozambique suffered a near drought. Rainfall levels were very low in many provinces and consequently affected agricultural food production.

This assessment report is divided into two parts, the first part briefly presents the survey and the other part provides a brief analysis of the main findings derived from the study. This report is

¹. The HDI measures the average progress of a country in human development. Source UNDP, HDR 2006.



based on the statement that “food insecurity exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active, healthy life. It may be caused by the unavailability of food, insufficient purchasing power or the inappropriate distribution or inadequate use of food”.

II. THE SURVEY

The National Institute of Statistics (INE in Portuguese) conducted the 2002/03 integrated household survey (IAF 2002/03) during the 12 month period from July, 2002 to June, 2003. The survey was designed to produce estimates of household expenditure, household income and social characteristics of households at the national, provincial and rural/urban level.

A. The sample:

The sample, which used the 1997 population census as its base, had a random design with three stages:

- Sample primary units (UPA)
- Enumeration areas (AE)
- Households

The sample selection process was preceded by the creation of an exhaustive list of the households within each AE, from which the targeted households were randomly and systematically selected with equal probability.

The sample size was 8727 households, with 4020 being in urban areas and 4707 in rural. This was very useful to obtain reliable statistics at national and regional level, and according to residential area. The sample successfully interviewed 8700 households, which represented a 99.7 percent response rate.

B. The questionnaire

The survey used four questionnaires:

- (1) In rural areas the community questionnaire (Questionario Comunitario - QC) recorded:
 - General characteristics of the community
 - Market prices for selected products
- (2) The general household characteristics questionnaire (Caracteristicas Gerais do Agregado Familiar - QCG), recorded:
 - Household information
 - Housing characteristics and amenities
 - Poverty predictors
 - Victimization

Household member information
Demographic characteristics
Education
Health
Employment

- (3) The daily household expenses questionnaire (Questionario Despesas Diarias - QDD) recorded a seven-day period of:

Household purchases
Household consumption of own production
Gifts in kind received by the household

- (4) The monthly household expenses and income questionnaire (Questionario Despesas e Receitas - QDR) recorded:

Inventory of durable goods owned by the household
Number and value of durable goods purchased in the last 12 months
Education expenditure in the last 12 months
Household purchases in the last 30 days
Income and revenue in the last 30 days by household member
Transfers received and paid in the last 30 days by household member

C. Field work for household and survey organisation

The data collection in each province constituted one team of five persons, which consisted of one controller and four enumerators. On average each enumerator interviewed about 12 households in urban areas and nine in rural during the 10 days scheduled for each AE.

The data collection per household involved 3 visits as summarized below:

- On the first visit, the enumerator collected data from the general household characteristics questionnaire and part of the daily household expenses questionnaire.
- The second visit, three days after the first, involved the collection of the daily household expenses questionnaire for the last 3 days, as well as the monthly and annual household expenses.
- The third visit, held 3 days after the second, collected the income questionnaire and the daily household expenses during the last 3 days.

At the end of the 12 months there were reliable estimates for 11 individual provinces with data from all questionnaires stored in tables in several Microsoft Access databases, with the creation of a single Access database (IAF2002data.mdb) to store all the survey data tables, to ease distribution and use.

D. Food data

The IAF 2002/03 contained a wide range of information regarding households, food and non-food consumption expenditures. Data collection took place over a period of twelve months

starting in July 2002 and ending in June 2003. Quantities and monetary values of food consumed by households were collected through a diary questionnaire over a period of seven days, for about 350 food items by source of acquisition such as paid in cash or in kind, purchased, received as gift or from stocks from own production. Food taken away from home was also identified but in values only.

Data collection on food items took place involving more than ten different quantity units of measurement, which included a large number of local units of which it was possible to find the relative gram equivalent. The estimation of the gram equivalent of most of the other local units was made by using the average unit value of each food item at national level.

Finally, as Mozambique did not possess a food composition table to derive the nutrient values of each food item of the IAF 2002/03 it was necessary to use the African Food Composition Table complemented by those of the USDA and the Portuguese Food Composition Tables.

E. Food security statistics

The food security statistics and indicators described below in this report are based on the process and analysis of the food and expenditure data provided by the IAF 2002/03. The analysis of the food consumption data involved the use of the FSSM software developed by the Statistics Division of FAO.

The prevalence of food deprivation depends on three main components. First, the amount of dietary energy contained in the food consumed; second, the inequality in access to food mediated mainly by income; and thirdly, the minimum dietary energy requirement for a low acceptable weight to be healthy enough corresponding to a sedentary level of activity for different groups of age and sex. The weighted overall daily per person minimum dietary energy requirement (MDER) is used as the cut-off point of the distribution function of dietary energy consumption for estimating the prevalence of food deprivation. In the case of Mozambique, the MDER was 1617 Kcal/person/day corresponding to the sex/age structure of the population at national level, 1661 Kcal/person/day for urban populations and 1596 Kcal/person/day for rural populations.

Statistics on food security and consumption were derived at national level and for sub-national population groups categorized according to level of income, regional location, household size and some characteristics of the head of household such as sex, age, level of education, occupation and activity.

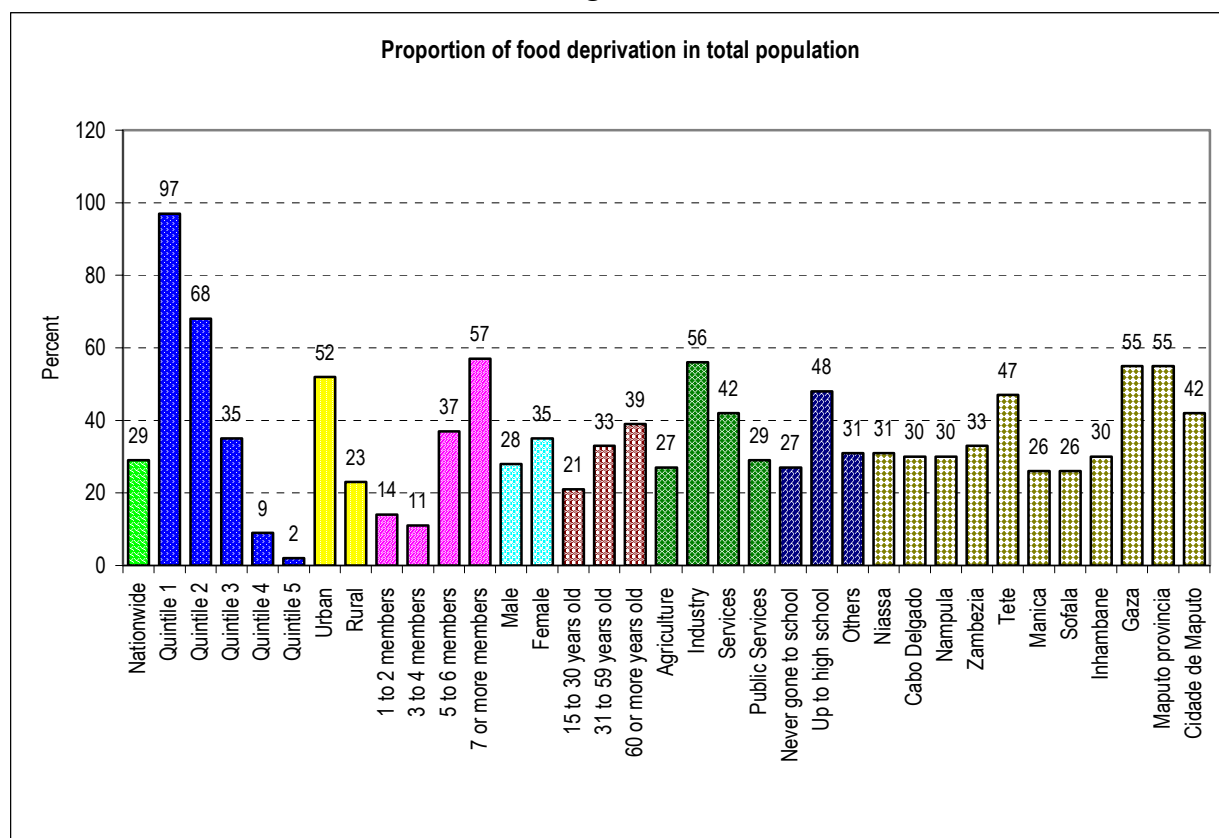
III. FINDINGS

A. Magnitude of food deprivation

The magnitude of hunger as measured by the prevalence of food deprivation showed that in 2002/03, about 29 percent of the total population in Mozambique was undernourished. Levels of food deprivation were not the same for sub-national population groups such as urban and rural areas as well as provinces (Figure 1).

High levels of food deprivation were observed among people of the lowest income quintile, among households comprising more than 7 members, among heads of households with age more than 30 years and mainly from the provinces of Gaza and Maputo, both with prevalence of food deprivation of 55 percent. In contrast with those very high levels, food deprivation was not significant among households with higher income. Finally, the different values used as cut off point in urban and rural areas may have had an impact on the level of food deprivation as it was found to be different. This finding is explained by the difference in inequality in access to food at national level and between urban and rural areas for the same level of dietary energy consumption.

Figure 1.

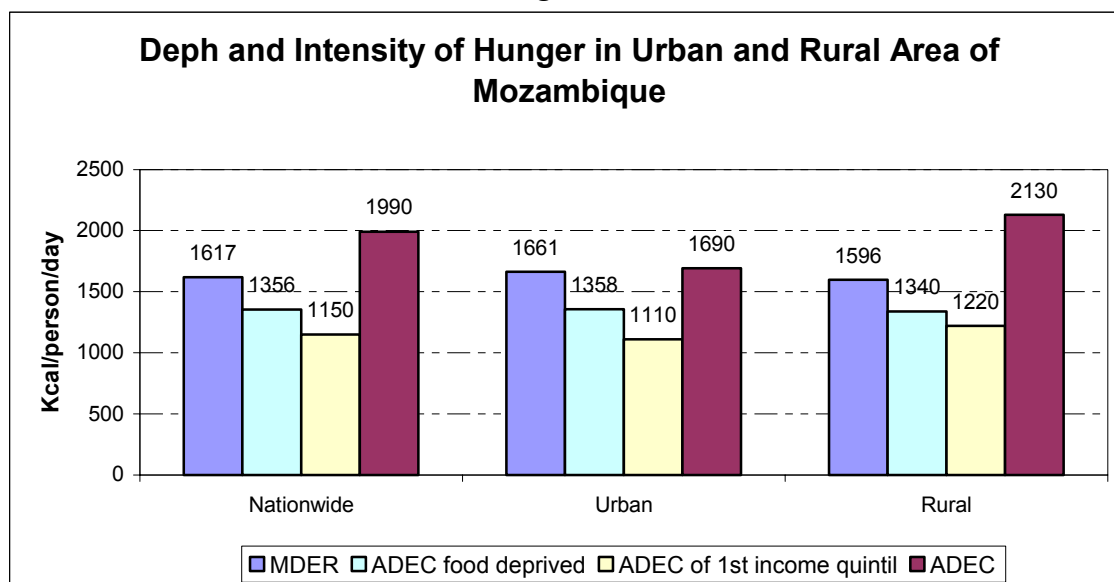


There was a difference in food deprivation between households grouped by gender of household heads as it was higher in female headed households, while by area the difference was even higher, 52 percent of food deprived population in urban areas compared to 23 percent in rural areas.

B. Depth of hunger

On average, the daily energy consumption per person was 1990 Kcal at national level. However the depth of hunger at national level indicates that the energy consumption of the food deprived population of 1356 Kcal fell short of the MDER-minimum dietary energy requirement (1617 Kcal) by 261 Kcal (*Figure 2*). In rural areas the average dietary energy consumed (ADEC) was significantly higher than in urban areas, 2130 versus 1690 Kcal. The depth of hunger was higher in urban areas (303 Kcal with respect to urban MDER of 1661 Kcal) than in rural areas (257 Kcal with respect to rural MDER of 1596 Kcal) and both depths of hunger were considered high. Of great concern is the high energy gap in all household groups in the lowest income quintile with averages of energy consumption short of their respective MDER, for example at national level by 467 Kcal, while 551 Kcal in urban areas and 376 Kcal in rural areas. These dietary energy shortages for households in the lowest income quintile were even higher than the depth of hunger at national level as well as in urban and rural areas. The energy consumption in the lowest income households in urban areas was lower than in the lowest income households in rural areas.

Figure 2.



C. Food poverty

Critical food poverty, as measured by FAO, corresponds to the proportion of the population whose income is lower than the cost of a food basket providing a balanced MDER. Food poverty is less restrictive with the cost of a food basket corresponding to the balanced ADER that is the energy required to maintain a healthy life while performing a moderate level of physical activity.

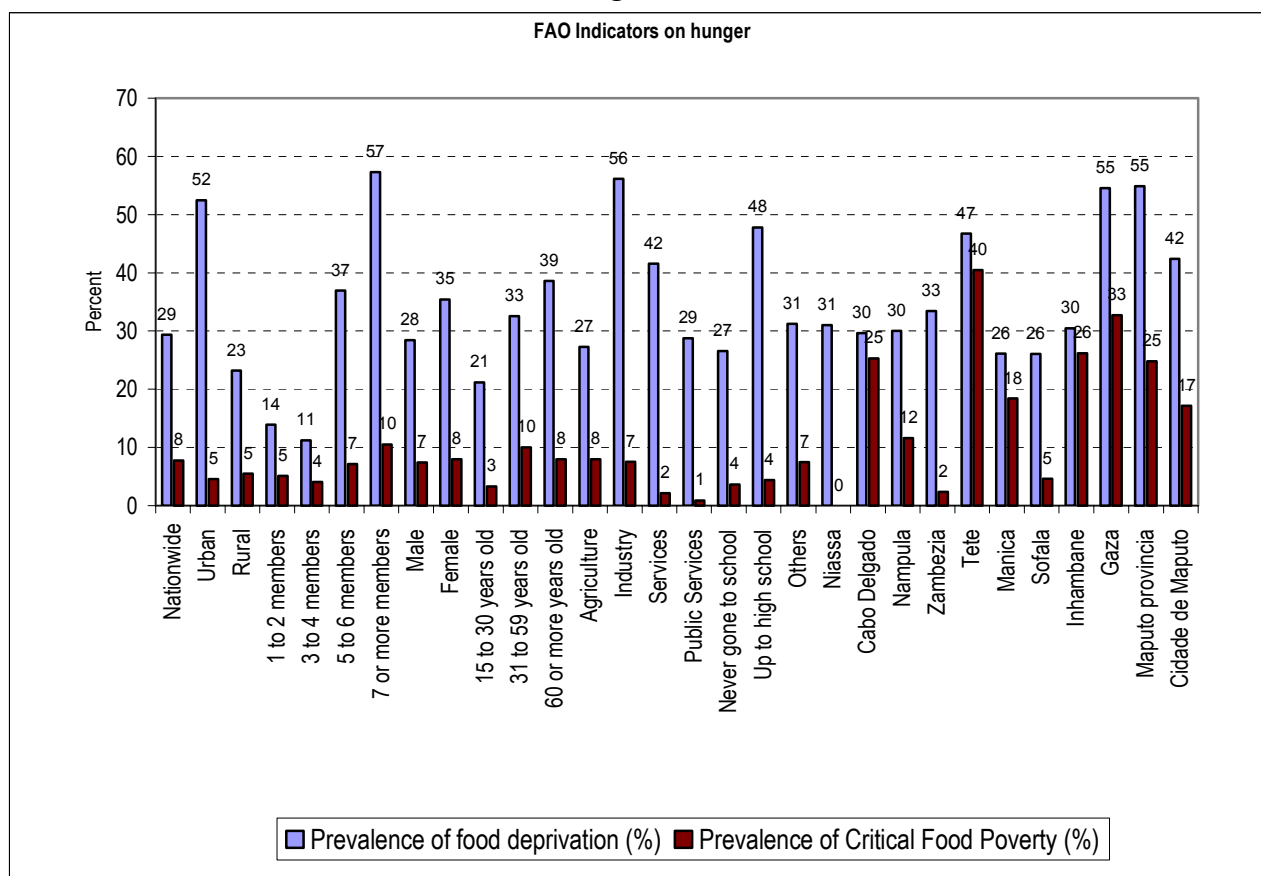
Both food baskets (MDER and ADER) are valued using the dietary energy prices from protein, fat and carbohydrate consumption corresponding to the lowest income quintile. A diet is considered as balanced when the contributions from energy-yielding nutrients are within

acceptable ranges; i.e. proteins from 10 to 15 percent, fats from 15 to 30 percent and carbohydrates from 55 to 75 percent in total dietary energy consumption.

Critical food poverty was different among sub-national levels. At national level the prevalence of critical food poverty was 7.7 percent while by area of residence it was 4.6 percent and 5.4 percent for urban and rural areas respectively (Figure 3). The provinces of Niassa, Zambézia and Sofala, were the provinces with lower critical food poverty than the national average. However population groups with high food deprivation levels and high critical food poverty levels were the most food insecure population groups, for example Tete, Inhambane, Cabo Delgado, Gaza and Maputo.

In terms of household characteristics, the high critical food poverty levels were observed in large-size households (five or more members), and in households with heads of 60 plus years of age. Both, the prevalence of food poverty and the prevalence of critical poverty increased as the number of members per household increased.

Figure 3.



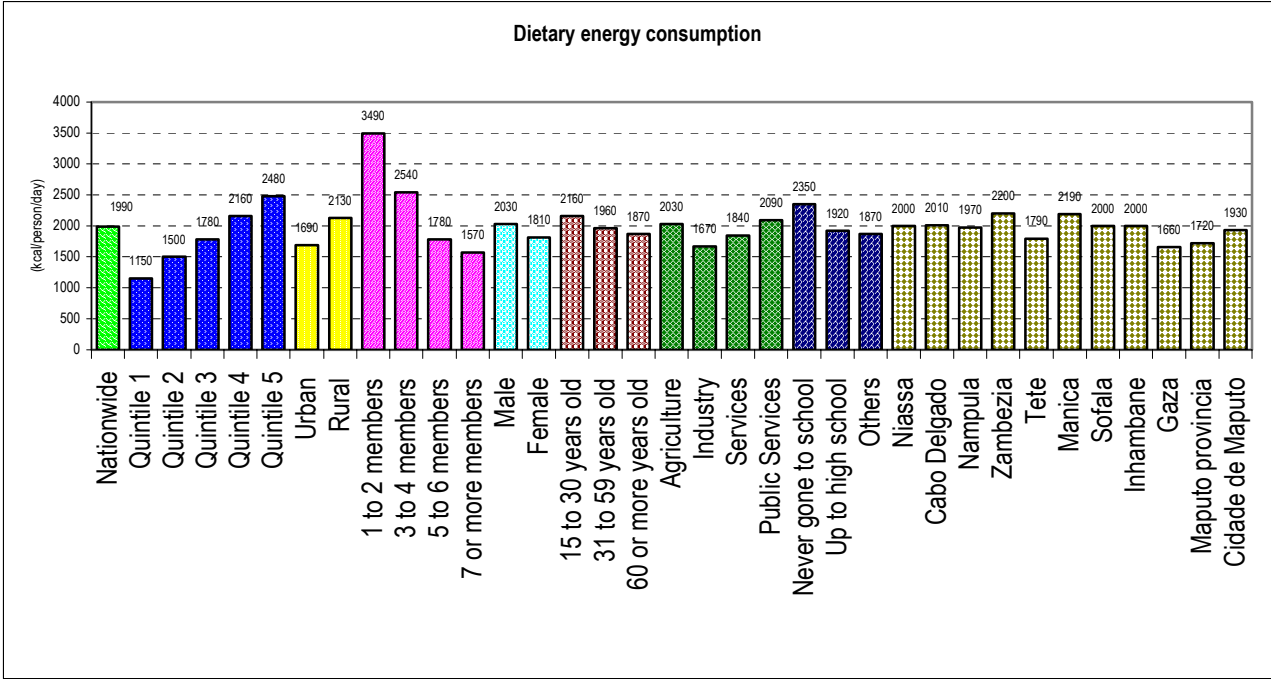
The critical food poverty lines used to estimate critical food poverty in urban and rural areas were different as it was possible to derive for each area the respective MDER based on the corresponding sex age structure of the population. The dietary energy unit value used to estimate the critical food poverty lines corresponded to the protein, fat and carbohydrate prices in the lowest income quintile households.

D. Food consumption and expenditures

1. Dietary Energy Consumption

The average Dietary Energy Consumption (DEC) in Mozambique was 1990 Kcal/person/day in 2002/03 (Figure 4). The DEC levels mirror the levels of the prevalence of food deprivation. It increased with income and showed different patterns among the different groupings. Population groupings having an average DEC less than the national average of 1990 Kcal/person/day had food deprivation levels higher than the national level of 29 percent.

Figure 4.



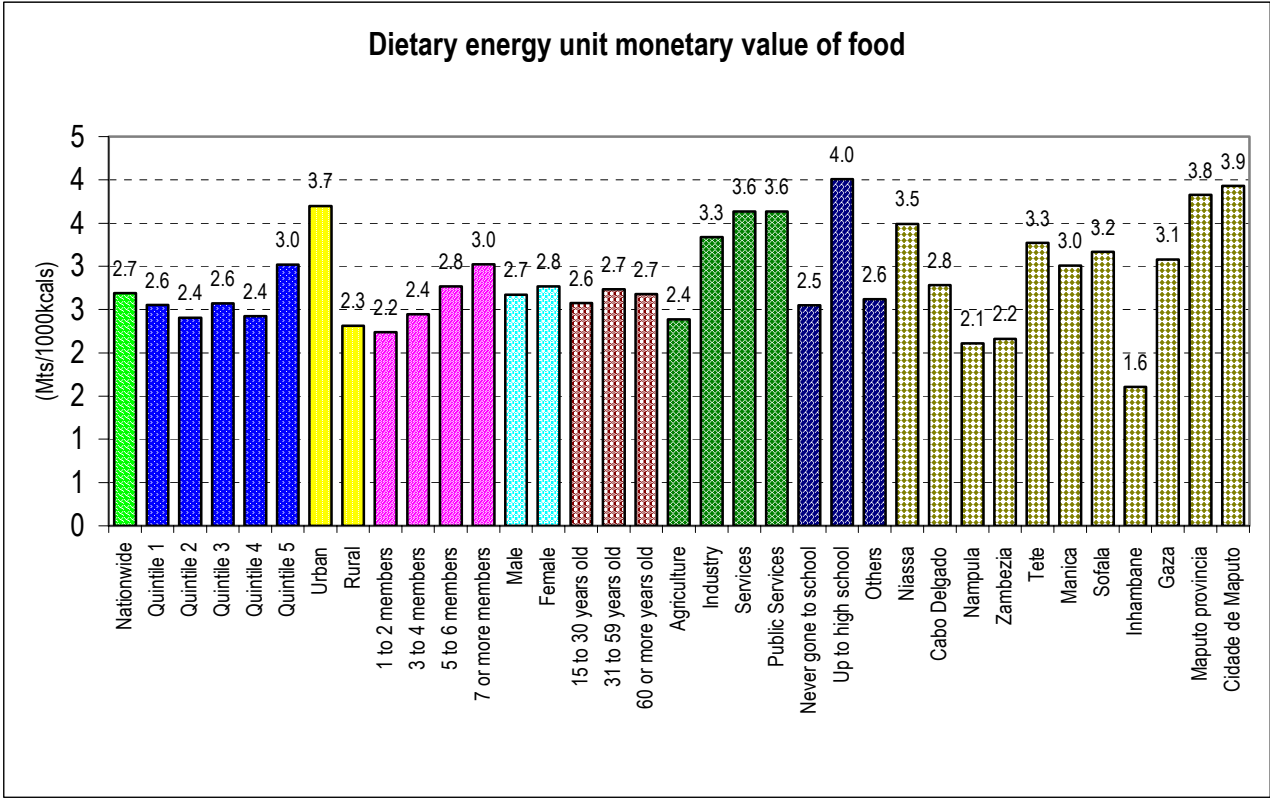
The daily average of 1150 Kcal/person consumed by low income groups of the population contrasted with the 2480 Kcal/person/day consumed on average by households with high income. In households with 1 or 2 members the average DEC was 3490 Kcal/person/day against households with 7 or more members with an average of 1570 Kcal/person/day.

2. Dietary energy unit value

It cost on average 2.70 Mts. to acquire 1000 Kcal at national level. But the dietary energy unit value (which does not include the cost of energy needed to bring the food from as purchased to ready to eat) differed according to the sub-national population groups. The value for 1000 Kcal was 2.60 Mts. for the low income group but a little higher for the highest income group with 3.00 Mts. (Figure 5). The lower cost of energy in low income groups may be due to the low nutritional quality of food consumed; however low income households may acquire more expensive energy due to more frequent food acquisition in small quantities as needed from food vendors near households.

The cost of 1000 Kcal in urban areas was about 61 percent higher than that in rural areas. Households with a higher level of education were consuming food of higher prices than the national average. Finally, the highest dietary energy unit value was found in Maputo City where 1000 Kcal cost on average 3.90 Mts. which represented a cost higher 44 percent than the national average. This high dietary energy cost observed for Maputo City and Maputo Province explained in part the incidence of food deprivation in the capital city and surrounding areas where the price of food reflected diversity, quality, costs of transportation from rural areas, and processing or importing costs when relevant.

Figure 5.

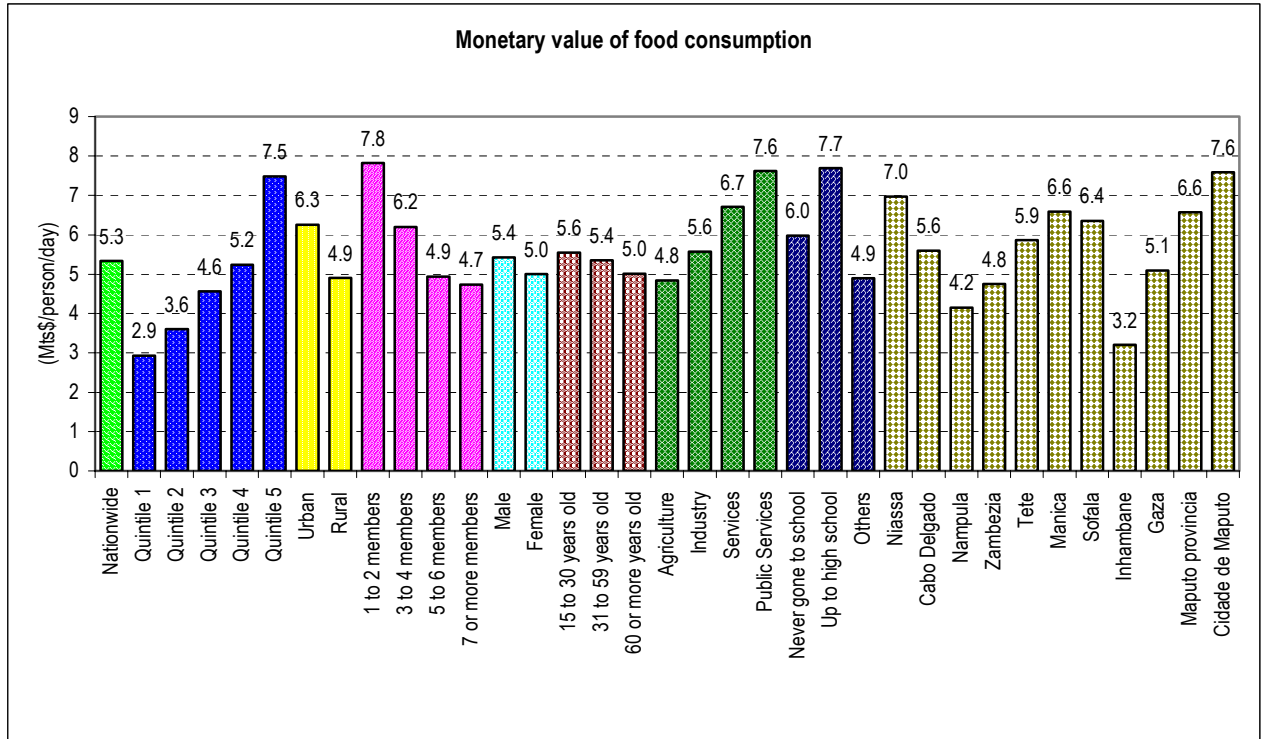


3. Monetary value of food consumed and Engel ratio

On average, it cost 5.34 Mts. for a Mozambican to acquire a food basket corresponding respectively to the ADEC of 1990 Kcal/person/day.

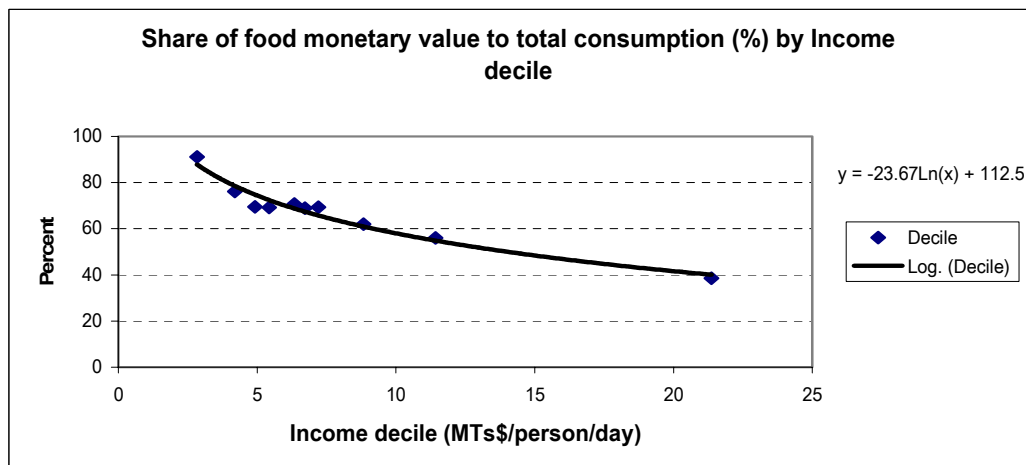
The data in Figure 6 shows that from the first to fifth quintile the monetary value of food consumption increased from 2.90 Mts. to 7.50 Mts/person/day which corresponds to the increase in energy from 1150 to 2480 Kcal/person/day. Households with fewer members spent more per person than the national average.

Figure 6.



On average 54 percent of the total consumption was devoted to food. As in Engel's law, the share of food expenditure in total consumption expenditure decreases with higher income (Figure 7).

Figure 7.



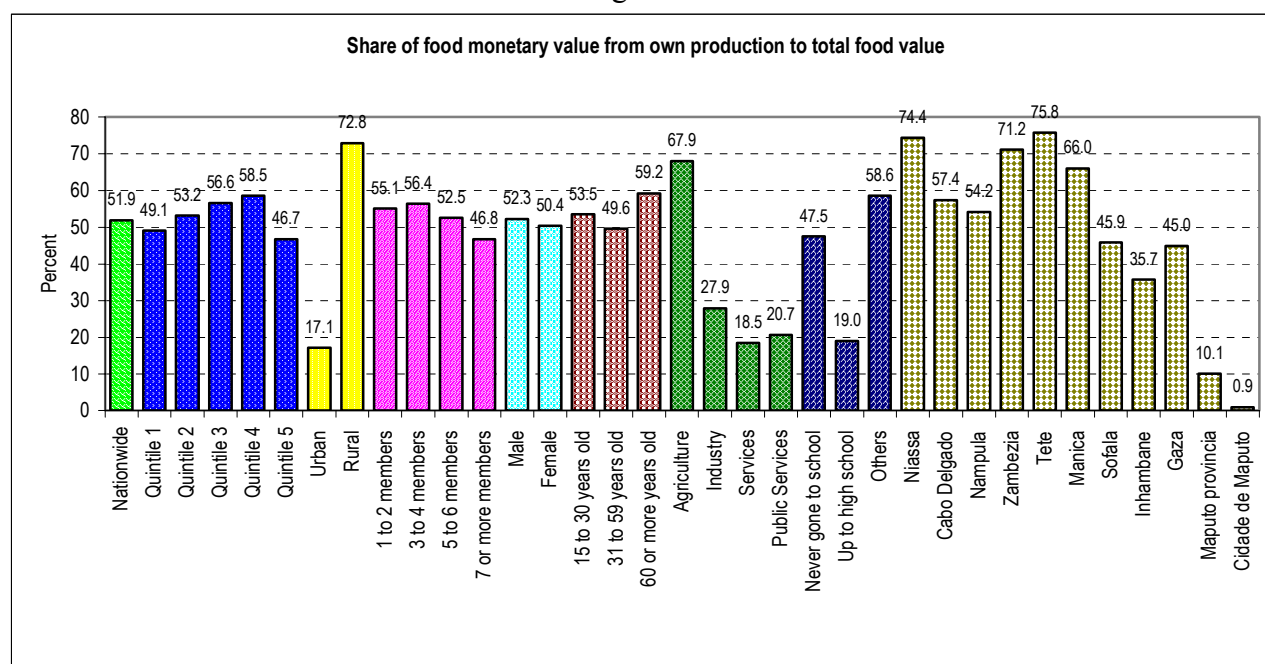
The Engel ratios were almost the same for population groups with lower levels of income except for those with higher levels of income. The population group with the lowest income (first decile) spent 81 percent of total consumption on food consumption and this indicator decreased to 43 percent for the population group with the highest income (tenth decile).

4. Share of food consumption by food source

Most of the food consumed in monetary terms at national level was from own production (52 percent), while the food acquired was 45 percent. Food eaten away from home and from other food sources had smaller shares both with a total of about three percent.

But this share varied according to regions and sub-national groups as rural households consumed more food from their own production, 73 percent, compared to urban households, 17 percent (Figure 8).

Figure 8.

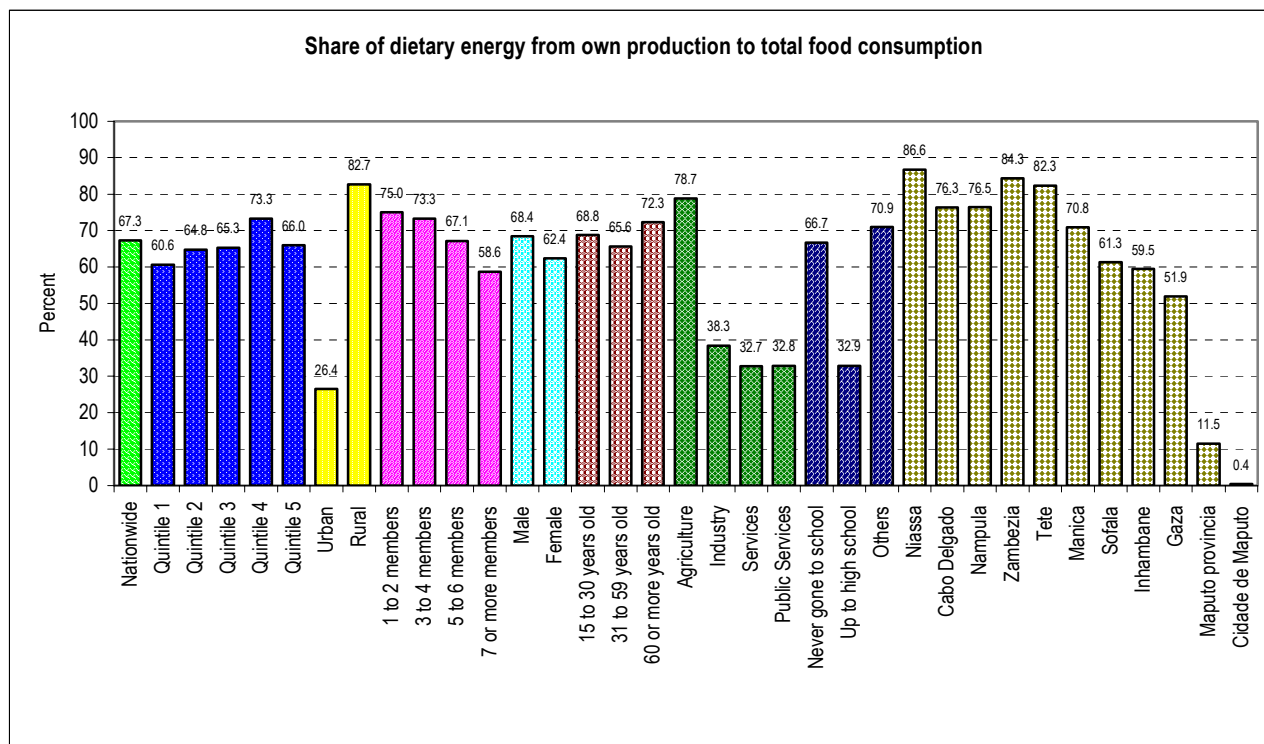


In the urban areas, purchases were the most important with a share of 81 percent of total food monetary value. There were big differences among provinces in terms of share of food sources. In Maputo province and Maputo City the most important source of food was purchases with 86 percent and 98 percent of total food expenditure respectively, while in the north and central provinces (excluding Sofala) the share of the monetary value of food from own production was more than half.

But when looking at these shares in terms of dietary energy consumption the picture is different. At national level, while the share of food from own production was 52 percent of total food monetary value, in terms of dietary energy the share of food energy from own production was about 67 percent of total dietary energy (Figure 9).

This was principally because the main food consumed (maize flour, roots and tubers and their products) came from own production in rural areas and has a high energetic value and a lower cost than food purchased in markets that is of higher quality and usually includes costs such as transport costs or processing costs. As well as this, at national level the 45 percent food monetary value coming from purchases represented only 32 percent in terms of dietary energy.

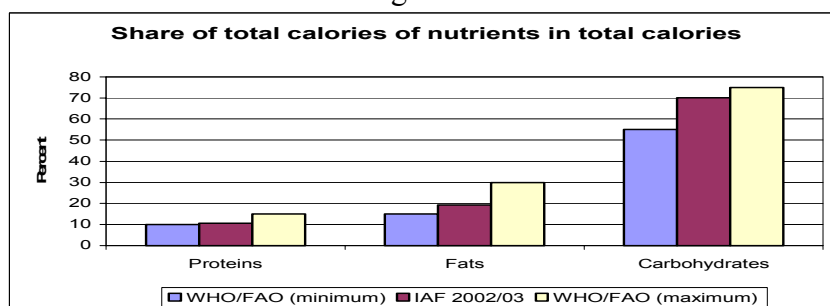
Figure 9.



E. Dietary Diversity

More than 70 percent of the DEC of a Mozambican was from carbohydrates, 19 percent from fats and 11 percent from proteins (Figure 10).

Figure 10



This consumption pattern followed the norms recommended by FAO/WHO for a balanced diet consisting of 10-15 percent of proteins, 15-30 percent of fat and finally 55-75 percent of carbohydrates; however protein contribution was close to the lower limit. Furthermore when looking at the contribution of each food commodity group to the total DEC it appeared that cereals and their products provided 49 percent of the total dietary energy, followed by 17 percent from roots and tubers and their products, and 12 percent from oil crops (Figure 11). Meat and fish made a very low contribution of a little more than three percent to total energy consumption.

Figure 11.

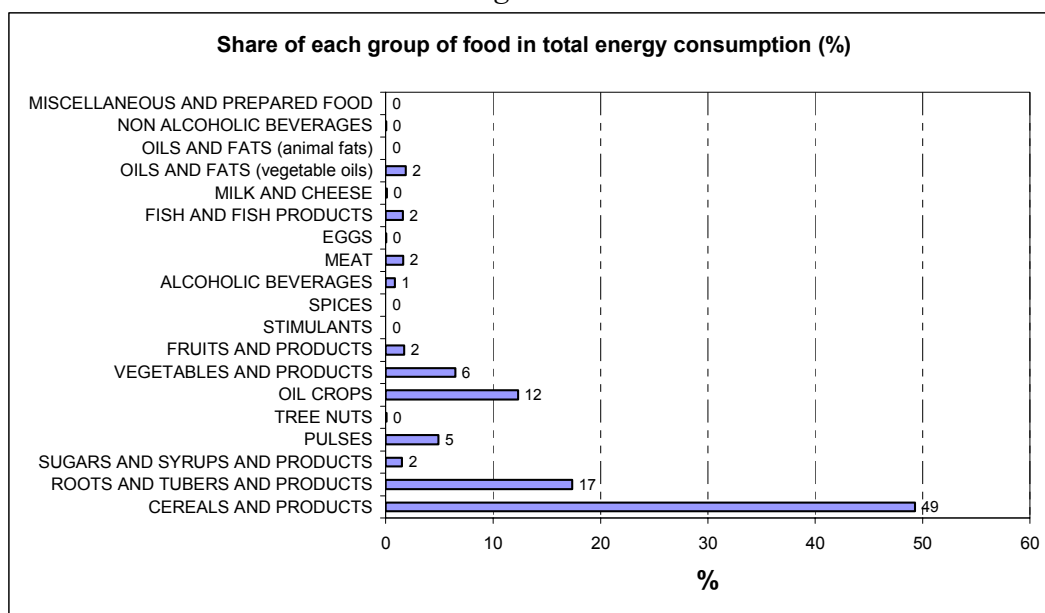
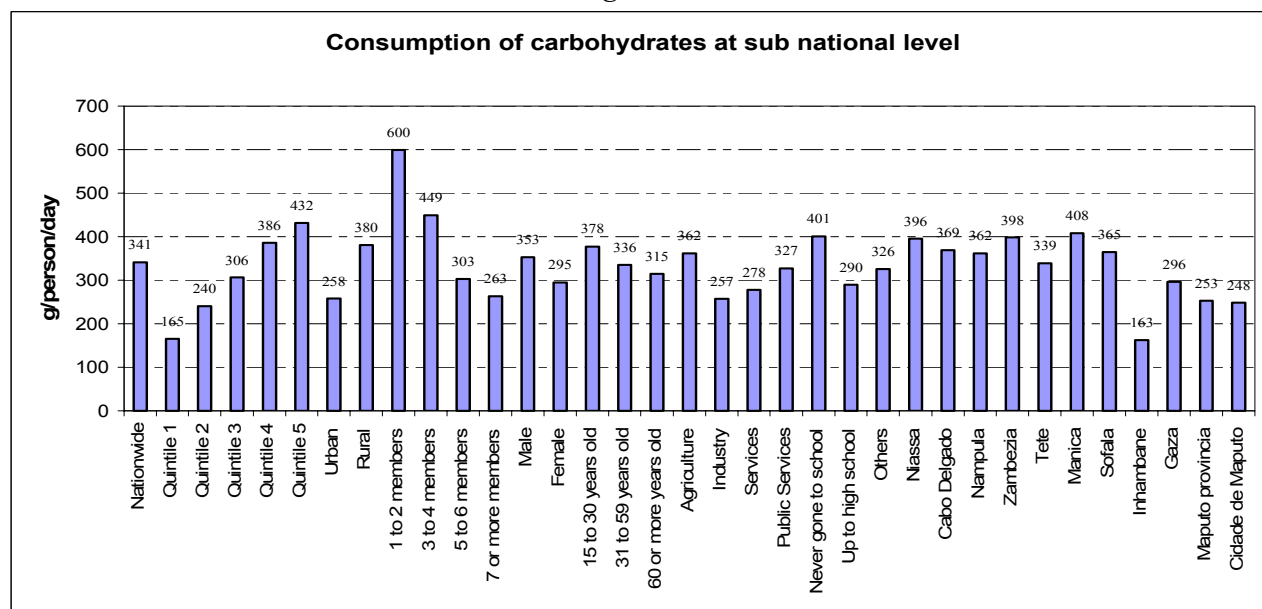


Figure 12.



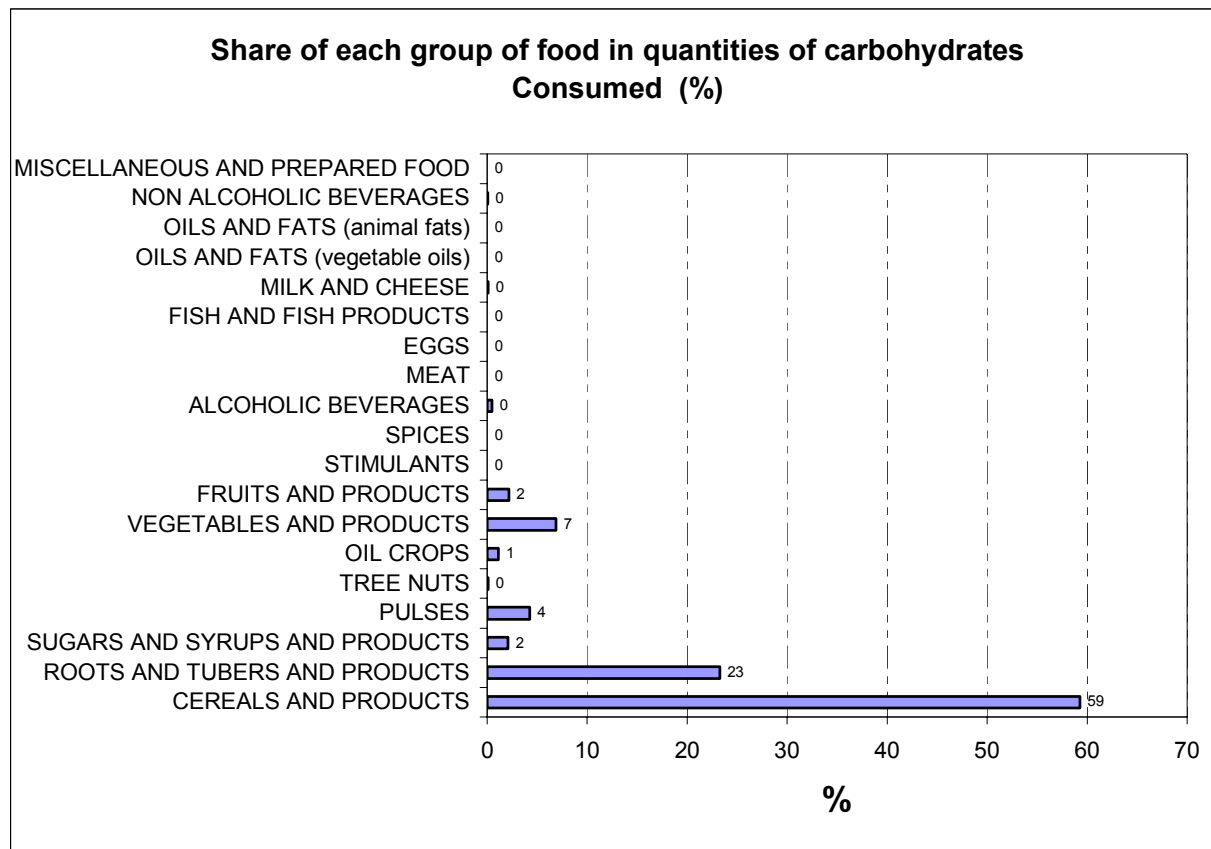
On average, each Mozambican consumed 341 grams/day of carbohydrates (Figure 12), 52 grams/day of proteins and 42 grams/day of fats with a larger amount found among households of small size and of the highest income quintile.

By province, Manica showed the highest consumption (408g/person/day) of carbohydrates and proteins (62.0 g/person/day) while Inhambane showed the lowest consumption of carbohydrates (163.0 g/person/day) and proteins (37.7g/person/day).

The high level of carbohydrates consumed came mainly from a higher consumption of cereals and their products, plus roots and tubers and their products.

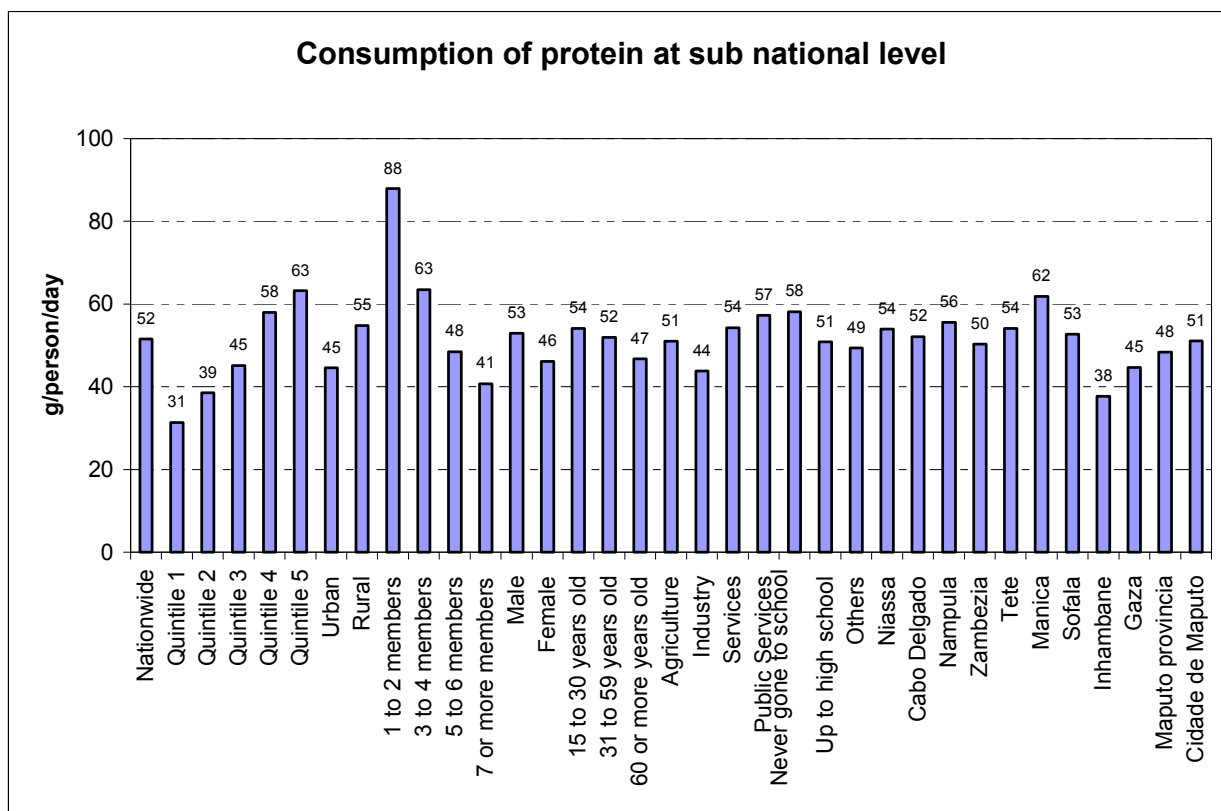
In Mozambique, the cereals group was the most important food group in terms of share of protein (44 percent) and share of carbohydrates (59 percent) to their respective total consumption figures. Figure 13 shows that more than half of the carbohydrates consumed in Mozambique came from cereals and their products followed by roots and tubers and their products with 23 percent and vegetable products with almost seven percent.

Figure 13.



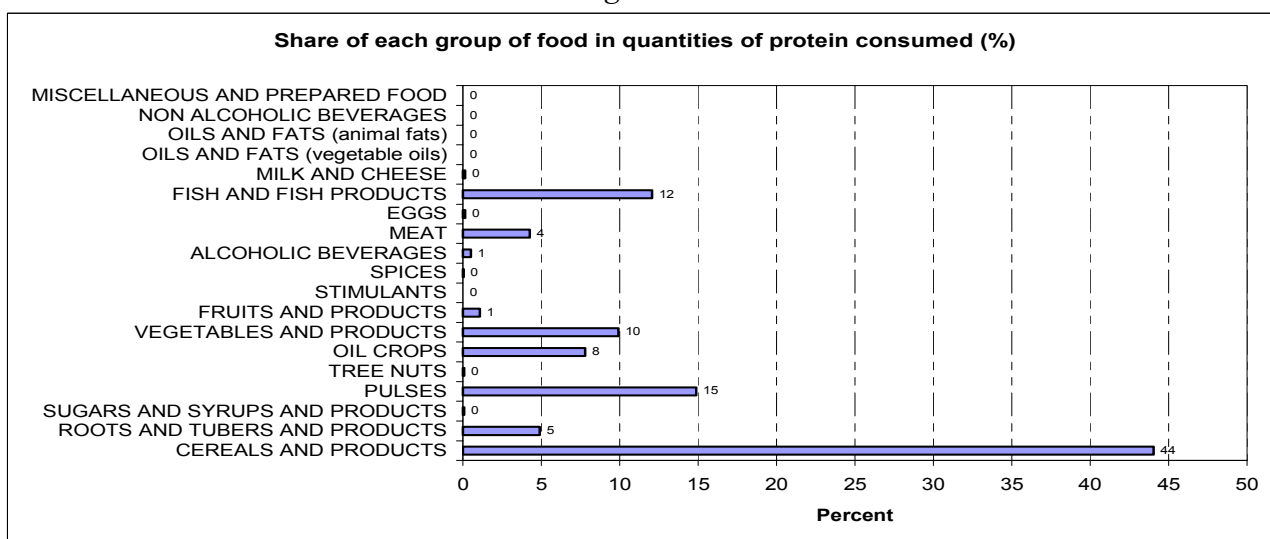
At sub national level, consumption of proteins followed the same pattern as that of carbohydrates that is highest in small size households and in the highest income quintile (Figure 14). The provinces of Manica, Nampula and Niassa showed a high consumption of protein per person of 62, 56 and 54 g/day, respectively.

Figure 14



At national level, 44 percent of proteins consumed were from cereals and products (Figure 15).

Figure 15.

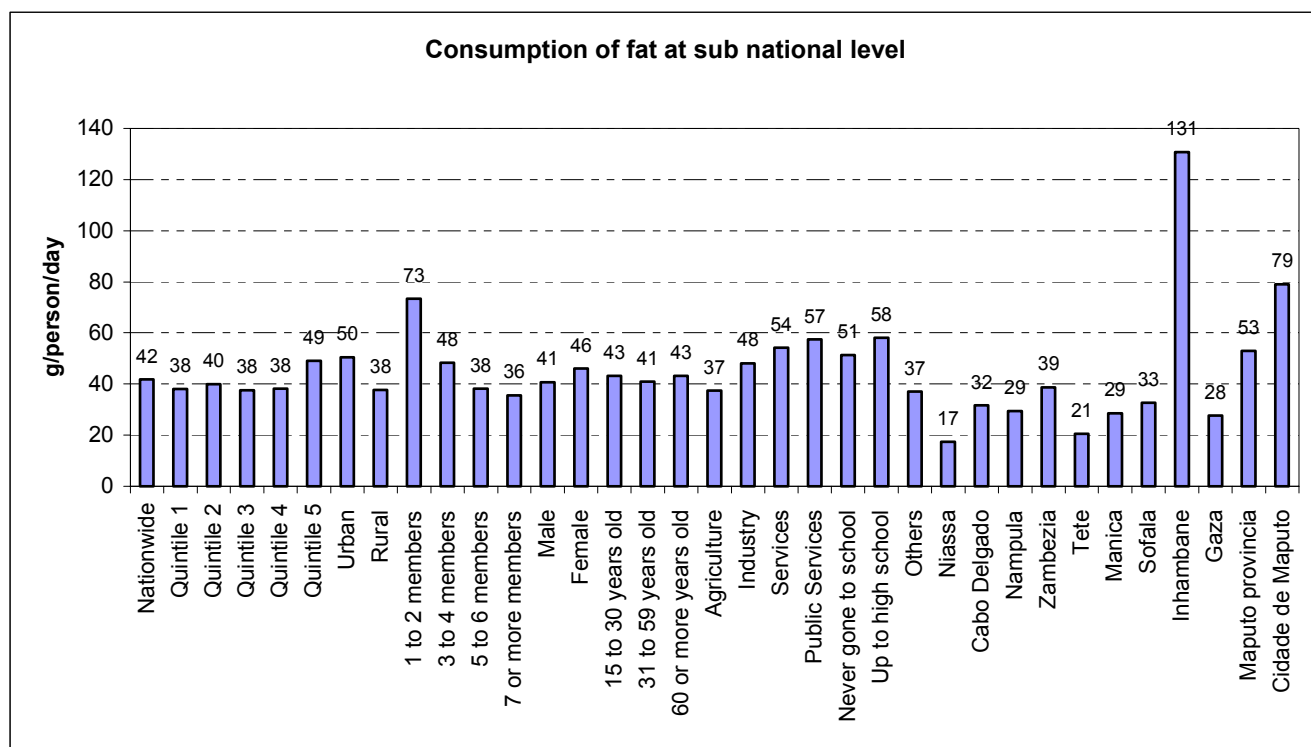


The other food groups with the most important protein contribution were pulses (15 percent), fish and their products (12 percent) and vegetables and their products (10 percent). Protein from animal origin seems of lower importance, looking at the respective contributions of 4four

percent from meat and less than one percent from eggs.

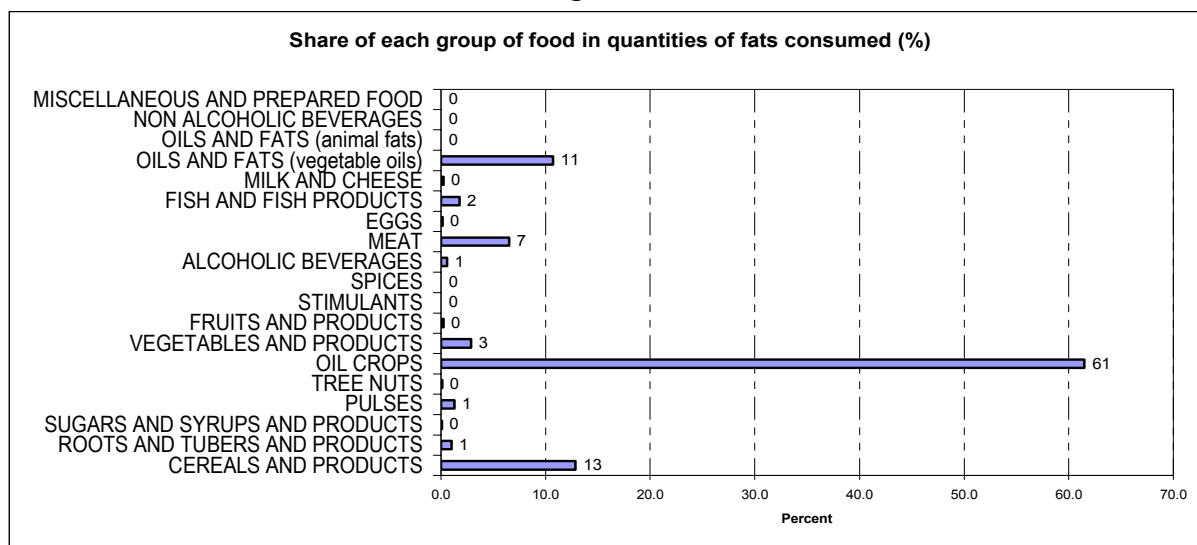
Finally, in Mozambique the highest consumption of fats was found in the province of Inhambane (131 g/person/day) and Maputo City (79 g/person/day), while the country average consumption was about 42 g/person/day (Figure 16).

Figure 16.



The urban areas reported a higher consumption of fats than rural areas. Fat consumption was mainly from oil crops which was 62 percent of total fat consumed, followed by cereals and their products (13 percent) and oils and fats (vegetables oils) with 11 percent of total fat consumed (Figure 17).

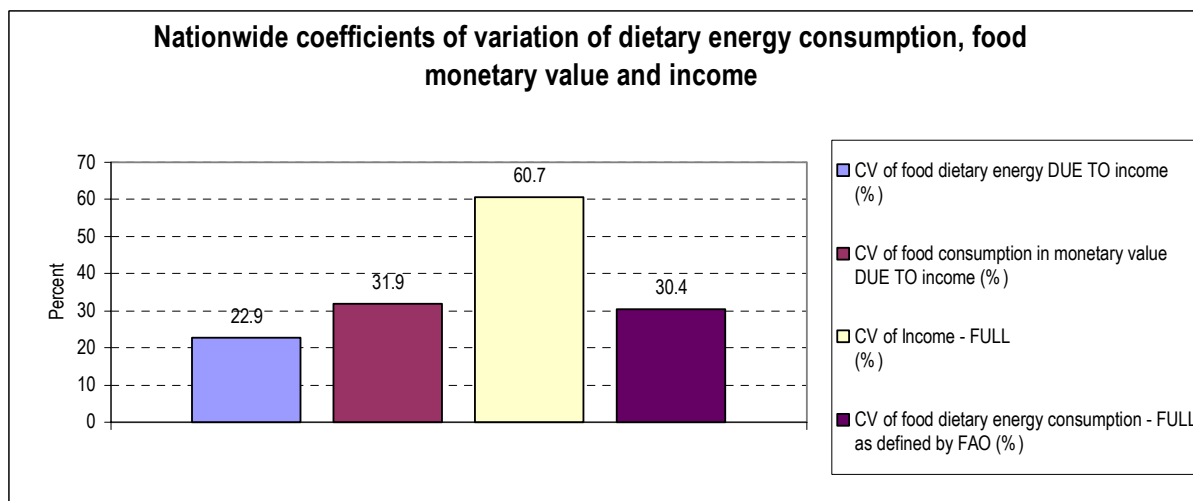
Figure 17.



F. Food and Income inequality

The coefficient of variation (CV) of dietary energy consumption, as defined by FAO, estimated inequality in access to food.

Figure 18.

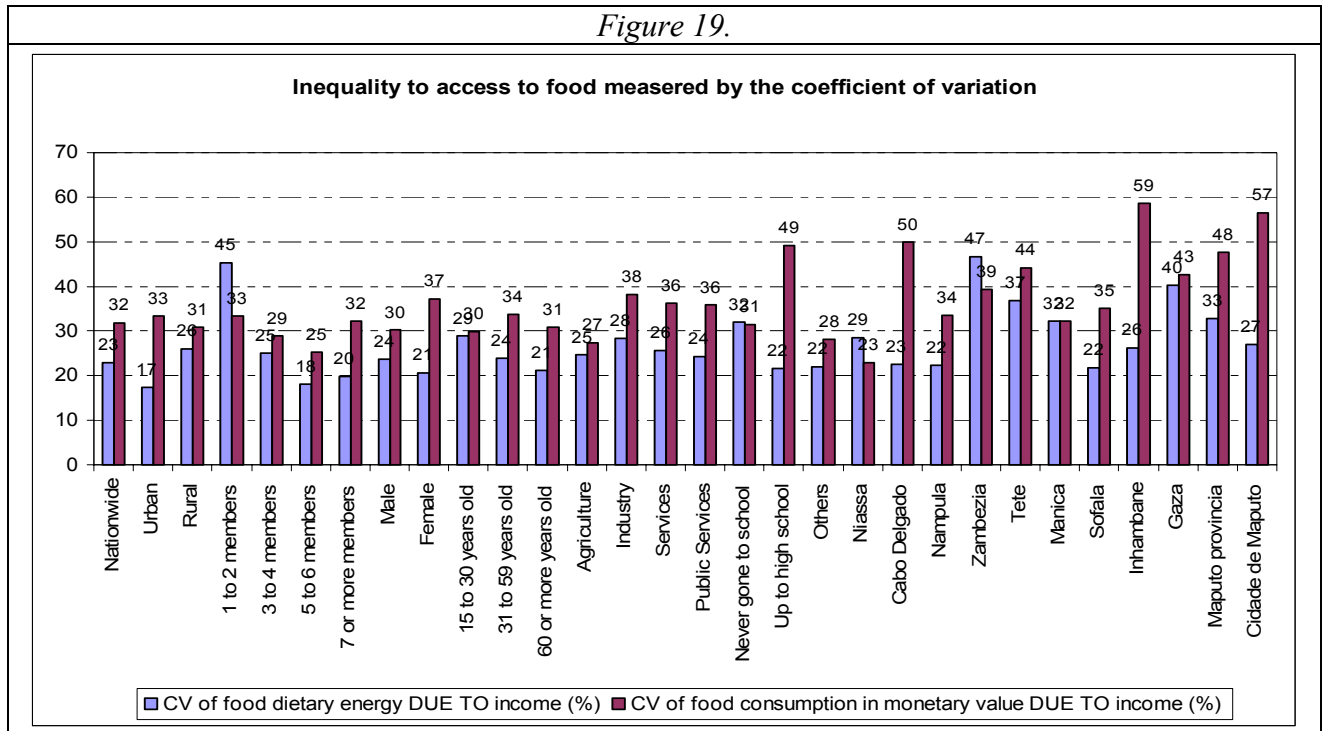


The CV comprises two components, on one side the variation of DEC due to income and on the other side the variation of DEC due to energy requirement. The national CV of DEC due to income was almost 23 percent, relatively less than the CV of food consumption in monetary value due to income which reached 32 percent (Figure 18). This probably was connected to the differences in food prices and staple food within the country. Finally, the CV of income was the highest (61 percent), revealing a relatively high inequality in income.

1. Inequality in access to food consumption due to income

At sub-national level, access to food in terms of energy was slightly more unequal among rural households than urban households with a CV of dietary energy due to income of 26 percent and 17 percent respectively, while the CV of food consumption in monetary value due to income had shown the opposite behaviour (CV of 31 percent for rural against 33 percent for urban households). Among the provinces, the highest inequality of food dietary energy due to income was in the province of Zambézia (47 percent) and Gaza (40 percent) while the lowest occurred in Sofala (22 percent).

Figure 19.



When looking at the distribution of food consumption in monetary value, inequalities were wider as they included variations in prices of food. In the provinces of Cabo Delgado, Inhambane and Maputo City the inequality in access to food in monetary value was more than 50 percent. Given that in Manica and Gaza the inequality in access to food in both dietary and monetary value was almost the same, this revealed that in this region variations in food prices were almost inexistent.

2. Income inequality

With a Gini coefficient value of about 31 percent (Figure 20) and a dispersion ratio of about 5 (Figure 21), it seemed that income inequality was the cause of the inequality in food consumption in Mozambique even if this indicator should be improved. At provincial level, the Gini coefficient reached the highest value in Maputo City (51 percent), which is not encouraging, and the lowest value was in Niassa with 14 percent. Income inequality was higher among urban households compared to those in rural areas.

Figure 20.

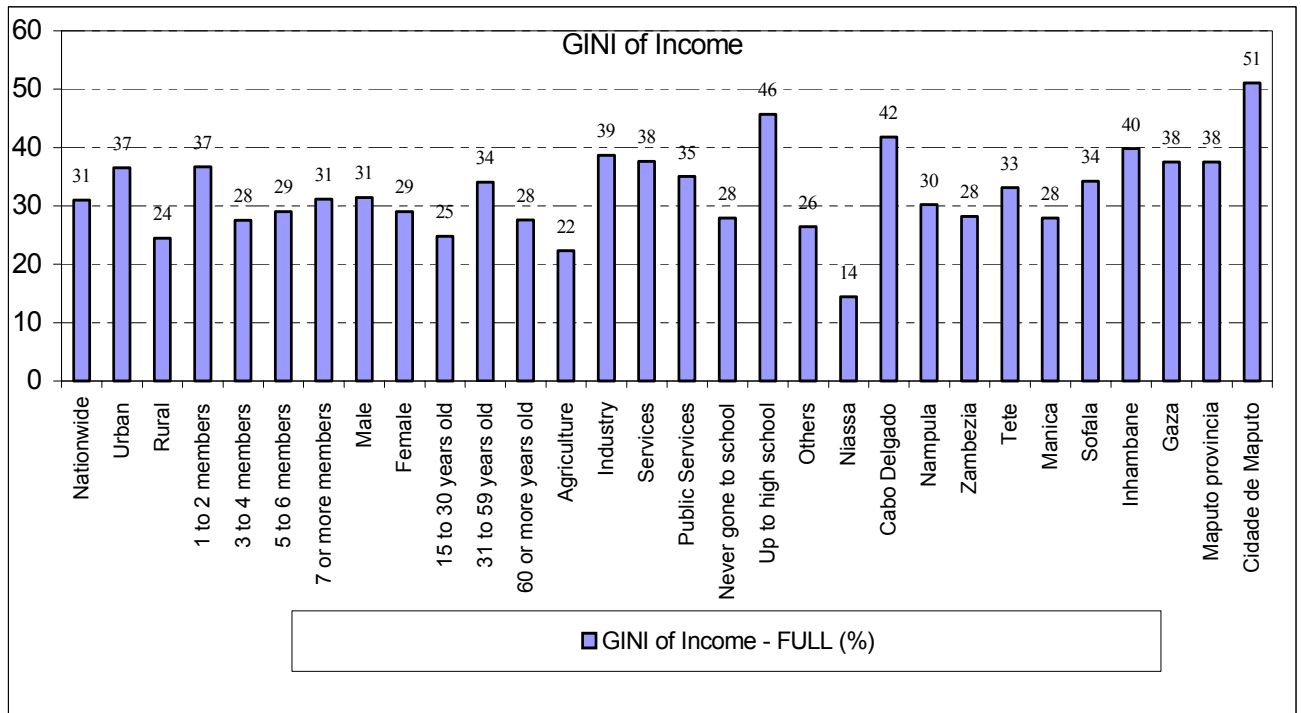
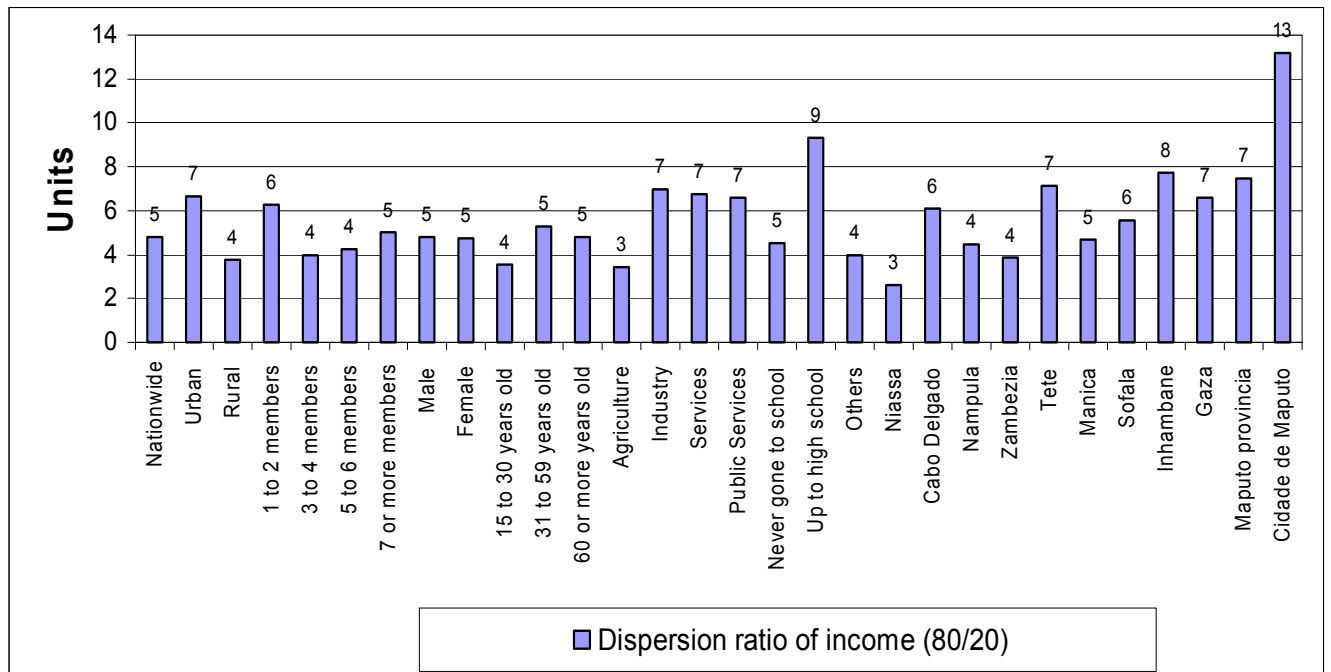


Figure 21.



IV. CONCLUSION

The IAF 2002-03, besides observing the limitations listed below, provided some useful food security statistics for assessing the food insecurity situation in Mozambique. These food security statistics are inputs for the decision-making processes and the design and implementation of future policy and intervention which can have a positive impact on food security in Mozambique. The food and income deprivation indicators, together with the large range of food security statistics which were derived at national and sub-national level, allowed the identification of the profile of the food insecure populations and their location for more focused policy interventions in the fight against hunger.

However, a cautious use of these statistics is necessary given the limitations of the available food data in the IAF 2002/03, considering the context of the country at the time of the conduction of the IAF and the fact that its primary objectives were other than food security analysis. This exercise shows that such types of household survey can provide reliable statistics for the assessment and monitoring of the food situation both at country and sub-national level.

A. Limitations:

Limitations were observed while processing the food consumption data. Several recommendations provide the opportunity to enhance the collection of food consumption data during future household surveys, to obtain more reliable, consistent and comparable food security indicators which are useful for policy makers when assessing food policies and programmes.

1- The use of total expenditures as a proxy of income was necessary as no reliable data were available for this variable. The use of this series as a proxy of income distribution may affect the overall results on food and critical food poverty.

2. As the objectives of the survey had a different purpose to that of this analysis the data for food consumption were less reliable and limited, leading to the use of acquisition information as a proxy of consumption which could affect overall results.

3- There were some inaccuracies in the food quantities reported as some figures were found to be out of range, particularly those from own production, which probably referred to production instead of consumption and thus had to be re-estimated using their corresponding monetary value and the average dietary unit monetary value at regional level.

4- Food quantities were collected in a large number of local units of quantity measurement besides the standard ones like Kg, litre, gram and millilitre. These local quantity units vary among the different regions of the country and it was difficult to get the appropriate gram or millilitre equivalent. However, the corresponding monetary values were used to derive the respective gram quantities by using the gram unit monetary value by food item at regional level.

5- There was a wide dispersion of purchased prices for food items so they had to be re-estimated according to average prices at regional level

6- In spite of having a detailed and precise list of food items, the IAF 2002/03 contained a few broad groups of food items for which it was difficult to find corresponding nutrient values, since Mozambique does not possess an official food composition table.

B. Recommendations:

1. It is necessary to reduce the number of units of quantity measurement and limit them to the standard kilogram, gram, litre and millilitre. In addition, it is necessary to appropriately convert these standard units together with the local ones directly into grams or millilitres during the data entry phase. It is also preferable during field data collection to obtain the gram equivalent of all local units of quantity measurement, at regional level such as villages through ad-hoc surveys in the local markets.

2- The quality of the food consumption data need to be checked as some reported quantities and values appear out of range. Consistency checks have to be performed between the quantity and monetary values reported at the collection and data entry stages. It is advisable to have a price survey incorporated into the household survey for editing and subsequent estimation procedures, particularly for own consumption food items.

3- The use of the African food composition table was necessary to build the nutrient conversion table of the IAF 2002/03 food items. However, it is important that the country produces, with the involvement of experts from health and nutrition institutions, its own table for future use..

4. The food security analysis has the added value of deriving hunger indicators at sub-national level from the IAF 2002/03. However, in order to improve measures of those estimates additional data on height of all household individuals is essential in the sample to compute the respective values of minimum and average dietary energy requirements which depend on body weight for attained heights, age, sex and activity level of the population groupings. So the collection of height data is an imperative for future household surveys.

5. Finally, it is preferable to obtain more reliable estimates with the review of the IAF questionnaires, so as to collect the household food outlay in terms of food stocks (from own consumption and purchases), food consumption and expenditure and food given away. In addition, it is necessary to cater for more consistent income data in the questionnaire design, with a more accurate focus on food consumption.

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GLOSSARY

BALANCED DIET

A diet is balanced when it is judged to be consistent with the maintenance of health in a population. It is possible to examine the balance in terms of the contributions of the various energy-supplying macronutrients and other nutrients. A macronutrient-based balance food consumption pattern should contribute to total energy from proteins, fats and carbohydrates within recommended ranges as follows: proteins from 10 to 15 percent, fats from 15 to 30 percent and carbohydrates from 55 to 75 percent, as taken from a technical report of the 2002 Joint WHO/FAO Expert Consultation (WHO 2003).

CRITICAL FOOD POVERTY

The prevalence of critical food poverty (pCFP) refers to the proportion of persons living on less than the cost of the macro-nutrient balanced MDER (for MDER see below and for balanced diet see above) with food prices from households in the lowest income quintile. It is possible to estimate this at national and sub-national level.

DIETARY ENERGY UNIT COST

The dietary energy unit cost is the monetary value of 1000 kilo-calories of food consumed.

DEPTH OF FOOD DEPRIVATION

This refers to the difference between the average dietary energy consumption of an undernourished population and its average minimum energy requirement (MDER).

DIETARY ENERGY CONSUMPTION

This is food consumption expressed in energy terms. At national level, it is possible to calculate this from the FBS (see below); this estimate refers to both private and public food consumption. At sub-national level it is estimated using food consumption data in quantities collected in national household surveys; this estimate refers to private food consumption.

DIETARY ENERGY DEFICIT

Same as Depth of Food deprivation

DIETARY ENERGY REQUIREMENT

This refers to the amount of energy required by an individual to maintain body functions, healthy and normal physical activity.

The *minimum* dietary energy requirement (MDER) refers to the amount of energy considered adequate to meet the energy needs for normative *minimum* acceptable weight for attained height while performing *light* physical activity in good health.

The *average* dietary energy requirement (ADER) refers to the amount of energy considered adequate to meet the energy needs for normative *average* acceptable weight for attained height while performing *moderate* physical activity in good health.

FOOD BALANCE SHEETS

The food balance sheets (FBS) are derived for each commodity using food production and imports data and opening-year food stocks after deduction of food exports and end-year food stocks, as well as all non-food consumption (animal feed, industrial use, seed, wastage and other non-food use); this estimate refers to both private and public food consumption.

FOOD CONSUMPTION DISTRIBUTION

Food consumption distribution refers to the variation of consumption within a population. It reflects both the disparities due to socio-economic factors and differences due to biological factors, such as sex, age, body weight and physical activity levels.

FOOD DEPRIVATION

Food deprivation refers to the condition of people whose food consumption is continuously below its requirements. The FAO measure of food deprivation refers to the proportion of the population whose dietary energy consumption is below the MDER.

FOOD INSECURITY

A situation when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It is possible that a cause of this is the unavailability of food, insufficient purchasing power or inappropriate distribution. Food insecurity may be chronic, seasonal or transitory.

FOOD SECURITY

A situation that exists when all people, at all time, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

GINI COEFFICIENT

The Gini coefficient is a measure of inequality and ranges from 0 (perfect equality) to 1 (perfect inequality). In this document it refers to inequality of income.

GINI COEFFICIENT DUE TO INCOME

The Gini coefficient is a measure of inequality in food consumption due to income and ranges from 0 (when income has no effect on food consumption) to 1 (when food consumption depends only on income). In this document it refers to inequality in food consumption in monetary or in energy terms.

HOUSEHOLD CONSUMPTION EXPENDITURE

Total household consumption expenditure, as defined in the United Nations guidelines, is the sum of all monetary value or expenditure on goods and services intended for consumption, goods produced and consumed from own production or own-business stocks, including the imputed rent of owner-occupied housing, and goods and services received in kind.

HOUSEHOLD FOOD CONSUMPTION EXPENDITURE

Household consumption expenditure refers to food consumed by household members during a specified period, at home and outside the home, for example, at restaurants, bars, the work place, school, and so on. It includes food from all sources, purchased or from garden or farm. Further deductions are necessary to allow for wastage and losses occurring from acquisition to cooking and plate and kitchen wastage.

HOUSEHOLD NON CONSUMPTION EXPENDITURE

This refers to income taxes, other direct taxes, pension and social security contributions, remittances, gifts and similar transfers made by the household in monetary terms or in kind, including food such as given away raw or ready to eat.

HOUSEHOLD EXPENDITURE

Consumption plus non-consumption expenditure made by the household, including food.

HOUSEHOLD INCOME

Income is the sum of all receipts, in money or in kind, which as a rule are received regularly and are of recurring nature, including food.

INCOME ELASTICITY OF FOOD DEMAND

The income elasticity of food demand measures the responsiveness of the food demanded (in quantity, monetary or nutrient terms) to a unit change of income.

INCOME INEQUALITY

Inequality refers to disparities in the distribution of income.

INEQUALITY IN FOOD CONSUMPTION DUE TO INCOME

The inequality refers to the variation of the food consumption level within a population due to disparities in the income distribution.

KILOCALORIE (Kcal)

Kilocalorie is a unit of measurement of dietary energy. In the International System of Units (ISU), the universal unit of dietary energy is the joule (J) but Kcal is still commonly used. One kilocalorie = 4.184 kilojoules (KJ).

MICRONUTRIENTS

The vitamins, minerals and certain other substances required by the body in small amounts. They are measured in milligrams or micrograms.

NUTRITIONAL STATUS

The physiological state of an individual that results from the relationship between nutrient intakes and requirements and from the body's ability to digest, absorb and use these nutrients. Lack of food as well as poor health and sanitation and inappropriate care and feeding practices are the major causes of poor nutritional status.

SHARE OF FOOD EXPENDITURE

The proportion of household consumption expenditure allocated to food; it is also known as the Engel ratio.

UNDERNOURISHMENT

Same as Food Deprivation.

ANNEX TABLES

Table 1

<i>Selective statistics of food consumption</i>						
Region: Africa		Country: Mozambique		Year: 2002/03		
Categories and Groupings	Number of sampled households	Average number of people in household	Average food consumption in dietary energy value (kcal/person/day)	Average food consumption in monetary value (LC\$/person/day)	Average dietary energy unit value (LC\$/1000kcal)	Average total consumption (LC\$/person/day)
Nationwide	8682	4.8	1990	5.34	2.69	9.81
Income level						
Quintile 1	1736	5.9	1150	2.93	2.55	3.61
Quintile 2	1737	5.6	1500	3.60	2.40	5.20
Quintile 3	1736	5.2	1780	4.57	2.57	6.55
Quintile 4	1737	4.8	2160	5.24	2.42	8.03
Quintile 5	1736	4.1	2480	7.48	3.02	17.28
Area						
Urban	3994	5.2	1690	6.26	3.70	16.11
Rural	4688	4.7	2130	4.91	2.31	6.83
HH Size						
1 to 2 members	1502	1.7	3490	7.82	2.24	16.72
3 to 4 members	2558	3.5	2540	6.20	2.44	10.39
5 to 6 members	2424	5.5	1780	4.94	2.77	9.01
7 or more members	2198	8.6	1570	4.74	3.02	8.99
Gender of head of HH						
Male	6316	5.1	2030	5.43	2.67	10.10
Female	2366	4.0	1810	5.00	2.77	8.68
Age of head of HH						
15 to 30 years old	1967	3.9	2160	5.55	2.57	9.15
31 to 59 years old	5227	5.3	1960	5.36	2.73	10.35
60 or more years old	1488	4.4	1870	5.01	2.68	8.51
Economic activity of head of HH						
Agriculture	5753	4.6	2030	4.85	2.38	7.05
Industry	568	5.2	1670	5.57	3.34	13.78
Services	1792	5.5	1840	6.71	3.64	17.64
Public Services	569	5.7	2090	7.62	3.64	19.25
Education						
Never gone to school	2302	4.2	2350	5.98	2.55	11.03
Up to high school	953	4.5	1920	7.69	4.01	23.65
Others	5427	5.1	1870	4.90	2.62	8.07
Region						
Niassa	815	5.1	2000	6.97	3.49	10.26
Cabo Delgado	738	3.9	2010	5.60	2.78	10.92
Nampula	754	4.4	1970	4.15	2.11	6.76
Zambezia	733	4.7	2200	4.75	2.16	7.25
Tete	754	4.7	1790	5.87	3.27	6.69
Manica	815	5.7	2190	6.59	3.01	9.69
Sofala	795	5.6	2000	6.35	3.17	11.45
Inhambane	752	4.7	2000	3.21	1.61	6.01
Gaza	784	5.3	1660	5.10	3.08	8.92
Maputo provincia	823	4.9	1720	6.56	3.83	15.00
Cidade de Maputo	919	6.3	1930	7.59	3.93	29.19

National Household Survey

Table 2

<i>Food deprivation and parameters by population groupings</i>						
Region: Africa Country: Mozambique Year: 2002/03						
Categories and Groupings	Number of sampled households	Average number of people in household	CV (%) of food dietary energy consumption (kcal/person/day) -FULL as defined by FAO	Minimum dietary energy requirement (kcal/person/day) as defined by FAO	Average of food dietary energy consumption (kcal/person/day)	Proportion of food deprivation in total population (%) as defined by FAO
Nationwide	8682	4.8	30	1617	1990	29
Income level						
Quintile 1	1736	5.9	20		1150	97
Quintile 2	1737	5.6	20		1500	68
Quintile 3	1736	5.2	20		1780	35
Quintile 4	1737	4.8	20		2160	9
Quintile 5	1736	4.1	20		2480	2
Area						
Urban	3994	5.2	26	1661	1690	52
Rural	4688	4.7	33	1596	2130	23
HH Size						
1 to 2 members	1502	1.7	50	1881	3490	14
3 to 4 members	2558	3.5	32	1652	2540	11
5 to 6 members	2424	5.5	27	1576	1780	37
7 or more members	2198	8.6	28	1587	1570	57
Gender of head of HH						
Male	6316	5.1	31	1631	2030	28
Female	2366	4.0	29	1564	1810	35
Age of head of HH						
15 to 30 years old	1967	3.9	35	1548	2160	21
31 to 59 years old	5227	5.3	31	1630	1960	33
60 or more years old	1488	4.4	29	1656	1870	39
Economic activity of head of HH						
Agriculture	5753	4.6	32	1604	2030	27
Industry	568	5.2	35	1659	1670	56
Services	1792	5.5	33	1639	1840	42
Public Services	569	5.7	31	1683	2090	29
Education						
Never gone to school	2302	4.2	38	1746	2350	27
Up to high school	953	4.5	29	1812	1920	48
Others	5427	5.1	30	1556	1870	31
Region						
Niassa	815	5.1	35	1593	2000	31
Cabo Delgado	738	3.9	30	1646	2010	30
Nampula	754	4.4	30	1616	1970	30
Zambezia	733	4.7	51	1595	2200	33
Tete	754	4.7	42	1600	1790	47
Manica	815	5.7	38	1618	2190	26
Sofala	795	5.6	30	1596	2000	26
Inhambane	752	4.7	33	1611	2000	30
Gaza	784	5.3	45	1586	1660	55
Maputo provincia	823	4.9	38	1676	1720	55
Cidade de Maputo	919	6.3	34	1719	1930	42

National Household Survey

Table 3

<i>Share of food consumption to total consumption in monetary value and by food sources</i>						
Region: Africa		Country: Mozambique		Year: 2002/03		
Categories and Groupings	Number of sampled households	Share of food consumption in monetary value to total consumption (%)	Share of food consumption in monetary value purchased to total food value (%)	Share of food consumption in monetary value from own production to total food value (%)	Share of food consumption in monetary value eaten away from home to total food value (%)	Share of food consumption in monetary value from other sources to total food value (%)
Nationwide	8682	54.4	45.0	51.9	0.8	2.4
Income level						
Quintile 1	1736	81.2	44.6	49.1	0.4	5.9
Quintile 2	1737	69.3	43.4	53.2	0.3	3.1
Quintile 3	1736	69.8	40.4	56.6	0.6	2.4
Quintile 4	1737	65.2	38.7	58.5	0.7	2.1
Quintile 5	1736	43.3	50.3	46.7	1.1	1.9
Area						
Urban	3994	38.8	80.7	17.1	1.5	0.7
Rural	4688	71.8	23.4	72.8	0.4	3.3
HH Size						
1 to 2 members	1502	46.8	40.7	55.1	1.3	3.0
3 to 4 members	2558	59.7	40.3	56.4	0.9	2.4
5 to 6 members	2424	54.8	44.4	52.5	0.8	2.3
7 or more members	2198	52.7	50.4	46.8	0.6	2.2
Gender of head of HH						
Male	6316	53.7	44.6	52.3	0.9	2.3
Female	2366	57.7	46.3	50.4	0.5	2.8
Age of head of HH						
15 to 30 years old	1967	60.7	43.7	53.5	0.7	2.0
31 to 59 years old	5227	51.8	47.3	49.6	0.9	2.2
60 or more years old	1488	58.9	36.9	59.2	0.5	3.4
Economic activity of head of HH						
Agriculture	5753	68.7	28.5	67.9	0.4	3.2
Industry	568	40.4	69.3	27.9	1.6	1.2
Services	1792	38.0	79.8	18.5	1.1	0.6
Public Services	569	39.6	75.8	20.7	2.8	0.7
Education						
Never gone to school	2302	54.2	49.9	47.5	0.5	2.1
Up to high school	953	32.5	76.9	19.0	3.0	1.1
Others	5427	60.7	38.1	58.6	0.6	2.7
Region						
Niassa	815	67.9	24.6	74.4	0.1	0.9
Cabo Delgado	738	51.2	39.7	57.4	1.0	1.9
Nampula	754	61.5	42.1	54.2	0.4	3.2
Zambezia	733	65.6	26.6	71.2	0.7	1.5
Tete	754	87.8	23.2	75.8	0.0	1.0
Manica	815	68.0	31.0	66.0	0.5	2.6
Sofala	795	55.5	49.2	45.9	2.7	2.2
Inhambane	752	53.4	57.0	35.7	0.5	6.7
Gaza	784	57.2	48.8	45.0	0.7	5.5
Maputo provincia	823	43.8	86.3	10.1	0.7	2.9
Cidade de Maputo	919	26.0	97.8	0.9	1.0	0.2

National Household Survey

Table 4

<i>Share of food dietary energy by food sources to total food dietary energy consumption</i>					
Region: Africa		Country: Mozambique		Year: 2002/03	
Categories and Groupings	Number of sampled households	Share of dietary energy purchased to total food consumption (%)	Share of dietary energy from own production to total food consumption (%)	Share of dietary energy eaten away from home to total food consumption (%)	Share of dietary energy from other sources to total food consumption (%)
Nationwide	8682	31.7	67.3	0.5	0.6
Income level					
Quintile 1	1736	37.5	60.6	0.4	1.5
Quintile 2	1737	34.1	64.8	0.2	0.9
Quintile 3	1736	33.6	65.3	0.6	0.5
Quintile 4	1737	25.8	73.3	0.5	0.4
Quintile 5	1736	33.1	66.0	0.5	0.4
Area					
Urban	3994	72.5	26.4	0.9	0.1
Rural	4688	16.3	82.7	0.3	0.7
HH Size					
1 to 2 members	1502	24.0	75.0	0.4	0.6
3 to 4 members	2558	25.7	73.3	0.5	0.5
5 to 6 members	2424	31.7	67.1	0.5	0.6
7 or more members	2198	40.4	58.6	0.5	0.5
Gender of head of HH					
Male	6316	30.5	68.4	0.5	0.5
Female	2366	36.7	62.4	0.3	0.6
Age of head of HH					
15 to 30 years old	1967	30.3	68.8	0.4	0.5
31 to 59 years old	5227	33.4	65.6	0.5	0.5
60 or more years old	1488	26.5	72.3	0.3	0.8
Economic activity of head of HH					
Agriculture	5753	20.3	78.7	0.3	0.7
Industry	568	59.7	38.3	1.6	0.4
Services	1792	66.4	32.7	0.7	0.2
Public Services	569	65.4	32.8	1.7	0.1
Education					
Never gone to school	2302	32.5	66.7	0.4	0.5
Up to high school	953	65.1	32.9	1.8	0.2
Others	5427	28.0	70.9	0.4	0.6
Region					
Niassa	815	13.0	86.6	0.1	0.3
Cabo Delgado	738	22.8	76.3	0.6	0.3
Nampula	754	22.8	76.5	0.2	0.5
Zambezia	733	14.9	84.3	0.3	0.4
Tete	754	17.4	82.3	0.0	0.3
Manica	815	27.9	70.8	0.5	0.7
Sofala	795	35.8	61.3	2.3	0.6
Inhambane	752	38.9	59.5	0.4	1.2
Gaza	784	46.4	51.9	0.3	1.3
Maputo provincia	823	87.4	11.5	0.5	0.5
Cidade de Maputo	919	98.9	0.4	0.7	0.0

National Household Survey

Table 5

FAO indicators on hunger based on total consumption expenditure and the first quintile

Region: Africa Country: Mozambique Year: 2002/03

Categories and Groupings	Prevalence of food deprivation (%)	CV of dietary energy consumption FULL as FAO (%)	Average food consumption in dietary energy value (kcal/person/day)	Minimum dietary energy requirement (kcal/person/day)	Dietary energy unit value of the first quintile (LC\$/1000kcal)	Critical food poverty line of the 1st quintile	Total consumption expenditure (LC\$/person/day)	CV of total consumption expenditure-FULL (%)	Prevalence of Critical Food Poverty (%)	Income quintile having better balance nutritional diet
Nationwide	29.4	30.4	1990	1617	2.33	3.78	9.81	60.7	7.7	1
Area										
Urban	52.5	26.5	1690	1661	2.73	4.53	16.11	70.2	4.6	1
Rural	23.2	32.9	2130	1596	1.95	3.12	6.83	45.2	5.4	2
HH Size										
1 to 2 members	13.9	49.5	3490	1881	2.33	4.39	16.72	76.3	5.1	1
3 to 4 members	11.2	32.0	2540	1652	2.33	3.86	10.39	53.0	4.1	1
5 to 6 members	36.9	27.0	1780	1576	2.33	3.68	9.01	55.6	7.1	1
7 or more members	57.3	28.1	1570	1587	2.33	3.71	8.99	62.6	10.5	1
Gender of head of HH										
Male	28.4	31.1	2030	1631	2.33	3.81	10.10	61.2	7.4	1
Female	35.4	28.8	1810	1564	2.33	3.65	8.68	55.6	7.9	1
Age of head of HH										
15 to 30 years old	21.2	35.2	2160	1548	2.33	3.61	9.15	47.3	3.3	1
31 to 59 years old	32.5	31.2	1960	1630	2.33	3.80	10.35	69.5	10.0	1
60 or more years old	38.6	29.1	1870	1656	2.33	3.86	8.51	50.7	7.9	1
Economic activity of head of HH										
Agriculture	27.2	31.8	2030	1604	2.33	3.74	7.05	41.0	7.9	1
Industry	56.1	34.7	1670	1659	2.33	3.87	13.78	80.6	7.5	1
Services	41.6	32.5	1840	1639	2.33	3.83	17.64	72.6	2.1	1
Public Services	28.8	31.4	2090	1683	2.33	3.93	19.25	64.9	0.9	1
Education										
Never gone to school	26.5	37.8	2350	1746	2.33	4.07	11.03	51.8	3.6	1
Up to high school	47.8	29.5	1920	1812	2.33	4.23	23.65	97.0	4.4	1
Others	31.2	29.8	1870	1556	2.33	3.63	8.07	50.3	7.4	1
Region										
Niassa	31.0	34.9	2000	1593	2.46	3.92	10.26	26.1	0.0	5
Cabo Delgado	29.6	30.2	2010	1646	2.64	4.34	10.92	102.4	25.3	5
Nampula	30.0	30.1	1970	1616	1.95	3.14	6.76	56.3	11.6	5
Zambezia	33.4	50.8	2200	1595	1.41	2.24	7.25	56.0	2.4	5
Tete	46.7	41.9	1790	1600	3.07	4.92	6.69	63.1	40.5	5
Manica	26.1	37.9	2190	1618	3.40	5.51	9.69	52.4	18.4	5
Sofala	26.0	29.6	2000	1596	2.13	3.39	11.45	67.2	4.6	5
Inhambane	30.5	32.9	2000	1611	1.68	2.71	6.01	90.8	26.1	5
Gaza	54.5	45.0	1660	1586	3.03	4.81	8.92	87.0	32.7	1
Maputo provincia	54.9	38.4	1720	1676	4.56	7.65	15.00	74.5	24.8	1
Cidade de Maputo	42.4	33.6	1930	1719	4.38	7.53	29.19	121.1	17.1	5

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Table 6

<u>Nutrient density per 1000 kcal</u>				
Region: Africa		Country: Mozambique		Year: 2002/03
Food commodity group	Average food dietary energy consumption (kcal/person/day)	Protein consumption (g/1000kcal)	Carbohydrates consumption (g/1000kcal)	Fats consumption (g/1000kcal)
Nationwide	1990	26.0	171.7	21.0
Income level				
Quintile 1	1150	27.4	144.1	33.2
Quintile 2	1500	25.7	160.3	26.6
Quintile 3	1780	25.4	172.3	21.1
Quintile 4	2160	26.8	178.4	17.7
Quintile 5	2480	25.5	174.5	19.8
Area				
Urban	1690	26.4	152.3	29.8
Rural	2130	25.8	179.0	17.8
HH Size				
1 to 2 members	3490	25.2	171.9	21.0
3 to 4 members	2540	25.0	177.1	19.1
5 to 6 members	1780	27.2	169.7	21.4
7 or more members	1570	26.0	168.1	22.7
Gender of head of HH				
Male	2030	26.1	173.7	20.0
Female	1810	25.5	163.0	25.5
Age of head of HH				
15 to 30 years old	2160	25.1	175.1	20.0
31 to 59 years old	1960	26.5	171.4	20.9
60 or more years old	1870	24.9	168.2	23.1
Economic activity of head of HH				
Agriculture	2030	25.1	178.3	18.4
Industry	1670	26.3	154.4	28.8
Services	1840	29.4	150.5	29.4
Public Services	2090	27.3	156.3	27.4
Education				
Never gone to school	2350	24.8	170.8	21.9
Up to high school	1920	26.5	151.0	30.2
Others	1870	26.4	174.1	19.8
Region				
Niassa	2000	27.0	198.1	8.7
Cabo Delgado	2010	25.9	183.4	15.7
Nampula	1970	28.3	184.0	15.0
Zambezia	2200	22.9	181.4	17.7
Tete	1790	30.2	188.8	11.4
Manica	2190	28.3	186.5	13.1
Sofala	2000	26.3	181.9	16.3
Inhambane	2000	18.9	81.3	65.4
Gaza	1660	27.0	178.9	16.7
Maputo provincia	1720	28.2	147.4	30.9
Cidade de Maputo	1930	26.5	128.5	40.9

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The data do not consider wastage

Table 7

<i>Inequality measures (Dispersion Ratios) of food consumption, total consumption and income</i>				
Region: Africa		Country: Mozambique		Year: 2002/03
Categories and Groupings	Dispersion ratio of food consumption in dietary energy (80/20)	Dispersion ratio of food consumption in monetary value (80/20)	Dispersion ratio of total consumption (80/20)	Dispersion ratio of income (80/20)
Nationwide	2.2	2.6	4.8	4.8
Area				
Urban	1.8	2.7	6.7	6.7
Rural	2.3	2.6	3.7	3.7
HH Size				
1 to 2 members	1.8	3.1	6.2	6.2
3 to 4 members	2.0	2.4	4.0	4.0
5 to 6 members	1.6	2.2	4.3	4.3
7 or more members	1.9	2.6	5.0	5.0
Gender of head of HH				
Male	2.2	2.4	4.8	4.8
Female	1.9	3.0	4.7	4.7
Age of head of HH				
15 to 30 years old	2.1	2.4	3.5	3.5
31 to 59 years old	2.1	2.6	5.3	5.3
60 or more years old	2.1	2.5	4.8	4.8
Economic activity of head of HH				
Agriculture	2.2	2.3	3.4	3.4
Industry	2.3	2.9	7.0	7.0
Services	2.2	2.9	6.7	6.7
Public Services	2.1	3.2	6.6	6.6
Education				
Never gone to school	2.5	2.8	4.5	4.5
Up to high school	1.7	3.5	9.3	9.3
Others	2.0	2.3	4.0	4.0
Region				
Niassa	1.3	2.7	2.6	2.6
Cabo Delgado	1.9	3.0	6.1	6.1
Nampula	1.7	2.8	4.5	4.5
Zambezia	2.2	2.9	3.9	3.9
Tete	3.3	3.2	7.1	7.1
Manica	3.2	3.0	4.7	4.7
Sofala	1.9	3.3	5.5	5.5
Inhambane	2.0	5.0	7.7	7.7
Gaza	3.1	2.8	6.6	6.6
Maputo provincia	2.8	3.5	7.5	7.5
Cidade de Maputo	2.4	4.4	13.2	13.2

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Table 8

<i>Inequality measures (GINI coefficients – Log normal assumption) of food consumption, total consumption and income by population groupings</i>									
<i>Region: Africa Country: Mozambique Year: 2002/03</i>									
Categories and Groupings	Number of sampled households	Average number of people in household	GINI of Food dietary energy Consumption DUE TO income (Log Normal assumption) (%)	GINI of Food Consumption in monetary value DUE TO income (Log Normal assumption) (%)	GINI of total consumption DUE TO income (%)	GINI of Income - FULL (%)	GINI of Food dietary energy Consumption – FULL (Log Normal assumption) (%)	GINI of Food Consumption in monetary value - FULL (Log Normal assumption) (%)	GINI of Food dietary energy consumption - FULL as defined by FAO (%)
Nationwide	8682	4.8	12.7	17.4	30.8	30.8	23.9	19.3	16.6
Area									
Urban	3994	5.2	9.7	18.1	34.5	34.5	21.5	21.5	14.6
Rural	4688	4.7	14.4	16.9	23.9	23.9	25.5	20.5	17.9
HH Size									
1 to 2 members	1502	1.7	24	18.2	36.8	36.8	29.1	22.7	25.9
3 to 4 members	2558	3.5	13.8	15.9	27.5	27.5	23.6	17.1	17.5
5 to 6 members	2424	5.5	10.1	13.9	28.7	28.7	19.1	16.2	14.9
7 or more members	2198	8.6	11	17.6	31.6	31.6	20	18.9	15.5
Gender of head of HH									
Male	6316	5.1	13.2	16.6	31	31	24.3	18.7	17.0
Female	2366	4.0	11.5	20.1	28.7	28.7	22.7	22.3	15.8
Age of head of HH									
15 to 30 years old	1967	3.9	15.9	16.4	24.9	24.9	23.6	17.6	19.1
31 to 59 years old	5227	5.3	13.3	18.3	34.3	34.3	24.2	19.7	17.1
60 or more years old	1488	4.4	11.7	16.9	26.5	26.5	22.3	19.9	16.0
Economic activity of head of HH									
Agriculture	5753	4.6	13.7	15.1	21.9	21.9	24.1	18.2	17.4
Industry	568	5.2	15.6	20.6	38.3	38.3	24.2	23.9	18.9
Services	1792	5.5	14.2	19.6	35.4	35.4	25.4	22.1	17.8
Public Services	569	5.7	13.4	19.4	32.5	32.5	23.4	22.4	17.2
Education									
Never gone to school	2302	4.2	17.5	17.2	27	27	28.9	19.2	20.4
Up to high school	953	4.5	12	25.8	43.5	43.5	23.6	26.3	16.2
Others	5427	5.1	12.3	15.5	26.3	26.3	22	18	16.3
Region									
Niassa	815	5.1	15.7	12.7	14.4	14.4	20.9	13.7	18.9
Cabo Delgado	738	3.9	12.5	26.2	45.1	45.1	19.5	27.1	16.5
Nampula	754	4.4	12.5	18.3	28.9	28.9	27.6	20.7	16.5
Zambezia	733	4.7	24.6	21.2	28.8	28.8	36.4	22.7	26.5
Tete	754	4.7	19.9	23.5	31.8	31.8	25.9	25.1	22.4
Manica	815	5.7	17.6	17.6	27.2	27.2	24.1	18.8	20.5
Sofala	795	5.6	12.1	19.1	33.4	33.4	24.2	24.1	16.2
Inhambane	752	4.7	14.4	29.9	41.6	41.6	27.2	36.2	18.0
Gaza	784	5.3	21.6	22.7	40.5	40.5	31.3	25.8	23.9
Maputo provincia	823	4.9	17.9	25.1	36.2	36.2	33.4	30.8	20.7
Cidade de Maputo	919	6.3	14.9	29	49.8	49.8	37.6	39.4	18.3

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Table 9

<i>Inequality Measures (CV – Coefficient of variation - Log normal assumption) of food consumption, total consumption and income</i>									
<i>by population groupings</i>									
Region: Africa Country: Mozambique Year: 2002/03									
Categories and Groupings	Number of sampled households	Average number of people in household	CV of food dietary energy DUE TO income (%)	CV of food consumption in monetary value DUE TO income (%)	CV of total consumption DUE TO income (%)	CV of Income-FULL (%)	CV of food dietary energy consumption FULL (%)	CV of food consumption in monetary value FULL (%)	CV of food dietary energy consumption - FULL as defined by FAO (%)
Nationwide	8682	4.8	22.9	31.9	60.7	60.7	45.0	35.6	30.4
Area									
Urban	3994	5.2	17.4	33.3	70.2	70.2	40.1	40.0	26.5
Rural	4688	4.7	26.1	30.9	45.2	45.2	48.5	38.0	32.9
HH Size									
1 to 2 members	1502	1.7	45.3	33.4	76.3	76.3	56.7	42.6	49.5
3 to 4 members	2558	3.5	25.0	29.0	53.0	53.0	44.4	31.4	32.0
5 to 6 members	2424	5.5	18.1	25.2	55.6	55.6	35.1	29.5	27.0
7 or more members	2198	8.6	19.8	32.3	62.6	62.6	37.1	34.7	28.1
Gender of head of HH									
Male	6316	5.1	23.8	30.3	61.2	61.2	46.0	34.3	31.1
Female	2366	4.0	20.7	37.3	55.6	55.6	42.5	41.6	28.8
Age of head of HH									
15 to 30 years old	1967	3.9	29.0	29.9	47.3	47.3	44.4	32.3	35.2
31 to 59 years old	5227	5.3	23.9	33.7	69.5	69.5	45.8	36.3	31.2
60 or more years old	1488	4.4	21.1	30.9	50.7	50.7	41.6	36.9	29.1
Economic activity of head of HH									
Agriculture	5753	4.6	24.7	27.4	41.0	41.0	45.5	33.4	31.8
Industry	568	5.2	28.4	38.3	80.6	80.6	45.7	45.2	34.7
Services	1792	5.5	25.7	36.3	72.6	72.6	48.3	41.3	32.5
Public Services	569	5.7	24.2	35.9	64.9	64.9	44.0	41.9	31.4
Education									
Never gone to school	2302	4.2	32.1	31.5	51.8	51.8	56.1	35.4	37.8
Up to high school	953	4.5	21.6	49.2	97.0	97.0	44.5	50.2	29.5
Others	5427	5.1	22.1	28.1	50.3	50.3	41.1	33.1	29.8
Region									
Niassa	815	5.1	28.6	23.0	26.1	26.1	38.9	24.7	34.9
Cabo Delgado	738	3.9	22.6	50.0	102.4	102.4	35.9	52.1	30.2
Nampula	754	4.4	22.5	33.6	56.3	56.3	53.1	38.5	30.1
Zambezia	733	4.7	46.7	39.4	56.0	56.0	75.3	42.5	50.8
Tete	754	4.7	36.8	44.2	63.1	63.1	49.4	47.6	41.9
Manica	815	5.7	32.2	32.2	52.4	52.4	45.6	34.6	37.9
Sofala	795	5.6	21.8	35.1	67.2	67.2	45.7	45.6	29.6
Inhambane	752	4.7	26.2	58.6	90.8	90.8	52.4	74.7	32.9
Gaza	784	5.3	40.3	42.6	87.0	87.0	61.9	49.2	45.0
Maputo provincia	823	4.9	32.8	47.7	74.5	74.5	67.2	60.7	38.4
Cidade de Maputo	919	6.3	27.0	56.5	121.1	121.1	78.5	83.7	33.6

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Table 10

<i>Food consumption in monetary and nutrient values by national, sub national and population groupings</i>					
Region: Africa Country: Mozambique Year: 2002/03					
Categories and Groupings	Average food dietary energy consumption (kcal/person/day)	Average food consumption in monetary value of food consumed (LC\$/person/day)	Average food protein consumption (g/person/day)	Average food carbohydrates consumption (g/person/day)	Average food fat consumption (g/person/day)
Nationwide	1990	5.34	51.5	341.0	41.8
Income level					
Quintile 1	1150	2.93	31.4	165.2	38.1
Quintile 2	1500	3.60	38.5	240.3	39.9
Quintile 3	1780	4.57	45.1	306.0	37.5
Quintile 4	2160	5.24	58.0	385.8	38.2
Quintile 5	2480	7.48	63.2	432.2	49.1
Area					
Urban	1690	6.26	44.6	257.6	50.4
Rural	2130	4.91	54.8	380.4	37.7
HH Size					
1 to 2 members	3490	7.82	87.9	599.6	73.4
3 to 4 members	2540	6.20	63.5	449.1	48.3
5 to 6 members	1780	4.94	48.4	302.7	38.3
7 or more members	1570	4.74	40.8	263.4	35.6
Gender of head of HH					
Male	2030	5.43	52.9	352.9	40.7
Female	1810	5.00	46.1	294.8	46.1
Age of head of HH					
15 to 30 years old	2160	5.55	54.1	377.8	43.2
31 to 59 years old	1960	5.36	52.0	335.9	41.0
60 or more years old	1870	5.01	46.7	315.0	43.2
Economic activity of head of HH					
Agriculture	2030	4.85	51.1	362.2	37.4
Industry	1670	5.57	43.8	257.4	48.0
Services	1840	6.71	54.2	277.6	54.2
Public Services	2090	7.62	57.3	327.4	57.4
Education					
Never gone to school	2350	5.98	58.2	400.9	51.4
Up to high school	1920	7.69	50.9	289.8	58.1
Others	1870	4.90	49.4	326.0	37.0
Region					
Niassa	2000	6.97	54.0	395.5	17.3
Cabo Delgado	2010	5.60	52.1	369.1	31.6
Nampula	1970	4.15	55.6	362.1	29.4
Zambezia	2200	4.75	50.3	398.5	38.8
Tete	1790	5.87	54.1	338.7	20.5
Manica	2190	6.59	61.9	408.3	28.6
Sofala	2000	6.35	52.7	364.5	32.7
Inhambane	2000	3.21	37.7	162.6	130.8
Gaza	1660	5.10	44.7	296.2	27.6
Maputo provincia	1720	6.56	48.4	252.9	53.0
Cidade de Maputo	1930	7.59	51.2	248.1	79.1

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Table 11

<u>Nutrient costs by food commodity groups</u>				
Region: Africa		Country: Mozambique		Year: 2002/03
Food commodity group	Average Dietary Energy Unit Value (LC\$/1000kcal)	Proteins Unit Value (LC\$/100g)	Carbohydrates Unit Value (LC\$/100g)	Fats Unit Value (LC\$/100g)
CEREALS AND PRODUCTS	2.02	8.65	0.94	39.51
ROOTS AND TUBERS AND PRODUCTS	1.33	18.04	0.56	115.41
SUGARS AND SYRUPS AND PRODUCTS	3.70	286.30	1.49	366.64
PULSES	2.35	2.96	1.51	46.26
TREE NUTS	8.16	39.73	4.78	33.27
OIL CROPS	0.82	4.93	5.00	0.84
VEGETABLES AND PRODUCTS	4.60	11.49	2.42	52.78
FRUITS AND PRODUCTS	2.84	17.63	1.26	103.05
STIMULANTS	131.36	249.40	112.44	541.21
SPICES	126.47	283.86	96.51	390.63
ALCOHOLIC BEVERAGES	7.49	47.57	7.49	55.93
MEAT	10.94	16.12	243.63	14.13
EGGS	29.31	33.30	544.05	42.12
FISH AND FISH PRODUCTS	13.69	7.01	1255.62	63.32
MILK AND CHEESE	9.04	30.93	6.40	25.43
OILS AND FATS (vegetable oils)	3.52	8142.90	11640.32	3.17
OILS AND FATS (animal fats)	0.00	0.00	0.00	0.00
NON ALCOHOLIC BEVERAGES	52.84	3224.06	20.93	4936.96
MISCELLANEOUS AND PREPARED FOOD	3.32	33.29	1.74	14.67

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The data do not consider wastage