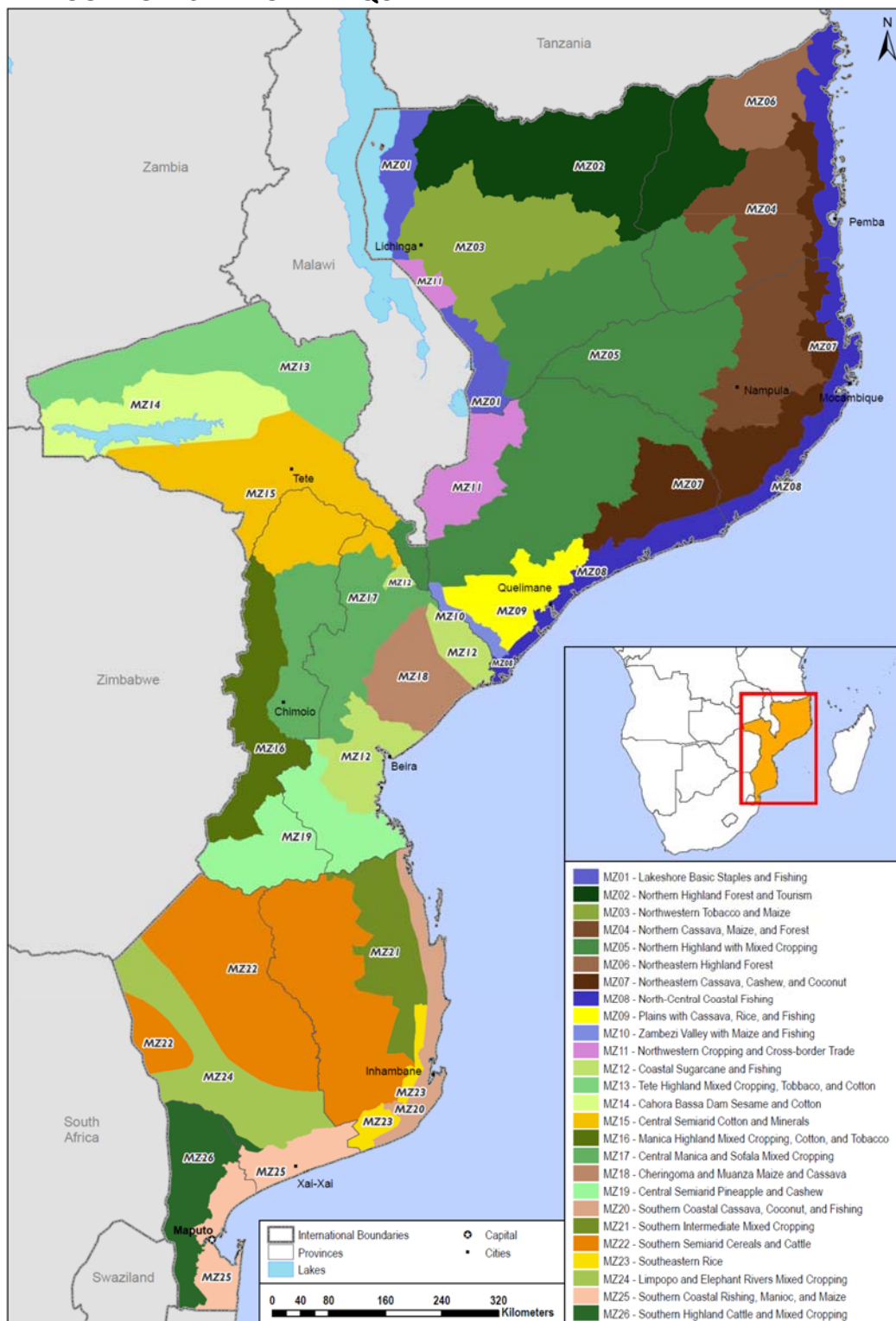


## MOZAMBIQUE Livelihood Zone Descriptions

July 2014

### MAP OF LIVELIHOOD ZONES IN MOZAMBIQUE



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This report will form part of the knowledge base for food security analysis for the GoM, the Ministry of Agriculture Technical Secretariat for Food Security and Nutrition (SETSAN), National Institute of Disaster Management (INGC), and other government agencies, as well as for non-government partners and FEWS NET's food security monitoring activities in Mozambique.

**ACRONYMS AND ABBREVIATIONS**

C	Celsius
EfD	Evidence for Development
FEWS NET	Famine Early Warning Systems Network
G	Gathering, usually for wild foods or products
GoM	Government of Mozambique
Ha	Hectare
HEA	Household Economy Approach
IK	Payment for Services in Kind
INGC	National Institute of Disaster Management
MAF	Ministry of Agriculture and Fisheries
Masl	Meters above sea level
MP	Market Purchased food
MZN	Mozambique Cash United States Agency for International Development
MVAC	Mozambique Vulnerability Assessment Committee
OP	Own produced crops
SETSAN	Technical Secretariat for Food Security and Nutrition
USAID	United States Agency for International Development
USG	United States Government
UN	United Nations
UNDP	United Nations Development Programme
WFP	World Food Programme

## LIVELIHOOD ZONING METHODOLOGY

The Livelihood Zone Descriptions product, sometimes called livelihood zoning “Plus”, is based on the Household Economy Approach (<http://www.feg-consulting.com/resource/practitioners-guide-to-hea/practitioners-guide-to-hea/>). It includes a traditional livelihoods zoning component (<http://www.feg-consulting.com/resource/practitioners-guide-to-hea/2%20Livelihood%20Zoning.pdf>). In addition, some key characteristics of socioeconomic status are explored through the juxtaposition of relatively poorer and relatively better-off households. This product does not ignore the possible existence of other wealth groups in the zones, such as middle or very poor groups, though for the purpose of this study, we only describe two groups from each zone. The Livelihood Descriptions product provides basic information on livelihoods, including food sources and the main income sources for each group in each zone. A brief description of general livelihood characteristics is also included, along with seasonal and food access calendars for each zone. Finally, the zones most vulnerable to food insecurity are identified.

HEA defines a livelihood zone as a geographic area in which households obtain their basic survival needs, notably food and cash income, in similar ways. This means that they typically have similar socio-economic groupings with similar asset bases, as well as similar consumption patterns. These similarities apply to both good and bad years in that coping strategies in response to shocks within the same livelihood zone are also comparable.

For more information on Household Economy Approach principles and analysis, visit the livelihood pages at <http://www.fews.net> or download “[Application of the Livelihood Zone Maps and Profiles for Food Security Analysis and Early Warning](#).”<sup>1</sup>

The HEA does not use international or national socioeconomic measures to classify the population. First, because geography tends to define the options for households’ access to food and income, and, secondly, because of the ability to exploit these options and survive a crisis is largely determined by wealth; i.e., that what people have is determined by their productive assets (access to land, capital, livestock), along with their level of education and access to political and social networks, which determines the ways in which they will be able to obtain food and money or how they will address a sudden or long-term change. Wealth groups have been identified for each livelihood zone based on the aforementioned considerations. Therefore, poor households with little land can work for better-off households in order to obtain money to buy food, and these better-off households can use benefits derived from agriculture as capital to participate in trade.

It is worth highlighting that wealth can also affect household exposure to a hazard, particularly in conflict situations in which those with greater wealth may become targets of attack. In the event of a crisis, poor and better-off households will be affected differently and, therefore, it is justified to study them separately, since the differences between households will be critical in an analysis of food security and vulnerability to different hazards.

It should be noted that with the HEA approach, “poor” households are poor in relation to other families in their livelihood zone; however, they can find themselves in a better position than poor households of a different livelihood zone. The HEA approach has been set in this way because it aims to facilitate the understanding of differences in the community’s pattern of life, for these differences determine how people will be affected after shocks or changes in income and food access.

Livelihood zone maps and descriptions form part of the knowledge base for government, development and co-operating partners and FEWS NET’s food security monitoring activities. These tools, however, are not designed as a comprehensive analysis of food security or as a complete monitoring tool, but rather to provide points of reference and indicate whether the conditions reported at a given time justify a more in-depth study. The results presented in this report describe how households may be affected by various shocks. They provide a geographic context for interpreting existing monitoring data on production, prices and other indicators in order to identify potential problems. Rapid assessment teams may be able to use the zoning as a basis for sampling in their studies.

The methodology for elaborating the livelihood zone maps and descriptions in this document consisted of the following steps:

<sup>1</sup> [http://v4.fews.net/docs/Publications/Guidance\\_Application%20of%20Livelihood%20Zone%20Maps%20and%20Profiles\\_final\\_en.pdf](http://v4.fews.net/docs/Publications/Guidance_Application%20of%20Livelihood%20Zone%20Maps%20and%20Profiles_final_en.pdf)

1. FEWS NET reviewed the 2009/10 livelihood baselines which covered 23 livelihood zones in the northern coastal region, the central region (Zambezi basin), and the southern region (Limpopo basin) of the country; the 2002 livelihood zones report; and available secondary information regarding geography, climatology, demographics, agriculture, livestock, markets, etc. FAO and FEWS NET's previous food security reports in Mozambique were also used as a foundation for this work. Overall the main challenges faced during the secondary data review included limited livelihood analysis information in the 2009/10 livelihood baseline data sets and in the 2002 livelihood zones report relevant to the current livelihood rezoning work.
2. A preliminary livelihood zone map with 32 zones and descriptions for each zone was drawn up from the review of 2009/10 livelihood baseline analysis and 2002 livelihood zoning report. This was further reviewed through checks against secondary information, i.e. maps showing rainfall and rainfall patterns, topographical features, soil and vegetation types, river systems, cropping patterns, livestock and population density and other relevant socio-economic data. The lowest administrative unit was used to identify livelihood zone boundaries.
3. Approximately 10 provincial representatives from livelihood zones that did not have 2009/10 livelihood baselines came together in two regional-level workshops (Nampula and Maputo). Each of the four-day workshops focused on identification and re-definition of livelihood zones in rural Mozambique. Again, the lowest administrative unit was used to identify livelihood zone boundaries.
4. Participants documented the key characteristics of livelihoods, produced seasonal and consumption calendars, and identified salient market characteristics for their respective zones, providing the basic information presented in the livelihood zone descriptions.
5. The outcome of the two regional workshops, i.e. livelihood zone map and the descriptions were compared with the preliminary product based on secondary data. The final product was then adjusted based on evidence from both secondary data and information provided by workshop participants.
6. An initial version of the report was circulated to workshop participants in March 2014; this final version incorporates their comments.
7. Because population growth rates and projections are not publicly available at the Administrative Post level, which was the smallest unit used for the livelihood zoning, population estimates give the figures of the 2007 census for a whole Administrative Post located in a particular zone. There are about seven zones with rough population estimates based on proportion of an administrative post location within a particular livelihood zone. To facilitate some population projections, a table of 2014 projected population and average growth rates (2010-2014) by district are provided in annex. Alternatively, the national average growth rate between 2011 and 2014 is approximately 2.81 percent. The total rural population identified in the livelihood zones sums to approximately 73 percent of the national population. The remaining 27 percent of the population lives in urban areas for which rural livelihood zones are not applicable.

For more information about Household Economy Approach principles and analysis, visit the livelihood pages at <http://www.fews.net><sup>2</sup>

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<sup>2</sup> [http://v4.fews.net/docs/Publications/Guidance\\_Application%20of%20Livelihood%20Zone%20Maps%20and%20Profiles\\_final\\_en.pdf](http://v4.fews.net/docs/Publications/Guidance_Application%20of%20Livelihood%20Zone%20Maps%20and%20Profiles_final_en.pdf)



## RURAL LIVELIHOODS IN MOZAMBIQUE

Mozambique is one of the world's poorest countries. Despite its impressive economic growth rates in recent years, poverty continues to be severe and widespread. A substantial trade imbalance persists, despite the opening of the MOZAL aluminum smelter, the country's largest foreign investment project which has increased export earnings. Overall Mozambique remains dependent upon foreign assistance for much of its annual budget.

Poverty is still predominantly a rural phenomenon in Mozambique, where more than 70 per cent of poor households are located. The vast majority of the rural poor still lives on less than 1.25 USD/day and lack basic services such as access to safe water, health facilities and education (*National Household Survey-2008-2009*).

Agriculture is the mainstay of Mozambique's economy and the sector has great potential for growth. Subsistence agriculture continues to employ the vast majority of the country's workforce. Agriculture employs more than 80 percent of the labor force and provides a livelihood for most of the country's 23 million inhabitants. However despite favorable climatic conditions, with high potential for food self-sufficiency and even food surplus, Mozambique is still a net importer of food. Total annual cereal import requirements average 0.89 million tons (0.14 million of maize, 0.39 of rice and 0.36 of wheat). Mozambique must also import substantial quantities of meat and livestock products.

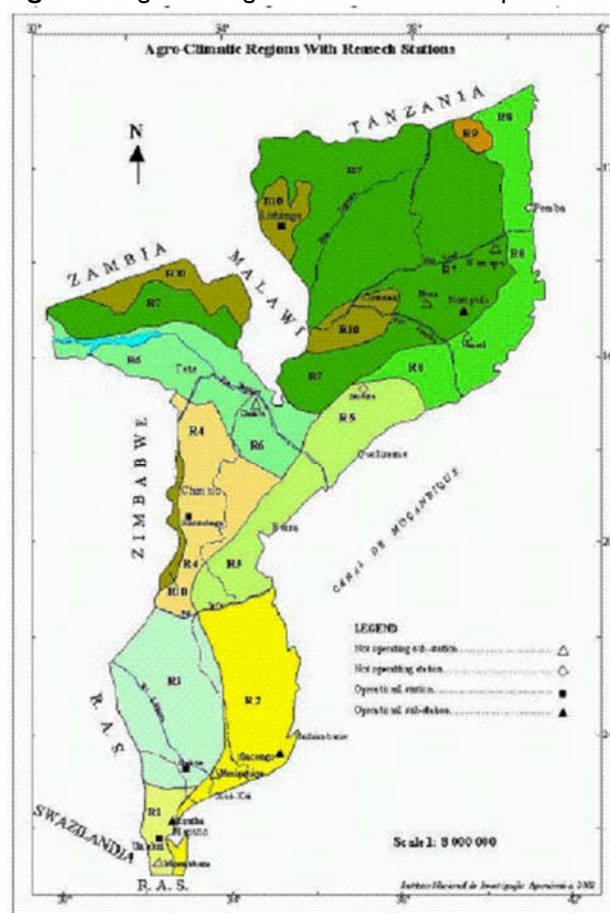
The country's low agricultural productivity results from a lack of appropriate technology and support. In addition, produce markets are generally distant, unreliable, and uncompetitive for smallholder farmers, who depend on traditional farming methods, low-yield seed varieties, and manual cultivation techniques. Alternative sources of income outside agriculture are few. Poor rural people have few options to cope with shocks.

Mozambique is broadly differentiated by topography (especially altitude), rainfall and temperature, soil type, and texture and proximity to the coast, offering a wide range of production opportunities; agricultural potential is high despite frequent droughts and floods. The arid and semiarid areas (mostly in the south and south-west) are characterized by poorer soils and scarce rainfall and are subject to recurrent droughts and floods. These areas – together with coastal communities, which suffer extreme isolation – are the poorest in the country. The sub-humid zones (mostly in the centre and the north), the humid highlands (mostly the central provinces), and the good rainfall and fertility soils of northern and parts of central provinces are generally characterized by agricultural surpluses.

Ten broad agro ecological zones are generally recognized, based on agro-ecological conditions (Figure 1):

- R1: The inland Maputo and South Gaza region predominantly a cassava, maize, and cattle producing zone;
- R2: Coastal region south of Save River is mainly a cassava, cashew nut, and coconut production zone;
- R3: Central and North Gaza and the West Inhambane zone, described as one of the most arid parts of Mozambique, is suitable for sorghum and millet production;
- R4: The medium-altitude region of Central Mozambique is a predominantly maize, sorghum, cassava, and cowpeas production zone;
- R5: The low-altitude region of Sofala and Zambezia is dominated by rice cultivation;

**Figure 1. Agro-ecological zones of Mozambique**



Source: [FAO](#)



- R6: The semiarid Region of the Zambezi Valley and Southern Tete Province, inclusive of the driest parts of the Zambezi watershed is mainly a sorghum, millet, and cassava production zone;
- R7: The medium-altitude region of Zambezi, Nampula, Tete, Niassa, and Cabo Delgado is mainly dominated by cassava and differentiated into sub-regions by maize and sorghum;
- R8: The coastal littoral of Zambezi, Nampula, and Cabo Delgado is mainly characterized by cassava and millet production;
- R9: The northern region of Cabo Delgado, inclusive of the plateaus of Mueda and Macomia, is a maize, sorghum, cowpea, and cassava producing zone; and
- R10: The high-altitude region of Zambezi, Niassa, Angonia, and Maravia, including the planaltic regions, is known as a maize, millet, common beans, and potato zone (IFAD, 2005).

The above background information and the expert judgment of participants regarding livelihood activities in rural Mozambique led to identification of 26 broad livelihood zones named as follows:

1. Lakeshore Basic Staples and Fishing
2. Northern Highland Forest and Tourism
3. Northwestern Tobacco and Maize
4. Northern Cassava, Maize, and Forest
5. Northern Highland with Mixed Cropping
6. Northeastern Highland Forest
7. Northeastern Cassava, Cashew, and Coconut
8. North-Central Coastal Fishing
9. Plains with Cassava, Rice, and Fishing
10. Zambezi Valley with Maize and Fishing
11. Northeastern Cropping and Cross-Border Trade
12. Coastal Sugarcane and Fishing
13. Tete Highland Mixed Cropping, Tobacco, and Cotton
14. Cahora Bassa Dam Sesame and Cotton
15. Central Semiarid Cotton and Minerals
16. Manica Highland Mixed Cropping, Cotton, and Tobacco
17. Central Manica and Sofala Mixed Cropping
18. Cheringoma and Muanza Maize and Cassava
19. Central Semiarid Pineapple and Cashew
20. Southern Coastal Cassava, Coconut, and Fishing
21. Southern Intermediate Mixed Cropping
22. Southern Semiarid Cereals and Cattle
23. Southeastern Rice
24. Limpopo and Elephant Rivers Mixed Cropping
25. Southern Coastal Fishing, Cassava, and Maize
26. Southern Highland Cattle and Mixed Cropping

The following zones were considered to be at greatest risk of food insecurity. In general, the risk of food insecurity is greatest in those areas in which there is a high risk of agricultural production failure and where the poorest households have limited opportunities to obtain income and the greatest difficulties in accessing markets; these characteristics are most acute in the interior of the country.

**Southern Semiarid Cereals and Cattle (Zone 22):** This zone is located in the semiarid part of the country, characterized by poor soils with low productivity. It experiences unreliable rainfall and high temperature conditions. There are frequent drought and dry spell conditions, coupled with crop pests and diseases. These factors make it unsuitable for maize production, which is still attempted. Sorghum and millet predominate. Moisture conservation techniques are required in order to ensure reliable cereal production in this zone. The situation is exacerbated by poor access to food markets due to limited infrastructural development. This zone is chronically food insecure and frequently receives food assistance.

**Zambezi Valley with Maize and Fishing (Zone 10):** This zone is also at great risk of food insecurity, due to annual flooding of the Zambezi River. The floods normally devastate crops, livestock and other productive household assets. The recurring floods

have reduced household resilience to cope with any natural hazards, constraining the ability of the local population to partially recover from the overall impact of previous floods.

## RECENT EVENTS AFFECTING FOOD SECURITY AND LIVELIHOODS

2012/13	The cumulative impact of drought and dry spells over previous years, coupled with a mild drought in specific parts of the country and floods along major river basins, reduced household access to own crops, livestock products and cash income normally derived from crop and livestock sales.
2011/12	Overall rainfall patterns were irregular and below average across most parts of the country and aggravated by cyclones. This affected crop performance and access to local livelihood options in parts of the country. The overall impact on household food security included reduced access to own crops, livestock products, and cash income normally derived from crop and livestock sales.
2010/11	Seasonal river floods caused some crop and livestock destruction; however, the overall national food security situation was satisfactory. An estimated 250, 000 people from low-income households in semiarid and arid areas of Tete, Gaza, Inhambane and parts of Sofala Provinces faced seasonal food insecurity during the August 2010- March 2011 period.
2009/10	Seasonal river floods coupled with dry spells led to poor harvests and above-average food insecurity, especially in the central and southern regions.

**LAKESHORE BASIC STAPLES AND FISHING (ZONE 1)**

<b>Food insecurity risk</b>	
Low risk of food insecurity due to diversified livelihood options	
<b>2007 population (percent of national population)</b>	
401,887 (1.98%)	
<b>Main productive assets</b>	
Poor	Better-off
Local canoe	Motorboat, canoe
Net and hook	Nets
< 1 ha land	> 1.5 ha land
Goats	Cattle
Poultry	Goats
Hand tools: hoe, axe, panga, and sickle	Poultry
	Ox plough
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP, IK)	Maize (OP)
Sorghum (OP)	Rice (OP)
Cassava (OP, MP)	Cassava (OP)
Rice (OP, MP)	Fish (G)
Fish (G)	
<b>Main income sources</b>	
Poor	Better-off
Sale of fish	Sale of fish
Sale of local brew	Sale of maize
Sale of firewood and charcoal	Sale of cassava
Sale of agricultural labor	Sale of cattle
Sale of poles	Small-scale trade
Sale of bamboo	
<b>Main markets</b>	
Mozambique: Mecanhelas, Mandimba, Cuamba South, Metangula, and Lichinga	
Malawi: Namuera, Chiponde, Nayuchee, and Mangochi	
<b>Main hazards</b>	
Crop pests and diseases	December-April
Human-wildlife conflicts	March-June
Livestock diseases	December-April
<b>Main coping strategies for poor households</b>	
Increased fishing	
Migratory labor	
Increased reliance on wild foods	

This zone includes the mountain plains of the Niassa region along Lake Niassa which lies within the Great Rift Valley along the border with Malawi. It lies at an altitude of about 1,000-1,500 meters above sea level and boasts both broadleaf and evergreen forests and grassland. The main natural resources include the Lake Niassa and Lugenda wilderness reserve, which offers additional benefits such as fishing and hunting for local inhabitants of the area, who are predominantly Yao.

Precipitation in this zone is among the highest in Mozambique. Average rainfall is about 1,000-1,400 mm per annum falling from November until the end of March; the dry season runs from April to October. The soils are sandy in texture with moderate fertility, hence less suitable for cropping. The other factor limiting agriculture in this zone is the relatively dense population with an average of approximately 17 people per square kilometer immigration for access to fishing along Lake Niassa, is the perceived cause.

The average arable land holding is about 1.6 hectares per household and cultivation is largely done through hand tilling with limited animal traction among better-off group.

Lake Niassa offers the main sources of livelihood through fishing and agriculture. Fishing is mainly concentrated in Lake Niassa (Mozambique side of Lake Malawi), as well as in Amaramba, Chiuta, and Chilwa towards southern part of the zone. This inland water resource provides catches of fish such as *chambo* (tilapia). Rainfed cassava and maize dominate agricultural production in the zone. Most households also have a few cattle (better-off) or goats (others). Three main factors determine household wealth: ownership and access to fishing equipment, size of cultivated land, and ownership of livestock.

Generally, most households depend on fishing in Lake Niassa and own production for food. Though, the better-off are more self-sufficient in agricultural production than the poor, all households complement own production with additional staple food purchases, particularly during the lean season. The poor also receive in kind payment for labor, especially during the peak of agricultural crop season.

Most households also rely significantly on fish sales for much of their annual cash income. The poor also sell firewood and charcoal,

locally brewed alcohol, agricultural labor, poles, and bamboo from the natural forests in the zone. Meanwhile, the better-off group sells cattle and surplus crops and engages in small-scale or retail trade.

Physical market access in this zone has improved significantly in recent years due to rehabilitation of roads and restoration of water transport across Lake Niassa. The main markets are located along the border with Malawi, Cuamba South, and Lichinga and are well stocked with a variety of local products. These markets also enjoy the privileges of dual currency; with both Malawian *Kwacha* and Mozambique *Metical* accepted in exchange for goods and services.

The main hazards are crop and livestock related and include human/wildlife conflict, crop pests and diseases, and livestock diseases such as tuberculosis. Common coping strategies among poor group include increased fishing; migration in search of labor opportunities, and increased reliance on wild food. The better-off cope through increased fishing and sale of livestock, especially cattle.

### Zone 1: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
Deworming												
Livestock registration												
<b>Hazards</b>												
Lake shore erosion												
Crop pests and diseases (locusts)												
Livestock disease peaks												
<b>Legend</b>												

### Zone 1: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sorghum												
Cassava												
Poultry												
<b>Income</b>												
Crops												
Fish												
Casual labor												
Livestock sales												
<b>Expenditures</b>												
Health care (medical assistance)												
Clothing												
Education (school fees)												
<b>Legend</b>												

**NORTHERN HIGHLAND FOREST AND TOURISM (ZONE 2)**

<b>Food insecurity risk</b>	
Low risk due to reliable rainfall, high food production, and diverse livelihood options	
<b>2007 population (percent of national population)</b>	
62,176 (0.31%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated Goats Hand tools: hoe, axe, panga, and sickle	Large area cultivated Cattle Goats
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP) Cassava (OP) Cow peas (OP, MP) Boer bean (OP, MP) Vegetables (OP, MP) Rice (MP)	Maize (OP) Cassava (OP) Cow peas (OP) Boer bean (OP) Meat (OP, MP) Rice (MP) Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize Sale of cassava Sale of agricultural labor Sale of fish Sale of local brew Sale of handicrafts Sale of natural products (minerals)	Sale of maize Sale of cassava Sale of goats Sale of timber Informal trade Formal employment (tourism sector) Sale of fish
<b>Main markets</b>	
Across the border in Tanzania	
<b>Main hazards</b>	
Human-wildlife conflict	March-June
Bush fires	July-December
River floods	December-March
<b>Main coping strategies for poor households</b>	
Increased sale of natural products Increased sale of agricultural labor Increased borrowing	

This zone is located in the highland area of northern Mozambique along the border with Tanzania. Its climate is humid and temperate due to higher elevation (> 500 masl). Precipitation is regular with approximately 1000-1,500 mm per annum, primarily from November until the end of March. The dry season is from April until October. Minimum temperatures range from 12-18° C during the cold-dry season months (June and July) and maximum of 30-35° C between October and November. Soils are deep, red clay, rather fertile and generally suitable for crop farming. These conditions support dense savannah and grassland with pockets of dense broadleaf or evergreen forest.

The area has a low population density averaging 2 people per km<sup>2</sup> with average land holdings of about 2.7 ha per household. This zone is mainly inhabited by the Makonde people.

Local livelihoods are also supported by hunting and gathering, sale of forest products and tourism related employment, all provided by the natural forest. Wildlife in the Niassa Game Reserve provides opportunities for game hunting, gathering, and tourism services. The zone is drained by the Rovuma and Lugenda rivers, which provide opportunities for subsistence fishing. The main food crops grown in this zone include maize, rice, cassava, cowpeas, and Boer beans. Poultry are mainly kept for consumption. The primary determinants of wealth are size of cultivated land, livestock holdings, and access to formal employment or larger-scale trade.

The poor consume own crop production but purchase food during lean period. The better-off group is largely food self-sufficient and mainly relies on own crops for consumption. Manual production predominates, creating a demand for labor during the agricultural season that is supplied primarily by poor households.

Most households in this zone sell some crops for cash income during the harvest. In addition to selling their labor to middle-income and wealthier households, the poor also rely on natural resources for cash through sale of firewood, charcoal, fish, and minerals. The better-off rely on cross-border trade with Tanzania and employment in tourism and hospitality services offered by Niassa Game Reserve.

Market access with other zones in Mozambique is very limited in this zone due to poor road conditions and the dispersed population. Instead, most households do their marketing in Tanzania.

Common hazards include seasonal flooding of the Rovuma River during rainy season and attacks by elephants on household food storage facilities. There are also cases of hyenas attacking poultry and goats within homesteads. Wildfires during dry season pose a threat to local pasturelands. Tourism and cross-border trade tend to increase the risk of HIV/AIDS in the zone as well.

In the event of a shock, the poor cope through increased sale of natural products, casual labor, and borrowing against future harvests. They may also receive more gifts from the wealthy. Better-off households cope through increased sale of goats and reducing non-essential expenditures.

*Zone 2: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Human-wildlife conflict												
Bushfires												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 2: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Cassava												
Meat												
<b>Income</b>												
Labor												
Fish												
Minerals												
<b>Expenditures</b>												
Health care												
Education (school fees)												
Agricultural inputs												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**NORTHWESTERN TOBACCO AND MAIZE (ZONE 3)**

<b>Food insecurity risk</b>	
Low risk of food insecurity due to surplus cereal production and high demand for unskilled labor	
<b>2007 population (percent of national population)</b>	
251,834 (1.24%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Goats
Sheep	Sheep
Pigs	Pigs
Hand tools: hoe, axe, panga, and sickle	Hand tools: hoe, axe, panga, and sickle
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Cassava (OP, MP)	Cassava (OP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP)
Beans (OP, MP)	Beans (OP)
Cow peas (OP, MP)	Cow peas (OP)
Vegetables (OP)	Vegetables (OP)
Fruits (OP)	Fruits (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of cassava	Sale of tobacco
Sale of vegetables	Sale of cassava
Sale of labor	Sale of vegetables
Sale of charcoal	Sale of timber
Sale of local brew	Sale of livestock
Sale of livestock	
<b>Main markets</b>	
Mandimba, Lichinga, Muembe, and Sanga, as well as Malawi border markets	
<b>Main hazards</b>	
Soil erosion	Rainy season

This zone lies in north western region of Mozambique. It is a highland area with an altitude of 1,000-1,500 meters above sea-level, characterized by a humid, tropical climate. The average annual precipitation, which mainly falls between October and March, is 1,200 mm. The dry season is from April until September. Average temperatures are around 14-21° Celsius with maximum temperatures ranging 26-32° Celsius in October-December and minimum temperatures of 11-15° Celsius between May and July (Lichinga meteorological data). The zone has deep, relatively fertile sandy, clay, and ferralsol soils, making it suitable for agricultural production. The concentration of rainfall over short periods, however, contributes to soil erosion. The zone sports mixed indigenous and exotic forest species (predominantly *miombo*) and grasslands.

The population is predominantly Makua and Yao with a population density of about 10 people/km<sup>2</sup>. The main sources of livelihood are agriculture, hunting and fishing, supplemented by informal trade activities. The main determinants of wealth in this zone are size of land cultivated and ownership of livestock. Though the average land holding is about 2 ha per household, the distribution of land favors better-off households.

Food crops grown during rainy season are maize, cassava, and sweet potatoes. Finger millet has important potential as a food and cash crop. Other crops include beans, potatoes, vegetables, and tobacco as main cash crops. Most households own some goats, sheep, and pigs, while cattle are bred on a small scale mostly by better-off group. Livestock provide manure for fertilizing crops.

Most households consume own crop production for at least the better part of the year, though poor households supplement this with market purchases, particularly between December and March. Poultry farming provides an important component of food intake.

Better-off households have many options for generating income, such as selling surplus crops, goats, and trade. However, tobacco sales are the most important and distinctive source of income for the better off in this zone due to rising tobacco demand in Malawi and China in recent years. The poor rely mainly on crop sales, agricultural labor wages, and the sale of charcoal.

Access to markets is relatively good due to good roads, especially in the dry season. However, transportation time is longer during rainy season. A range of products can be accessed in most markets in this zone. Currency circulation is low with a limited number of wholesale operators. The informal market is very active and it mainly functions through bartering of commodities.

Food insecurity in this zone is so infrequent that the concept of coping strategies is difficult to communicate. The most significant hazards identified in the zone are long-term issues involving soil erosion and loss of soil fertility; conservation agriculture and application of animal manure to crops are common practices in the zone.



*Zone 3: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Human-wildlife conflict												
Uncontrolled fires												
Strong winds												
<b>Legend</b>	Land preparation				Planting			Weeding			Harvesting	

*Zone 3: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Rice												
Sorghum												
Cassava												
<b>Income</b>												
Labor												
Local brew												
Vegetables												
<b>Expenditures</b>												
Health care												
Clothing												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**NORTHERN CASSAVA, MAIZE, AND FOREST (ZONE 4)**

<b>Food insecurity risk</b>	
Moderate risk of food insecurity due to limited access to markets	
<b>2007 population (percent of national population)</b>	
1,331,301 (6.57%)	
<b>Main productive assets</b>	
Poor	Better-off
> 1 ha Hand tools: hoe, panga, and axe	>1.5 ha Cattle Hired labor
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP) Cassava (OP, MP) Beans (OP, MP) Vegetables (OP) Groundnuts (OP)	Maize (OP) Rice (OP, MP) Cassava (OP) Meat (OP, MP) Fish (OP, MP) Groundnuts (OP) Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize Sale of agricultural labor Sale of handicrafts Sale of charcoal and firewood	Sale of maize Sale of rice Sale of cassava Sale of cattle
<b>Main markets</b>	
Nampula, Pemba, Mocimbo da Praia, and Quissanga	
<b>Main hazards</b>	
Human-wildlife conflict	March-June
Drought	December-March, 1/10 years
<b>Main coping strategies for poor households</b>	
Increased consumption of wild foods Increased search for agricultural labor Increased sale of natural products	

human-wildlife conflict, particularly with respect to destruction of crops. Most households cope with shocks through increased collection (poor) and consumption (all households) of wild foods; the poor also intensify the search for employment and firewood and charcoal sales.

This zone is located on the northern plateau of Mozambique and lies within the transitional front of the northeastern coast and interior, at an intermediate altitude of approximately 500-1,200 masl. This zone is partly drained by the Lurio, Ligonha, and Lugela Rivers. Precipitation in this zone is relatively high at 800-1,200 mm per annum from November through March. The dry season runs from April until October. The average temperature is around 25-30 ° Celsius. With moderately fertile sandy and clay soils, the zone boasts mixed forests and savanna grassland, with open forest cover dominating in parts of the zone. The high population density of about 31 people per km<sup>2</sup> contributes to relatively low average land holdings of 1-2 ha per household.

The main sources of livelihood include agriculture, hunting, and exploitation of forest products. The main determinants of wealth include; land area cultivated, ownership of livestock and access to other income sources. The main food crops are cassava, rice, sesame, sugarcane, maize, and beans. Some households may grow cotton using a credit scheme. Most households have at least a few poultry and pigs, goats, and poultry. Cattle are mainly kept by the better-off group.

The poor consume primarily maize and cassava from own production, which they supplement with purchases throughout the year but particularly between January and March. The main income sources for the poor include the sale of casual (agricultural) labor, handicrafts, and forest products.

The better-off group has the potential to be self-sufficient, with food surpluses on an annual basis. However, they are inclined to sell a significant portion of own production for cash, but also in order to purchase preferred or higher-value foods. Crop and cattle sales are the primary sources of income for the better-off. Physical access to markets is poor due to distant location of strategic markets. The existence of local wholesalers operating in the zone adds some dynamic to markets in the zone.

The major hazards in this zone are droughts or dry spells and

*Zone 4: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
High retail food prices												
<b>Hazards</b>												
Drought/dry spell												
Human-wildlife conflict												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 4: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Manioc												
Beans												
Poultry												
<b>Income</b>												
Agricultural labor												
Handicrafts												
Charcoal/firewood												
Maize												
Game meat												
<b>Expenditures</b>												
Food												
Batteries												
Clothing												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**NORTHERN HIGHLAND WITH MIXED CROPPING (ZONE 5)**

<b>Food insecurity risk</b>	
Low risk of food insecurity due to high yields, surplus production, and diverse income-earning opportunities	
<b>2007 population (percent of national population)</b>	
2,970,512 (14.67%)	
<b>Main productive assets</b>	
Poor	Better-off
<1 ha cultivated	>1 ha cultivated
Goats	Cattle
Poultry	Goats
Hand tools: hoe, axe, panga, and sickle	Poultry
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Cassava (OP)	Rice (OP, MP)
Sorghum (OP, MP)	Sweet potatoes (OP)
Sweet potatoes (OP, MP)	Beans (OP)
Vegetables (OP, MP)	Meat (OP)
Beans (OP, MP)	Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize	Sale of maize
Sale of cotton	Sale of cotton
Sale of tobacco	Sale of tobacco
Sale of goats	Sale of cattle
Sale of agricultural labor	Sale of timber
Sale of handicrafts, firewood, and charcoal	Sale of minerals
Sale of local brew	Informal trade
Cash remittances	
<b>Main markets</b>	
Nampula, Nacala Porto, Nacala Corridor and Mecuburi in the zone. Road side marketing of produce along the EN1 road.	
<b>Main hazards</b>	<b>Approximate frequency</b>
Drought	December-March, 1/10 years
Low producer prices for crops	April-June
<b>Main coping strategies for poor households</b>	
Increased sale of goats Increased search for agricultural labor Increased sale of firewood and charcoal	

This zone covers parts of Nampula, Cabo Delgado, Niassa, and Tete provinces. The climate is modified by altitude, which averages about 1,000-1,500 masl. The average rainfall in this zone is 1,000-1,500 mm, primarily from October until the end of February. The dry season is from March to September. The average temperature varies from 20 to 28° Celsius between November and February. The soil texture is generally ferrous, with sandy to clay characteristics, making it suitable for agriculture. The vegetation is mainly dense *miombo* forest with savannah grassland and bushes.

This zone is moderately populated compared with neighboring zones and mainly inhabited by the Nyanza and Lomwe people. Suitable agro-ecological conditions result in a heavy reliance on rainfed agriculture for own consumption, as a source of income from crop sales, and as a source of income from labor demand. The average land holding is about 0.5-2 hectares per household, on which people grow maize, sweet potatoes, garlic, beans, and vegetables, fruits (orange and mango), as well as tobacco and cotton, which has been practiced over several decades. Maize is the predominant crop, and yields are relatively high compared to neighboring zones. The chief local determinants of wealth are land size cultivated, land area under cash crops, and ownership of livestock.

The poor consume own production year-round with supplements of maize or rice, particularly between October and February. All households earn a significant portion of income from the sale of various food and cash crops. Other sources of income available to the poor group include sale of goats, agricultural labor in the tea estates, firewood, charcoal, and cash remittances.

The better-off group mainly consumes their own crops; however they do purchase some non-staple foods as well. While cash crop sales make up a significant portion of their income, the better-off also sell surplus food crops and timber and minerals extracted from the zone and engage in formal trade.

Access to markets is good, and there is considerable circulation of cash and other products. There are no wholesalers in this zone. The main highway linking the northern and southern regions of Mozambique provides additional opportunities particularly for the sale of fresh agriculture produce.

This zone is the most productive of the entire northern region and experiences minimal hazards. The main challenges faced by communities include low producer prices for crops during the harvest between April and June. Variation in rainfall and

temperature occur, but conditions still sustain average production levels. Droughts are rare with a frequency of once in ten years. The majority of households cope through increased sale of livestock, though the poor also intensify firewood and charcoal sales.

*Zone 5: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Legend</b>												

*Zone 5: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Cassava												
Maize												
Sorghum												
Groundnuts												
Rice												
<b>Income</b>												
Cotton												
Tobacco												
Sesame												
Cashew nuts												
<b>Expenditures</b>												
Education (school fees)												
Health care												
<b>Legend</b>												

**NORTHEASTERN HIGHLAND FOREST (ZONE 6)**

<b>Food insecurity risk</b>	
Moderate risk of food insecurity caused by limited access to markets and diversified livelihood options	
<b>2007 population (percent of national population)</b>	
245,414 (1.21%)	
<b>Main productive assets</b>	
Poor	Better-off
Untitled land	Titled land
Goats	Cattle
Poultry	Goats
Hand tools: hoe, axe, panga, and sickle	Poultry
Fishing net and hooks	Ox plough
<b>Main foods consumed and sources</b>	
Poor	Better-off
Cassava (OP)	Cassava (OP)
Maize (OP, MP)	Maize (OP)
Rice (OP, MP)	Rice (OP, MP)
Sesame (OP)	Sesame (OP)
Beans (OP)	Beans (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize	Sale of maize
Sale of cassava	Sale of cassava
Sale of agricultural labor	Sale of timber
Sale of charcoal	Sale of goats
Sale of firewood	Cross border trade
Sale of handicrafts	Formal employment
Sale of local brew	
<b>Main markets</b>	
Nampula, border markets in Tanzania, Nangade, Mueda, and Muidumbe	
<b>Main hazards</b>	
Floods along the river plains	December-March
Livestock diseases	December-March
Low producer prices	April-June
<b>Main coping strategies for poor households</b>	
Increased casual labor	
Increase sale of firewood and charcoal	

opportunities or the sale of firewood and charcoal. They may also expect to receive gifts from the better-off, who may increase the sale of goats and reduce non-essential expenditures.

Three rivers cut through this transitional plateau (500-1,200 masl) in Cabo Delgado bordering Tanzania: the Rovuma, Lugenda, and Messalo. Average rainfall in this area is 800-1,200 mm per annum from December to end of April, and the dry season runs from May to November. Average temperatures are about 21 to 28° Celsius. The sandy-clay soils support dense, open forests and savanna grassland. This zone is moderately populated with an average of eight people/km<sup>2</sup> and land holding of 2.5 hectares per household.

The main sources of livelihood include agriculture, fishing and forest products. The fishing is mainly in the Messalo and Rovuma rivers and other local products from natural forest cover within the zone. The main food crops grown are cassava, rice, sesame, sugar cane, maize, and beans. The main animals bred are pigs, goats, and poultry with cattle kept by mostly better-off households.

The key factors influencing wealth in this zone are land ownership and title, access to draught power for cultivation, and livestock ownership. Access to draught power enables the better-off group to cultivate enough land to be self-sufficient in food production. In addition to crop sales, the better-off also earn income through timber and livestock sales, cross-border trade, and formal employment.

The poor may consume their own production or in-kind payments for agricultural labor for about three-fourths of the year, turning to markets primarily between January and March. Poor households are largely dependent on the sale of their labor to middle and wealthy households for income, though they also sell some crops, charcoal and firewood, handicrafts, etc.

This zone is far from main markets and trade routes. Trade across the border in Tanzania is only possible during the dry season due to flooding during rainy season.

The zone is mostly affected by flooding along three major rivers and by low post harvest producer prices for crops. Given difficulties in market access, the prices of manufactured products are relatively high, and producer prices for local crops are relatively low.

In the event of a shock, the poor may increase the search for labor

*Zone 6: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
Deworming												
<b>Hazards</b>												
Flooding												
Livestock diseases												
<b>Legend</b>	Land preparation				Planting			Weeding			Harvesting	

*Zone 6: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Cassava												
Beans												
<b>Income</b>												
Cashew nuts												
Sesame												
<b>Expenditures</b>												
Education (school fees)												
Health care												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	



**NORTHEASTERN CASSAVA, CASHEW, AND COCONUT (ZONE 7)**

<b>Food insecurity risk</b>	
Though poverty is rampant, the risk of acute food insecurity is moderate to low	
<b>2007 population (percent of national population)</b>	
778,128 (3.84%)	
<b>Main productive assets</b>	
Poor	Better-off
> 2 ha land cultivated Goats Poultry Hand tools: hoe, panga, axe, and sickle	> 5 ha land cultivated Cattle Goats Poultry Hand tools: hoe, panga, axe, and sickle
<b>Main foods consumed and sources</b>	
Poor	Better-off
Cassava (OP, MP) Rice (OP, MP) Maize (OP, MP) Groundnut (OP)  Sesame (OP) Cowpeas (OP) Sweet potatoes (OP) Pigeon peas (OP)	Cassava (OP) Maize (OP) Rice (OP) Groundnut (OP) Cashew nut (OP) Sesame (OP) Cowpeas (OP) Pigeon peas (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize Sale of cashew nuts Sale of goats Petty trade Cash remittances Gifts and pecuniary assistance	Sale of maize Sale of cashew nuts Sale of meat Hiring of productive assets e.g. tractors Formal employment Trade
<b>Main markets</b>	
Nampula, Nacala, Manopo, and border markets in Tanzania	
<b>Main hazard</b>	
Crop pests and diseases (brown streak virus)	January-March
Livestock diseases (Newcastle, swine fever, trypanosomiasis)	November-March
Cyclones	January-March
<b>Main coping strategies for poor households</b>	
Increased search for employment Increased sale of poultry Increased cash remittances	

This zone covers the transitional coastal lowlands (200-500 masl) bordering the western highland plateau interior of northeastern Mozambique. The climate is semihumid, with moderate rainfall of 700-800 mm per annum from mid-November through March. The dry season is from April to mid-November. Temperatures can reach 30-35° Celsius in December-January but are cooler in June-August, when the temperature can fall to 18-20° Celsius. The soils are sandy toward the coast and increasingly loamy toward the plateau with low-to-moderate potential; soils are heaviest in the lowest areas. Due to the sandy soils, agriculture is particularly vulnerable to low rainfall. The vegetation is mainly sparse forest, shrubs, and sweet pasture grassland. This zone has a relatively high population density; land holdings average 1.2 ha per household.

The main source of livelihood is agriculture. Field cultivation is almost entirely by hand-hoe. Animal traction is not practiced, and few tractors are available for hire from the better-off. No inputs are used with the exception of free pesticides for cashew trees and some vegetable seeds. Seeds are mainly those saved from farmers' own harvests. Some farmers purchase local seeds in the market for sowing or work for payment in seeds.

The main food crops grown are cassava, maize, sorghum, cowpeas and sesame. Cashew nut is an important source of income. The role of livestock in the economy is minimal. Holdings are small; production is limited to goats and poultry; cattle are rare. The demand for goats is high in Nampula Province, which relies on neighboring provinces for supply. Poultry-keeping is limited because of annual outbreaks of Newcastle disease, for which vaccines are not easily accessible. Few households sell more than two or three goats and a half-dozen hens in a year.

Generally, this zone could be described as suffering from chronic poverty and under-development, rather than acute food insecurity. Wealth is primarily determined by size of cultivated land and livestock ownership. However, the disparity between the better-off and poor group is relatively less than in other zones, with nearly all households depending mainly on their own farming, rather than on working as agricultural laborers for others. Though access to food is similar across wealth groups, there are variations in sources of income.

The poor group mainly depends on limited sale of cashew nuts, goats, and petty trade with some external assistance in the form of cash remittances and gifts; however, the better-off group has more gainful and reliable sources of income such as hiring equipment and formal employment.

Despite the poorly-developed market infrastructure, there is relatively good market access in this zone and moderate currency circulation. The major markets accessible to local people in this zone include Nampula, Monapo, and Nacala (port) although they are outside the zone. Transport links with major cities are relatively good compared with other parts of the country. Although most food comes from within the zone, especially in normal years, some food is bought and sold outside

the zone. Some cassava is brought in from other parts of Nampula Province, and maize comes from northern Zambezia Province and Nampula town. Most food prices are inevitably higher in the lean season, although prices of the main staple, dried cassava, do not show too much seasonality.

The main hazards are crop and livestock disease, as well as cyclones, particularly for parts of the zone in Nampula. The poor group normally copes through increased search for employment, increased reliance on cash remittances, and sale of poultry. They may also expect some gifts from better-off households. The better-off group sells goats and reduces on non-essential expenditures.

#### Zone 7: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Crop pests, diseases												
Livestock diseases												
<b>Legend</b>												

#### Zone 7: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Rice												
Cassava												
Beans												
<b>Income</b>												
Cashew nut												
Cash remittances												
Petty trade												
<b>Expenditures</b>												
Education (school fees)												
Health care												
<b>Legend</b>												

**NORTH-CENTRAL COASTAL FISHING (ZONE 08)**

<b>Food insecurity risk</b>	
Low food insecurity risk due to diversified livelihood options	
<b>2007 population (percent of national population)</b>	
1,461,899 (7.22%)	
<b>Main productive assets</b>	
Poor	Better-off
Canoe, fishing net < 0.3 ha land Hand tools: hoe, panga, and axe	Motorboats > 1 ha land Tractor Motor vehicle
<b>Main foods consumed and sources</b>	
Poor	Better-off
Cassava (OP, MP) Maize (OP, MP) Fish (G, MP) Rice (OP, MP) Beans (OP, MP) Vegetables (OP, MP)	Rice (MP) Cassava (OP) Maize (OP) Fish (G, MP) Beans (OP) Vegetables (OP) Meat (MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of fish Sale of handicrafts Sale of local brew Sale of agricultural and non-agricultural labor Sale of cassava and maize	Sale of fish Employment in tourism and hospitality services Sale of cassava and maize Sale of goats Sale of salt
<b>Main markets</b>	
Pemba, Nampula, Quelimane, and other urban centers along the coast	
<b>Main hazards</b>	
Destructive fishing causing depletion of stocks and interference with ecosystem	January-December
High sea temperatures	January-December
Cyclones triggering storm surges, flooding, and sedimentation	January-December
<b>Main coping strategies for poor households</b>	
Increased fishing for consumption and sale Increased demand for remittances Reliance on income from employment	

This zone is located along the low-lying (<500 masl) coastal plains of northeastern Mozambique about 2,500 kilometres along the shoreline of Cabo Delgado, Nampula, and Zambezia Provinces. This narrow coastal stretch runs approximately 30-40 kilometers inland. The zone is characterized by mangroves, coral reefs, and sea grass beds, which provide food and habitat for marine life, including seabirds and nesting sea turtles. The Agulhas Current flows southward along the coast of Mozambique, carrying many types of fish. Unique islands along the coast include Vamizi, Quilalea, Ibo, Matemo, Medjumbe, and Ilha de Mozambique. There are also a few small towns and villages along this coastline, that are slowly developing to receive tourists.

Precipitation in this zone is about 800-1000 mm per annum. The main rainy season takes place from November through to the end of April. The dry season is from May to October. The temperature conditions range from 25-35° Celsius in the hot, wet season (October-February) to 15-25° Celsius in the cold, dry season (May-August). The soils are mainly sandy, but clay, loamy soils are found along the banks of river banks flowing into the coast. The zone is densely populated with an average of approximately 50 people/km<sup>2</sup>. This is one of Mozambique's most populated areas. As such, land holding is very low with an average of 0.5 ha per household.

The main sources of livelihood include deep sea marine fishing and agriculture. Fishing is the main economic activity, and the coast is fished for lobster, tuna, mackerel, sardines, anchovies, crayfish, and squid. Agriculture is practiced as a supplementary activity due to the low fertility sandy soils. The main food crops grown in this zone are cassava, maize, beans, and vegetables. Some livestock, such as poultry and goats, are also kept, primarily for consumption. Local determinants of wealth include ownership and access to fishing equipment and size of land owned per household for subsistence agriculture.

The poor and better-off groups all depend on own production, market purchases, and fish for food. However, the better-off group rely more on own production for consumption than do the poor, who rely more on staple food purchase from the market.

Both poor and better-off groups derive a large portion of income from fresh fish sales and some crop sales. The poor also sell local brew, unskilled labor, cassava, and handicrafts for tourists. The better-off group also sells skilled labor in the formal sector or tourism and salt. Income-earning opportunities in this zone are

largely possible due to very good access to the many urban and service centers along the coast. This is enhanced by the good road network linking the coast with the interior and the rapid development of tourism services in the zone.

The main hazards include destructive fishing methods that result in depletion of fish stocks (this is mostly associated with illegal fishing by international boats) and cyclones, which cause storms and flooding along the coast.

Coping strategies include increased reliance on fish and other sources of income including cash remittances. The poor may also expect gifts from the better-off.

### Zone 8: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Hazards</b>												
Strong winds												
Flooding												
<b>Legend</b>	Land preparation				Planting			Weeding			Harvesting	

### Zone 8: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Cassava												
Beans												
<b>Income</b>												
Fish												
Coconut												
Goats												
<b>Expenditures</b>												
Education (school fees)												
Agricultural inputs												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**PLAINS WITH CASSAVA, RICE, AND FISHING (ZONE 9)**

<b>Food security risk</b>	
Low food security risk due to high agricultural productivity and unskilled labor demand	
<b>2007 population (percent of national population)</b>	
321,223 (1.59%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats
Hand tools: hoe, panga, and axe	Poultry
	Hand tools: hoe, panga, and axe
<b>Main foods consumed and sources</b>	
Poor	Better-off
Rice (OP, MP)	Rice (OP)
Maize (OP, MP)	Maize (OP)
Sorghum (OP, MP)	Sorghum (OP)
Cassava (OP, MP)	Cassava (OP)
Beans (OP, MP)	Beans (OP, MP)
Vegetables (OP, MP)	Vegetables (OP, MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of rice	Sale of rice
Sale of maize	Sale of maize
Sale of labor	Sale of cattle
Sale of hand crafts	Sale of goats
Sale of charcoal	Informal trade
Sale of firewood	
<b>Main markets</b>	
Quelimane	
<b>Main hazard and approximate frequency</b>	
Floods	November-April: every 3 years
Drought	December-April: every 10 years
Livestock diseases such as swine pest and Newcastle disease	December-March
Crop pest and disease such as red locusts	December-April: every 2-3 years
<b>Main coping strategies for poor households</b>	
Use of local and traditional herbs such as fumes for pest control	
Migration to work in Marromeu sugar factory	
Wild food collection	

mainly depend on informal trade, sale of timber, and agricultural produce surpluses.

This zone is located in the central part of Mozambique, towards the southern part of Zambezia province. The climate is tropical humid, and the topography is mainly lowland plains and plateaus about 200 masl. Overall precipitation is about 600-1,300 mm per annum, mainly falling between November and April. The dry season is from May to early November. The average temperature range is 20-28°C for most of the year. Soils are sandy to clayish (fluvisols and vertisols), making it suitable for crop farming. Vegetation cover in this area is mainly meadows, savannah, marshland with reeds and broadleaf trees, and grassland with mixed indigenous trees, shrubs, and bushes. This makes it suitable for rearing small stock. The zone is drained by a number of rivers such as the Mucelo, Licuar, Cuácuá, Lucingo, Namacurra, and Phuade, which are a source of inland freshwater and subsistence fishing. Other natural resources include the large expanse of forest, where hunting is practiced and timber is exploited.

It is a moderate- to densely-populated area with an average of 32-90 people/km<sup>2</sup>. The local inhabitants are mainly the Sena tribe.

The main source of livelihood is rainfed agriculture, coupled with rearing of goats, pigs, and poultry. Other options for livelihoods include fishing and hunting in the expansive forests of the area. The main crops grown in this zone are rice, maize, sorghum, beans, cassava, and vegetables. Rice is mainly grown in the heavy soils, while well drained soils are predominantly used for maize, sorghum, millet, cassava, and cowpeas. Cashew nuts are an important cash crop. Cultivation is mainly done using hand hoes.

Livestock are raised using free browsing or grazing. The number of large ruminants is insignificant. The main sources of water for livestock are small rivers and ponds in the wet season and major rivers in the dry season. The two main determinants of wealth are the size of land cultivated and number of livestock owned, coupled with level of access to gainful economic activities.

Poor households consume own production for roughly nine months of the year, complementing this with market purchases and some in-kind payment for labor mainly between December and January. The main sources of cash income among poor group include the sale of surplus crops, local brew, charcoal, and agricultural labor by both men and women. The source of seasonal agricultural work is mainly from within the community, where the poor are employed by the better-off.

The better-off are self-sufficient in food production, and they usually sell surpluses, especially during years of good rainfall. They

Physical access to markets is good with a fair-to-good road network that links the zone with main towns and marketing centers, which service retail shops and traders in the zone, though there are no wholesalers per se. Currency circulation is moderate.

Common hazards in this zone are livestock diseases, such as Newcastle disease and swine pest. Chickens are affected by Newcastle disease almost every year. The main crop pest is the red locust, which mainly attacks maize and sorghum. The poor group may respond to with pest- and disease-related hazards using traditional methods (fumes). In the event of an actual shock to food or income sources, the poor may increase cash income by migrating to work in sugarcane plantations and by increasing the collection of wild foods. The better-off group raises additional cash by increasing the sale of livestock, such as goats, in order to purchase food.

#### Zone 9: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
<b>Legend</b>												

#### Zone 9: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Rice												
Maize												
Cassava												
Beans												
<b>Income</b>												
Crop sales												
Goats												
Charcoal and firewood												
<b>Expenditures</b>												
Batteries												
Clothing												
<b>Legend</b>												

**ZAMBEZI VALLEY WITH MAIZE AND FISHING (ZONE 10)**

<b>Food insecurity risk</b>	
High risk of food insecurity due to frequent, heavy flooding of the Zambezi River	
<b>2007 population (percent of national population)</b>	
85,766 (0.42%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats
Hand tools: hoe, panga, axe, and sickle	Pigs
Fishing rod and hooks	Poultry
	Canoe or boat
	Ox plough
<b>Main foods consumed and sources</b>	
Poor	Better-off
Rice (OP, MP)	Rice (OP)
Maize (OP, MP)	Maize (OP)
Sorghum (OP, MP)	Sorghum (OP)
Cassava (OP, MP)	Cassava (OP)
Beans (OP, MP)	Beans (OP)
Vegetables (OP, MP)	Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of rice	Sale of rice
Sale of maize	Sale of maize
Sale of labor	Sale of goats
Sale of hand crafts	Sale of cattle
Sale of charcoal and firewood	Petty trade
Sale of fish	Sale of fish
<b>Main markets</b>	
Quelimane	
<b>Main hazard and approximate frequency</b>	
Floods	December-April: once every 3 years
Drought	December-April: once every 10 years
<b>Main coping strategies for poor households</b>	
Gathering of wild foods	
Increased sale of small stock	
Increased sale of firewood and charcoal	

This zone is located along the lowland plains and riverine areas of the Zambezi, Cuácuá, and Lualuua Rivers, as well as Chinde and Chire secondary rivers. It lies at an average altitude of about 200 masl. Precipitation is high, ranging from 1,200 to 1,400 mm per annum, mainly from December to the end of April. The dry season is from May to November. The maximum temperatures range 27-33°C in the hot, wet season (December-February), while the minimum temperatures range from 20-22°C in the cold, dry season months of June and July.

The soil structures along the plains are formed of quaternary sediments. Soils are predominantly loamy and red sandy but fertile and suitable for crop production. The vegetation cover is mainly palm savannah forests and grasslands.

This zone has moderate to dense population with an average of 12-33 people/km<sup>2</sup>. The average land holding is about 1-2 hectares per household. The local inhabitants are mainly of the Sena tribe.

The main source of livelihood is largely rainfed agriculture, coupled with rearing of livestock. Other livelihood options include fishing, hunting, and timber extraction in the zone's expansive forests. The main food crops grown in this zone are maize, sorghum, rice, sweet potatoes, fruit trees, cowpeas, cassava, and vegetables. The main livestock are goats, pigs and poultry, with cattle mostly found in the better-off group. The local determinants of wealth are the size of land cultivated and the number of livestock owned, coupled with the level of access to gainful economic activities.

The poor rely on markets only two to three months each year between January and March, relying on own production the rest of the year and in-kind payment for labor particularly during harvesting of cereal crops. The main sources of cash income among poor include crop sales, agricultural labor, handicrafts, charcoal, and firewood.

The better-off produce enough food to meet consumption needs from their own crops. They earn income mainly from crop and livestock sales and informal trade.

Overall physical access to markets is good with moderate currency circulation and no wholesalers. The main central market is Quelimane town.

Common hazards in this zone include flooding along the riverine flood plains during the rainy seasons. Though rainfall may vary at the start of the season or in the distribution or quantity of rain from one season to another, drought is rare with a frequency of once in ten years.

In the event of a shock to food or income, the poor group copes through increased collection of wild foods and increased charcoal and firewood sales. The better-off normally increase goat sales to purchase additional food if needed.



*Zone 10: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
<b>Legend</b>												

*Zone 10: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Rice												
Maize												
Cassava												
Poultry												
<b>Income</b>												
Agricultural labor												
Handicrafts												
Charcoal, firewood												
Crop sales												
<b>Expenditures</b>												
Food												
Batteries												
Clothing												
<b>Legend</b>												

**NORTHWESTERN CROPPING AND CROSS-BORDER TRADE (ZONE 11)**

<b>Food insecurity risk</b>	
The zone is self-sufficient in food with low risk of acute food insecurity	
<b>2007 population (percent of national population)</b>	
700,685 (3.46%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Pigs	Goats
Poultry	Hand tools: hoes, axes, sickle, and panga
Hand tools: hoes, axes, sickle, panga	
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Cassava (OP, MP)	Cassava (OP)
Beans (OP, MP)	Beans (OP)
Vegetables (OP, MP)	Meat (OP, MP)
Meat (MP)	Vegetables (OP, MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of cassava	Sale of cassava
Sale of maize	Sale of maize
Agricultural labor	Sale of goats
Sale of local brew	Sale of cattle
Sale of firewood	Informal trade
Sale of charcoal	
<b>Main markets</b>	
Limbe and Mulange in Malawi	
<b>Main hazards</b>	
Drought	December-April
Fluctuation in commodity prices	All year round
Earthquake	-
Trade ban with Malawi	-
<b>Main coping strategies for poor households</b>	
Increased sale of agricultural labor	
Collection of wild foods	
Increased sale of charcoal/firewood	

This zone is located in northwestern highlands along the Malawi border. It lies at an altitude of 500-1000 meters above sea level. The Shire and other rivers pass through the zone. Precipitation is relatively good and ranges from 1,200-2,000 mm per annum from December to the end of April. The dry season is from May to November. The average temperature is a minimum of 14-18°C in the cold, dry season period (June and July) rising to a maximum of about 29-34°C in the hot, wet season (October to January). This zone is characterized by deep, fertile, red-clay soils, which are some of the most suitable for crop farming in Mozambique. The vegetation cover is mainly forest woodlands, tropical savannah shrub, and grasslands.

This zone has a moderate population density of approximately 28-38 people per square kilometer. However, agriculture is limited with low average land cultivation of about 1-2 ha per household mainly attributed to limited cash for production inputs.

The favorable climatic condition makes this zone suitable for agriculture. The main livelihood of local inhabitants is rainfed agriculture with additional activities such as trade in Malawi, supplemented with livestock rearing within the zone. The main food crops grown are maize, cassava, beans, and vegetables. The animals bred are small ruminants and poultry using free browsing or grazing. The number of large ruminants is insignificant and mostly kept by the better-off group.

The chief drivers of wealth are size of land cultivated and planted with crops, number of livestock owned, and, to some extent, access to trade markets. However, the poor are specifically constrained by lack of cash for production inputs needed to scale up production.

The poor consume through own production for nine months of the year, relying on market purchases and in-kind payment for labor in January and February. Although crop sales are an important source of income for all households in the zone, the poor also rely heavily on the sale of agricultural labor, local brew, and charcoal and firewood.

The better-off are self-sufficient in food mainly from own crops

with surpluses sold almost every year with exception of bad or crisis years; they also engage in informal trade and livestock sales for additional income.

Overall trade dynamics with Malawi facilitate marketing of local produce across the border, although trade bans sometimes reduce activities with markets in Malawi (a significant hazard for the zone). There is good circulation of both Mozambique and Malawian currency within the zone, making trade very flexible among local people in both countries. The zone exports cereal produce to Malawi and obtains some manufactured items from Malawi.

Other hazards are mainly caused by rainfall variability on a year to year basis. Droughts are rare. The zone lies along the rift valley, and earthquakes/tremors are common. The most common coping strategies for the poor in the event of a shock to food or income sources include increased search for agricultural labor, collection of wild foods, and sale of firewood and charcoal. The better-off group copes through increased sale of goats and cattle.

*Zone 11: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Drought/dry spell												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 11: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Beans												
Cassava												
Poultry												
<b>Income</b>												
Agricultural labor												
Handicrafts												
Charcoal, firewood												
<b>Expenditures</b>												
Food												
Batteries												
Clothing												
Transport, communication												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**COASTAL SUGARCANE AND FISHING (ZONE 12)**

<b>Food insecurity risk</b>	
Moderate risk of food insecurity due to multiple production options with low market access	
<b>2007 population (percent of national population)</b>	
501,835 (2.48%)	
<b>Main productive assets</b>	
Poor	Better-off
Goats Net, fishing rod and hook Hand tools: axe, panga, and hoe	Cattle Goats Canoe, boat, and net Tractor Motor pump Grinding mill
<b>Main foods consumed and sources</b>	
Poor	Better-off
Rice (OP, MP) Maize (OP, MP) Sweet potatoes (OP, MP) Beans (OP, MP) Vegetables (OP, MP) Fish (G) Cassava (OP)	Rice (OP) Maize (OP) Sweet potatoes (OP) Beans (OP) Vegetables (OP) Fish (G) Cassava (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of fish Sale of crops Sale of charcoal, firewood and handicrafts Sale of mangrove Agricultural labor	Sale of fish Sale of cattle Sale of sugarcane Hire of equipment Small scale trade
<b>Main markets</b>	
Foodstuffs: Beira Dondo, and Marromeu Labor: sugarcane plantations, urban areas	
<b>Main hazards and approximate frequency</b>	
Floods	December-March
Cyclones	January-March: every 5 years
Human/wild life conflicts (hippopotamuses and crocodiles )	May-September
Livestock diseases	September-January
<b>Main coping strategies for poor households</b>	
Movement of people to higher ground Increasing sales of brew, charcoal and firewood Increased levels of fishing Increased sale of goats	

This zone lies along the coastal plains (<500 masl) of central Mozambique, surrounded and drained by the vast Zambezi, as well as the Pungue and Buzi River basins. It covers part of the district of Nhamatanda, as well as the districts of Buzi, Dondo, and Marromeu. It has a tropical, humid climate with average annual precipitation of about 750-800 mm per year from November through the end of March. The dry season is from April until October. Maximum temperatures are 32-34°C and minimum temperatures are 20-25°C. The flat land and plain have reasonably fertile soils broadly categorized as fluvio and verti with clayey, sandy texture. The main vegetation cover is comprised of coastal mangrove and freshwater swamps and marsh with pockets of deciduous forest and grassland. This zone is also endowed with natural resources such as timber, fish, and wild game within reserves.

Access to markets within the zone is difficult. In the rainy season, transport to and around the zone is only possible by river and in the dry season (June to November) roads are poor even when passable. There is no bridge on the road to Mopeia, so cars can only pass in the dry season. Unsurprisingly, there is little integration of the Luabo economy with the rest of the country. Trade is even limited between Luabo center and the outlying villages. There is little seasonal migration outside or into the zone.

This zone is distinguished by economic importance of the river delta as an opportunity for fishing and dry-season cultivation, and as a threat for flooding. Farming low-lying areas by the river and on islands in the delta also offers the chance for a second, dry-season crop, especially of vegetables. The islands can only be farmed in dry season. The swamps, or Baixa, can be used for rice in rainy season, followed by a dry season where maize, vegetables, or sweet potatoes are grown. The area is generally low-lying and suitable for sugarcane production.

The zone is densely populated with about 15-20 inhabitants per square kilometer. It is mainly inhabited by the Chuabo and Podzo speaking people. Average land holding per household mainly for food production is about 1.5 to 2.0 hectares, compared with an average of 50 hectares among sugarcane plantation owners. However, restrictions on land use come from the Maimba Reserve, where a private company has a concession for tourism, preventing the local population from using the land even for fishing in smaller river branches of Zambezi Delta. Fishing in the main branch of the Zambezi is not affected. As a result of limited land availability and poor marketing opportunities, the zone operates largely as a subsistence area, with only small quantities of food leaving or entering into the zone.

This zone shows a diversity of livelihood patterns with three main livelihood activities: fishing in River Zambezi and along the Sofala bay, cropping, and livestock production. The main food crops are rice, maize, sweet potatoes, beans, and vegetables. Palm trees are also a common crop. The main livestock kept include cattle, goats and poultry. Wealth in this zone is defined by access to inputs for food or sugarcane production (land, cash) and ownership of livestock.

The poor consume own production for 4-6 months of the year, relying on markets and in-kind payments for the other half of the year, particularly for beans and vegetables. Though the poor do sell some crops and fish, they also earn income from charcoal and mangrove exploitation and employment in Mafambisse and Buzi sugarcane plantations.

The better-off mainly consume own crops and fish with limited market purchases of non-staple foods. The better-off also derive much of their income from sale of fish and own crop surpluses, though they also sell cattle and sugarcane and may earn income from renting out equipment or retail trade.

#### Zone 12: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Human-wildlife conflict												
Livestock diseases												
Malaria												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

#### Zone 12: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Beans												
Vegetables												
Fish												
<b>Income</b>												
Maize												
Fish												
Sugarcane labor												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**TETE HIGHLAND MIXED CROPPING, TOBACCO, AND COTTON (ZONE 13)**

<b>Food insecurity risk</b>	
Low risk of food insecurity due to reliable rainfall and diverse incomes	
<b>2007 population (percent of national population)</b>	
870,220 (4.34%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Pigs	Goats
Poultry	Pigs
Hand tools: hoe, axe, and panga	Poultry
	Ox plough
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Beans (OP, MP)	Rice (MP)
Sesame (OP, MP)	Meat (OP)
Vegetables (OP, MP)	Vegetables (OP, MP)
Meat (OP, MP)	
<b>Main income sources</b>	
Poor	Better-off
Sale of maize/sorghum	Sale of maize/sorghum
Sale of cotton	Sale of cotton
Sale tobacco	Sale of tobacco
Sale of poultry	Sale of vegetables including potatoes
Sale of agricultural labor	
Sale of handicrafts	
<b>Main markets</b>	
Tete and border markets in Malawi and Zambia	
<b>Main hazards and approximate frequency</b>	
Drought	November-January
Frost	July
Hail	At beginning or end of rainy season
<b>Main coping strategies for poor households</b>	
Increased reliance on self-employment such as sale of charcoal	
Labor migration across the border	

This highland zone (>500 masl) is located in the northern part of Cahora Bassa dam, along the border with Malawi, Zambia, and includes the district of Angonia, Macanga, Chifunde, Tsangano and northern Zumbu. This is the wettest part of the Zambezi basin with regular precipitation averaging between 600-1,500 mm per annum between November and April. The dry season is primarily from April/May to October. Temperatures range from a maximum of 25-40° Celsius in summer to a minimum of 6-25° Celsius in winter. The clay soils are fertile, allowing for relatively productive rainfed agriculture with some irrigation and supporting a moderately dense population of approximately 35 inhabitants/km<sup>2</sup>.

Cash circulation and access to markets within the zone is good, and markets are open year-round. Local markets have strong links across the borders with Zambia and Malawi, for all local produce, but particularly for cash crops and labor. Zumbu and Maravia trade heavily with Zambia; Angonia trades heavily with Malawi. Tsangano Tete is another important market in the area. The primary commodities traded include maize, sorghum, tobacco, and cotton, and price trends follow the agricultural calendar with low prices between June to August and high prices from November to February.

The most important crops are maize, root tubers (potatoes, cassava), beans, peanuts, vegetables, soy beans, sesame, sunflower, cucumber, pumpkin, and watermelon. Fruit trees are also common and include mangoes, banana, peach, guava, plum, apple, strawberry, lemon, pineapple and tangerine. The most important cash crops are tobacco and cotton. Cattle, goats and poultry are also important for local livelihoods. People source water for irrigation primarily from rainfall, rivers, and dams. Most households cultivate using hand tilling and animal traction, but the better-off may use tractors.

Given the high soil productivity, diverse cropping options and strong access to agricultural markets, the main local determinants of wealth are the land area cultivated and livestock ownership for both traction and as savings/investment.

Poor households depend primarily on own production for at least seven of the twelve months of the year (March-September). They rely primarily on market purchases with some in-kind payment of labor for food between October and February. They earn cash to finance food and non-food purchases primarily through agricultural labor to the better-off primarily between May and July and through self employment, particularly the production and sale of charcoal or bricks. Most households in the zone sell at least some cereals (sorghum and maize) and cotton, regardless of their wealth; though, naturally, the better-off, with access to more land, may sell large surpluses of cereals even after assuring self-sufficiency in cereal production. The better-off earn most additional income from cash crop sales.

*Zone 13: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Drought/dry spell												
Human-wildlife conflict												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 13: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Beans												
Vegetables												
<b>Income</b>												
Cotton												
Maize												
Agricultural labor												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		



**CAHORA BASSA DAM SESAME AND COTTON (ZONE 14)**

<b>Food insecurity risk</b>	
Moderate risk of food insecurity due to vulnerability to drought and heavy reliance on fishing	
<b>2007 population (percent of national population)</b>	
176,363 (0.87%)	
<b>Main productive assets</b>	
Poor	Better-off
Fishing net and hook	Boat/canoe, fishing net
Goats	Cattle
Pigs	Goats
Poultry	Poultry
Hand tools: hoe, axe, and panga	Hand tools: hoe, axe, and panga
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP, MP)
Sorghum (OP, MP)	Sorghum (OP, MP)
Millet (OP, MP)	Millet (OP, MP)
Rice (MP)	Rice (MP)
Groundnuts (OP, MP)	Groundnut (OP, MP)
Beans (OP, MP)	Beans (OP, MP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP, MP)
Sesame (OP, MP)	Vegetables (OP)
Vegetables (OP, MP)	
<b>Main income sources</b>	
Poor	Better-off
Sale of fish	Sale of fish
Sale of cotton	Sale of cotton
Sale of sesame	Sale of cattle
Sale of handicrafts, firewood, charcoal	Sale of goats
Sale of labor	Retail trade
Sale of wild foods	Formal employment
<b>Main markets</b>	
Tete, Chitima, and Mphende, as well as cross-border markets in Zambia, Zimbabwe, and Democratic Republic of Congo (DRC)	
<b>Main hazards</b>	
Drought or dry spell	December-February
Floods	February-March
Crop pests and diseases (including locusts)	January-April
<b>Main coping strategies for poor households</b>	
Increased self-employment	
Migration into urban areas	
Barter trade	

This zone comprises the lowlands and foothills (200-1000 masl) running parallel to the Albufeira in Mphende within the main catchment areas of Cahora Bassa Basin and includes parts of the districts of Chifunde, Chiuta, Cahora Bassa, Magoe, Maravia, and Zumbu. The zone is drained by the Cahora Bassa Dam and the Zambezi River. It derives its name from the very extensive Albufeira de Cahora Bassa Lake to the North, which is formed by a dam on the Zambezi River. Many other rivers in the zone flow into this lake, including the Mussengezi River which originates in Zimbabwe.

Rains can be unreliable in timing and volume, partly due to changes in air currents and cloud formation over the hills. Average precipitation is about 500-800 mm per annum, falling from November through the end of March. The dry season is from April until October. The average temperatures range from a maximum of 25-40°C in the hot, wet season to a minimum of 22-30°C in the cold, dry season. Soils are mainly sandy clay with relatively moderate fertility. The vegetation is mostly savannah-like with a wide variety of grass, shrubs, and tree species populating areas between villages.

Due to its strategic location and the tarmac road along the border with Zimbabwe and Zambia, this zone has access to cross-border markets, the provincial capital Tete, the district capital Chitima, and the central parts of Mphende. Mobile phone coverage is equally good and enhances communication and market linkages within the zone.

This zone is a moderately populated area with an estimated 2-6 people/km<sup>2</sup>; it is mainly inhabited by the Nhungue tribe. The main sources of livelihood are fishing, rainfed agriculture, livestock rearing, horticulture, hunting, and trade. The zone is a food deficit area with low production due to manual cultivation. Average land holding per household is approximately 0.8-1.2 ha, most of which is manually cultivated with household labor (poor households) or hired labor (better-off households). Fishing is an important source of livelihood, with significant contribution to household food and income. It is arguably as important to the livelihoods of the zone as agriculture. The main buyers of fish are from Zambia and DR Congo. Fish is sold fresh, smoked or salted and dried. Fishing is done exclusively by men.

Maize and sorghum are most important food crops. The main cash crop is cotton. Other crops cultivated include millet, groundnuts, sweet potatoes, and vegetables. All crops are either rainfed or recession-farmed (dry season) in moist soils adjacent

to the lake and rivers. Livestock reared include cattle, goats, pigs, donkeys, and chickens. Cattle and goats graze in areas outside the village. Pigs are fed on crop residues and allowed to forage for food.

Compared to other, more agriculturally dominant zones, the poor in this semiarid zone rely relatively little (about three months) on own production as a source of food. Instead, they mainly rely on market purchases, fishing, and wild foods. The

poor as well as the wealthy receive a significant amount of income from cotton and fish sales. However, the poor also rely heavily on the sale of agricultural labor to the better-off and the sale of natural products such as handicrafts, firewood, and charcoal.

The better-off group is food self-sufficient with surplus production, primarily due to their ability to hire labor. Though they earn income from fish and cotton sales, they also sell livestock and engage in trade and formal employment.

The main hazards to crop production include drought, floods, and crop pests and diseases. Human-wildlife conflict (elephants, hippopotami, others) also poses a threat to crop production as cultivation takes place near permanent water sources. Coping strategies in the event of a shock to food or income sources include increased reliance on natural resources such as charcoal and firewood, migration to urban areas in search of labor opportunities, and trade.

#### Zone 14: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Drought/dry spell												
Flooding												
Crop pests, diseases												
<b>Legend</b>												

*Zone 14: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Fish												
Vegetables												
<b>Income</b>												
Fish												
Cotton												
Labor												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>		Own production			Purchases			In kind		Gathering		

**CENTRAL SEMIARID COTTON AND MINERALS (ZONE 15)**

<b>Food insecurity risk</b>	
Semiarid conditions limit agricultural productivity and increase food security risks	
<b>2007 population (percent of national population)</b>	
515,038 (2.54%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Pigs	Goats
Poultry	Pigs
Hand tools	Poultry
	Hand tools
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP, MP)
Sorghum (OP, MP)	Sorghum (OP, MP)
Rice (MP)	Cowpeas (OP, MP)
Cowpeas (OP, MP)	Sesame (OP, MP)
Sesame (OP, MP)	Pigeon peas (OP, MP)
Pigeon peas (OP, MP)	Beans (OP, MP)
Beans (OP, MP)	Meat (OP, MP)
Meat (OP, MP)	Poultry (OP)
Poultry (OP)	Vegetables (OP, MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of cotton	Sale of cotton
Sale of maize	Sale of maize
Sale of labor	Sale of sesame
Sale of charcoal	Sale of timber
Sale of local brew	Sale of cattle
Sale of wild honey	Petty trade
Sales of goats/poultry	
Tete, Moatize, Chifunde, Macanga, and Maravia	
<b>Main hazards and approximate frequency</b>	
Floods	February
Drought or dry spells	March-June
Human-wildlife conflict	January-March: every 3 years
<b>Main coping strategies for poor households</b>	
Increase poultry sales	
Migrate to low flood risk areas	
Intensify natural products sales	

conflict. Coping strategies include increased sale of poultry and goats, local brew, and firewood and charcoal. Middle and better-off households may switch to the production of drought-tolerant crops.

This hilly zone (500-1000 masl) is located on the southern side of the Zambezi River, including southern parts of Cabora Bassa, Chiuta, and Moatize Districts; Changara District; and northern parts of Chemba, Guro, Mutarara, and Tambara Districts. Precipitation is around 500-600 mm per annum, with rains mainly received from November to March; the dry season takes place from April to October. Average temperatures in the zone range from a maximum of 28-32° Celsius to a minimum of 15 -20° Celsius. Soils are sandy clay with moderate fertility suitable for growing some cereals and oil seeds. The main vegetation cover is bush, shrubby savannah, and some forest. The zone has limited access to the Zambezi River; it is, however, well endowed with natural resources including coal, gold and limestone, timber, fish, seasonal rivers, and game reserves. The area has a moderate population density of about 6-15 people per square kilometer. Local inhabitants are mainly of the Zimba- and Nguni-speaking tribes.

Rainfed agriculture is the main source of livelihoods. Average land holding is about 2 ha per household, mainly cultivated manually with limited animal traction. The main food crops grown in this zone include maize, sorghum, cowpeas, sesame, and pigeon peas. Maize is the main staple food. Timber extraction, charcoal production, and mineral extraction are also common livelihood activities in the zone. Cattle, goats, and pigs are the most significant livestock.

Virtually all households—even the better-off—supplement consumption of own production with market purchases in this zone. Poor households generally consume own production for four to five months of the year. In addition to market purchases, they also consume wild foods. The main sources of income for the poor are the sale of cotton and maize, agricultural labor wages, and the sale of natural products such as charcoal. The better-off receive a larger share of income from cotton sales and surpluses of maize; they also sell timber and cattle.

Overall market access in this zone is good. The main, permanent markets accessible to the local population for selling local products and buying other commodities are Chifunde, Macanga, and Maravia, as well as markets in Zimbabwe. Food prices in the zone are highest between November and January and lowest between April and June. The main commodities traded include cotton, cattle, and timber.

The main hazards include floods, dry spells, and human-wildlife conflict. Coping strategies include increased sale of poultry and goats, local brew, and firewood and charcoal. Middle and better-off households may switch to the production of drought-tolerant crops.

*Zone 15: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
Human-wildlife conflict												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 15: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Beans												
Vegetables												
<b>Income</b>												
Agricultural labor												
Charcoal												
Honey												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**MANICA HIGHLAND MIXED CROPPING, COTTON, AND TOBACCO (ZONE 16)**

<b>Food insecurity risk</b>	
Highly food secure due to very good climatic conditions	
<b>2007 population (percent of national population)</b>	
606,113 (2.99%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Pigs	Goats
Poultry	Pigs
Hand tools: hoe, axe, and panga	Poultry
	Ox plough
	Tractor
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Sorghum (OP, MP)	Sorghum (OP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP)
Cassava (OP, MP)	Cassava (OP)
Beans (OP, MP)	Rice (MP)
Vegetables (OP)	Meat (MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize	Sale of maize
Sale of sorghum	Sale of sorghum
Sale of tobacco	Sale of potatoes
Sale of cotton	Sale of tobacco
Sale of handicrafts	Sale of cotton
Sale of poultry	Cash remittances
Cash remittances	Informal trade
Retail trade	Formal employment
<b>Main markets</b>	
Barue, Manica, Mossurize, and Sussundenga, as well as border markets in Zimbabwe and Malawi	
<b>Main hazards</b>	
Drought or dry spells	November-March
Frost	July
Hailstorms	December-March
<b>Main coping strategies for poor households</b>	
Local migration in search of labor	
Increased self-employment	
Increased sale of goats and poultry	

The Manica highlands are a plateau (>1000 masl) along the border with Zimbabwe that include various districts such as Barue, Manica, Sussundenga, and Mossurize. Precipitation in the area is regular with 600-1,500 mm per annum between November and March with dry season from April until end of October. Temperatures range from a maximum of 25-40° Celsius in the hot, wet season to a minimum of 6-25° Celsius in the cold, dry season. Soils are predominantly clay with high fertility and productivity. The vegetation cover is mainly broadleaf and evergreen open forest and savannah grasslands. This zone has a medium population density of approximately 35 inhabitants per square kilometer. The main inhabitants are Manyika- and Teve-speaking people.

This area is most suitable for rainfed crop farming. Land cultivation is mostly through hand tilling and animal traction, though the better-off can afford to own or hire tractors. The rainfed food crops grown are maize, root tubers (potatoes, cassava), beans, peanuts, vegetables, soya, sesame, and sunflower. Other crops include vegetables (cucumber and pumpkin) and fruits (watermelon, mangoes, banana, peach, guava, plum, apple, strawberry, lemon, pineapple, and tangerine). Overall, the most important cash crops are tobacco and cotton, which even the poor may cultivate over small areas. Cattle, goats, and poultry are also important for local livelihoods. These animals are mainly grazed on natural grass and crop residues. The local inhabitants rely on existing rivers and dams for domestic and livestock usage. Overall wealth in this zone is determined by the size of land cultivated and livestock ownership.

The poor consume own production about six months of the year and consume market purchases and some in-kind payment of labor for the remainder. Cash income sources of the poor group include sale of crops (maize, vegetables, and fruits) and remittances from migrant agricultural labor in Zimbabwe.

The better-off group is mainly self-sufficient with the potential for marketable crop surpluses, especially during years of good rainfall. The better-off are the primary tobacco and cotton producers, and they derive a significant portion of their annual cash income from sale of these cash crops. Informal trade and formal employment opportunities within Mozambique are common, alternative sources of income among the better-off.

There is good physical access to markets especially in Zimbabwe for produce, cash crops, and unskilled migrant labor. Most of the markets are permanent and record high food prices from November to January and low food prices from June to August. There is general very good cash circulation in the zone.

The most common hazards are drought or dry spells, frost, and hailstorms. These hazards may have a devastating impact on both food and cash crops. Poor households cope by intensifying the search for employment both locally and through migration and by increasing self employment and the sale of small ruminants.

*Zone 16: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Drought/dry spell												
Frost												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

*Zone 16: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sorghum												
Beans												
<b>Income</b>												
Maize												
Tobacco												
Cotton												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**CENTRAL MANICA AND SOFALA MIXED CROPPING (ZONE 17)**

<b>Food insecurity risk</b>	
Self-sufficient zone with low risk of food insecurity	
<b>2007 population (percent of national population)</b>	
687,758 (3.40%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Pigs	Goats
Poultry	Pigs
Hand tools: hoe, axe, and panga	Poultry
	Hand tools: hoe, axe, and panga
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP, IK)	Maize (OP)
Sorghum (OP, MP, IK)	Sorghum (OP)
Groundnuts (OP, MP)	Groundnuts (OP)
Sesame (OP, MP)	Sesame (OP)
Cassava (OP, MP)	Cassava (OP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP)
Fruit trees (OP, MP)	Fruit trees (OP)
Game meat (G)	
<b>Main income sources</b>	
Poor	Better-off
Sale of maize	Sale of maize
Sale of sorghum	Sale of sorghum
Sale of cotton	Sale of cotton
Sale of fruits	Sale of cattle
Sale of wild food (honey and game meat)	Sale of goats
Sale of agricultural labor	Informal trade
Sale of local brew	
<b>Main markets</b>	
Manica, Beira, Maputo and border markets in Zimbabwe.	
<b>Main hazards</b>	
Crop pests and diseases such as red locust	November-April
Drought and dry spell conditions	January-March
Floods	January-February
<b>Main coping strategies for poor households</b>	
Labor migration in search of employment	
Intensify sale of wild foods, firewood, and charcoal	

season. Poor households cope with shocks to food and income sources through labor migration, increasing sale of firewood and charcoal, and increased consumption of wild foods.

This medium-altitude zone (500-1000 masl) is mainly located in west of Sofala Province and eastern side of Manica Province, including parts of Caia and Chemba Districts and all of Gondola, Gorongosa, Macossa, and Maringue Districts. It is bordered by the Gorongosa National Park towards the South and is partly drained by the Pungue River. The average rainfall is about 1,000-1,200 mm per annum, concentrated between November and March, with a growing period of 120-180 days. The dry season is from April until October. Soils are mainly light, with some heavy soils; as such it's among the most productive parts of the country. The dominant vegetation is savannah grassland with pockets of forest. This zone has a moderate to high population density mainly made up of Shona-speaking people.

The combination of relatively good agro-ecological conditions has made this zone highly productive. The main sources of livelihood are rainfed cropping and rearing of livestock. The main food crops are maize, sorghum, cassava, sesame, groundnuts, and cowpeas. In the moist areas, farmers cultivate sweet potato and rice. The main cash crops are cotton and fruit trees. Livestock such as cattle, goats, pigs, and poultry are also reared in the zone. Wealth is chiefly determined by size of land cultivated and livestock ownership.

The poor consume own production for just over half the year and rely on payment in kind, market purchases, and wild foods, including game meat, for the remainder. Though most households earn income from food and cash crop sales, the poor group also relies heavily on agricultural labor wages supporting larger cultivation areas of the better-off and sales of local brew and wild foods, such as game meat and honey.

The better-off are self-sufficient in food production, though they also consume own livestock products and non-staple food purchases. In addition to receiving a large share of income from food and cash crop sales, the better-off also earn income from livestock sales and trade.

Market access is relatively good, especially for local products, such as wild game and honey. Although physical access is reduced during the rainy season, good roads link this zone to the southern and central parts of the country. Post-harvest losses especially of maize are high due to lack of storage facilities. Poorly-treated maize may rot before it reaches markets further south.

The most common hazards in this zone are floods, crop pests and diseases such as locusts, and drought or dry spells during rainy



## Zone 17: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
Crop pests, diseases												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

## Zone 17: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sorghum												
Wild game meat												
<b>Income</b>												
Agricultural labor												
Charcoal												
Honey												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**CHERINGOMA AND MUANZA MAIZE AND CASSAVA (ZONE 18)**

<b>Food insecurity risk</b>	
Low risk of acute food insecurity due to rainfed agriculture mixed cropping	
<b>2007 population (percent of national population)</b>	
59,318 (0.29%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated Goats Poultry Hand tools: hoe, axe, and panga	Large area cultivated Cattle Goats Poultry Hand tools: hoe, axe, and panga
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP) Cassava (OP, MP) Sweet potatoes (OP, MP) Yams (OP) Beans (OP, MP) Groundnut (OP, MP) Fish (G)	Maize (OP) Cassava (OP) Sweet potatoes (OP) Yams (OP) Beans (OP) Fish Groundnut (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of agricultural labor Sale of maize Sale of poultry Sale of cashew nuts	Sale of cattle Sale of sesame Sale of cotton Sale of maize Sale of cashew nuts Small-scale trade
<b>Main markets</b>	
Beira and Dondo	
<b>Main hazards</b>	
Floods	November-January
Crop pests and diseases	December-April
Drought or dry spell	November-January
<b>Main coping strategies for poor households</b>	
Labor migration in search of employment Increased reliance on wild foods	

This zone is located in mid central region of Mozambique in the litoral of Sofala Province, covering Cheringona and Muanza Districts. The average precipitation is around 750-1,200 mm per annum from November through the end of March. The dry season is from April until October. The soils are heavy and sandy and suitable for crop production. The vegetation cover is mainly savannah grassland. Timber and calcareous rocks are abundant. This zone is moderately populated and mainly inhabited by the Danda- and Hlengwe-speaking people.

Overall favorable climatic conditions such as good rainfall and fertile soils complement rainfed crop farming, river and marine fishing, as well as livestock raising. The main food crops include sorghum, maize, and sesame. Cash crops grown in this area include cotton and sesame, though they are not predominant. Goats and poultry are also kept for consumption and sale. The local determinants of wealth are size of land cultivated, livestock ownership, and access to gainful economic activities.

Poor households rely on own production for food about seven months of the year and markets for the remainder. Though they do sell some small quantities of own production (maize, cashews), they rely mainly on agricultural labor for income.

The better-off group is food self-sufficient with surpluses normally sold for cash income, especially during years of good rainfall. The better-off have access to inputs and markets for successful cash crop marketing (sesame, cashews, and cotton). In the course of a consumption year, the better-off sell a few cattle to supplement annual income.

Access to markets and trade is limited due to the remote location of this zone. Labor employment opportunities are mainly in South Africa and in sugar processing plants. Most local people trade their produce within the zone; however, they have to walk long distances to reach the nearest market due to poor transport networks and facilities. Other external markets include Beira and Dondo along the coast.

Hazards include seasonal floods during the rainy season, crop pests and diseases, and drought and dry spells. Common coping strategies among the poor include labor migration, increasing charcoal and firewood sales, increased consumption of wild foods, and increased sales of goats or poultry.

*Zone 18: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
<b>Legend</b>												

*Zone 18: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Cassava												
Beans												
<b>Income</b>												
Maize												
Agricultural labor												
Poultry												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>												

**CENTRAL SEMIARID PINEAPPLE AND CASHEW (ZONE 19)**

<b>Food insecurity risk</b>	
Moderate risk to food insecurity due to average crop production.	
<b>2007 population (percent of national population)</b>	
234,613 (1.16%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats
Hand tools	Poultry
Bicycle	Hand tools
	Motor cycle
	Irrigation pump
	Grinding mill
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Sweet potatoes (OP)	Sweet potatoes (OP)
Sorghum	Sorghum
Yam (OP)	Yam (OP)
Beans (OP, MP)	Beans (OP, MP)
Meat (OP, MP)	Meat (OP, MP)
Groundnut (OP)	Groundnut (OP)
Vegetables (OP)	Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of labor	Sale of cattle
Sale of pineapples	Sale of goats
Sale of cashew nuts	Sale of pineapples
Sale of maize	Sale of cashew nuts
Sale of firewood and charcoal	Sale of maize
Sale of fish and salt	Sale of sesame
Sale of poultry	Sale of fish
	Trade
<b>Main markets</b>	
Agricultural labor: Beira, Vilanculos, and Massinga	
<b>Main hazards</b>	
Floods	January-February
Drought	December-February
Human-wildlife conflict	March-June
<b>Main coping strategies for poor households</b>	
Increased sale of goats and poultry	
Switch to drought-tolerant crops	
Increased sale of firewood and charcoal	
Increased sale of local brew and salt	

This zone is located in mid-central Mozambique and includes Chibabava, Machanga, and Machaze Districts. This zone is drained by the Save River, which flows from Zimbabwe into Mozambique. Its topography includes both highland and lowlands with an average altitude greater than 500 meters above sea level. The average precipitation is around 600-800 mm per annum with a rainy season from November through the end of March. The dry season is from April until October. Temperatures vary from a maximum of 30-35° Celsius to a minimum of 15 -20° Celsius. Soils are largely sandy with stony texture and mainly moderate fertility, making it less suitable for crop farming. Vegetation cover is predominantly savannah grassland with open and mangrove forest towards the coastal areas. Natural resources include timber, fish, and salt along the coastal areas.

Agriculture is rainfed with an average land holding of 2 ha per household. Land cultivation is primarily hand tillage with animal traction mainly practiced by the better-off group. The zone has an average of 10-25 inhabitants/km<sup>2</sup> and is mainly occupied by Danda- and Hlengwe-speaking people.

The availability of natural resources such as rivers shapes livelihood patterns in this zone. The main sources of livelihood are agriculture, fishing, and rearing of livestock. The main food crops are sorghum and maize. Cash cropping is widespread and includes pineapple and cashew nuts with sesame produced mostly in Chibabava. Goats and poultry are also kept for consumption and sale. The local determinants of wealth are the size of land cultivated, livestock ownership, and the level of access to gainful economic activities.

The poor consume own production for roughly seven months of the year and rely on market purchases for the remainder. The poor are also involved in vegetable production (for consumption and sale) along the riverine floodplains of the Save River and both river and marine fishing along Machanga coastal areas. Though the poor earn some income from food and cash crop sales, they rely primarily on agricultural labor wages supporting other wealth groups in the zone. Additional sources of income for the poor include seasonal fishing, labor in salt extraction industry, employment in South Africa (somewhat constrained by the cost of access), and the sale of poultry.

Better-off households are self-sufficient in food production, and they produce a marketable surplus most years. The better-off do purchase non-staple foods and preferred foods to complement own production. In addition to food and—most importantly—cash crop sales, the better-off group also sells a few cattle each year.

Access to markets is limited due to the remote location of this zone. Labor employment opportunities are mainly in South Africa and in sugar processing plants. Most local people trade their produce within the zone; however, they may have to walk long distances to reach the nearest market due to poor transport networks.

Common hazards include seasonal floods during the rainy season, human-wildlife conflict (especially crocodiles) and frequent drought and dry spells due to relatively high rainfall variability. Poor households cope with shocks through switching to drought-tolerant crops, or, if that is insufficient, through increased sales of goats, poultry, firewood, and charcoal.

*Zone 19: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
Human-wildlife conflict												
<b>Legend</b>												

*Zone 19: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Beans												
Vegetables												
<b>Income</b>												
Pineapples												
Cashew nuts												
Charcoal, firewood												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>												

**SOUTHERN COASTAL CASSAVA, COCONUT, AND FISHING (ZONE 20)**

<b>Food insecurity risk</b>	
Low-to-moderate risk of food insecurity due to diversified agriculture	
<b>2007 population (percent of national population)</b>	
475,117 (2.35%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats
Fishing nets and canoes	Poultry
	Boats
<b>Main foods consumed and sources</b>	
Poor	Better-off
Cassava (OP)	Cassava (OP)
Cowpeas (OP, MP)	Cowpeas (OP)
Groundnuts (OP, MP)	Groundnuts (OP)
Cashew nuts (OP)	Cashew nuts (OP)
Citrus fruits (OP)	Citrus fruits (OP)
Fish (G)	Fish (G)
Coconut (OP, MP)	Coconut (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of unskilled labor	Sale of cashew nuts
Sale of coconut	Sale of seafood
Sale of cashew nuts	Sale of coconuts
Sale of seafood	Sale of cashew nuts
	Sale of citrus fruits
	Sale of skilled labor
	Informal trade
<b>Main markets</b>	
Maxixe, Massinga, Xai Xai, and Maputo	
<b>Main hazards</b>	
Drought and dry spell conditions	December-February
Wind erosion	Throughout the year
<b>Main coping strategies for poor households</b>	
Intensification of coastal fishing	
Migration in search of employment	

This lowland, coastal zone (<200 masl) lies along the southern coastal line of Mozambique, mostly in Inhambane Province, covering the eastern part of Govuro, Jangamo, Inhassoro, Inharrime, Vilankulos, and Zavala Districts. Average rainfall is about 750-1,250 mm per annum, with a warm rainy season from November to March in most of the zone. Rains can occur during the cool season, which has particular benefits for cassava and cashew nut production. The dry season is from April until October. Soils are sandy to clay, with pockets of open-table, fertile, alluvial soils capable of holding residual moisture and favorable for rice production and seasonal vegetables. The main vegetation cover is savannah grassland with mangrove swamps towards the extreme coastal areas. This zone is among the most densely populated parts of Mozambique and mainly inhabited by the Iswa- and Gwambe-speaking people. Due to limited availability of land, there is a tendency to intercrop all major crops in the area. Generally the fallow period has declined due to land shortage, and it is expected that land productivity is declining significantly. Cashew nut production is one of the most important sources of income among all wealth groups. However, lowlands and river valleys with potential for rice production may be under-utilized.

The main sources of livelihood are agriculture, fishing, and livestock. The main food crops include cassava, sweet potatoes, maize, cowpeas, and groundnut. Cash crops such as citrus fruits, cashew nuts, coconut, pineapple, palm tree, sugarcane, and bananas are also produced mainly for commercial purposes. Livestock include cattle, goats, and poultry, with the latter mainly for consumption. Wealth is chiefly determined by size of land cultivated, livestock ownership and gainful economic activities along the coast.

Poor households are nearly self-sufficient in cassava production, though they complement own production with market purchase, particularly in January and February. They mainly derive income from sale of unskilled labor in Govuro salt extraction works, tourism and hospitality, as well as in the fishing sector. Smaller shares of income include coconut and seafood sales.

The better-off group mainly consume on own crops with limited

market purchases mainly during years of poor rainfall. The better-off group mainly depend on own crop production for income, including cash crops (pineapple, palm trees, sugar, and bananas), as well as the sale of skilled labor in formal employment and informal trade along the National Road N1.

Physical access to markets is very good in this zone due to easy access to the National Road N1 and good currency circulation. The presence of wholesalers, particularly in Massinga, Maxixe, and Xai Xai, adds value to marketing and trade dynamics in the zone.

The main hazards in this zone are drought and dry spells, wind erosion due to its proximity to the coast, and cyclones. When these hazards result in significant shocks to food or income sources, poor households commonly increase coastal fishing and migrate in search of employment in urban centers and neighboring countries.

*Zone 20: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Drought/dry spell												
<b>Legend</b>	Land preparation				Planting			Weeding			Harvesting	

*Zone 20: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Cassava												
Cowpeas												
Fish												
<b>Income</b>												
Salt extraction labor												
Tourism labor												
Seafood												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**SOUTHERN INTERMEDIATE MIXED CROPPING (ZONE 21)**

<b>Food insecurity risk</b>	
Low acute food insecurity risk due to diversified cropping and heavy migration to South Africa	
<b>2007 population (percent of national population)</b>	
225,206 (1.11%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Poultry	Goats
Hand tools: hoe, axe, and panga	Hand tools: hoe, axe, and panga
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Sorghum (OP, MP)	Sorghum (OP)
Sweet potatoes (OP)	Sweet potatoes (OP)
Sesame (OP, MP)	Sesame (OP)
Cowpeas (OP, MP)	Cowpeas (OP)
Bambara nut (OP, MP)	Bambara nut (OP)
Wild foods (G)	Wild foods (G)
<b>Main income sources</b>	
Poor	Better-off
Sale of local brew	Sale of goats
Sale of game meat	Sale of swine
Sale of honey	Sale of honey
Sale of coconut	Sale of cashew nuts
Sale of cashew nuts	Sale of maize
Sale of maize	Cash remittances
Cash remittances	Timber
<b>Main markets</b>	
Foodstuffs, produce: Massinga, Maxixe, Xai-Xai, and Maputo	
Labor: mines and farms in South Africa	
<b>Main hazards</b>	
Drought or dry spells	December-February
Human wild life conflict	April-June
Wind erosion	Throughout the year
<b>Main coping strategies for poor households</b>	
Increased labor migration	
Increased collection of wild foods, hunting of game	

meat.

This zone is located along the transitional areas of south eastern Mozambique between the coastal plains and the inland highlands, in the middle of Inhambane Province. It includes parts of Govuro, Inhassoro, Massinga, Morrumbene and Vilanculos Districts. Average rainfall is about 500-750 mm per annum, mainly from November through the end of March. The dry season is from April until October. The main vegetation is savannah grassland and bush scrubs. Forestry and natural gas are important resources in the zone. The population density is low and mainly comprised of Tonga- and Bargwe-speaking people.

Moderate rainfall coupled with low population density makes this zone suitable for rainfed agriculture. The main food crops are maize, sorghum, sweet potatoes, sesame, cowpeas, Bambara nuts, and cashew nuts. The few livestock kept are goats and chickens. Additional activities include hunting in the savannah and bush of the zone. Wealth in this zone is chiefly determined by the area cultivated and livestock ownership.

Poor households consume primarily own production and wild game for most of the year but rely on markets between October and January. Though virtually all households in the zone sell some maize at harvest time, especially during good years, the poor also sell local brew and game meat and may occasionally receive cash remittances.

Similar to other neighboring zones, better-off group are self-sufficient in staples for most of the year but also rely on the market in January/February. The better-off also sell livestock and timber regularly.

Access to trade and markets for sale of local products is very limited due to the interior location of the zone and under-developed road infrastructure. Physical access to local markets is difficult. There are few local employment opportunities, resulting in heavy migration to South Africa among all wealth groups.

The common hazards are agricultural related and include drought and dry spells, as well as floods, especially during the rainy season. Coping strategies include increased migration in search of labor and increased collection of wild foods, including hunting for game



## Zone 21: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Other</b>												
Fishing												
<b>Hazards</b>												
Drought/dry spell												
<b>Legend</b>												

## Zone 21: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sorghum												
Sesame												
<b>Income</b>												
Cashew nuts												
Local brew												
Maize												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>												

**SOUTHERN SEMIARID CEREALS AND CATTLE (ZONE 22)**

<b>Food insecurity risk</b>	
High risk of food insecurity due to low agricultural productivity	
<b>2007 population (percent of national population)</b>	
237,787 (1.17%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Sheep	Goats
Poultry	Sheep
	Poultry
<b>Main foods consumed and sources</b>	
Poor	Better-off
Millet (OP, MP)	Millet (OP)
Sorghum (OP, MP)	Sorghum (OP)
Maize (OP, MP)	Maize (OP, MP)
Pumpkins (OP)	Pumpkins (OP)
Beans (OP)	Beans (OP)
Groundnut (OP)	Groundnut (OP)
Cassava (OP)	Cassava (OP)
Meat (OP, MP)	Meat (OP, MP)
Milk (OP, MP)	Milk (OP, MP)
Wild foods (G)	Wild foods (G)
<b>Main income sources</b>	
Poor	Better-off
Sale of millet/sorghum	Sale of millet/sorghum
Sale of goats/sheep	Sale of cashew nut
Sale of charcoal	Sale of cattle
Sale of firewood	Sale of goats/sheep
Sale of game meat	Sale of timber
Sale of milk and meat	Sale of game meat
	Trade
	Sale of milk and meat
<b>Main markets</b>	
Massangene, Chigubo, Massingir, Guijá, Chibuto, Chigubo, Funhalouro, Guija, Mabalane, Mabote, Mandlakazi, and Panda	
<b>Main hazards</b>	
Drought or dry spells	January-May
Livestock diseases	December-March
<b>Main coping strategies for poor households</b>	
Extend livestock movement (distance, duration)	
Increased sale of goats and sheep	
Increase exploitation of forestry products	
Increasing the collection of wild foods	

This semiarid zone is located in southern Mozambique, in the interior of Gaza and Inhambane Provinces. The districts found in the zone are: Chigubo, Funhalouro, Mabote, Massangena, Panda, and parts of district of Chiculacula and Mabalane. Average precipitation is low, ranging from about 250-600 mm per annum, mainly falling from November to March. The dry season is from April until October. During the hottest periods of the year, in the wet season, temperatures range from a maximum of 35 to 38° Celsius in December/January and minimum of 20-25° Celsius in the dry season June/July. The soils are poor and sandy in texture with low fertility. Given the lack of soil moisture and poor water retention capacity, drought-tolerant crops such as sorghum and millet are mainly grown in this zone. The main vegetation cover is savannah grasslands with pockets of broadleaf evergreen forest. This zone has forests and game reserves of high economic value. The population density is medium, mainly made up of Thonga- and Shangana-speaking groups.

Rainfed agriculture is the dominant activity, mainly practiced in one season. Given duration of the crop growing period, short cycle varieties and techniques of moisture conservation are needed to ensure successful crop production. Maize has limited potential. As such, the main food crops grown are millet, sorghum, pulses, watermelon, groundnuts, and cashew nuts (mainly grown for commercial purposes). Small to medium holdings of cattle, goats, and poultry are typical with annual transhumance particularly for cattle. Hunting is an important supplementary source of food for most households due to the proximity of forest and game reserves. The main local determinants of wealth are ownership of livestock and land area cultivated.

The poor are largely dependent on own production for food consumption and consume market purchases about four months of the year. Wild foods (fish and wild game meat) are particularly common between September and December. The main sources of cash income for the poor are sale of wild game meat, charcoal, and firewood. They sell a small portion of own production, particularly legumes, at harvest time.

The better-off group is largely self-sufficient in own crop production, even during years of poor rainfall and, in some cases, crop failure. The better-off earn some income from crop sales and game meat, but cattle and timber sales represent larger shares of income. Additional sources of income among the better-off include trade and tourism.

Physical access to markets is poor during the rainy season. This is

a remote zone with poor currency circulation and without wholesale cereal traders. The main local markets for buying and selling commodities are Chibuto, Chigubo, Funhalouro, Guija, Mabalane, Mabote, and Panda. These link with intermediate markets such as Maxixe, Mandlakazi, Chokwe, Massinga, Chicualcuala, and Xai Xai, which in turn link with external, wholesale markets, such as Maputo.

The main hazards are drought and dry spells, as well as livestock disease. Poor households cope by intensifying firewood and charcoal sales and consumption of wild foods. Some households may increase the distance and duration of seasonal livestock movement and increase livestock sales. The better-off may also increase livestock drug purchases.

*Zone 22: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Drought/dry spell												
Livestock diseases												
<b>Legend</b>	Land preparation				Planting		Weeding		Harvesting			

*Zone 22: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Sorghum/millet												
Maize												
Beans												
<b>Income</b>												
Charcoal, firewood												
Agricultural labor												
Milk, meat												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases		In kind		Gathering			

**SOUTHEASTERN RICE (ZONE 23)**

<b>Food insecurity risk</b>	
Low food insecurity risk due to high crop productivity and demand for unskilled labor	
<b>2007 population (percent of national population)</b>	
106,407 (0.53%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Poultry	Goats
Hand tools: hoe, axe, and panga	Hand tools: hoe, axe, and panga
<b>Main foods consumed and sources</b>	
Poor	Better-off
Rice (OP, MP)	Rice (OP, MP)
Maize (OP, MP)	Maize (OP, MP)
Vegetables (OP)	Vegetables (OP)
Groundnuts (MP)	Groundnuts (MP)
Cowpeas (OP)	Cowpeas (OP)
Cassava (OP)	Cassava (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of rice	Sale of rice
Sale of natural products	Sale of surplus maize
Sale of construction stones	Sale of cotton
Sale of local brew	Sale of cashew nuts
Sale of agricultural labor	Sale of coconut
	Informal trade
	Formal employment
<b>Main markets</b>	
Homoine, Morrumbene, and Maxixe	
<b>Main hazards</b>	
Drought and dry spell conditions	January-May
Flash floods	November-March
<b>Main coping strategies for poor households</b>	
Labor migration in search of employment	
Increase production of charcoal and firewood	

This lowland zone of the Navare River basin lies 200-400 masl between the southern coastal plain and highland interior of Inhambane Province. It covers parts of Inharrime, Homaioine, Morrumbene, and Zavala Districts. The average rainfall is about 500-800 mm per annum with rainy season from October through end of March. The dry season is from April until September. The zone has sandy to alluvial fertile soils, making it suitable for crop farming, using slash-and-burn shifting cultivation mainly without chemical fertilizers; water is available year-round from lagoons and streams. Usually two cropping seasons are practiced. The area is moderately populated and mainly inhabited by the Iswa-, Gwambe-, and Thonga-speaking people.

The main sources of livelihood are agriculture with use of small-scale irrigation systems, livestock and wild foods. The main food crops are rice, maize, sorghum, cassava, cowpeas, and vegetables. Major cash crops include cashew nuts, coconut, and cotton. The main livestock include goats, pigs, and poultry. Wealth is largely determined by land area cultivated and livestock ownership.

The poor rely almost equitably on own production and market purchases for food. Though the poor do sell some crops, their main sources of income are agricultural labor and self-employment (sale of firewood, charcoal, poles, thatching grass, ropes and construction stones, local brew), and some poultry sales.

The better-off are self-sufficient from their own crop harvest, supplemented by purchase of non-staple foods. The better-off group has specialized in cotton sales; they also sell surpluses of rice and maize, as well as vegetables grown in lowlands and under irrigation. Other income sources available in this zone include informal trade and formal employment especially in the tourism industry, provided by natural resources within its locality.

Market access is relatively good in this zone. This is mainly due to its proximity to the N1 road, along which informal trade is flourishing without wholesalers.

The main hazards are drought and dry spells and flash floods during the rainy season. Common coping strategies among the poor are labor migration into urban areas and increased production of charcoal and firewood. The better-off mainly rely on increased sales of livestock and cash remittances from relatives abroad.

*Zone 23: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Drought/dry spell												
Flooding												
<b>Legend</b>	Land preparation				Planting			Weeding			Harvesting	

*Zone 23: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Rice												
Maize												
Cowpeas												
<b>Income</b>												
Charcoal, firewood												
Local brew												
Agricultural labor												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind			Gathering	

**LIMPOPO AND ELEPHANT RIVERS MIXED CROPPING (ZONE 24)**

<b>Food insecurity risk</b>	
Low-to-moderate acute food insecurity risk due to access to irrigation and markets	
<b>2007 population (percent of national population)</b>	
362,991 (1.79%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats/Sheep
Hand tools: hoe, axe, and panga	Tractor
	Irrigation pumps
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Rice (OP, MP)	Rice (OP, MP)
Cassava (OP, MP)	Cassava (OP)
Cowpeas (OP, MP)	Cowpeas (OP)
Groundnuts (OP, MP)	Groundnuts (OP)
Bambara nut (OP, MP)	Bambara nut (OP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP, MP)
<b>Main income sources</b>	
Poor	Better-off
Sale of maize	Sale of maize
Sale of vegetables	Sale of rice
Sale of charcoal	Sale of vegetables
Sale of local brew	Sale of cattle
Sale of fish	Sale of goats
Sale of labor	Sale of fish
	Trade
<b>Main markets</b>	
Mabalane, Vila Eduardo, Xai-Xai, Macia, Mandlakazi, Chókwe, Chibuto, Maputo	
<b>Main hazards</b>	
Floods	October-March
Strong winds and cyclones	December-March
Human-wildlife conflict	March-June
Crop pests and diseases	December-April
Livestock diseases	November-April
<b>Main coping strategies for poor households</b>	
Movement to lower flood-risk areas	
Increased search for employment opportunities	
Increased charcoal, firewood sales	
Increased migration into South Africa	

The semiarid lowland plains and undulating hills (200-500 masl) of this zone lie within the Limpopo Basin in southwestern Mozambique along the Limpopo and Elephant Rivers. It includes parts of Chibuto, Chicualcuala, Chokwe, Guija, and Massingir Districts. The average precipitation of this zone is 400-700 mm per annum, falling primarily from October through end March. Temperatures average from 20° Celsius in the cooler, dry-season months of June to August and 28-30° Celsius in hot, wet season (December- January). The soils are mainly sandy clay and have moderate crop production potential. This area has natural vegetation of bush scrub with *mopane* and other trees for poles and timber. Part of this area is covered by the Limpopo National Park.

The population density is extremely low at <3 people/km<sup>2</sup>, but there is a concentration of people along the fertile, riverine areas. It is mainly inhabited by the Shangana-speaking people.

Agriculture with limited livestock is the main source of livelihood with crop cultivation mainly by hand-hoe (poor), ox-plough (middle and better-off), and tractor to a more limited extent (better-off). The main food crops other than maize are cowpeas, groundnuts, sweet potatoes, and Bambara nuts, normally intercropped with watermelons and pumpkins. Livestock include cattle, goats, and poultry, but no pigs. Maize and pluses are grown in the more fertile alluvial soils along Limpopo River banks, whereas cassava is mainly planted in sandy soils far from the river banks. The irrigated scheme of Chokwe also contributes to the overall dynamics of food production and agricultural employment opportunities in the zone. The two primary factors which determine wealth are size of cultivated and irrigated land and livestock ownership. Access to irrigated land and farming equipment such as tractors and water pumps are also critical in determining production and ultimately wealth status of households.

Maize is staple food for all wealth groups. Cassava is a less-preferred food and also an insurance crop, consumed in significantly larger quantities during below-average years. Chicken and, in some cases, goats are used for consumption as well. Wild foods such as *massala*, *mafurra*, and *canhu* are widely found and consumed by all local inhabitants in the zone.

Household cash income is dependent on level of production and sale of labor. The poor group depends on local casual work in farms and gold mines in South Africa, making and selling charcoal (a major income source), and brewing. The better-off group relies on crop and livestock sales for cash income with some trade and formal employment.

Physical access to markets is relatively good, enhancing access to trade and markets, especially via the Zimbabwe-Maputo railway, which runs through the zone from north to south, alongside the main road. This provides a single main artery for trade, linking the main towns. There is a poor internal road network for villages, often impassable in the rainy season, and,

on the whole this, zone is relatively isolated from commercial centers in the South of the country. The main local market towns are Chokwe and Guija, which are linked through the railroad from Maputo to Zimbabwe, the road to Chicualacuala, and the Macarratane Dam. The people in this zone also take advantage of good access to main roads and railway to sell charcoal and firewood and to access South Africa for additional employment. Combined with local agricultural labor, these activities provide the much needed cash income required for food purchase in years when crop production is low.

#### Zone 24: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Crop pests, diseases												
<b>Legend</b>	Land preparation				Planting		Weeding			Harvesting		

#### Zone 24: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Rice												
Cassava, sweet potatoes												
<b>Income</b>												
Maize												
Local brew												
Agricultural labor												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>	Own production				Purchases			In kind		Gathering		

**SOUTHERN COASTAL FISHING, CASSAVA, AND MAIZE (ZONE 25)**

<b>Food insecurity risk</b>	
Low food insecurity risk due to diversified livelihood options	
<b>2007 population (percent of national population)</b>	
875,011 (4.32%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Goats	Cattle
Poultry	Goats
Fishing nets and hooks	Poultry
	Fishing boats, canoes, nets
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Rice (OP, MP)	Rice (OP)
Cassava (OP)	Cassava (OP)
Cowpea (OP, MP)	Cowpea (OP)
Beans (OP, MP)	Beans (OP)
Groundnuts (OP, MP)	Groundnuts (OP)
Sweet potatoes (OP, MP)	Sweet potatoes (OP)
Banana (OP, MP)	Banana (OP)
Citrus fruits (OP)	Cashew nut, citrus fruits (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of labor	Sale of cattle
Sale of maize	Sale of maize
Sale of cassava	Sale of rice
Sale of bananas	Sale of cassava
Sale of cashew nut	Sale of bananas
Sale of citrus and other fruits	Sale of cashew nut
Sale of fish	Sale of citrus fruits
	Trade
<b>Main markets</b>	
Zitundo, Belavista, Mugazine, Marracuene, Machubo, Maluana, Manhica, Plameira, and Calanga	
<b>Main hazards</b>	
Floods	October-March
Coastal erosion	Throughout the year
Drought or dry spells	January-February
<b>Main coping strategies for poor households</b>	
Relocation to low flood risk areas	
Increased reliance on fishing	
Migration into urban centers	

The lowland, coastal plains of the extreme southeastern part of Mozambique along the coastal areas of Gaza and Maputo Provinces comprise the Southern Coastal Fishing, Cassava, and Maize livelihood zone. Mandlakazi, Xai-Xai, Bilene, Manhiça, Arracuene and part of Matutuine Districts are found in the zone. Precipitation in this zone averages about 750-1,250 mm per annum from October through end of March. The dry season is from April until September. Temperatures range from a maximum of 30-35°C in October to February to a minimum of 20-25°C from March to September. Generally vegetation cover is savannah grassland and bushes and scrub with pockets of mangrove, fresh water swamp, and marsh, especially along the coastal areas. Maputo and Xai-Xai cities have a significant influence on the local economy of this zone. This area is highly populated and traditionally inhabited by Lenge-, Chopi-, Tonga- and Ronga-speaking people. In recent years, it has become cosmopolitan due to the influence of Maputo city.

The main sources of livelihood are agriculture, livestock, fishing, and labor employment. There is increasing exploitation of forestry products for handicrafts and mats, and seasonal production of charcoal and firewood. The primary determinants of wealth are the land area cultivated, livestock ownership, ownership of fishing equipment, and access to economic activities.

All households consume own-produced maize, cassava, sweet potatoes, and rice. However, the better-off group is more self-sufficient due to higher food production. The poor group, with limited cultivable land, relies more heavily on market purchases between October and February. All wealth groups supplement their diet with consumption marine fish.

While all households sell some food crops, the better-off mainly sell cash crops such as sugarcane, cashew nuts, bananas, and citrus fruits. They may also trade in major urban centers such as Maputo city and Xai-Xai. The poor rely instead on the sale of agricultural and non-farm labor in urban centers.

Physical access to markets in this zone is relatively good compared with the southern interior of the country due to its strategic location within the national road (N1) grid across the zone facilitating linkages and trade with Maputo city and neighboring countries such as South Africa and Swaziland. There is also good cash circulation with well-developed trade and commercial networks due to availability of banks.

The most common hazards are seasonal floods, drought and dry spells, and strong winds and coastal erosion, mainly during the



*Zone 25: Seasonal calendar*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Flooding												
Drought/dry spell												
<b>Legend</b>												

*Zone 25: Food access calendar for poor households*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sweet potatoes												
Cassava												
<b>Income</b>												
Tubers												
Migrant labor												
Construction materials												
Fish												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>												

**SOUTHERN HIGHLAND CATTLE AND MIXED CROPPING (ZONE 26)**

<b>Food insecurity risk</b>	
Low risk food insecurity risk due to diversified livelihood options	
<b>2007 population (percent of national population)</b>	
226,645 (1.12%)	
<b>Main productive assets</b>	
Poor	Better-off
Small area cultivated	Large area cultivated
Less cattle	More cattle
Goats	Goats
Poultry	Poultry
Hand tools: hoe, panga, and axe	Hand tools: hoe, panga, and axe
<b>Main foods consumed and sources</b>	
Poor	Better-off
Maize (OP, MP)	Maize (OP)
Cassava (OP)	Cassava (OP)
Groundnuts (OP, MP)	Groundnuts (OP)
Cowpeas (OP, MP)	Cowpeas (OP)
Sweet potatoes (OP)	Sweet potatoes (OP)
Citrus fruits (OP)	Citrus fruits (OP)
Vegetables (OP)	Vegetables (OP)
<b>Main income sources</b>	
Poor	Better-off
Sale of agricultural labor	Sale of cattle
Sale of migratory labor	Sale of maize
Sale of maize	Sale of game meat
Sale of natural products (firewood, charcoal, clay and stones)	Formal and informal trade
<b>Main markets</b>	
Boane, Matola, Pessene, Moamba, Magude, Panjane, and Maputo	
<b>Main hazards</b>	
Drought or dry spells	January-February
Floods	December-March
<b>Main coping strategies for poor households</b>	
Shifting cultivation into higher ground	
Increased consumption of wild foods	
Intensify firewood, charcoal, clay, stone sales	
Increased in search of work in South Africa	

This zone is located in the extreme southwestern part of Maputo province that includes districts of Magude, Moamba, Boane, and Namaacha, and part of Matutuine. It lies at an altitude of about 200-500 meters, reaching higher altitudes of 500-700 meters above sea level towards the border with South Africa and Swaziland. Precipitation is about 500-750 mm per annum and highly variable in distribution. The main rainy season takes place from October through the end of February, but rains can also occur during the cool season. The dry season is from March to September. Temperatures during the growing season are moderately warm (20-25° Celsius). The soils are sandy and clay with rocks and stones, limiting the use of arable land. The vegetation cover is savannah grassland with bushes and scrubs. The area has natural resources such as timber, game reserves, and minerals (limestone). This zone is moderately populated with approximately 7 inhabitants/km<sup>2</sup> and predominantly Nguni- and Shangana-speaking people.

Average landholdings are about 1 ha per household. Land preparation is primarily manual, though a few better-off farmers use animal traction and tractors for plowing. Farmers cultivate land year-round, although they mostly rely on rainfed agriculture. Irrigated fields are common in this zone as well. Given the short duration of main growing season, short cycle crop varieties are normally used. There is scope to increase irrigated areas; however, this can only be achieved over the medium-to-long term due to high capital requirements. The main crops include maize, cassava, sweet potatoes, and groundnuts, supplemented with citrus fruits, sugarcane, and vegetables. Sweet potato is grown on the lowest land and along water courses where moisture is retained.

The zone has large areas of pasture suitable for livestock rearing. As such, the majority of the population is highly dependent on livestock, especially cattle and goats, for income.

The main sources of livelihoods are, therefore, livestock, rainfed cropping, and labor employment. All households consume own-produced food most of the year and purchase some food from the market, particularly between November and January. The poor are more dependent on the market than the better-off, who are able to produce greater quantities of food using hired labor.

The better-off group distinguishes itself with income from the sale of cattle and formal and informal trade within and outside the zone; they also sell cash crops, such as sugarcane and citrus fruits. Though both the better-off and the poor sell some food crops, the poor earn most of their income from the sale of labor, both locally and across the border to South Africa and Swaziland, as well as from the sale of natural products (firewood, charcoal, clay, stones).

The strategic location of this zone close to Maputo city has enhanced access to markets and trade. The relatively well-developed infrastructure (main roads and railway) helps to link local inhabitants to internal markets (Boane, Matola, Pessene, Moamba, and Panjane). However, most tertiary roads are in poor condition and become impassable during the rainy season. The main external market is Maputo with other lucrative border markets in South Africa and Swaziland, which provide

significant migrant labor employment opportunities (farm and non-farm activities). In this zone there is good cash circulation, and some wholesalers are present.

The most common hazards are drought or dry spells and floods, which all occur during rainy season. Common coping strategies among the poor include shifting cultivation to higher ground, increased consumption of wild foods, and increased sale of charcoal and firewood, together with increased search for agricultural labor employment.

#### Zone 26: Seasonal calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Seasons</b>												
Rainy season												
Dry season												
Lean season												
<b>Crop production</b>												
Land preparation												
Sowing/planting												
Weeding												
Harvesting												
Wild foods												
<b>Livestock</b>												
Lambing/kidding/calving												
Milking												
<b>Hazards</b>												
Livestock diseases												
Crop pests, diseases												
<b>Legend</b>												

#### Zone 26: Food access calendar for poor households

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Staple foods</b>												
Maize												
Sweet potatoes												
Beans												
<b>Income</b>												
Maize												
Cash remittances												
Local brew												
Charcoal												
<b>Expenditures</b>												
Health care												
Education (school fees)												
<b>Legend</b>												

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## ADMINISTRATIVE AREAS AND DEMOGRAPHICS

Livelihood Zone 1	District	Administrative Post	2007 Population Estimate
Lakeshore Basic Staples and Fishing	Lago	Cobue	17,289
	Lago	Metangula	44,301
	Lichinga	Meponda	11,742
	Mandimba	Mandimba P.A.	96,405
	Mecanhelas	Chiuta	75,410
	Mecanhelas	Insaca	135,231
	Lago	Maniamba	21,509
Estimated total 2007 population			401,887

Livelihood Zone 2	District	Administrative Post	2007 Population Estimate
Northern Highland Forest and Tourism	Montepuez	Nairoto	8,582
	Mueda	Negomano	2,341
	Sanga	Macaloge	10,066
	Marrupa	Marangira	5,287
	Mavago	Mavago P.A.	15,788
	Mavago	M'sawize	4,453
	Mecula	Matondovela	746
	Mecula	Mecula P.A.	13,033
	Sanga	Matchedje	1,880
Estimated total 2007 population			62,176

Livelihood Zone 3	District	Administrative Post	2007 Population Estimate
Northwestern Tobacco and Maize	Lichinga	Chimbonila	60,866
	Majune	Malanga	24,635
	Muembe	Chiconono	8,270
	Muembe	Muembe P.A.	20,375
	Ngauma	Itepela	8,544
	Sanga	Lussimbessse	29,278
	Sanga	Unango	14,941
	Majune	Muaquia	2,078
	Majune	Nairrubi	2,989
	Mandimba	Mitande	37,243
	Marrupa	Marrupa P.A.	42,615
Estimated total 2007 population			251,834

<b>Livelihood zone 4</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Northern Cassava, Maize, and Forest zone	Ancuabe	Ancuabe P.A.	40,989
	Ancuabe	Mesa	29,190
	Ancuabe	Metoro	37,059
	Chiure	Chiure P.A.	75,724
	Chiure	Chiure Velho	33,346
	Chiure	Katapua	19,411
	Chiure	Namogelia	24,883
	Chiure	Ocuca	45,808
	Meluco	Meluco P.A.	14,479
	Meluco	Muaguide	10,158
	Montepuez	Mirate	38,777
	Montepuez	Namanhumbir	22,245
	Meconta	7 de April	29,329
	Meconta	Corrane	52,394
	Meconta	Meconta P.A.	22,650
	Meconta	Namialo	50,470
	Mogovolas	Calipo	43,440
	Monapo	Monapo P.A.	132,265
	Monapo	Netia	111,021
	Muecate	Imala	37,884
	Muecate	Muculoene	10,273
	Muecate	Muecate P.A.	45,749
	Nacarora	Nacarora P.A.	53,320
	Nacarora	Saua Saua	19,544
	Namapa Erati	Alua	88,218
	Namapa Erati	Namiroa	57,177
	Nampula Rapale	Anchilo	75,543
	Nampula Rapale	Namaita	52,464
	Nampula Rapale	Rapale	57,491
<b>Estimated total 2007 population</b>			<b>1,331,301</b>

<b>Livelihood Zone 5</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Northern Highland with Mixed Cropping	Balama	Balama P.A.	67,970
	Balama	Impiri	19,694
	Balama	Kuekue	21,748
	Balama	Mavala	14,688
	Montepuez	Mapupulo	47,859
	Montepuez	Montepuez P.A.	76,139
	Namuno	Hucula	12,294
	Namuno	Machoca	23,761
	Namuno	Meloco	26,367
	Namuno	Namuno P.A.	75,896
	Namuno	N'cumpe	30,024
	Namuno	Papai	11,066
	Murupula	Chinga	13,584
	Murupula	Murupula P.A.	96,540
	Murupula	Nihessiue	30,187
	Lalaua	Lalaua P.A.	55,971
	Lalaua	Meti	17,565
	Malema	Chihulo	14,433
	Malema	Malema P.A.	99,932
	Malema	Mutuali	50,533
	Mecuburi	Mecuburi P.A.	79,506
	Mecuburi	Milhana	15,179

	Mecuburi	Muite	30,653
	Mecuburi	Namina	30,286
	Nampula Rapale	Mutivasse	18,235
	Ribaue	Cunle	20,412
	Ribaue	Iapala	86,531
	Ribaue	Ribaue P.A.	79,307
	Cuamba	Cuamba P.A.	79,013
	Cuamba	Etarara	31,884
	Cuamba	Lurio	16,694
	Marrupa	Nungo	5,747
	Maua	Maiaca	13,355
	Maua	Maua P.A.	36,042
	Metarica	Metarica P.A.	18,924
	Metarica	Nacumua	10,515
	Nipepe	Muipite	9,617
	Nipepe	Nipepe P.A.	20,392
	Alto Molocue	Nauela	88,350
	Alto Molocue	Alto Molocue P.A.	184,132
	Gurue	Lioma	84,866
	Gurue	Mepuagiua	67,603
	Lugela	Muabanama	10,653
	Namarroi	Regone	36,946
	Namarroi	Namarroi	52,107
	Gile	Alto Ligonha	64,466
	Ile	Ile P.A.	163,676
	Ile	Mulevala (Namigonha)	74,665
	Ile	Socone	51,550
	Lugela	Lugela P.A.	43,496
	Lugela	Munhamade	62,264
	Lugela	Tacuane	19,072
	Mocuba	Mugeba	87,770
	Namarroi	Namarroi	52,107
	Mocuba	Namanjavira	44,122
	Morrumbala	Derre	72,662
	Morrumbala	Morrumbala P.A.	162,070
	Mutarara	Charre	35,272
	Mutarara	Inhangoma	63,627
	Mutarara	Nhamayabue	40,493
<b>Estimated total 2007 population</b>			<b>2,970,512</b>

<b>Livelihood Zone 6</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Northeastern Highland Forest	Mocimboa da Praia	Diaca	17,356
	Mueda	Chapa	10,459
	Mueda	Imbuo	17,488
	Mueda	Mueda P.A.	52,651
	Mueda	N'gapá	30,803
	Muidumbe	Miteda	20,649
	Muidumbe	Muidumbe P.A.	29,925
	Nangade	M'tamba	27,181
	Nangade	Nangade P.A.	35,553
	Palma	Pundanhar	3,349
<b>Estimated total 2007 population</b>			<b>245,414</b>

<b>Livelihood Zone 7</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Northeastern Cassava, Cashew, and Coconut	Macomia	Chai	16,261
	Muidumbe	Chitunda	22,266
	Quissanga	Bilibiza	13,388
	Memba	Chipene	27,089
	Mogincual	Liupo	25,576
	Mogincual	Quixaxe	22,060
	Mogovolas	Iuluti	57,622
	Mogovolas	Muatua	35,940
	Mogovolas	Nametil	91,397
	Mogovolas	Nanhupo Rio	38,160
	Moma	Chalaua	77,254
	Moma	Mucuali	29,353
	Monapo	Itoculo	60,774
	Nacala A Velha	Covo	22,141
	Nacaroa	Intete	34,023
	Gile	Gile P.A.	104,819
	Maganja da Costa	Mocubela	34,964
	Pebane	Mulela	65,041
<b>Estimated total 2007 population</b>			<b>778,128</b>

<b>Livelihood Zone 8</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
North-Central Coastal Fishing	Ibo	Ibo P.A.	6,780
	Macomia	Mucojo	22,355
	Macomia	Quiterajo	8,571
	Mocimboa da Praia	Mbau	11,263
	Mocimboa da Praia	Mocimboa da Praia P.A.	61,802
	Palma	Olumbi	12,549
	Palma	Palma P.A.	26,073
	Palma	Quionga	6,347
	Mecufi	Mecufi P.A.	28,788
	Pemba	Mieze	31,564
	Quissanga	Mahate	19,870
	Ilha de Moçambique	Lumbo	34,713
	Memba	Lurio	16,694
	Memba	Memba P.A.	109,899
	Mossuril	Matibane	34,890
	Nacala A Velha	Nacala A Velha P.A.	66,666
	Nacala Porto	Maiaia	172,064
	Nacala Porto	Muanona	34,385
	Angoche	Aube	43,765
	Mogincual	Namige	44,117
	Mogincual	Quinga	38,216
	Moma	Larde	39,519
	Inhassunge	Gonhane	23,702
	Inhassunge	Inhassunge (mucupia)	67,494
	Maganja da Costa	Bajone	70,302
	Maganja da Costa	Maganja da Costa P.A.	107,607
	Namacurra	Macuze	91,717
	Nicoadala	Maquival	109,895
	Pebane	Naburi	59,581
	Pebane	Pebane PA	60,711
	Chinde	Micaune	34,132
<b>Estimated total 2007 population</b>			<b>1,496,031</b>





<b>Livelihood Zone 9</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Plains with Cassava, Rice, and Fishing	Maganja da Costa	Nante	64,008
	Mopeia	Campo	40,567
	Nicoadala	Nicoadala P.A.	121,955
	Namacurra	Namacurra P.A.	94,693
<b>Estimated total 2007 population</b>			<b>321,223</b>

<b>Livelihood Zone 10</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Zambezi Valley with Maize and Fishing	Chinde	Chinde P.A.	40,850
	Chinde	Luabo	44,916
<b>Estimated total 2007 population</b>			<b>85,766</b>

<b>Livelihood Zone 11</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Northwestern Cropping and Cross-Border Trade	Lichinga	Lione	22,364
	Ngauma	Massangulo	55,505
	Milange	Majaua	59,200
	Milange	Milange P.A.	256,963
	Milange	Molumbo	86,470
	Milange	Mongue	96,002
	Morrumbala	Chire	91,543
	Morrumbala	Megaza	32,638
<b>Estimated total 2007 population</b>			<b>700,685</b>

<b>Livelihood Zone 12</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Coastal Sugarcane and Fishing	Caia	Sena	36,568
	Marromeu	Chupanga	37,823
	Marromeu	Marromeu P.A.	75,596
	Buzi	Buzi P.A.	96,078
	Dondo	Mafambisse	53,067
	Buzi	Estaquinha	36,099
	Buzi	Nova Sofala	27,282
	Nhamatanda	Tica	68,505
	Dondo	Cidade de Dondo	70,817
<b>Estimated total 2007 population</b>			<b>501,835</b>

<b>Livelihood Zone 13</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Tete Highland Mixed Cropping, Tobacco, and Cotton	Macanga	Chidzolomondo	34,532
	Macanga	Furancungo	76,341
	Angonia	Domue	156,939
	Angonia	Ulongue	141,876
	Tsangano	Ntengo Wa Mbalame	113,882
	Tsangano	Tsangano	58,372
	Chifunde	Mualadze	68,960
	Chifunde	Nsadzu	19,601
	Chiuta	Kazula	21,230
	Maravia	Malowera	41,098
	Moatize	Zobue	107,160
	Zumbo	Muze	24,450
	Zumbo	Zambue	14,779
<b>Estimated total 2007 population</b>			<b>879,220</b>

<b>Livelihood Zone 14</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Cahora Bassa Dam Sesame and Cotton	Magoe	Chinthopo	24,860
	Zumbo	Zumbu P.A.	17,121
	Cahora Bassa	Songo	36,523
	Chiuta	Manje	54,180
	Chifunde	Chinfunde P.A	11,682
	Maravia	Chipera	10,554
	Maravia	Fingoe	21,443
<b>Estimated total 2007 population</b>			<b>176,363</b>

<b>Livelihood Zone 15</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Central Semiarid Cotton and Minerals	Tambara	Nhacolo	24,345
	Guro	Mandie	17,112
	Guro	Mungari	14,436
	Guro	Nhamassonge	8,452
	Tambara	Buzua	9,734
	Tambara	Nhacafula	7,696
	Guro	Guro P.A.	28,347
	Chemba	Chemba P.A.	21,051
	Chemba	Chiramba	17,820
	Changara	Kachembe (marara)	64,019
	Moatize	Kambulatsisi	29,298
	Moatize	Moatize P.A.	78,634
	Mutarara	Doa	67,618
	Cahora Bassa	Chintholo	3,480
	Changara	Chipembere (chioco)	61,277
	Changara	Luenha	31,249
	Magoe	Mukumbura	30,470
<b>Estimated total 2007 population</b>			<b>515,038</b>

<b>Livelihood Zone 16</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Manica Highland Mixed Cropping, Cotton, and Tobacco	Barue	Choa	11,984
	Barue	Nhampassa	33,006
	Barue	Catandica	92,362
	Manica	Machipanda	42,606
	Manica	Mavonde	25,592
	Manica	Messica	50,528
	Manica	Vanduzi	26,607
	Mossurize	Chiurairue	77,975
	Mossurize	Dacata	92,376
	Mossurize	Espungabera	24,211
	Sussundenga	Dombe	49,404
	Sussundenga	Rotanda	10,833
	Sussundenga	Muoha	17,936
	Sussundenga	Sussundenga P.A.	50,693
<b>Estimated total 2007 population</b>			<b>606,113</b>

<b>Livelihood Zone 17</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Central Manica and Sofala Mixed Cropping	Macossa	Macossa P.A.	10,953
	Macossa	Nguawala	2,250
	Macossa	Nhamagua	13,984
	Gondola	Cafumpe	36,915
	Gondola	Amatongas	40,599
	Gondola	Inchope	36,387
	Gondola	Macate	55,194
	Gondola	Matsinho	36,981
	Gondola	Zembe	18,595
	Caia	Caia P.A.	54,926
	Caia	Murraça	24,118
	Chemba	Mulima	25,110
	Gorongosa	Gorongosa P.A.	59,585
	Gorongosa	Nhamadze	30,937
	Gorongosa	Vanduzi	26,607
	Maringue	Canxixe	20,656
	Maringue	Maringue P.A.	39,984
	Maringue	Subwe	14,495
	Nhamatanda	Nhamatanda P.A.	139,482
<b>Estimated total 2007 population</b>			<b>687,758</b>

<b>Livelihood Zone 18</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Cheringoma and Muanza Maize and Cassava	Cheringoma	Inhamitanga	6,800
	Cheringoma	Inhaminga	27,293
	Muanza	Muanza P.A.	4,257
	Muanza	Galinha	20,968
<b>Estimated total 2007 population</b>			<b>59,318</b>

<b>Livelihood Zone 19</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Central Semiarid Pineapple and Cashew	Machaze	Chitobe (Machaze)	74,645
	Machaze	Save	15,860
	Chibabava	Chibabava P.A.	11,806
	Chibabava	Goonda	25,562
	Chibabava	Muxungue	64,638
	Machanga	Divinhe	14,585
	Machanga	Machanga P.A.	27,517
<b>Estimated total 2007 population</b>			<b>234,613</b>

<b>Livelihood Zone 20</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southern Coastal Cassava, Coconut, and Fishing	Inhassoro	Bazaruto	2,593
	Jangamo	Cumbana	53,317
	Jangamo	Jangamo P.A.	40,085
	Govuro	Nova Mambone	18,634
	Morrumbene	Morrumbene P.A.	62,633
	Massinga	Massinga PA	149,835
	Vilanculo	Vilankulo P.A.	70,324
	Zavala	Quissico	77,696
<b>Estimated total 2007 population</b>			<b>475,117</b>

<b>Livelihood Zone 21</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southern Intermediate Mixed Cropping	Govuro	Save	15,860
	Inhassoro	Inhassoro P. A.	45,597
	Vilankulo	Mapinhane	65,489
	Massinga	Chicomo	36,457
	Morrumbene	Mucodoene	61,803
<b>Estimated total 2007 population</b>			<b>225,206</b>

<b>Livelihood Zone 22</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southern Semiarid Cereals and Cattle	Massangena	Massangena P.A.	9,404
	Massangena	Mavue	6,376
	Chicualacuala	Vila Eduardo Mondlane	16,189
	Chicualacuala	Mapai	17,616
	Chigubo	Chigubo P.A.	9,214
	Chigubo	Dindiza	11,511
	Mabalane	Combomune	9,641
	Massingir	Mavodze	8,366
	Mabote	Zinave	14,852
	Mabote	Mabote P.A.	22,587
	Mabote	Zimane	7,294
	Panda	Panda P.A.	33,851
	Panda	Urrene	8,629
	Panda	Mawayela	5,319
	Homoine	Pembe	19,082
	Funhalouro	Funhalouro P.A.	26,121
	Funhalouro	Tome	11,735
<b>Estimated total 2007 population</b>			<b>237,787</b>

<b>Livelihood Zone 23</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southeastern Rice	Zavala	Zandamela	61,449
	Inharrime	Mocumbi	25,876
	Homoine	Pembe	19,082
<b>Estimated total 2007 population</b>			<b>106,407</b>

<b>Livelihood Zone 24</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Limpopo and Elephant Rivers Mixed Cropping	Chibuto	Alto Changane	19,317
	Chibuto	Chaimite	31,846
	Chibuto	Godide	17,720
	Chibuto	Malehice	55,808
	Mandlacaze	Macuacua	14,358
	Mabalane	Ntlavene	8,891
	Massingir	Massingir P.A.	11,155
	Massingir	Zulo	9,180
	Chokwe	Macarretane	29,777
	Chokwe	Xilembene	58,492
	Chokwe	Lionde	42,200
	Guija	Canicado	5,689
	Guija	Chivongoene	28,492
	Guija	Mubangoene	30,066
<b>Estimated total 2007 population</b>			<b>362,991</b>

<b>Livelihood Zone 25</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southern Coastal Fishing, Cassava, and Maize	Bilene	Macia	38,877
	Bilene	Makluane	7,956
	Bilene	Praia de Bilene	7,951
	Bilene	Chissano	52,376
	Bilene	Mazivila	22,917
	Bilene	Messano	21,471
	Chibuto	Malehice	55,808
	Xai-Xai	Chicumbane	80,181
	Xai-Xai	Chongoene	101,975
	Xai-Xai	Zongoene	27,278
	Mandlakaze	Chidenguele	55,028
	Mandlakaze	Nguzene	18,106
	Mandlakaze	Chibonzane	26,457
	Mandlakaze	Mandlakaze P.A.	26,122
	Mandlakaze	Mazucane	13,060
	Mandlakaze	Xhalala	11,940
	Manhiça	Xinavane	24,769
	Manhiça	Calanga	9,524
	Manhiça	Ilha Josina Machel	9,346
	Manhiça	Maluana	17,630
	Manhiça	Manhica P.A.	56,165
	Manhiça	Palmeira (3 de February)	40,208
	Marracuene	Machubo	4,723
	Marracuene	Marracuene P.A.	80,252
	Matutuine	Bela Vista	15,015
	Matutuine	Mugazine (catembe)	5,577
	Matutuine	Ndelane (machamgulo)	3,298
	Matutuine	Zitundo	6,191
	Boane	Matola Rio	34,810
<b>Estimated total 2007 population</b>			<b>875,011</b>

<b>Livelihood zone 26</b>	<b>District</b>	<b>Administrative Post</b>	<b>2007 Population Estimate</b>
Southern Highland Cattle and Mixed Cropping	Boane	Boane P.A.	67,745
	Magude	Mahele	2,294
	Magude	Motaze	7,824
	Magude	Magude P.A.	37,153
	Magude	Panjane	4,124
	Magude	Mapulanguene	1,834
	Moamba	Ressano Garcia	8,997
	Moamba	Moamba P.A.	16,862
	Moamba	Pessene	14,659
	Moamba	Sabie	16,041
	Matutuine	Catuane	7,158
	Namaacha	Changalane	13,538
	Namaacha	Namaacha P.A.	28,416
<b>Estimated total 2007 population</b>			<b>226,645</b>

## POPULATION GROWTH ESTIMATES BY DISTRICT

Province	District	2007 Census Population	Average growth rate (2010-2014)	2014 Projected population
Niassa	Cidade de Lichinga	142,331	4.82	204,860
Niassa	Cuamba	184,773	3.08	236,661
Niassa	Lago	83,099	3.32	107,943
Niassa	Lichinga	94,972	2.97	120,805
Niassa	Majune	29,702	2.77	37,222
Niassa	Mandimba	133,648	3.52	176,497
Niassa	Marrupa	53,649	2.65	66,539
Niassa	Maua	49,397	2.52	60,639
Niassa	Mavago	20,241	3.66	26,988
Niassa	Mecanhelas	156,885	6.15	246,654
Niassa	Mecula	13,779	2.50	16,871
Niassa	Metarica	29,439	8.83	55,015
Niassa	Muembe	28,645	3.06	36,669
Niassa	Ngauma	64,049	5.20	94,598
Niassa	Nipepe	30,009	2.43	36,508
Niassa	Sanga	56,165	2.54	69,016
Cabo Delgado	Cidade de Pemba	138,716	4.46	190,741
Cabo Delgado	Ancuabe	107,238	1.31	120,205
Cabo Delgado	Balama	124,100	1.55	141,331
Cabo Delgado	Chiure	217,487	1.46	245,116
Cabo Delgado	Ibo	9,344	2.70	11,429
Cabo Delgado	Macomia	79,825	1.46	89,807
Cabo Delgado	Mecufi	43,285	1.19	48,115
Cabo Delgado	Meluco	24,637	0.57	26,135
Cabo Delgado	Mocimboa da Praia	90,421	2.07	105,901
Cabo Delgado	Montepuez	193,602	1.95	226,012
Cabo Delgado	Mueda	113,742	1.33	126,998
Cabo Delgado	Muidumbe	72,840	0.74	78,414
Cabo Delgado	Namuno	179,408	1.86	208,681
Cabo Delgado	Nangade	62,734	1.42	70,852
Cabo Delgado	Palma	48,318	0.75	52,061
Cabo Delgado	Pemba	63,100	3.12	79,939
Cabo Delgado	Quissanga	37,771	0.64	40,348
Nampula	Cidade de Nampula	471,717	3.17	605,760
Nampula	Angoche	276,471	1.82	322,151
Nampula	Namapa Erati	256,715	2.11	304,117
Nampula	Cidade Ilha de Mocambique	48,063	1.44	54,470
Nampula	Lalaua	73,536	1.87	86,169
Nampula	Malema	164,898	1.79	192,144
Nampula	Meconta	154,843	2.33	186,647
Nampula	Mecuburi	155,624	1.84	181,928
Nampula	Memba	229,824	1.39	260,170
Nampula	Mogincual	129,969	2.56	159,603
Nampula	Mogovolas	266,559	5.69	393,848
Nampula	Moma	310,690	1.76	361,416
Nampula	Monapo	304,060	2.33	366,992
Nampula	Mossuril	116,301	1.84	135,926
Nampula	Muecate	93,906	2.13	111,975
Nampula	Murrupula	140,311	2.37	170,072
Nampula	Nacala Porto	206,449	1.60	238,064
Nampula	Nacala A Velha	88,807	3.51	114,553

Nampula	Nacaroa	106,887	1.69	123,670
Nampula	Nampula Rapale	203,733	3.83	272,366
Nampula	Ribaue	186,250	3.72	245,798
Zambezia	Cidade de Quelimane	193,343	2.62	235,910
Zambezia	Alto Molocue	272,482	4.01	360,604
Zambezia	Chinde	119,898	1.47	133,502
Zambezia	Gile	169,285	1.85	195,349
Zambezia	Gurue	297,935	3.72	390,419
Zambezia	Ile	289,891	1.55	327,558
Zambezia	Inhassunge	91,196	1.21	100,088
Zambezia	Lugela	135,485	1.46	152,059
Zambezia	Maganja da Costa	276,881	1.47	310,471
Zambezia	Milange	498,635	3.06	624,013
Zambezia	Mocuba	300,628	3.01	375,934
Zambezia	Mopeia	115,291	3.79	151,570
Zambezia	Morrumbala	358,913	2.99	446,976
Zambezia	Namacurra	186,410	4.93	255,783
Zambezia	Namarroi	89,053	1.91	145,798
Zambezia	Nicoadala	231,850	1.28	256,362
Zambezia	Pebane	185,333	2.28	220,040
Tete	Cidade de Tete	155,870	3.83	205,630
Tete	Angonia	298,815	2.91	369,612
Tete	Cahora Bassa	86,641	4.51	119,253
Tete	Changara	156,545	2.95	194,464
Tete	Chifunde	100,243	6.16	154,951
Tete	Chiuta	76,458	3.10	95,054
Tete	Macanga	110,873	7.61	188,368
Tete	Magoe	68,852	4.47	95,226
Tete	Maravia	82,874	3.30	105,974
Tete	Moatize	215,092	5.95	327,437
Tete	Mutarara	207,010	3.46	267,528
Tete	Tsangano	55,510	3.46	218,981
Tete	Zumbu	56,350	4.11	76,103
Manica	Cidade de Chimoio	237,497	3.34	304,871
Manica	Barue	137,352	6.15	212,163
Manica	Gondola	258,548	3.26	330,473
Manica	Guro	68,347	3.69	90,097
Manica	Machaze	102,839	3.17	130,582
Manica	Macossa	27,187	6.43	42,930
Manica	Manica	219,346	3.18	273,671
Manica	Mossurize	194,562	4.31	267,338
Manica	Sussundenga	128,866	2.92	161,341
Manica	Tambara	41,775	3.13	52,834
Sofala	Cidade da Beira	431,583	0.45	459,430
Sofala	Buzi	159,459	1.99	187,086
Sofala	Caia	115,612	2.75	143,326
Sofala	Chemba	63,981	2.26	76,755
Sofala	Cheringoma	34,093	7.69	57,637
Sofala	Chibabava	102,006	2.95	128,358
Sofala	Dondo	141,003	2.27	169,180
Sofala	Gorongosa	117,129	3.58	153,861
Sofala	Machanga	51,912	2.12	61,474
Sofala	Maringue	75,135	2.37	90,871
Sofala	Marromeu	117,795	4.30	163,146
Sofala	Muanza	25,225	4.53	35,277



Sofala	Nhamatanda	207,987	3.56	272,907
Inhambane	Cidade de Inhambane	65,149	2.00	76,910
Inhambane	Funhalouro	37,856	2.57	46,537
Inhambane	Govuro	34,494	2.03	40,883
Inhambane	Homoine	107,735	1.80	125,701
Inhambane	Inharrime	97,950	2.88	122,907
Inhambane	Inhassoro	48,190	2.57	58,767
Inhambane	Jangamo	93,402	1.73	108,493
Inhambane	Mabote	44,733	1.55	51,338
Inhambane	Massinga	186,292	0.78	202,201
Inhambane	Cidade de Maxixe	108,824	1.65	125,208
Inhambane	Morrumbene	124,436	1.83	145,297
Inhambane	Panda	47,799	0.82	52,094
Inhambane	Vilankulo	135,813	2.05	161,262
Inhambane	Zavala	139,145	1.39	157,719
Gaza	Cidade de Xai Xai	115,752	1.27	127,351
Gaza	Bilene	151,548	1.44	168,228
Gaza	Chibuto	191,682	1.46	213,323
Gaza	Chicualacuala	38,917	1.73	44,060
Gaza	Chigubo	20,725	4.42	28,141
Gaza	Chokwe	183,531	1.39	202,490
Gaza	Guija	75,306	2.74	91,392
Gaza	Mabalane	32,067	2.32	37,829
Gaza	Mandlakaze	165,071	1.17	179,847
Gaza	Massangena	15,780	1.75	17,906
Gaza	Massingir	28,701	2.54	34,355
Gaza	Xai Xai	209,434	2.32	247,152
Maputo	Cidade da Matola	671,556	26.24	892,963
Maputo	Boane	102,555	4.95	147,112
Maputo	Magude	53,229	1.67	61,068
Maputo	Manhica	157,642	6.62	245,829
Maputo	Marracuene	84,975	6.35	133,922
Maputo	Matutuine	37,239	0.99	40,701
Maputo	Moamba	56,559	2.13	66,860
Maputo	Namaacha	41,954	2.29	50,176
Cidade de Maputo	Distrito Urbano 1	108,096	0.22	111,152
Cidade de Maputo	Distrito Urbano 2	154,272	0.26	159,569
Cidade de Maputo	Distrito Urbano 3	223,628	0.26	232,248
Cidade de Maputo	Distrito Urbano 4	293,270	1.91	341,545
Cidade de Maputo	Distrito Urbano 5	290,775	2.55	353,922
Cidade de Maputo	Distrito de Catembe	19,371	1.45	21,858
Cidade de Maputo	Distrito de Inhaca	5,216	0.66	5,574

## LIST OF PARTICIPANTS

Participants Southern and South Central Regional Livelihood Zoning Plus Workshop – Maputo			
No.	Name	Function or Post	Institution
1.	Manuel Sahale	DPA	Inhambane Province
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8.	Jerónimo Constantino Alaue	SDAE	Tsangano Province
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12.	Amiel Manuel Nito João	SDAE	Zavala District
13.	Luís Osório Coimbra	Magariro	Chimoio/ONG
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