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January 1996

# RiskMap Food Security Baseline: Final Report for Malawi

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**RISKMAP FINAL REPORT:  
MALAWI**

by:  
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with assistance from N. Majid

December 1996  
Save the Children Fund (UK)



### *Acknowledgements*

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## Table of Contents

<i>Acronyms and Terms</i> .....	5
<b>Introduction</b> .....	6
<b>The RiskMap Project</b> .....	6
<b>Key Concepts and Methodology</b> .....	6
<u>Food Economy Zone</u> .....	7
<u>Key Informant</u> .....	7
<u>Techniques from Participatory Rural Appraisal</u> .....	7
<u>Poor, Mode &amp; Rich</u> .....	7
<u>Income Distribution</u> .....	7
<u>Normal Year</u> .....	8
<u>Food Equivalents of Meat</u> .....	8
<u>Surplus Food Production</u> .....	9
<u>Surplus Income</u> .....	9
<u>Non-Food Production</u> .....	9
<u>Other Trade</u> .....	9
<u>Value of Cattle &amp; Assets in Terms of Annual Food Needs</u> .....	9
<u>Redistribution</u> .....	9
<u>Main Elements of the Food Economy</u> .....	9
<b>Background Information on Malawi</b> .....	9
<b>Geography</b> .....	10
<b>Population</b> .....	11
<i>Ethnic Groups</i> .....	11
<i>HIV/AIDS</i> .....	11
<i>Female Headed Households (FHHH)</i> .....	11
<b>Food Production</b> .....	12
<i>Maize Preferences</i> .....	12
<b>Livestock</b> .....	13
<b>Fishing</b> .....	13
<b>Cash Crop Production</b> .....	14
<b>Casual Labour</b> .....	14
<b>Food Flows</b> .....	14
<b>Wild Foods</b> .....	14
<b>Malawi Food Economy Zones</b> .....	16
<b>Table A: Food Economy Zone Population Estimates</b> .....	23
<b>1: Northern Karonga: Rice and Bananas</b> .....	25
<b>2: Central Karonga: Maize and Livestock</b> .....	32
<b>3: Chitipa Millet and Maize</b> .....	39
<b>4. Northern Lakeshore</b> .....	46
<b>5. Nkhata Bay Cassava Zone</b> .....	53
<b>6. Western Rumphu and Mzimba</b> .....	59
<b>7. Northern Mountainous Areas</b> .....	64
<b>8. Mzimba Self Suffecient Maize Zone</b> .....	70
<b>9. Southern Lakeshore</b> .....	76
<b>10. Lilongwe East</b> .....	82

<b>11. Phirilongwe Hills</b> .....	88
<b>12. Sparsely Populated Rift Valley Escarpment</b> .....	93
<b>13. Surplus Producing Kasungu-Lilongwe Plain</b> .....	99
<b>14. Sparsely Populated Middle Shire Valley</b> .....	106
<b>15. Lake Chilwa Basin</b> .....	113
<b>16. Productive Mozambique Border Crescent</b> .....	120
<b>17: Densely Populated Shire Highlands</b> .....	126
<b>18: Phalombe Plain</b> .....	133
<b>19. Northern Lower Shire Valley</b> .....	139
<b>20. Thyolo-Mulanje Tea Estate Area</b> .....	146
<b>21. Southern Lower Shire Valley</b> .....	155
<b>Appendix I: Food Economy Zone Population Estimates</b> .....	162
<b>Appendix II: List of Key Informants</b> .....	168
<b>Appendix III: References</b> .....	174

### *Acronyms and Terms*

ADD	Agricultural Development Division
ADMARC	Agricultural Development and Marketing Corporation (Malawian Grain Marketing Parastatal)
BOMA	British Overseas Military Administration. A colonial term which has lingered into modern usage equivalent to a town or city. District administrative headquarters are often located here.
Dambo	Term for wetland areas (near rivers, lakes or low lying areas) where crops are cultivated on the basis of residual moisture.
Dimba	A field located in a wetland area. See Dambo.
EPA	Extension Planning Area. Smallest agricultural division.
FEZ	Food Economy Zone
Ganyu	Refers to casual work of any kind. Payment can be in kind or in cash.
RDP	Rural Development Project
SCF (UK)	Save the Children Fund (United Kingdom)
USAID FEWS	Famine Early Warning System supported by the United States Agency for International Development

## **Introduction**

This report was written as part of the SCF(UK) Risk Mapping project. The information contained in this report is a set of baseline data which will be employed by the RiskMap computer program. The report is organised into an introduction on Malawi as a whole, followed by a series of reports on 21 different food economy zones found within Malawi. The profiles for each area are largely based on a total of 109 key informant interviews<sup>1</sup> conducted in March, April and August of 1996 in 18 of Malawi's 24 districts. This report is very descriptive in nature and simply presents the baseline data as it will be loaded onto the RiskMap computer programme. This report is not a vulnerability assessment nor does it analyse problems related to food security and propose potential solutions. However, when this baseline information is combined with annual production and market access data, it should indicate areas vulnerable to food insecurity. The RiskMap software and baseline data set for Malawi will be made freely available in early 1997. A series of demonstrations and tutorials will also take place at this time.

## **The RiskMap Project**

The SCF(UK) RiskMap Project was begun in March 1992 at the suggestion of the Director of the FAO Global Information and Early Warning System (GIEWS) with European Community (EC) funding. The initial aim of the project was to devise a methodology for introducing economic and social information into the calculation of local food deficits, in order to go beyond the conventional food balance approach which looks only at national production, food stocks, population and consumption data. This method does not always take account of how food production varies across a country, nor of how people in different areas gain access to food. Thus, on some occasions, the risk of hunger in a given area has been exaggerated, whilst on others, acute dangers of certain groups have been masked by a picture of overall sufficiency. Respecting these limitations, an approach has been developed which centres on the question of how people survive and on the economic and social connections that enable them to do so. Sources of information include existing documentation combined with 'key informant' data. The approach has been translated into a computer program called RiskMap which seeks firstly to make information (of a type normally available only to the 'expert' or found in the 'grey' literature of agencies or in archives) easily available to the average user; and secondly, to allow the user to manipulate a basic set of this information in order to estimate the possible effect on food supply of a particular event or events affecting the specific population. The project is currently in its third phase of EC funding. By the end of 1996, the project will have revised and improved the RiskMap software and developed a database for 15 African countries, including Malawi.

## **Key Concepts and Methodology**

This section explains a number of key concepts and methods which are essential for understanding how data has been gathered, analysed, organised and presented for this report.

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<sup>1</sup> Of the 109 interviews, 68 were full length, zone profile discussions with civil servants and NGO staff, 14 were PRA exercises with villagers and 27 were more general zoning discussions with civil servants and NGO staff. For more information on the key informant process, see later sections of this document as well as *SCF(UK), Household Food Economy Approach Food Security Assessment*, 1996, Save the Children Fund, London.

Food Economy Zone (FEZ): A food economy zone is a geographic area or group of people wherein the overwhelming majority of households can be said to gain their food and cash income through the same methods. The population of each FEZ is subdivided into three socio economic types: rich, mode and poor. Within a FEZ, any two households in the same socio economic strata should attain food and cash income through the same methods and in roughly the same proportions.<sup>2</sup> FEZs are often discrete geographical units, but in some cases several different FEZs may occupy the same area (e.g. fishing people living in the same geographical area as agricultural people). It is also not necessary that a FEZ be connected geographically. For example, differing land tenure systems in the same area (e.g. communal and commercial) may mean that areas with basically the same food economy are split up from one another. Despite being geographically separated, the individual areas may be part of the same FEZ.

Key Informant: In the world of information about poor, rural populations, a "key informant" is someone who is consulted because it is believed he or she has sufficient knowledge of a group or given population, or can usefully describe a subject area (e.g. local market patterns). Depending on the information required, key informants can be found at any level: village, district, provincial or national. They may be government workers or NGO (Non-Governmental Organization) employees, teachers, representatives from village organisations (farmers' union, women's union), traditional leaders, traders or religious leaders.<sup>3</sup>

Techniques from Participatory Rural Appraisal (PRA): All village level interviews conducted during this study were undertaken using PRA techniques. PRA is a collection of techniques designed to help illiterate informants fully express their understanding of a situation. If done properly, use of these techniques should engender empowerment and a sense of pride in informant's knowledge.

Poor, Mode & Rich: In collecting its data, RiskMap looks at three segments of the population: the poorest 10%, the richest 10% and the mode. When RiskMap examines the poorest 10% and richest 10% of the population it is by no means saying that only 10% of the population is poor or that 10% is rich. Rather, RiskMap is trying to understand the situation of the bottom 10% of households as well as that of the top 10% of households. For RiskMap, the mode is the most frequently occurring type of household in terms of wealth. In statistical jargon, the mode is distinct from the "mean" or "average" (the sum of observations divided by the number of observations) and the "median" (the value of the middle item in a list of statistics that are arranged in order of magnitude). The information for the poorest 10%, along with that for the richest 10% and mode will eventually be put together, and through a process of linear interpolation, the computer will develop a profile for the entire population.

### Income Distribution

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<sup>2</sup> Clark, Paul. 1996. RiskMapping Report, Kenya - Turkana District, SCF(UK). Mimeo London.

<sup>3</sup>The SCF(UK) Household Food Economy Approach to Food Security Assessment, pp. 12.

In order to more accurately interpolate between the poor, modal and rich groups described above, RiskMap tries to understand the distribution of wealth within a community. Through discussion with local key informants, the research team sought to identify an appropriate indicator of wealth for a given area (e.g. goat ownership, acres of land cultivated, numbers of fish nets owned, etc). After identifying normal holdings of such items for the richest and poorest 10% of the population, the research team split this wealth indicator into five equal groupings or quintiles (e.g. 0-2 goats, 3-4 goats, etc). The researchers then asked participants to indicate the proportion of the local population that would fall into each group. The proportion of the population falling into each wealth quintile is reported in this report as well as the percentage of the population falling within and below the mode. By identifying where the modal group lies as well as the proportion of the population within and below this point, the RiskMap computer program may then better estimate the situation for all 10 population deciles. Where it was not possible to estimate the distribution within a community, it is assumed that 70% of the population falls below the mode.<sup>4</sup>

Annual Household Food Consumption: 4.9 has been used for the average size of the Malawian family.<sup>5</sup> As a general rule, it was assumed that the average household will consume just over one 90 kg bag of maize per month.<sup>6</sup> (See *Value of Cattle and Assets in Terms of Annual Food Needs*). It is assumed that all households meet a basic, minimum food requirement in a normal year (see normal year discussion below). While some households obviously face acute periods of caloric deficiency, it is assumed that this could not be sustained over time and is, therefore, not a “normal year” situation.

Normal Year: The majority of information presented in this report is for a normal year. A normal year was determined by asking the key informants to examine the last 6 years and identify which were bad, good and in-between or average years. The in-between or average year(s) was taken as the normal year. Key informants were then asked to respond to the majority of questions based on what the prevailing situation would have been in such a normal year.

Food Equivalents of Meat: The figure of 1900 kcal per day has been used as the minimum requirement for the average person.<sup>7</sup> The caloric value of meat and fish consumption was converted to a percentage of annual food needs so that it could be compared to dietary contribution of other food sources. This was done by dividing the total caloric value of meat

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<sup>4</sup>This is an average figure for a “typical” developing country.

<sup>5</sup>GOM. 1992/93. National Sample Survey of Agriculture. Smallholder Household Composition Survey Report. Zomba: NSO. pp. 23.

<sup>6</sup>UNICEF. 1993. Situation Analysis of Poverty in Malawi. p. 108. About 190 kg of mgaiwa (milled grain) needs to be consumed per year per person. This is equivalent to a maize production of 232 kg person/year, assuming losses of 18% are taken into account for seed, wastage and processing of mgaiwa. As such, an average household of 4.9 persons would consume 1,137 kg of maize per year, or just over twelve and a half 90 kg sacs per year.

<sup>7</sup>1900 kcals has been used as the minimum energy consumption requirement per day per person. This figure does not refer to adults but to a ‘per capita’ requirement, i.e. the mean requirement across the age range in an averagely composed developing country population.

(produced on farm) consumed during the year by the annual caloric needs of a 4.9 person family.

Surplus Food Production: Surplus food production is defined as any grain production which supersedes annual requirements.

Surplus Income: This is income remaining after all normal year purchases have been made.

Non-Food Production: This income category includes a variety of activities involving the sale of goods that have either been collected in the countryside or produced from raw materials. Activities commonly found in this category include the direct collection or production and sale of: firewood, thatch, wild food and game meat, home brewed beer, crafts, etc. If these goods are being purchased and resold, then such income does not fall under this category, but rather “other trade.”

Other Trade: This income category is primarily composed of all activities involving the buying and reselling of goods for a profit (small shops, buying and selling of grain, vegetables, used clothes, etc). It may also include revenue from the provision of some types of services or earnings from the renting out of property (e.g. renting out of plough and oxen teams or leasing of land).

Value of Cattle & Assets in Terms of Annual Food Needs: In this report, the value of all cattle and assets is frequently expressed as a percentage of annual food needs. This was done by converting assets to cash, and then cash to grain at normal year prices. The standard price for grain used in most instances was 2.5 kwachas per kilo of maize grain.. We note that the RiskMap computer software will automatically change livestock values in a drought year (e.g. prices will fall via the use of an elasticity if livestock sales increase) and increase grain prices based on changes in market supply and demand.

Redistribution: Redistribution refers to the proportion of surplus income and food which the rich normally give as free gifts to deficit households within the community.

Main Elements of the Food Economy: Each food economy zone presentation has a sub-section entitled “main elements of the food economy.” This section is simply a ranking of different types of activities/food sources in terms of their importance to food acquisition in a given FEZ. The ranking reflects the order of importance for modal households in the FEZ. Those categories contributing the greatest proportion of food are ranked first. If some food is purchased, then sources of cash are listed based on the degree of their contribution to food purchase. For example, if 50% of food is purchased and 50% of income is derived from livestock sales, then 25% of food is acquired through livestock sales.

### **Background Information on Malawi**

Malawi is a country dominated by two prominent geographical features: the Rift Valley and Lake Malawi. The hilly nature of the country accounts for great variation in agricultural productivity. Fishing on Lake Malawi is a small but vital component of the national food economy. Agriculture is the most significant sector in the Malawian economy. Other prominent characteristics of the food economy are: relatively small land holdings, depleted

soil fertility, costly production inputs, high population densities in the southern part of the country, a dynamic and highly localised casual labour market, and a commercial estate sector that employs a significant portion of the poorer rural inhabitants. Once source indicates that nearly 60% of households in Malawi are food insecure.<sup>8</sup> Some of the reasons attributed to food insecurity in Malawi include low agricultural productivity, limited non-farm employment opportunities and low levels of labour income.<sup>9</sup> Those who suffer most from chronic food insecurity in Malawi include: smallholders with less than 1 hectare of land, estate workers, tenants, female-headed households, children, and low income urban dwellers.

### **Geography**

Malawi means “flames of fire.” It is said to be in reference to Lake Malawi with the sun shining on its shimmering waters when it was seen by the Maravi people in the 1300's.<sup>10</sup> Today, Lake Malawi, as one of Malawi's outstanding geographic features, continues to make a dramatic impact on the viewer. It is also very important to the food security of many of the peoples living adjacent to it as a source of food, fresh water and communication. Lake Malawi lies within the Rift Valley which influences much of the geography in the country. Lake Malawi is 570 km long and dominates most of the country's eastern border.<sup>11</sup> It flows into the Shire River which runs along the floor of the Rift Valley ultimately joining the Zambezi River journeying beyond to the coast.<sup>12</sup> As a result of the Rift, Malawi's countryside is dominated by many beautiful highlands and mountains. Some of the more prominent among these are the Nyika Plateau in the North and Mount Mulanje in the South which rises to a height of 2,003 metres. In addition to the highlands, the Shire River is also associated with the Rift Valley. The Shire River flows through the southern part of the country supporting a variety of food crop and commercial production in its valley. The varied topography and climate of Malawi hosts a variety of agricultural production ranging from millet and sorghum in drier areas to maize in the more temperate zones as well as tea, coffee, tobacco, and sugar in various regions of the country.

### **Rainfall**

Rainfall in Malawi is quite varied. It ranges from 600 mm in low lying hot areas to 2,400 on the high plateaux.<sup>13</sup> The mean annual precipitation at Kafukule Station in Mzimba District is 610 mm. In contrast, the Mwangulukulu Station in the Karonga District receives 3,400 mm.<sup>14</sup> Some of the drier areas in Malawi include the following food economy areas: Middle and Lower Shire Valley, the Kasungu-Lilongwe Plain and Western Rhumpi and Mzimba. The

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<sup>8</sup>UNICEF, 1993, p. xvii.

<sup>9</sup>Ibid.

<sup>10</sup>UNICEF, 1989, Malawi Country Kit.

<sup>11</sup> It is the second longest lake in the chain of lakes found in the Rift Valley after Lake Tanganyika.

<sup>12</sup>UNICEF, 1989, Malawi Country Kit.

<sup>13</sup>Ibid.

<sup>14</sup>FEWS/USAID-Malawi, *Agro-Climatic Zone Series*, 1996.

areas with higher precipitation include these food economy areas: Thyolo-Mulanje Tea Estates, Nkhata Bay Cassava Zone and the Northern Mountainous Areas.

### **Population**

Malawi's total population is estimated at 11 million. The population growth rate is 3.3% annually. Of the total population, 90% is rural, 8% is urban and 2% are found in BOMAs.<sup>15</sup> Malawi's population is very young, 47% is under the age of 15. A 1992 study shows a dependency ratio of 1.06 meaning that for every 100 adults of working age, there are 106 dependents. Therefore, a large number of Malawian children start working before the age of 15 in order to reduce this dependency ratio. This practice in turn however increases the rate of school drop-outs hence exacerbating development problems. The age structure in Malawi also places a heavy burden on institutions which provide nutrition, health and education services.<sup>16</sup>

### *Ethnic Groups*

Prominent ethnic groups in Malawi include: the Chewa, Nyanja, Tumbuka, Yao and Ngoni. The Chewa and Nyanja people are predominant in the South and central parts of the country. Together form about half of the country's population. (They were the earliest inhabitants in the South and together formed a unit known as the Malawi people from which the country derives its name. The earliest inhabitants in northern Malawi are the Tumbuka. They are predominant in that area numerically. The Yao and Ngoni people came to present-day Malawi in the nineteenth century.

### *HIV/AIDS*

HIV and AIDS have been recognized as a health threat only fairly recently in Malawi. By the year 2,000 an estimated 2 million people will be infected with HIV.<sup>17</sup> This is equivalent to almost 20% of the population. In addition, about 35,000 children are predicted to be orphaned by 2,000.<sup>18</sup> (Official rates vary widely. Another source indicates that number of AIDS orphans will be between 282,000 and 361,000 by the year 2,000.<sup>19</sup>) Although the following data are not intended to be representative of the entire population they are striking nonetheless. The prevalence of the HIV virus in urban areas among women attending antenatal clinics is estimated to be at 30%. The spread of the virus is causing increased child and adult mortality rates.<sup>20</sup> Regardless of the range in reported prevalence rates, HIV-AIDS is currently having serious social and economic impacts. The HIV-AIDS pandemic could have tremendous consequences on household food security in Malawi.

### *Female Headed Households (FHHH)*

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<sup>15</sup>World Bank, 1995, p. "Priority Indicators of Poverty." Sources: HESSEA 1990/1991, WDR.

<sup>16</sup>World Bank, 1995, p. 5.

<sup>17</sup>World Bank, 1995, p. 8.

<sup>18</sup>Ibid.

<sup>19</sup>Ibid., p. 194, reference: GOM Ministry of Health AIDS Secretariat, 1992.

<sup>20</sup>Ibid.

“Although most poorer households are male-headed, female-headed households are more likely to be poor.”<sup>21</sup> Male headed-households are believed to constitute 75% of all households in Malawi. However, the chance of a male-headed household being in the poorest 40% of the population is one in three. In contrast, the chance of a FHHH (which are 25% of all households) being among the poorest 40% is one in two; 50% of female-headed households nationally fall within the poorest 40% of the population.<sup>22</sup> Rural poverty is deeper among female headed households for a variety of reasons including the legal status of women, their social position and their participation in decision-making. Women and children are among the most vulnerable to food insecurity in Malawi.<sup>23</sup>

### **Food Production**

Agriculture is extremely important in Malawi. It is the mainstay of the economy affecting over 80% of the population who derive their livelihood from it directly or indirectly. There is intense land use pressure in Malawi. Most of the arable land is under cultivation, with maize occupying nearly 80% of this. Most agriculture in Malawi is rainfed. The agricultural sector includes three sub-sectors: estates, small-holders and small estates. The small-holder sector is the largest comprising 1.6 million families cultivating 1.8 million hectares although over half of them cultivate less than 1 hectare and a quarter farm less than 0.5 hectare. The majority of these households are believed not to be able to meet their food requirements even during average rainfall years.<sup>24</sup> Food harvests in recent years have been highly erratic. 1991 and 1993 recorded bumper food harvests, while the droughts of 1992 and 1994 devastated harvests those years.<sup>25</sup> White maize is the main food crop in most of the country, although millet and sorghum have gained more popularity in more drought prone areas. (Although maize is the staple food crop, it is also grown to generate cash and/or to pay *ganyu* workers.) Per capita production of maize has declined over the past two decades. In 1970 it 204 kg in contrast to 161 kg in 1990.<sup>26</sup> In many parts of the country, millet and sorghum would be more practical to cultivate as drought resistant cereals. Nonetheless, there appear to be widespread preferences for maize. The reasons for this vary including government practices and taste preferences. Other food crops in addition to maize which are cultivated in Malawi include: sorghum, millet, rice, cassava, beans (*nyemba*), some bananas and vegetables such as tomatoes, onions, potatoes and green vegetables.

### *Maize Preferences*

A number of different ideas are present regarding the preponderance of maize cultivation in Malawi despite the greater suitability of more drought resistant crops. A variety of sources indicate that both pre and post colonial regimes heavily promoted maize production which gradually altered people’s taste preferences for it. Some sources maintain that maize was

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<sup>21</sup>World Bank, 1995, p. 30.

<sup>22</sup>World Bank, 1995, pp. 30-33, 74.

<sup>23</sup>UNICEF, 1993, p. 109.

<sup>24</sup>UNICEF, 1993, p. xv.

<sup>25</sup>EIU Country Profile, Malawi, 1996, p. 18.

<sup>26</sup>UNICEF, 1993, p. xvii.

widely promoted under the former Banda regime as well as by Press Holdings (PCL) which significantly controlled the commercial sector and was owned in large part by Dr. Banda. Given recent processes of democratization and the '92 and '94 droughts, one observes more sorghum and millet cultivation. Whether this trend will continue during a series of good rain years remains to be seen. This trend may also be due in part to the increased cost for maize inputs, particularly fertilizer.

### **Livestock**

Except for the Lower Shire Valley and some areas in the North such as Central Karonga, livestock holdings in Malawi are relatively small as compared to other African countries. In general, cattle are kept by richer households. A sale is only made if a specific need for cash arises. Availability of grazing land is a problem, particularly in the south and central part of the country where population densities are higher. Lilongwe, Machinga and Blantyre ADDs have high levels of poverty, large numbers of smallholders who cultivate small areas and have few cattle and poultry.<sup>27</sup> Livestock ownership is positively correlated with income; i.e. poorer households have fewer livestock than richer ones. Two limitations to animal husbandry in general (beyond the resources to purchase and maintain them) which were repeatedly mentioned by key informants include tse-tse flies in certain areas of the country near parks (which limit cattle raising) and Newcastle's Disease which threatens chickens.

### **Fishing**<sup>28</sup>

Fishing is an important aspect of the Malawian economy and is of particular significance to households in three of the country's 21 food economy zones: Northern Lakeshore (50,000 people), Southern Lakeshore (189,000 people) and the Lake Chilwa Basin (454,000 people). Fishing occurs to a much lesser extent in the Middle and Lower Shire Valley. Due to the depth of Lake Malawi in the north, fish catches have historically been lower than those to the south. Fishing people at the northern end of the lake are also more dependent on agriculture than their counterparts to the south. Fish production in Lake Chilwa is extremely erratic due to its shallowness and susceptibility to drying up in drought years. Fisherfolk in the Lake Chilwa basin often migrate to other areas in bad years.

Approximately 60,000 to 70,000 tons of fish are caught per year in Malawi, of which 10,000 tons are from Lake Chilwa and the balance from Lake Malawi and Lake Malombe. The southern end of Lake Malawi is the most important fishing area in the country (due to shallower depths than the northern half of the Lake). In the southern end half of Lake Malawi, approximately 80% of fishing is done by small scale fisherfolk whereas 20% is done by larger scale commercial operators (the preponderance of small scale fisher folk is partially related to the shallowness of the lake). In the deeper waters of Lake Malawi there is a greater proportion of large scale commercial fishing boats. The most important commercial fish species (from most to least important) are: 1) Chambo or Tilapia spp., 2) Catfish or Bagrus spp., 3) Haplochromis spp. and 4) Ramphochromis spp. Engrancypris sardilla is frequently eaten by poorer fisherfolk as it has limited commercial value. Those groups dependent on

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<sup>27</sup>World Bank, 1993, p. 47.

<sup>28</sup>Information in this section is largely based on interviews with three key informants: 1) Mr. Friday Njaya, Fisheries Officer, Fisheries Dept., Mangochi; 2) Dr. Chiwota, Chancellor College, Zomba; and 3) Dr. Heimo Mikkola, Representative, FAO, Lilongwe.

fishing have and will be seriously impacted by declining fish stocks. As stocks have dwindled, fisherfolk have progressively switched to smaller nets with smaller holes.

### **Cash Crop Production**

Although maize is the staple crop occupying most of Malawi's arable land, the major cash crop is tobacco. (In 1994 it accounted for 70.5% of agricultural exports.)<sup>29</sup> A World Bank induced change in agricultural policy (ASAP<sup>30</sup>) has resulted in the government allowing smallholders to grow burley tobacco and to market it directly to auction floors.<sup>31</sup> (Previously this was the privilege only of estate owners with 10 ha or more.) Burley tobacco is also appealing as a cash crop for small holders in that it demands less processing as it may be air dried which has contributed to an increasing amount of smallholder production of this crop. Tobacco, tea and sugar together accounted for 90% of all export earnings in 1990-92. Additional cash crops include: rubber and macadamia nuts.<sup>32</sup>

### **Casual Labour**

While alternative food and income sources generally seem quite constrained in difficult years, *ganyu* (local piece work) seems to have an amazing capacity to expand. This expendability appears to be related to a largely unmet demand for farm labour in good years (due to low wages) that can, in turn, soak up a large proportion of desperate rural dwellers who are willing to work for meagre wages in bad years. The expendability is also based on the fact that wealthier farmers consistently have a need for agricultural labourers in order to attain the full productive capacity from their land. However, when poorer farmers leave their fields in order to conduct *ganyu* they are missing critical work periods on their own holdings, thus diminishing their ultimate harvests and exacerbating already established cycles of poverty and food insecurity.

### **Food Flows**

Market structures in Malawi are currently undergoing a great deal of change due in part to World Bank-funded agricultural sector reforms (ASAP)<sup>33</sup>, democratisation and market liberalisation. The current grain marketing structure is evolving quickly as private traders control increasingly larger portions of the market (and ADMARC becomes less of the dominant force it once was).

### **Wild Foods**

Although wild food consumption is widespread in Malawi and is significant as a source of food, it rarely surpasses providing 5% of annual food needs. Poor households in general consume greater amounts than modal and rich households who are less dependent on them as a source of food. Nonetheless, better off households will consume wild foods as a snack when in season. Wild food consumption is limited to a degree by the high population

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<sup>29</sup>The Economist Intelligence Unit Country Profile, Malawi, 1995-1996, 1996, p. 17.

<sup>30</sup>Agriculture Sector Adjustment Program

<sup>31</sup>EIU Country Profile, Malawi, 1996, pp. 19 - 20.

<sup>32</sup>UNICEF, 1993, p. xv.

<sup>33</sup> Economic Intelligence Unit, 1996 EIU Country Profile, Malawi, p. 19.

densities in some parts of the country; the South in particular. With land scarcity as a major constraint to further agricultural productivity, in many areas there simply aren't a lot of wild foods left around to eat. Wild game likewise has become increasingly scarce with both increased population pressure, but also poverty which induces people to venture into park areas and poach. Wild foods include a variety of fruits, vegetables and grains. Wild game includes small mammals particularly mice and also termites/flying ants.

## Malawi Food Economy Zones

A total of 21 food economy zones were identified in Malawi. This differs from the nine FEZs which were identified during an earlier risk-mapping visit in 1993<sup>34</sup> and the 18 that were proposed in a preliminary version of this report.<sup>35</sup> Probably the most well known agro-ecological divisions that have been made in Malawi are the Ministry of Agriculture and Livestock Development (MOALD) divisions which include (in decreasing order of magnitude): 8 ADDs, 30 RDPs and 154 EPAs. The 21 FEZs delineated in this document do not violate the nine that were originally proposed by SCF(UK) in 1993, but simply take the process a step further by making more refined divisions of the original zones. As Malawi's agricultural divisions were made based largely on agro-ecological factors, there are a number of similarities between these divisions and RiskMap's Food Economy Zones. When the RiskMap team determined boundaries for FEZs, it attempted, wherever possible, not to transect EPA boundaries. As a considerable amount of production data is collected at the EPA level, the non-violation of these boundaries would make annual data input a much easier process. In some instances, however, this was not possible. Differences generally arose where there were economic, as opposed to agro-ecological, factors which created a difference in rural food economies. For example, fishing in Lake Malawi means that lakeshore communities have a significantly different food economy than their inland neighbours. Or, in another example, the Mozambican crescent area differs from surrounding areas in that there is significant cross border trade with a highly productive portion of Mozambique. In some instances, significant geographical features (such as the Lake Chilwa Basin or the Middle Shire Valley, seem to create distinct production zones that cut across EPA divisions. The following section briefly describes each zone, while the remainder of the report focuses separately on the key parameters of each zone.

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<sup>34</sup> Allen, Penny. 1993. "First Steps Towards An Understanding of Rural Economy in Malawi." Unpublished Paper. London: Save the Children Fund (UK).

<sup>35</sup> Earl, Julia and William Moseley. May 1996. "RiskMap Report - Malawi, Preliminary Results." Unpublished Report. Save the Children Dund (UK).

(Insert Map)

1. **Northern Karonga.** The Northern Karonga FEZ is found in the northeast-most corner of Malawi. Northern Karonga is a relatively small zone. A considerable amount of rice is produced in this zone in the watershed and wetlands of the Songwe River Valley. It is primarily a plains area. Food crop production is the most significant feature of this FEZ. The primary food crops grown in this FEZ in order of importance include: 1. Rice, 2. Cassava, 2. Bananas, 3. Maize, 4. Sweet potatoes and small amounts of beans and vegetables. Purchase is the second greatest source of food for modal families in this zone. The largest source of cash and the second most important element of this FEZ overall is cash crop sales which include rice, cassava, millet, sugar, bananas, maize and others. The primary source of income for the poor however is employment. Despite the fact that rich households produce surplus grains, due to poor infrastructure in Northern Malawi, rice is sold to Tanzanian traders just north of the border rather than within the country. The approximate population of the zone is 50,000.

2. **Central Karonga.** The Central Karonga Maize and Livestock Food Economy Zone is found in north-eastern Malawi. It is a relatively fertile area and not a food deficit zone with good maize production and significant livestock holdings. Poor, modal and rich households all gain over 75% of their annual food needs from their own crop production. The primary crops in this area are maize, sorghum, millet, cassava, rice and sweet potatoes. The small amount of food which is not produced by households in the zone is purchased. Modal and wealthy households gain the majority of their income through livestock sales, while poor households have more diversified strategies which include cash crop sales, handicraft sales and labour. Livestock sales and small business make up very small percentages of poor households' income. It's approximate population is 35,000.

3. **Chitipa Millet and Maize.** Although maize is the primary food crop in the Chitipa FEZ, relative to the rest of Malawi, the zone grows a considerable amount of millet. (Nsanje and Chikwawa are the other two high-millet producing areas.) The primary food crops grown in this area in order of importance include: 1. maize, 2. millet, 3. cassava, 4. beans, 5. ground nuts, and small amounts of sweet potatoes. Cash crops cultivated here include: 1. tobacco, 2. maize, 3. millet, 4. beans and 5. Cotton. As is the case in general in the Northern Region of Malawi, Chitipa is less densely populated than the Central and Southern Regions. Land use pressure is also lower. The approximate population of this area is 73,000.

4. **Northern Lakeshore.** The bulk of this population lives within five kms of the Lake Malawi Lakeshore. Despite the importance of fishing, agricultural production is the major source of food accounting for close to two-thirds of annual food needs for the typical household. The most important food crops are cassava, rice, maize, bananas, sweet potatoes and yams. All strata of these Lakeshore communities are involved in fishing to some degree. The rich generally own canoes and nets and employ the poor to work for them. The modal group has its own equipment and fishes for itself. The poor have no equipment and work for better-off members of the community. Some male fisherfolk move up and down the coast while the women remain in their home village to farm. Other households stay in the same location year round to fish and farm. As compared to the Southern Lakeshore where there are more abundant shallow waters (thus more fish), fish catches have historically not been as high in this zone due to deeper waters. Cash cropping is also an important source of income. The approximate population of this FEZ is 50,000 persons.

**5. Nkhata Bay Cassava Zone.** Nkhata Bay is a deficit zone which has one of the highest poverty levels in the Northern Region of the country. The most important aspects of this food economy are: food crops, employment and cash crops. Modal households produce crops capable of feeding the family for 8-9 months. Cassava is the major food crop, followed by maize, rice, bananas, sweet potatoes and ground nuts. As cassava is more resistant to drought than maize, this area is somewhat less vulnerable in bad years. Animal traction is limited because of rocky soils and livestock scarcity. Poor soils, as opposed to rainfall, are the limiting factor on agricultural production. Employment and remittance contribute for a third to a half of annual income for the typical household. The majority of this employment is casual labour, but there is also significant remittance and pension income. Although cash cropping is less well developed in this area, it does account for around a third of annual income for the typical household. The approximate population of this FEZ is 195,000 persons.

**6. Western Rumphu and Mzimba.** The most important aspects of this food economy are food crops, wild foods, cash crops and non-food production. The typical household in this area produces enough food to feed the family for 10 months. The major food crops are: maize, millet, beans and ground nuts. Both modal and rich households have the means to practice animal traction. Wild food consumption is a small but significant source of food for both poor and modal families. Proximity to Nyika National Park and the Vwaza Game Reserve may allow for above average wild food collection opportunities. Tobacco and maize are the most important cash crops whose sale comprises over half the annual income of typical households. Non-food production (beer brewing, craft and firewood sales) is extremely important for the poor and to a lesser extent the modal families. The approximate population of this area is 112,000.

**7. Northern Mountainous Areas.** This is a geographically fragmented food economy zone which is being grouped together due to similarities in agroclimatology as well as cash cropping. The most important aspects of this food economy are: food crops, cash crops and non-food production. This is a maize deficit zone. The main food crops in this area are: maize, cassava, beans, bananas, millet and sweet potatoes. The typical household produces enough food crops to feed the family for nine months and earns half of its income from the sale of cash crops. Coffee and beans are the most important cash crops. The removal of price supports and the lower world coffee price has meant that many small hold farmers are moving out of coffee. With the exception of Khosolo in southeast Mzimba, the land is generally too hilly for the use of animal traction. Non-food production (firewood sales, beer brewing and craft) is also quite important, especially for poor and modal households. The total population of these areas is approximately 53,000 persons with Misuku being the most populated and Mphompha the least.

**8. Mzimba Self-Sufficient Maize Zone.** Food and cash cropping are the most important elements of this food economy zone. Maize is the major food crop. The rich produce a significant food crop surplus in normal years while the modal families are nearly self-sufficient. Tobacco is the most prevalent cash crop which is grown by both small holders and estate owners. Livestock holdings and wild food availability are above average for Malawi. The approximate population of this area is 461,000.

9. **Southern Lakeshore.** This is the most important fishing area in the country (due to shallower depths than the northern half of the Lake) which is and will be severely impacted by the declining productivity of Lake Malawi. The most important aspects of this food economy zone are food crops, fishing, employment and trade. The typical household produces enough crops to satisfy 55-60% of annual food needs in a normal year. The most important food crops are: maize, cassava, rice, sweet potatoes, pulses and ground nuts. Fishing involves, either directly or indirectly, all households in this FEZ. The typical household acquires close to a tenth of its annual food needs from fish consumption, earns over a quarter of its annual income from the sale of fish it has caught, generates another tenth of its income through casual labour for wealthier fisherfolk and earns a portion of its trading income from the buying and re-selling of fish. The Yao are the dominant ethnic group in this area and are known for their ability as traders<sup>36</sup>. The approximate population of this FEZ is 189,000.

10. **Lilongwe East.** This area is distinguished from the surrounding Kasungu-Lilongwe Plain by its significantly lower production levels for poor and modal households as well as smaller average land holding size. The most important aspects of this food economy are food crops, casual labour and non-food production. The typical household in this area produces enough crops to feed the family for six months. The major food crops are: maize, beans, cassava, ground nuts and sweet potatoes. The use of animal traction is quite limited. Typical households earn up to half their annual income performing ganyu for wealthier farmers from Lilongwe who rent land from poorer families in this food economy zone. Non-food production often involve making mats and selling baked goods at local markets. The population of this area is approximately 380,000.

11. **Phirilongwe Hills.** The most important aspects of this food economy zone are food crops, cash crops and employment. The typical household produces enough crops to satisfy 60-75% of annual food needs in a normal year. The most important food crops are maize, cassava and sorghum. The most important cash crops are tobacco and cotton. The approximate population of this area is 246,000.

12. **Rift Valley Escarpment.** This is a deficit area that is somewhat rocky and less productive than the surrounding zones. The most important aspects of this food economy are food crops, cash crops and livestock. The typical household in this area produces about eight months worth of food. The major food crops are: maize, cassava, sorghum, sweet potatoes, pigeon peas and ground nuts. Only the rich have the means to practice animal traction. Cash crop sales provide the typical household in this area with 35-45% of annual income. Cotton is the most common cash crop, followed by maize and tobacco. While livestock holdings are limited, income and food from these holdings make a modest but significant contribution to household food security. The approximate population of the zone is 884,000.

13. **Surplus Producing Kasungu-Lilongwe Plain.** This area is well-populated and highly productive. The most important aspects of this food economy are food crops, cash crops and trade. The typical household produces crops which generally last the family 10-11 months. The primary food crop which is cultivated in the area is maize. Cash cropping is the largest

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<sup>36</sup> Mangochi District Profile. 5th Country Programme. UNDP.  
RiskMap Malawi Final Report

source of income for the typical household and accounts for nearly three-fifths of annual income. The primary cash crop is tobacco. As compared to other food economy zones within Malawi, the RiskMap data indicate that poorer households garner a greater percentage of cash income from the sale of cash crops. Trading activities contribute for a fifth of income for the typical household in this area. The approximate population in the area is 2,374,000.

**14. Middle Shire Valley.** This is a wide, low-lying valley floor lying in a rain shadow with poor soils and a relatively, less dense population. Many current inhabitants moved from the crowded highlands to the east from the 1930's onward. This is primarily a maize producing zone which is typically in deficit. Cassava and rice are also major food crops, the second being primarily grown on dambo lands along the Shire River. The principle cash crops are cotton and tobacco. Fishing is a small, but consistent source of income for the modal and poor families. While the poor are highly dependent on ganyu for cash earnings, cash crop sales and trading constitute important sources of income for the mode and rich. Livestock holding are low compared to the rest of Malawi. The area has an approximate population of 289,000 persons.

**15. Lake Chilwa Basin.** This food economy zone is dominated by the geography of the Lake Chilwa basin. The most important aspects of the food economy are food crops, fishing and cash crops. Production levels (ag and fishing) fluctuate widely from year to year in the zone. Agricultural production is relatively poor with the typical household producing enough food to feed the household for six to seven months. The major food crops are maize, rice, cassava, sorghum, sweet potatoes, pigeon peas and pulses. Most the farming is done by hand. Fishing income vacillates significantly in relation to the state of the lake with the typical household earning 35-65% of annual income from the sale of their catch. In bad years, there is significant male migration as boat and net owners, along with employees, move to other areas to fish. Cash cropping accounts for a fifth to two fifths of annual income for the typical household. The most important cash crops are: rice, cassava, tobacco and garden produce. The population density in this zone is less than in surrounding areas. The approximate population for the zone is 454,000.

**16. Productive Mozambique Border Area.** This is a somewhat unique area in that much of its character is a result of it bordering on a highly productive portion of Mozambique (an area considered to be the bread basket of Mozambique) This combined with a road running along most of the border has resulted in a high level of border trade (particularly for the rich). Furthermore, Malawians frequently cross the border to do ganyu or piece work where land holdings are several times larger. On the Malawian side, only the rich are self-sufficient in grain production. The major food crops are maize, potatoes, beans, sweet potatoes and ground nuts. Many parts of the crescent are considered to be some of the poorest in Malawi. After food crops, cash crops are the second most important aspect of this food economy. The major cash crops are beans, potatoes, soybeans, groundnuts and tobacco. Livestock holdings are relatively low. All of the refugees that were in this area during the Mozambican civil war have returned home. The approximate population of the area is 260,000.

**17. Densely Populated Shire Highlands.** This is a fairly large food economy zone which covers one of the most densely populated portions of the country. The area also includes two of southern Malawi's most important urban areas, Blantyre and Zomba. Modal families do not produce enough grain to feed themselves in a normal year. Modal and rich families rely

on cash crop sales for the majority of their income. The most significant source of income for the poor is ganyu which provides the bulk of their food through purchase. Generally speaking, more tobacco, sunflower and pigeon peas are grown in the southwestern part of this FEZ. Main food crops for this area are (in order of importance): 1. maize, and 2. cassava. The two are inter-cropped together. Other food crops include: sorghum, beans, sweet potatoes, ground nuts, pigeon peas and vegetables. The most significant cash crop in the area is tobacco. Other cash crops cultivated in the Shire Highlands include: ground nuts, cassava, vegetables (beans, cabbage, tomatoes), bananas, pigeon peas, and small amounts of cotton. Land holding size is a significant constraint to agricultural production. Livestock holdings in this area are relatively low. The approximate population of the area (not including Blantyre) is 1,080,000.

**18. Phalombe Plain.** Although a reasonably fertile highland plain this FEZ is known to be food insecure, due in part to it lying in a rain-shadow. Maize is the main crop grown here but will only do well in a season of good rainfall. Tobacco is the main cash crop and does well in this area. It's approximate population is 674,000.

**19. Northern Lower Shire Valley.** The most important aspects of this food economy are food crops, employment, cash crops and livestock. The majority of families in this area are not self-sufficient in grain production. The main food crops grown in upland fields are maize and sorghum, followed by millet. The major crops grown in dimba fields are: maize, rice, tomatoes, vegetables, cowpeas and pigeon peas. Unlike the rich and the modal groups, the poor do not typically have access to dimba fields. This is significant as a quarter to half of food production for the better off groups may be coming from these dimba fields. The Sucoma Sugar Estate is a significant employer (and therefore source of income) for the middle and poor income groups in the area. The most important cash crops are (in order of importance): cotton, rice, sugar, tobacco and spices. Relatively large livestock holding are a significant feature of this zone. While livestock sales are the largest source of income for the rich, this revenue source ranks third after cash crop sales and employment for the mode. Other significant features within this area are Elephant Marsh (important for dambo lands) and Lengwe National Park. The approximate population of the area is 513,000.

**20. Thyolo/Mulanje Tea Estates.** This food economy zone is characterized by its extensive tea plantations (with some coffee and macadamia nut plantations). Within the Thyolo District, 45% of arable land is said to be under tea cultivation. Despite the 8.5 months long growing season, this area is among the poorest in the country. Small hold farmers' plots are quite small in size, estimated to be less than 0.4 ha/household. The area is also well known for its high population density, 243.58 persons/ha. The population for the Thyolo-Mulanje Tea Estate area is roughly 607,000. Modal, poor and rich households all produce insufficient food crops annually thus purchased food is very important in this zone. Small-hold farms found in the Thyolo-Mulanje Tea Estate food economy zone not under tea cultivation include the following primary crops: maize, cassava, bananas, millet, pigeon peas and sweet potatoes. Some fruit trees grow in the area such as pear and mango. In addition to tea estate employment, many small hold farmers earn cash through *ganyu* employment both of which are extremely important as sources of income in order to purchase food. Average sources of cash from employment for poor families is 75%. The amount of cash garnered through

employment diminishes with ascending economic status although it is significant among all three income groups.

**21. Southern Lower Shire Valley.** This is a cereal deficit zone where millet and sorghum predominate as food crops. Livestock holdings are relatively high. Livestock sales and trade account for the bulk of income for modal and rich households. *Ganyu* labour is the most significant source of income for the poor. The population of the food economy zone is 169,000. The average population density for the zone is 175.28 persons/ha (1987 census figures). While this area hosted large numbers of Mozambican refugees in previous years (30% of all Mozambican refugees in Malawi were in Nsange District), these persons have now returned home since peace was restored in 1993. The departure of the refugees and the relief programs associated with their presence means that an active trade in relief rations is no longer a factor in this food economy.

**Table A: Food Economy Zone Population Estimates**

FEZ Number	Food Economy Zone	Population <sup>37</sup>
1	Northern Karonga	50,000
2	Central Karonga	35,000
3	Chitipa Millet & Maize	73,000
4	Northern Lakeshore	50,000
5	Nkhata Bay Cassava Zone	195,000
6	Western Rumphi and Mzimba	112,000
7	Northern Mountainous Areas	53,000
8	Mzimba Self-Sufficient Maize Zone	361,000
9	Southern Lakeshore	189,000
10	Lilongwe East	380,000
11	Phirilongwe Hills	246,000
12	Rift Valley Escarpment	884,000
13	Surplus Producing Kasungu-Lilongwe Plain	2,374,000
14	Middle Shire Valley	289,000
15	Lake Chilwa Basin	454,000
16	Productive Mozambique Border Area	260,000
17	Densely Populated Shire Highlands	1,080,000

<sup>37</sup>Population figures have been rounded to the nearest thousand. EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations.

18	Phalombe Plain	674,000
19	Northern Lower Shire Valley	513,000
20	Thyolo/Mulanje Tea Estates	607,000
21	Southern Lower Shire Valley	169,000
	<b>TOTAL</b>	<b>9,049,000</b>

## **1: Northern Karonga: Rice and Bananas**

### Summary of Food Economy

The Northern Karonga FEZ is found in the northeast-most corner of Malawi. Northern Karonga is a relatively small zone. A considerable amount of rice is produced in this zone in the watershed and wetlands of the Songwe River Valley. It is primarily a plains area. Food crop production is the most significant feature of this FEZ. The primary food crops grown in this FEZ in order of importance include: 1. Rice, 2. Cassava, 2. Bananas, 3. Maize, 4. Sweet potatoes and small amounts of beans and vegetables. Rice and maize are grown in the *dambos*.<sup>38</sup> Maize is cultivated in *dambo*<sup>39</sup> areas near rivers and wetlands during the dry season from July - November. Rice would be cultivated in the same areas but during the rainy season. Purchase is the second greatest source of food for modal families in this zone. The largest source of cash and the second most important element of this FEZ overall is cash crop sales which include rice, cassava, millet, sugar, bananas, maize and others. The primary source of income for the poor however is employment. Despite the fact that rich households produce surplus grains, due to poor infrastructure in Northern Malawi, rice is sold to Tanzanian traders just north of the border rather than within the country. Northern Karonga is part of the Karonga ADD which is one of the most prosperous ADDs relatively speaking in Malawi. Poor households however, have food deficits during normal years. The approximate population of the zone is 50,000.<sup>40</sup> The zone contains both plains and highlands however, the majority of the population is concentrated on the more productive plains.

### Main Elements of the Food Economy

The main elements of this food economy include the following in order of importance: 1. Food Crops, 2. Cash crop sales, 3. Employment/Remittance income, 4. Trade, 5. Non-Food Production, 6. Fish, 7. Hunting/Wild Foods, and 8. Livestock. Gifts and relief are not significant in this zone as elements of the food economy.

### Geography and Rainfall

The Northern Karonga FEZ is found in the far north-eastern corner of Malawi. Northern Karonga's eastern border is near Lake Malawi (separated from it by the Northern Lakeshore FEZ), it shares its northern side border with Tanzania. To its south lies Central Karonga and to the west, Misuku (a mountainous area which produces coffee and nuts). The Northern Karonga FEZ is relatively small and includes the following two EPAs: Kaporo North and Kaporo South. The mean annual precipitation in this zone is 1,400 - 1,800 mm. Although most of the population lives in the plains/watershed of the Songwe river, the zone does include some highlands to the west toward FEZ number 7: Northern Mountainous Areas.

### Sources of Food

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<sup>38</sup>A *dambo* is a wetland area (near rivers, lakes or low lying area) where crops are cultivated on the basis of residual moisture

<sup>39</sup>A *dambo* is a wetland area (near rivers, lakes or low lying area) where crops are cultivated on the basis of residual moisture.

<sup>40</sup>EPA population data from USAID FEWS, based on Government of Malawi National Statistics Office data. See Appendix 1 for FEZ population calculations.

Own food crop production is a marginally greater source of food than purchased food for modal families in this zone attaining 45-55% from own crops and 45-50% from purchases annually. Modal households also obtain small amounts of food from fish and wild foods/game. Gifts and relief as well as milk/meat consumption are insignificant. The situation for rich and poor households contrasts with that of the mode however. The rich gain almost all of their annual food needs from own crop production and the remaining limited balance (5-15%) from purchases. The poor acquire only about a third of their needs from own crop production with most of the balance attained through purchases. They get a very small amount of food from fish (0-5%).

**Table 1.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	25-35	45-55	85-95
Milk/Meat	0	0	0
Fishing	0-5	0-5	0
Wild Foods	0	0-5	0
Gift/Relief	0	0	0
Purchase	65-70	45-50	5-15
Total	90-110	90-115	90-110

### *Food Crop Production*

Food crops are the most significant element of the food economy in this zone. They account for 45-55% of annual food needs among modal families. In contrast to this, the poor acquire roughly one third of their food needs through own crop production whereas the rich gain nearly all (85-95%) from this source. The types of food crops grown in this area listed in rank of importance include: 1. Rice, 2. Cassava, 2. Bananas, 3. Maize, 4. Sweet potatoes, and small amounts of beans and assorted vegetables.

### *Wild Foods*

Wild foods and game do not make a large contribution to annual food needs in this zone. In modal houses alone, they contribute 0-5% annually. The wild foods which grow in this area include the following: Baobab (*Adansonia digitata*), wild spinach, *nthudza* (fruit), *bwemba*<sup>41</sup> (fruit), beeswax, *minyele* (March), *ifulu* (July - Aug.), *nandabi* (Feb.) and *mzovu* (March). Key informants indicated that there are relatively few wild foods which grow in this area due to the fact that the zone is dominated by plains which are extensively cultivated hence not allowing much space for wild foods propagation. Baobab trees and wild spinach are found in the plains.

### *Fishing*

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<sup>41</sup>*Nthudza* and *bwemba* are upland wild food fruit varieties.  
RiskMap Malawi Final Report

Fish as a source of food is limited in this zone despite its proximity to the Lake Malawi Lakeshore. It contributes 0-5% of annual food to modal and poor households and none to the richer households. Somewhat similarly, it contributes small amounts to the annual income of rich and poor households; in these cases, 0-5% each.

### Sources of Cash

The major source of cash for modal families in this zone is cash crop sales (30-40%). The second most significant is employment and remittance income (15-25%). Non-food production and trade tie as the third most important annual sources of cash (15-20%). Livestock sales make a limited contribution for the modal households. Cash crop sales are also the most significant source of cash among rich families contributing about half of their annual food needs. The second largest source of cash for the rich is trade and the third is livestock sales. Very nominal amounts are derived from employment and remittance as well as fish sales. The largest source of income to poor households is employment and remittance income. As with many other zones in Malawi, *ganyu* is very important as a source of income to the poor. The second largest source for them is cash crop sales followed by livestock sales. Non-food production and fishing make small contributions.

**Table 1.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	70-75	15-25	0-10
Livestock Sales	5-10	0-10	10-20
Cash Crop	10-15	30-40	50-55
Non-Food Production	0-5	15-20	0
Other Trade	0	15-20	15-25
Fishing	0-5	0	0-5
Total	80-110	75-115	75-115

### *Employment and Remittance*

Employment and remittance is the second most significant source of income to modal families in this zone. The largest source of cash for the mode within this category is local *ganyu*. Some cash is garnered from employment in big towns further away in Malawi as well as a small amount from working in neighbouring countries. *Ganyu* is the most important source of cash for poor households with small amounts of cash being remitted from household members living away in large towns. Employment and remittance is rather minimal for the rich contributing only 0-10% to annual income.

**Table 1.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country

Poor	85-90	10-15	0	0
Mode	60-65	35-40	5	0
Rich	0	85-95	5-15	0

**Table 1.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	<i>Ganyu</i> labour: crops and other odd jobs
Within Country	Karonga, Blantyre, Lilongwe, Mzuzu, Nkhotakota sugar estates
Neighbouring Country	Zambia, Tanzania, Zimbabwe, S. Africa

### *Livestock*

Livestock sales make small contributions to the annual incomes of all three economic groups in this zone. They account for 5-10% for the poor, 0-10% for the mode and 10-20% for the rich. Modal households typically have a few cows reflecting the overall prosperity of the zone. They also generally own a goat, some chickens and a pig. Poor households have much fewer holdings limited to a few chickens. The rich in contrast to both groups own more animals overall as well as owning several head of cattle and a pair of oxen. (See Table 1.4 for more detail regarding livestock holdings.)

**Table 1.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	3	10
Goats	0	0-1	0-2
Sheep	0	-	0
Chickens	4-8	6-7	15-20
Pigs	0	1	1-3
Donkey	0	0	0
Oxen	0	(combined with cattle)	2
Other	-	-	-

### *Cash Crop Production*

Cash crop sales are an extremely important feature of this food economy zone. They are the second most significant element of the food economy overall and provide the largest source of income annually to modal and rich households contributing about a third of annual income to modal households and half to the rich. They are less significant for the poor, but play a role nonetheless contributing 10-15% annually. The types of cash crops grown in Northern

Karonga include: rice, cassava, millet, sugar, bananas, maize, oil palms, beans and some fruits. Wealthier farmers who have access to irrigation systems are capable of obtaining two rice harvests per year. Crops such as maize are grown in *dambos*<sup>42</sup> during the dry season. The majority of poor do not have access to *dambo*<sup>43</sup> fields however. (This is in part reflected by the small amount of cash garnered from cash crop sales.) Much of the rice produced in Northern Karonga is sold either to Tanzanian traders in Malawi, or just over the border in Tanzania by Malawian producers and/or traders.

#### *Non-Food Production*

Non-food production is fairly significant in this zone. It is the third largest source of income for modal families accounting for 15-20% of annual income. However, for the poor, it only contributes 0-5% and for the rich nothing at all. Non-food production in this zone includes a variety of products such as beer, crafts, and fuelwood sales.

#### *Trade*

Trade is the third most important source of income for modal families (which ties with non-food production). It is the second most significant source of cash for rich families while it makes no contribution to the budgets of poor families. In this case, trade includes activities such as small businesses and/or shops, trade in goods, some cross-border trade with Tanzania, and fish trade.

#### Surplus Production and Income

Poor and modal families do are not reported to produce any surplus food or cash in this zone. However, rich households in general are cited to produce 10-15% surplus food annually. They are also cited to produce about 40-45% surplus cash following normally anticipated expenditures.

**Table 1.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	10-15
Surplus Cash Production	0	0	40-45

#### Assets and Savings

Modal and poor households are reported not to maintain foodstocks on a yearly basis. The rich however are stated to retain foodstocks equivalent to 30-35% of annual food needs. All three income groups could attain some food if their livestock assets were liquidated and converted to grain. However, this capacity varies quite widely across income groups. The poor could attain only about 5-10% whereas modal households could gain roughly two years worth of food (at normal year prices). The rich could gain significantly more, equivalent to over seven years of food. These differences are attributable to both the quantities and types of

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<sup>42</sup>A *dambo* is a wetland area (near rivers, lakes or low lying area) where crops are cultivated on the basis of residual moisture.

<sup>43</sup>A *dambo* is a wetland area (near rivers, lakes or low lying area) where crops are cultivated on the basis of residual moisture.

livestock which each income group owns; cattle accounting for a major difference. Assets when converted to grain, yield lower results than livestock overall. The only asset which poor families might liquidate is a bicycle which is roughly equivalent to 20% of annual food needs when converted to grain. Modal families would do a bit better in this situation, gaining about one half of a year's worth of food. The rich would do the best of all, potentially gaining over two years worth of food. The types of assets which modal and rich households own are dominated by farming implements such as ploughs, ox carts, etc. Although the rich might own assets such as a nice house with a solid roof and furniture, those values are unknown and were hence not included in these conversions. In a somewhat similar fashion, at the opposite end of the spectrum, items which the poor own such as hand-held hoes and axes were deemed not to have re-sale value thus they were not included in calculations of assets for the poor.

**Table 1.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0	0	30-35
Livestock	5-10	200-210	710-780
Cash & Other Property	20	50	225

#### Income Distribution and the Mode

70% of the population falls within or below the mode in the Northern Karonga zone.

#### Cereal Markets and Food Flows

ADMARC, the Malawian government parastatal, has historically maintained the primary role in grain purchases, sales and distribution. However, with recent market liberalization increasingly, private traders are playing a larger role. Maize and rice are bought and sold at ADMARC in Kaporo. If maize is scarce, it may be bought in Tanzania. Chakwera village is also a cereal market in this zone. Surplus maize produced in Chitipa may be found in this zone.

#### Other Markets and Prices

##### *Livestock Markets*

Livestock sales occur in the following locations: locally within villages, Kasoba, Koporo and Tanzania (Kyela).

##### *Cash Crop Markets*

Cash crops are sold in a variety of locations including: sales to private companies (e.g. Cargill in Kambwe), ADMARC (depots within villages), milled grain sold in Karonga, private traders from Tanzania who go to the rice growers and producers who travel to Kyela, Tanzania to sell rice.

##### *Other Trade*

Most forms of trade occur locally over a widespread area. For those people involved in cross-border trade, Tanzania is the place where it occurs.

### Non-Food Production

Non-food production sales such as crafts, fuelwood, and beer occur locally.

**Table 1.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	450
Ax		other ag.		Bicycle	1,150
Plough	1,225	ox cart	8,000	Car	
Furniture		wheelbarrow			

**Table 1.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	30	pig	700	donkey	
goat	200	cow	1,500	g. fowl, etc.	
sheep	200	ox		other	

### How People Cope with a Bad Year

Wild food consumption overall is said not to expand during difficult years in this zone.

Income Redistribution is also stated not to expand during difficult years. Some sources even state that both decrease in this situation.

### Seasonality (months in bold print are the harvest periods)

#### *Food Crops*

- Rice Jan - **May/June/July**
- Irrigated Rice June - **Nov/Dec** (Rich farmers with access to irrigation can harvest twice per year)
- Bananas year-round
- Maize June - **Oct/Nov** (dambo maize)  
**May/June** (dryland maize)
- Cassava **Dec/Jan/Feb/March**

#### *Cash Crops*

Same as food crops

#### *Employment*

(*Ganyu*) year-round

Peak harvest periods: Nov. - April

#### *Rain*

Nov - April

#### *Wild Foods*

- Dry season Aug - Nov
- Rainy season Nov - April

#### *Fish*

Nov - April

## 2: Central Karonga: Maize and Livestock

### Summary of Food Economy

The Central Karonga Maize and Livestock Food Economy Zone is found in north-eastern Malawi. It is a relatively fertile area and not a food deficit zone with good maize production and significant livestock holdings. Poor, modal and rich households all gain over 75% of their annual food needs from their own crop production. The primary crops in this area are maize, sorghum, millet, cassava, rice and sweet potatoes. The small amount of food which is not produced by households in the zone is purchased. Modal and wealthy households gain the majority of their income through livestock sales, while poor households have more diversified strategies which include cash crop sales, handicraft sales and labour. Livestock sales and small business make up very small percentages of poor households' income. It's approximate population is 35,000.<sup>44</sup>

### Main Elements of the Food Economy

The main elements of this food economy in order of importance are: 1. Food crops, 2. Livestock, 3. Fish, 4. Cash Crops, and 5. Trade.

### Geography and Rainfall

The Central Karonga FEZ's eastern border is the lakeshore zone near Lake Malawi. To its north lies Northern Karonga, to the west, Chitipa and the south, Southern Karonga. The Nyika Plateau and National Park are to its west and south. Its composition includes the Karonga Central and Karonga South EPAs. The average annual precipitation is 1,000 mm.<sup>45</sup> Its elevation is about 900 metres.

### Sources of Food

The primary source of food for all three income groups in this zone is own food crop production which in this case is primarily maize. It accounts for nearly all of annual food needs for modal and rich families as well as more than three quarters for the poor. Complementary sources of food for all three groups are purchased. Although milk, poultry and eggs are consumed from personal holdings by people within the zone, given the quantities and caloric value of those foods cumulatively they are insignificant as sources of food. The same is true for fish. It is consumed in the area when seasonal streams are filled with water during the rainy season. However, the amount of fish eaten overall is not significant.

**Table 2.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	75-85	90-95	90-95
Milk/Meat	0	0	0

<sup>44</sup>EPA population data from USAID FEWS, based on Government of Malawi National Statistics Office data. See Appendix 1 for FEZ population calculations.

<sup>45</sup>"Mean Annual Precipitation by EPA," Agro-Climatic Zone Series, documented for the Baseline VAM, Prepared by FEWS (MOALD:AES/USAID), Malawi, 1996.

Fishing	0	0	0
Wild Foods	0	0	0
Gift/Relief	0	0	0
Purchase	15-25	5-10	5-10
Total	90-110	95-105	95-105

### *Food Crop Production*

The primary food crop grown in this zone is maize. During normal years, modal and rich households produce surpluses, although poor households do not attain 100% of their annual food needs through crop production. They sell much of their grain immediately following the harvest. The food crops grown in this area in order of importance are: 1. Maize, 2. Sorghum, 3. Rice, 4. Millet, tied 4. Cassava, and 5. Sweet potatoes. Cash crops include food crops such as maize and ground nuts. Cotton is the only non-food cash crop grown in the area.

### *Wild Foods*

Although all three income groups consume wild foods as snacks, cumulatively, their consumption is not significant. Dry season and rainy season wild foods grow in Central Karonga. A widely found rainy season food is mushrooms. Several wild fruits are available during the dry season from July - August. They include: *maviru*, *fulu* and *ndilolo* (milk fruit). Rich households rarely have access to small antelope meat. Modal and poor households do not consume any wild game.

### *Fishing*

During the rainy season (December - April/May), seasonal rivers are fished quite intensively. Poor, modal and rich households consume fish on a regular basis during this time ranging from weekly to daily consumption. However, the fish consumed is in the form of relish to accompany the *nsima* staple dish. Thus, given the small amounts consumed coupled with the low caloric value of fish, the total amounts are not significant annually as a source of food.

### Sources of Cash

As the name of this food economy zone suggests, livestock is very significant here. Livestock sales account for the primary source of income for both modal (75-85%) and rich (85-95%) households. The most important source of cash in poor households is cash crop sales predominantly in the form of maize, groundnuts and cotton. Cash crop sales and trade are equally the second most important source of income for both the mode and the rich although their respective contributions are somewhat nominal (0-10%). Non-food production largely in the form of handicrafts is the second largest source of income for the poor. Relative to other zones, the poor gain comparatively little cash from *ganyu* labour. This is complemented by small amounts of income garnered from livestock sales and small trade.

**Table 2.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich

Employment & Remittance	5-10	0	0
Livestock Sales	0-10	75-85	85-95
Cash Crop	40-60	0-10	0-10
Non-Food Production	35-40	0	0
Other Trade	0-5	0-10	0-10
Fishing	0	5-10	0
Total	80-125	80-115	85-115

### *Employment and Remittance*

Employment and remittance income plays a very small role in this zone, particularly as compared with zones further south. Modal and rich households do not acquire any income from these sources. The poor however attain 5-10% of annual income from piecework either in the form of *ganyu* performed locally, or employment at irrigation schemes in Northern or Southern Karonga and larger towns in the Northern Region. Remittances are not significant in the Central Karonga FEZ. Many of the *ganyu* labourers in this FEZ come from Chitipa or Northern Karonga where there are larger food deficits from own crop production for poorer households.

**Table 2.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95	5-10	0	0
Mode	0	0	0	0
Rich	0	0	0	0

**Table 2.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Local piecework ( <i>ganyu</i> )
Within Country	1. Irrigation schemes in Northern and Southern Karonga, 2. Karonga, 3. Mzuzu
Neighbouring Country	0

### *Livestock*

This zone is unique in terms of the large proportion of income earned which is derived from livestock sales for modal and rich households, accounting for over three-quarters of annual income in both cases. The poor however gain a very modest amount of income (0-10%) from livestock sales as their holdings are significantly smaller than the mode and rich. However,

even the poor in this zone own a couple of cows on average. Some of the holdings in Central Karonga are comparable to other areas of Malawi, however as non-commercial farmers, their holdings are sizable. Tsetse fly is not a problem in this area, thus animal husbandry possibilities exist. All households possess some cattle which are quite valuable (about 1,500 Kwachas each). Goat holdings are not significant. Sheep are not widely found in Malawi. Pig holdings seem to vary based on climatic and religious conditions; i.e. where Islam is prevalent, pigs are not. In addition to standard livestock, many households maintain small numbers of pigeons and a duck or two. Rabbits are not raised in this area. Although households in this area have fairly large livestock holdings, they do not slaughter their animals for home consumption regularly. The livestock is far more valuable as a source of income. Most families in the area do consume sour milk with a rice porridge regularly. However, this doesn't amount to more than a couple of litres per week shared among an entire household. Thus, overall consumption is not significant. (See Table 2.4 for a more detailed presentation of livestock holdings.)

**Table 2.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	2-3	10	50
Goats	0	0	0
Sheep	0	0	0
Chickens	5	15	20
Pigs	0	0	0
Donkey	0	0	0
Oxen	0	0	0
Other	-	-	-

#### *Cash Crop Production*

Cash crop sales play a small role in the annual income of modal and rich families in both cases accounting for 0-10%. They are much more significant for the poor however accounting for 40-60% of annual sources of cash. The types of cash crops cultivated in this zone include: 1. maize, 2. ground nuts, and 3. cotton. Maize is the most important cash crop for the poor although cotton may be more important for the rich and mode. Poor households do sell fish, but the amount is insignificant. Modal households however earn from 5 - 10% of their cash through fish sales. Rich households are not engaged in fish sales.

#### *Non-Food Production*

Non-food production is insignificant as a source of income for both modal and rich households. For the poor however, it is quite significant, accounting for 35-40% of annual income. Non-food production in this area is composed namely of handicrafts and baskets in particular which are sold in trading centres along the main paved road which travels North

from Mzuzu to Karonga..None of the income groups gain any money through the sales of wild foods in this area.

#### *Trade*

Rich, modal and poor households all earn very small amounts of cash through small businesses or tiny grocery stores and shops.

#### Surplus Production and Income

Poor households do not have any surplus food production in this area. Mode and rich households have modest surplus food production averaging around 25%. The surplus cash income of the three economic strata in this zone varies widely. Poor families have from 0-10% at best, while modal families average modest cash surpluses ranging from 15 - 25% contrasting with rich households which have over 100%.

**Table 2.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	20-30	15-25
Surplus Cash Production	0-10	15-25	>100

#### Assets and Savings

##### *Foodstocks*

Foodstocks are somewhat limited in Central Karonga. Poor households don't have any foodstocks whatsoever. However, modal and wealthy households both have some, but not as great as 50%. Part of what accounts for this is the profit which can be made selling cereal and cash crops during the year.

##### *Livestock*

Given the predominance of livestock in this area, livestock holdings when converted to percentages of annual food needs can be quite significant. Even poor households' livestock possessions are equivalent to greater than one years worth of food. Modal holdings increase significantly, and are close to 600%. Wealthy households' livestock holdings are extremely valuable. With an estimated 50 cattle/household, values translate to about 2800% of annual food needs.

##### *Cash and Property*

Assets in terms of cash and property are considerably less significant than livestock. They include items such as farming implements, bicycles and radios. Better off households' assets are the largest, equivalent to 290% of annual food needs. Modal households have nominal assets at 50% while poor families in this area have negligible assets.

**Table 2.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0	15-25	30-40

Livestock	120-175	580	2810
Cash & Other Property	0	50	290

### Income Distribution and the Mode

70% of the population is estimated to fall within or below the mode.

### Cereal Markets and Food Flows

Until very recently, ADMARC controlled all cereal and cash crop sales (other than tea, coffee and tobacco). However, with recent market liberalization, independent traders are now playing an increasingly big role. Thus, both ADMARC markets in small towns, or buyers who circulate out to villages and markets purchase and sell cereals. ADMARC markets in Central Karonga are found in the following towns: Mpata, Ngara, Mlare, Lupembe, Wovwe, Hara, Phapa, Kaplo, Kyungu, Lufira and Mwenewisi.

### Other Markets and Prices

#### *Livestock Markets*

Livestock sales occur locally among fellow residents or to local buyers who travel through rural areas purchasing livestock. The second most common location to sell livestock is in some of the larger towns of the zone such as Karonga and Ngara. (There is a cold storage market in Ngara.)

#### *Cash Crop Markets*

Cash crop markets for the area are largely the same as those for cereal crops (perhaps because maize is both a cereal and cash crop). They include the ADMARC markets of Mpata, Ngara, Mlare and Lupembe.

#### *Other Trade*

Small businesses are operated locally in villages and small towns dispersed throughout the zone.

#### *Non-Food Production*

Handicrafts are sold in trading centres along the main paved road artery which travels from Mzuzu to Karonga. Some items are sold in Mzuzu, the capital of the Northern Region.

**Table 2.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	325
Ax		other ag.		Bicycle	1,000
Plough	780	ox cart	10,000	Car	
Furniture		wheelbarrow			

**Table 2.8: Livestock Prices**

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Animal	Price	Animal	Price	Animal	Price
poultry	50	pig		donkey	
goat		cow	1,500	g. fowl, etc.	
sheep		ox		other	

### How People Cope with a Bad Year

Although all income groups consume wild foods regularly as a snack, consumption does not expand during difficult years. Key informant responses regarding the degree to which income redistribution increases during difficult years vary. Overall it is assumed that it does not increase.

### Seasonality

Rains: Dec. - April

Maize: Dec. - May/June

Dimba season: May/June - Nov/Dec.

Wild Foods: Dec. - Jan. & July-Aug.

Employment

Ganyu: Nov. - Feb.

### 3: Chitipa Millet and Maize<sup>46</sup>

#### Summary of Food Economy

Although maize is the primary food crop in the Chitipa FEZ, relative to the rest of Malawi, the zone grows a considerable amount of millet. (Nsanje and Chikwawa are the other two high-millet producing areas.) The primary food crops grown in this area in order of importance include: 1. maize, 2. millet, 3. cassava, 4. beans, 5. ground nuts, and small amounts of sweet potatoes. Cash crops cultivated here include: 1. tobacco, 2. maize, 3. millet, 4. beans<sup>47</sup> and 5. Cotton. As is the case in general in the Northern Region of Malawi, Chitipa is less densely populated than the Central and Southern Regions. Land use pressure is also lower. According to a World Bank study, the Chitipa FEZ would fall approximately in "the middle" with regard to poverty. That is, the percentage of people living below the 20th income percentile is equal to 14 - 23%.<sup>48</sup> (This is much less than the Thyolo-Mulanje area, the Dedza Hills/Ntcheu area and Nkhata Bay which figure as the poorest<sup>49</sup> areas in Malawi. The approximate population for the area is 73,000.<sup>50</sup>

#### Main Elements of the Food Economy

The main elements of this food economy zone are as follows (in order of importance): 1. Food Crops, 2. Cash crops, 3. Wild foods/game, 4. Non-Food Production, 5. Employment/Remittance Income, 6. Livestock, and 7. Trade. Fish and Gifts/Relief are not significant elements of this zone.

#### Geography and Rainfall

The Chitipa Millet and Maize Food Economy Zone is found in the northwestern-most part of Malawi. It includes the following EPA's: Mwamkumbwa, Lufita, Chisenga, Kavukuku. The mean annual precipitation is 1,000-1,200 mm.<sup>51</sup> The southern part of the zone includes the Nyika Plateau which receives more rain, but which is found within the Nyika National Park.

#### Sources of Food

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<sup>46</sup>This FEZ compilation is based on three full interviews with four key informants.

<sup>47</sup>It is not clear if the beans referred to are soya beans for livestock fodder or other beans for human consumption. Soya beans have been introduced relatively recently in Malawi. They are not as yet used to a great extent within homes for meals.

<sup>48</sup>A Profile of Human Resources and Poverty in Malawi, June 1995, Draft, Human Resources Division, Southern Africa Department of the World Bank, Figure A3.2 "Percent Households Poorest Using the 20th Percentile income as cutoff by RDP.

<sup>49</sup>Ibid.

<sup>50</sup>EPA population data from USAID FEWS, based on Government of Malawi National Statistics Office data. See Appendix 1 for FEZ population calculations.

<sup>51</sup>"Mean Annual Precipitation by EPA," Agro-Climatic Zone Series, documented for the Baseline VAM, Prepared by FEWS (MOALD:AES/USAID), Malawi, 1996.

The primary source of food in this zone for modal and rich households is own food production accounting for three-quarters of annual food needs for the mode and just under 100% for the rich. It is the second largest source of for poor households following purchase. Purchase is the second most significant element in this zone among modal families followed by wild food and game consumption. All three income groups consume some wild foods, although the overall consumption is not huge. The rich are the only households which consume significant amounts of meat and/or milk which only accounts for 0-5% of annual needs.<sup>52</sup>

**Table 3.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	35-45	70-80	90-95
Milk/Meat	0	0	0-5
Fishing	0	0	0
Wild Foods/Game	0-10	0-10	0-5
Gift/Relief	0	0	0
Purchase	50-55	15-20	0-5
Total	85-110	85-110	90-110

#### *Food Crop Production*

Food crop production is the most significant element in this zone. It accounts for the majority of food for modal (70-80%) and rich (90-95%) households, while it is second most significant for the poor (35-45%). The main food crops grown in this area, in order of importance are: 1. Maize, 2. Millet, 3. Cassava, 4. Beans, and 5. Ground nuts.

#### *Wild Foods and Game*

Wild foods and game do play a role in this zone although it is limited. They comprise the third most important element of the food economy in this zone. They account for relatively small though significant amounts of annual food needs for each income group; 0-10% for both the mode and poor and 0-5% for the rich. Some of the wild foods found in this zone include the following: wild vegetables: mushrooms, local okra, *mzimbwa* (wild rape), *pupwe* (Sept. -Nov.), *ponda* (Sept. - Nov.), wild fruits: *masuku* (Feb-March), *mamphangwa* (Feb-March), *ndawi* (June - Aug.). Wild game in this area includes: bush buck, wild pigs, guinea fowl, birds, and hares. Very small amounts of these are actually caught. It is the poor primarily who hunt them and then actually sell most of the meat keeping small portions for home consumption.

#### *Fishing*

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<sup>52</sup>A type of sour milk is consumed as a relish with *nzima* for those families who have cows. This sour milk is referred to as *chambiko*.

Fish are insignificant as both a source of food and income in this zone.

### Sources of Cash

The primary source of cash for modal families in this zone is cash crop sales. The second most significant is non-food production while employment and remittance income is third. Livestock sales and other trade contribute small amounts to the annual income of modal families as well. As with modal families, cash crops are the most important source of cash for rich families. However, they are third most significant for the poor nonetheless accounting for a quarter of annual income. Employment and remittance income as well as other trade tie with each other as the second most important source of cash for the rich. Non-food production is the most significant source of income among the poor while employment and remittance income is second. Livestock sales account for small amounts of income for all three groups. Trade contributes to the incomes of modal and rich families alone. Fish sales do not play a role in this zone.

**Table 3.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	30-35	20-25	10-20
Livestock Sales	0-10	5-10	5-15
Cash Crop	20-30	30-40	55-65
Non-Food Production	30-40	20-30	0
Other Trade	0	0-5	10-20
Fishing	0	0	0
Total	80-115	75-110	80-120

### *Employment and Remittance*

Employment and remittance income certainly plays a role in this zone, but is less important than other poorer areas of the country particularly in the South. It is the fifth most important element of this food economy overall. It is the third largest source of cash for modal households (20-25%), second for the poor (30-35%) and second for the rich (10-20%). The primary source of employment for the poor and modal households is *ganyu* labour for wealthier farmers in the area which is followed by some work on nearby estates. Malawi's main large towns provide employment to poor, modal and rich. These centres are: Blantyre, Lilongwe and Mzuzu. Rich and modal household members obtain some employment income from the neighbouring countries of Tanzania and Zambia both of which are near to Chitipa.

**Table 3.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95	5-10	0	0

Mode	85-90	5-10	0-5	0
Rich	0	90	10	0

**Table 3.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	1.Ganyu, 2.Estates (Tobacco)
Within Country	1. Blantyre, 2. Lilongwe, 3. Mzuzu, 4.Karonga District: Cassava Ridging
Neighbouring Country	1. Tanzania, 2. Zambia

### *Livestock Holdings*

Milk and meat consumption is significant only for rich households in this zone, for whom 0-5% of their annual food needs are met from this source. A common use for milk in the area (for those who have cows) is *chambiko* (sour milk) which is used as a relish with the *nzima*<sup>53</sup> staple. Livestock sales contribute to every economic group's annual income in the Chitipa FEZ ranging in significance from rich to poor. They are most significant among rich households for whom they contribute 5-15% to annual income, for the mode 5-10% and the poor 0-10%. Livestock holdings vary considerably across the economic groups. Notable to this zone is the fact that even poor households have 0-1 cows on average. Sheep and pigs are uncommon in the area. The poor are stated to raise some pigeons and guinea fowl. Their value however is unknown. (For a more detailed description of livestock holdings see Table 3.4.)

**Table 3.4: Livestock Holdings (livestock numbers)**

Livestock Type	Poor	Mode	Rich
Cattle	0-1	5-7	20-30
Goats	1-3	3-5	15-20
Sheep	0	0	0-10
Chickens	5-7	10-12	30-40
Pigs	0	0-2	0-4
Donkey	0	0	0
Oxen	0	0-2	2-4

<sup>53</sup>*Nzima* is the staple dish throughout Malawi. It is a stiff porridge frequently made from white maize flour although it is also made with millet or sorghum. It is usually accompanied by a relish or sauce made from vegetables, fish, meat or a combination of the aforementioned.

Other	pigeons, guinea fowl	-	-
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### *Cash Crop Production*

Cash crops are very significant in this zone. They account for the second most significant element in the food economy of this zone. Among modal households, they are the most significant source of cash contributing 30-40% to annual income. They are also the most significant among rich households for whom they contribute 55-65% of annual income. They are third most significant for the poor but nonetheless make a fair-sized contribution at 20-30%. The cash crops which are cultivated in this zone in order of importance include the following: 1. Tobacco, 2. Maize, 3. Millet, 4. Beans<sup>54</sup>, and 5. Cotton.

### *Non-Food Production*

Non-food production is a significant source of cash in this zone. It is the second most important source of income among modal families (20-30%) and the first most important for poor families accounting for 30-40% of annual income. Rich households do not gain any income from non-food production sales. The types of items which comprise this category of sales include: beer, crafts, charcoal, and bricks.

### *Trade*

Trade is a relatively small source of income in this zone. Among modal families it contributes 0-5% whereas for the rich it provides a bit more roughly equivalent to 10-20% of annual income. Poor families do not gain any income from trade. The forms which trade takes in this zone include: small groceries, maize mills, butcheries, bottle stores (i.e. liquor stores), and other small businesses.

### Surplus Production and Income

Modal and poor families in this zone do not produce any surplus food or cash. Rich households however may produce 40-50% surplus food during normal years. They also produce surplus cash equivalent to 45-55% of annual food needs when converted to grain.

**Table 3.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	40-50
Surplus Cash Production	0	0	45-55

### Assets and Savings

Poor and modal households do not have food stocks in this area. The rich however have stocks equivalent to 40-45% of annual food needs. Livestock holdings when converted to grain may yield considerable amounts of food depending on the economic group. The poor on average would gain relatively little ranging from 15-110% or from just over a month to as

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<sup>54</sup>Beans and soya were both cited as cash crops for this area. It is unclear whether soybeans were intended when "beans" were mentioned. Therefore, it's possible that both soybeans and another type of beans are cultivated as cash crops in this zone.

much as a year's worth of food. Modal households could acquire 415-735% and the rich 1,765-2,795%. The reason for the large degree of variance among these figures is the amount of livestock owned, but the presence or lack of cattle in particular. Assets and cash savings when converted to food would provide relatively little for the poor (15%), about a half of a year's worth of food for the mode (50%) and over two year's worth of food for the rich (235%).

**Table 3.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0	0	40-45
Livestock	15-110	415-735	1,765-2,795
Cash & Other Property	15	50	235

### Income Distribution and the Mode

65% of the population falls within or below the mode.

### Cereal Markets and Food Flows

Given recent market liberalization, local markets and independent traders are now playing an increasingly more important role among rural farmers. Previously, the parastatal agency ADMARC<sup>55</sup> dominated livestock, cereal and cash crop markets. Major cereal markets in the area include: the Chitipa Boma (ADMARC), Karonga town, private traders from Karonga who come to the Chitipa Boma, Kameme town (where grains are sold to Tanzanians).<sup>56</sup>

### Other Markets and Prices

#### *Livestock Markets*

Goats and chickens are reported to be sold locally, i.e. within villages. Cattle however are sold in a variety of locations including: 1. Chitipa Boma (ADMARC, the butchereries, the market to traders from: Karonga, Nkhata Bay and Chitipa); 2. Ngara; equal at 2. monthly cattle markets in Nthalire, Kameme and Kaseye and 3. to private traders from Lilongwe, Mzimba and Karonga.

#### *Cash Crop Markets*

Given that the main cash crop in this zone is tobacco, the main cash crop market is Mzuzu for tobacco. Other food produce (grown as a cash crop) is sold at local produce markets. Surplus grain is sold to the cereal markets discussed under that section.

### *Other Trade*

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<sup>55</sup> Agricultural Development and Marketing Corporation (the Malawian grain marketing parastatal).

<sup>56</sup> An irony in this situation is that there are food deficit areas within Malawi which could benefit from surplus grain produced elsewhere in the country. However, for many farmers in the northern part of the country it is easier to sell grains to Tanzania given its proximity coupled with the poor infrastructure (namely roads) in northern Malawi.

Other trade occurs locally among villagers or withing neighbouring communities. Some cross-border trade with Tanzania does occur for grocery items and used clothing.

#### *Non-Food Production*

Non-food production sales such as beer occur locally.

**Table 3.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	775
Ax		other ag.		Bicycle	1,150
Plough	940	ox cart	10,000	Car	
Furniture		wheelbarrow		ridger	1,200

**Table 3.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	60	pig	600	donkey	
goat	190	cow	2,000	g. fowl, etc.	100
sheep	85	ox	1,500	other	

#### How People Cope with a Bad Year

##### *Wild Foods*

Overall, wild food consumption is said to decrease during bad years. Therefore, it does not play a role in decreasing the size of a food deficit in these circumstances.

##### *Income Redistribution*

Income redistribution does not increase during difficult years. During droughts, some of the poor might move in with richer relatives.

#### Seasonality (bold faced months are harvest months)

Maize: Nov - March/**April/May**: harvest

Millet: Jan. - **June/July**: harvest

Tobacco: Oct - **April/May/June/July**: harvest

Rain: Nov/Dec - March/April

Employment: 1. Cassava Ridging: March - June

2. Tobacco Estates: Jan - June

3. High Ganyu: Oct. - May

4. Misc. Ganyu: year-round

#### 4. Northern Lakeshore<sup>57</sup>

##### Summary of Food Economy

The bulk of this population lives within five kms of the Lake Malawi Lakeshore. Despite the importance of fishing, agricultural production is the major source of food accounting for close to two-thirds of annual food needs for the typical household. The most important food crops are cassava, rice, maize, bananas, sweet potatoes and yams. All strata of these Lakeshore communities are involved in fishing to some degree. The rich generally own canoes and nets and employ the poor to work for them. The modal group has its own equipment and fishes for itself. The poor have no equipment and work for better-off members of the community. Some male fisherfolk move up and down the coast while the women remain in their home village to farm. Other households stay in the same location year round to fish and farm. As compared to the Southern Lakeshore where there are more abundant shallow waters (thus more fish), fish catches have historically not been as high in this zone due to deeper waters. Cash cropping is also an important source of income. The approximate population of this FEZ is 50,000 persons.<sup>58</sup>

##### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) fishing, 3) cash crops, 4) employment/remittance 5) livestock, 6) trade and 7) non-food production.

##### Geography and Rainfall

The zone extends from the town of Dwangwa (near the Bana swamp and Unaka Lagoon) on the Lakeshore in the south up to the northern end of Lake Malawi where the Malawian and Tanzanian borders meet. The zone begins at Dwangwa because more cassava and rice is grown from this point northward as compared to the Southern Lakeshore. This FEZ is interrupted for a section of the Lakeshore (from Chikwina to Khondowe) because the lake is quite deep in this area and fishing is very limited. This FEZ also includes the Likoma and Chizumulu Islands which are found on the Tanzanian side of the lake across from Mlenga Senga. The islands are somewhat different than the rest of the FEZ in that farming is less developed. The mainland area is only a thin strip along the Lakeshore that extends approximately 5 km inland. This zone includes land found in the districts of Nkhatakota, Nkhata Bay and Karonga. The EPAs included in this FEZ are: Nkhunga (10% of the population), Chitheche (20%), Nkhata Bay Boma (20%), Karonga South (50%), Karonga Central (20%), Kaporo North (20%), Kaporo South (20%) and Likoma and Chizumulu Islands (100%). Mean annual precipitation for this area ranges from 1000 mm to 1400 mm.

##### Sources of Food

Food crops are the main source of food for modal and rich households at 55-65% and 60-85% of annual food needs respectively. Modal households complete their diets with food purchase (30-35%) and fish (5-10%). Rich households, on the other hand, consume a larger amount of self caught fish (10-20%), some farm raised meat (0-5%) and a smaller amount of purchased

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<sup>57</sup>The information in this section is based on five key informant interviews as well as secondary sources.

<sup>58</sup>EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations.

food (0-20%). The largest source of food for the poor is purchase (60-65%), followed by own crops (25-35%), wild foods (0-10%) and fish (0-5%)

**Table 4.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	25-35%	55-65%	60-85%
Milk/Meat	0%	0%	0-5%
Fishing	0-5%	5-10%	10-20%
Wild Foods	0-10%	0%	0%
Gift/Relief	0%	0%	0%
Purchase	60-65%	30-35%	0-20%
Total	85-115%	90-110%	70-130%

#### *Food Crop Production*

Own food crops account for 60-85%, 55-65% and 25-35% of annual food needs. The main food crops (from most to least important) are: 1) cassava, 2) rice, 2) maize, 3) bananas, 4) sweet potatoes, 5) yams, 6) ground nuts, 6) fruit and 6) pigeon peas. There is quite a bit of variance in the amount food crops produced by the rich (from seven to thirteen months of food). Generally speaking, those rich households more heavily involved in fishing devote less time to agriculture (and thus have lower production levels) whereas other rich households give more attention to farming and less to fishing. Only the rich have the means to practice animal traction. As men traditionally fish in these Lakeshore communities, it is the women who are largely responsible for farming.

#### *Wild Foods*

Wild food consumption is only of significance to the poor where it accounts for 0-10% of annual food needs. Wild food consumption is split between the hunting of wild animals and collection of wild fruits and vegetables. Animals commonly caught include: hares, rats, wild pigs and monkeys. Wild fruits and vegetables commonly collected include: mushrooms (Dec-March), baobab, amaranth, *masuku*, *mbula*, *mabungo*, *makovya*, *maviro*, *kapwate*, *nthuntu*, *mazayi*, *nthungulu*, *mfulukutu*, *matatani*, *ntopa*, *njaya*, *mazayi*, *bura*, *mura*, *maula*, *matwatwa*, *mahuhu* and *matyokolo*.

#### *Fishing*

Key informants indicated that the most important type of fish for professional fisherfolk is *Tilapia*, of which there are a variety of sub-species. The other important species are *Ucepa* and *Chambo*. The shallowest waters in the Northern Lakeshore are found around Karonga. Fisherfolk tend to look for fish around underwater rock outcroppings in the deeper sections of the lake (between Nkhata Bay and Mlowe). In the Lakeshore communities, men typically do the fishing while women practice farming. Self-caught fish account for 10-20%, 5-10% and

0-5% of annual food needs in a normal year<sup>59</sup> for the rich, mode and poor respectively. Fishing is also the largest source of income for rich and modal households, accounting for 35-50% and 35-40% of annual income respectively. The rich generally own a number of canoes and nets, employing members of poorer households to help them in their fishing enterprises. A few of the richer families also own boats. Modal families do much of the fishing themselves, hiring little to no additional labour to assist them. In addition to a significant amount of casual labour for better off fisherfolk, the poor do earn a share of their income from fish they catch (5-15%).

#### Sources of Cash

Purchase accounts for 0-20%, 30-35% and 60-65% of annual food needs for the rich, mode and poor. Modal households earn the largest share of their income from fishing (35-40%) and cash crop sales (35-40%). Modal households also earn smaller shares of their income from employment/remittance (10-20%), livestock sales (5-10%) and trade (0-10%). The poor earn the largest share of their income from employment/remittance (60-80%), followed by cash crop sales (5-15%), fish sales (5-15%), livestock sales (0-5%) and non-food production (0-5%). Like the mode, the rich earn the largest share of their income from fish sales (35-50%), followed by cash crop sales (20-25%), trade (10-20%), remittances (5-15%) and livestock sales (5-10%).

**Table 4.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	60-80%	10-20%	5-15%
Livestock Sales	0-5%	5-10%	5-10%
Cash Crop	5-15%	35-40%	20-25%
Non-Food Production	0-5%	0%	0%
Other Trade	0%	0-10%	10-20%
Fishing	5-15%	35-40%	40-45%
Total	70-120%	85-120%	80-115%

#### *Employment and Remittance*

Employment and remittances income accounts for 60-80%, 10-20% and 5-15% of annual income for poor, mode and rich respectively. Poor households earn 95-100% of this income from local piece work with a very small proportion from other locations in Malawi (0-5%). The local work is split 50/50 between agricultural and fishing piece work. Modal households also earn the largest proportion of their employment income from local piece work (80-85%) followed by work in other locations within Malawi (15-20%). The rich earn all of their income from work at other locations within Malawi. Other employment locations within Malawi include: Lilongwe, Blantyre, Mzuzu, Zomba, Kasungu Mangochi and Nkhotakota Sugar Estates.

<sup>59</sup>Key informants considered the 92/93 and 93/94 seasons to be normal or average for the 1990-96 period.  
RiskMap Malawi Final Report P. 48

**Table 4.3a: Employment and Remittance (% of employment income)**

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	95-100%	0-5%	0%	0%
Mode	80-85%	15-20%	0%	0%
Rich	0%	100%	0%	0%

**Table 4.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Local fish and ag piece work as well as casual labour on estates (tea and rubber) and beach resorts.
Within Country	Lilongwe, Blantyre, Mzuzu, Zomba, Kasungu, Mangochi and Nkhotokota Sugar Estates

#### *Livestock*

Livestock sales account for 5-10% of annual income for the rich and mode and 0-5% of income for the poor. The typical household would own 0-2 cows, 1-3 goats, 9-11 chickens and 0-1 pigs. Livestock holdings are higher in the north than in the South of this FEZ. Livestock are typically sold in the district towns such as Karonga and Nkhata Bay.

**Table 4.4: Livestock Holdings (livestock numbers)**

Livestock Type	Poor	Mode	Rich
Cattle	0	0-2	6-7
Goats	0	1-3	4-5
Sheep	0	0	0
Chickens	4-6	9-11	14-16
Pigs	0-1	0-1	0-2

#### *Cash Crop Production*

Cash crop sales account for 20-25%, 35-40% and 5-15% of annual income for rich, modal and poor households. The major cash crops (from most to least important) are: 1) rice, 2) maize, 3) oil palm, 3) chilli pepper, 3) banana, 3) sweet potato, 3) fruit, 3) cotton, 3) ground nut, 3) tobacco and 3) cashew. Cash crops tend to be sold to the local ADMARC or to private traders. Rice is increasingly sold to Tanzanians.

#### *Non-Food Production*

Non-food production accounts is only relevant to the poor where it accounts for 0-5% of annual income. Non-food production involves the sale of wild foods and firewood.

### *Trade*

Trade is most significant as a share of income for the rich where it accounts for 10-20% of annual income. Trading activities for the rich include: running small businesses, rental property, buying and selling firewood as well as cross-border trade in sugar with Tanzania. Modal households also earn 0-10% of their annual income from trading activities. Trading activities for modal households include: buying and selling crops and crafts as well as small business. Households in the northern end of this FEZ tend to be more entrepreneurial than those in the southern end.

### Surplus Production and Income

Only the rich produce surplus crops is a normal year which vary between zero and two and a half months worth of food for the household (or 0-20%). Rich and modal households also have surplus income equivalent to 65-75% and 15-25% of annual income respectively.

**Table 4.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	0-20%
Surplus Cash Production	0%	15-25%	65-75%

### Assets and Savings

None of the economic groups keep food stocks or reserves in a normal year that are capable of lasting beyond the next harvest. When livestock is converted to grain at normal year prices, the rich, mode and poor could satisfy 375-495%, 15-170% and 5-35% of annual food needs respectively. When cash savings and the resale value of movable, physical assets are converted to grain at normal year prices, the rich and mode could satisfy 380-385% and 145-155% of annual food needs respectively. Assets commonly held by the rich include: bicycle, radio, 2 fish nets, 2-4 canoes, ox cart, 2 ploughs and hand held farming implements. Modal households were reported to typically own: radio, bicycle, fish net and 1-3 canoes.

**Table 4.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	5-35%	15-170%	375-495%
Cash & Other Property	0%	145-155%	380-385%

### Income Distribution and the Mode

A PRA exercise using canoes as an indicator of wealth suggested the following wealth distribution: 1st wealth quintile, 25% of the population; 2nd wealth quintile, 30% of the population; 3rd wealth quintile, 30% of the population; 4th wealth quintile, 10% of the

population; and 5th and wealthiest quintile, 5% of the population. Approximately 85% of the population would fall within and below the mode.

#### Cereal Markets and Food Flows

This is a grain deficit area. Much of the maize grain brought in to the northern end of the FEZ hails from Chitipa district. Cereals are bought and sold in Nkhata Bay, Limphaso, Bongano, Kachere, Muzenga, Kaporo and Tanzania.

#### Other Markets and Prices

*Livestock Markets:* Karonga, Ngara and Nkhata Bay.

*Cash Crop Markets:* sold to the local ADMARC (e.g. Nkhata Bay, Karonga) and to private traders. Rice sold to Tanzania.

*Other Trade:* Fish sold in Karonga, Tanzania, Nkhata Bay, Mzuzu and Chitipa. Trading of sugar with Tanzania.

**Table 4.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	-	Cultivator	-	Radio	500 kw
Ax	-	Fish net	3,000 kw	Bicycle	900 kw
Plough	800 kw	ox cart	6,000 kw	boat	10,000 kw
Furniture	-	wheelbarrow	-	canoe	1000 kw

**Table 4.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	30 kw	pig	700 kw	donkey	-
goat	200 kw	cow	1,500 kw	g. fowl, etc.	-
sheep	200 kw	ox	-	other	-

#### How People Cope with a Bad Year

Rather than adopt new strategies, households tend to intensify existing methods of food and cash procurement in difficult years. Wild food consumption was reported to double in difficult years. It is estimated that this additional consumption could cover 5% of the deficit in a bad year. Income redistribution from rich to poor is insignificant.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Cassava: can be planted and harvested year round. Recommended planting is Dec-Feb with harvest 12 months later.

Maize: Dec/Jan - April

Rice: Jan - June

Dambo season: June-Sept

Rains: Nov/Dec - April/May/June

Fish: Aug-Oct and Jan-April

## 5. Nkhata Bay Cassava Zone <sup>60</sup>

### Summary of Food Economy

Nkhata Bay is a deficit zone which has one of the highest poverty levels in the Northern Region of the country.<sup>61</sup> The most important aspects of this food economy are: food crops, employment and cash crops. Modal households produce crops capable of feeding the family for 8-9 months. Cassava is the major food crop, followed by maize, rice, bananas, sweet potatoes and ground nuts. As cassava is more resistant to drought than maize, this area is somewhat less vulnerable in bad years. Animal traction is limited because of rocky soils and livestock scarcity. Poor soils, as opposed to rainfall, are the limiting factor on agricultural production. Employment and remittance contribute for a third to a half of annual income for the typical household. The majority of this employment is casual labour, but there is also significant remittance and pension income. Although cash cropping is less well developed in this area, it does account for around a third of annual income for the typical household. The approximate population of this FEZ is 195,000 persons.<sup>62</sup>

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) employment/remittance, 3) cash crops, 4) relief/gifts, 5) trade, 6) wild foods, 7) fishing, 8) non-food production, 9) livestock.

### Geography and Rainfall

This FEZ stretches from the Bana Swamp near Lake Malawi in the South to Chikwina in the north where it narrows down to a 5 km strip along the lakeshore until it reaches Khondowe where it widens out to cover the southern two thirds of Southern Karonga EPA. The crest of the Viphya Mountains form the western border of this area in the south while the foothills off the Nyika Plateau form the western border in the north. The eastern border begins five km away from the lakeshore (the Northern Lakeshore FEZ occupies a five km strip along the lakeshore in most instances) with the exception of between Chikwina and Khondowe where the FEZ is a strip along the shoreline where fishing is limited because of deeper waters. The majority of Nkhata Bay District (excluding the lakeshore and the most northern EPA), the northern end of Nkhotakota District, the lakeshore strip of Rumphu District and the southern end of Karonga District are included in this zone. The EPAs found in this zone include: Karonga South (15% of the population), Ntchenachena (55%), Mphompha (55%), Chikwina (55%), Nkhata Bay Boma (80%), Mpamba (100%), Chetheka (100%), Chintheche (80%), the northern half of Nkhunga (40%). The area has rocky soils and is basically composed of an escarpment leading down from the Viphya Mountains to the lakeshore. The area has a fairly moist agroclimate (VAM Agro-Climatic Zone Series), with annual precipitation averaging 1400 mm and rainfall being spread out over a longer period than in other parts of the country.

### Sources of Food

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<sup>60</sup>Information in this section is based on 6 key informant interviews as well as secondary sources.

<sup>61</sup>World Bank (1995) indicated that 23-33% of the population in Nkhata Bay RDP (which constitutes the bulk of Nkhata Bay RDP) is found below the 20th income percentile.

<sup>62</sup>EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations.

Food crops are the largest source of food for rich, modal and poor households at 95-100%, 65-75% and 40-50% of annual food needs respectively. Modal households round out their diets with food purchase (20-25%), gifts/relief (0-10%) and wild food consumption (0-5%). The poor also get some food from fishing (0-5%) and a larger share from food purchase (35-45%) and gifts/relief (5-15%). The only other source of food for the rich is food purchase (0-5%).

**Table 5.1: Sources of Food** (% of annual food needs)

Sources of Food	Poor	Mode	Rich
Own Food crops	40-45%	65-75%	95-100%
Milk/Meat	0%	0%	0%
Fishing	0-5%	0%	0%
Wild Foods	0-5%	0-5%	0%
Gift/Relief	5-15%	0-10%	0%
Purchase	35-45%	20-25%	0-5%
Total	80-120%	85-115%	95-105%

#### *Food Crop Production*

This is a food deficit area in normal years<sup>63</sup>. Modal households produce enough food crops to feed the family for 8-9 months. Whereas rich households produce a small surplus, the poor produce crops that last around five months. The major food crops (from most to least important) are: cassava, 2) maize, 3) rice, 3) bananas, 3) sweet potatoes, 3) ground nuts, 4) millet and 5) coco yams. Poor soils, as opposed to rainfall, are the limiting factor on agricultural production. Only the rich have the means to practice animal traction. As cassava is more resistant to drought than maize, this area is somewhat less vulnerable in bad years. However, a mealie bug blight previously decimated cassava production in the area. Although the pest has been eradicated, it may still pose a potential risk to food security. As cassava is harvested year round as needed rather than once or twice per year, it is often difficult for outsiders to assess the state of the harvest and the current food security situation. The poor often eat or harvest cassava before it is fully mature.

#### *Wild Foods*

Wild food consumption accounts for 0-5% of annual food needs for poor and modal households. The types of wild food consumed and their availability are as follows: mushrooms (Dec-Jan), *masuku* (Oct-Dec), caterpillars (year round), *matowo* (Sept-Nov), *topa* (Aug-Sept), *mbula* (Aug-Oct), *njaya* (Dec), *chankaka* (year round), *thelele* (Nov-April), *kakatha* (Nov-April) and *vafuwa* (Oct-Dec).

#### *Fishing*

<sup>63</sup>Key informants considered the 92/93 and 93/94 agricultural seasons to be normal or average for the period 1990-96.

Fishing accounts for 0-5% of annual food needs for the poor. Sale of fish also accounts for 0-10% and 0-5% of annual income for the mode and rich. Fishing is not evenly dispersed throughout the FEZ but tends to be in areas closer to Lake Malawi (especially the strip of land right on the lake in Rumph District) and along rivers.

#### Sources of Cash

Food purchase accounts for 35-45%, 20-25% and 0-5% of annual food needs for the poor, mode and rich respectively. Modal households earn the largest share of their annual income from employment/remittance (35-50%), followed by cash crop sales (30-40%), trade (10-15%), non-food production (0-10%) and fish sales (0-10%). As compared to the mode, poor households earn a greater proportion of their income from employment/remittance (50-65%), non-food production (10-25%) and livestock sales (0-5%), while earning a smaller share from cash crop sales (10-25%). The rich earn 35-45% of their income from cash crop sales, followed by remittances and pensions (30-40%), trade (10-15%), non-food production (0-10%), fish sales (0-10%) and livestock sales (0-5%).

**Table 5.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-65%	35-50%	30-40%
Livestock Sales	0-5%	0%	0-5%
Cash Crop	10-25%	30-40%	35-45%
Non-Food Production	10-20%	0-10%	0-10%
Other Trade	0%	10-15%	10-15%
Total	70-115%	75-125%	75-120%

#### *Employment & Remittance*

Employment/remittance accounts for 50-65%, 35-50% and 30-40% of annual income for poor, modal and rich households respectively. The vast majority (90%) of employment income for the poor is from local piece work with the remainder from employment at other locations in Malawi (5-10%) as well as in neighbouring countries (0-5%). Local piece work is split between work for better off farmers and work on local tea and rubber estates. Modal households also earn the majority of their employment income from local piece work (65%), as well as a significant proportion from in-country (25-35%) and neighbouring country employment (0-10%). The rich receive remittances and pensions from work at other locations in Malawi (80%) and in neighbouring countries (20%). Employment locations in Malawi include: 1) Blantyre, 2) Lilongwe, 3) Mzuzu and 4) Nkhata Bay Boma. Remittance income from neighbouring countries includes the following locations: 1) Tanzania, 2) South Africa, 3) Zimbabwe and 4) Zambia.

**Table 5.3: Employment & Remittance** (% of employment income)

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Strata	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90%	5-10%	0-5%	0%
Mode	65%	25-35%	0-10%	0%
Rich	0%	80%	20%	0%

**Table 5.3b: Employment Locations**

Location	Names of Towns / Countries and Rank
Within Country	1) Blantyre, 2) Lilongwe, 3) Mzuzu, 4) Nkhata Bay Boma
Neighbouring Country	1) Tanzania, 2) South Africa, 3) Zimbabwe, 4) Zambia

### *Livestock*

Livestock sales as a share of income as well as livestock holdings are quite small in this FEZ as compared to the rest of the country. Livestock sales account for 0-5% of annual income for rich and poor households. The typical household would own 0-1 goats and 6-8 chickens. Livestock is sold locally to middlemen who resell them in Mzuzu, Nkhata Bay Boma and on nearby estates.

**Table 5.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	0	1-2
Goats	0	0-1	3-4
Sheep	0	0	0
Chickens	3-5	6-8	16-17
Ducks	0	0	0-5

### *Cash Crop Production*

Cash crop sales account for 35-45%, 30-40% and 10-25% of annual income for rich, modal and poor households respectively. The major cash crops (from most to least important) are: 1) bananas, 1) rice, 2) maize, 3) ground nuts, 4) fruit, 5) tobacco, 5) cotton and 5) coffee. While some of the standard cash crops (e.g. tobacco) in other parts of the country are less well developed in this FEZ, the sale of cash crops is the largest source of income for the rich, and the second largest source of income for the mode and poor.

### *Non-Food Production*

Non-food production contributes for 10-20%, 0-10% and 0-10% of annual income for poor, modal and rich households respectively. The poor and modal households earn this type of

income from beer brewing, craft sales (especially mat making) and firewood sales. Non-food production for the rich is almost exclusively beer brewing.

### *Trade*

Trading accounts for 10-15% of annual income for both modal and rich households. Trading for the mode involves the buying and selling of fish and produce, some small businesses and smuggling. For the rich it includes the running of small shops, as well as the buying and selling of bricks, timber and produce.

### Surplus Production and Income

Only the rich have surplus crop production which is equivalent to approximately 1 to 1.5 months of food for the household or 5-15% of annual food needs. The rich also have surplus income in a normal year which is equal to 20-25% of annual food needs.

**Table 5.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	5-15%
Surplus Cash Production	0%	0%	20-25%

### Assets and Savings

None of the economic groups have food stocks or reserves that last beyond the next harvest. When livestock is converted to grain at normal year prices, the rich, mode and poor could satisfy the equivalent of 165-300%, 5-25% and 0-10% of annual food needs. Movable, physical assets said to be owned by the rich include: sofa, dining set, bicycle, radio, cutlery, fish net, cart and plough. When the resale value of these assets as well as savings is converted to grain at normal year prices, the rich could satisfy the equivalent of 120-130% of annual food needs. Modal households were reported to have assets such as radio, bicycle, table, chair, bed, and hand implements. The resale value of these assets as well as savings could satisfy 50-55% of annual food needs.

**Table 5.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	0-10%	5-25%	165-300%
Cash & Other Property	0%	50-55%	120-130%

### Income Distribution and the Mode

Villagers indicated that they would consider 15% of the population to be in a very poor group, 45% in a lower middle group, 25% in an upper middle group and 15% in a rich group. It is assumed that roughly 60-85% of the population falls below the mode.

### Cereal Markets and Food Flows

This is a grain deficit FEZ. Cassava is bought and sold locally. Maize is purchased at ADMARC in Nkhata Bay, Mzenga, Chetheka, Tanula and Mzuzu.

#### Other Markets & Prices

1. Cattle markets: Chickens are bought and sold locally. Middle men buy the larger animals to sell in Mzuzu, Nkhata Bay Boma, Ngara and on estates.

2. Cash crop markets: Cotton and rice sold at Ngara, Novwe, Chirumba and Hara. Bananas are sold to buyers from Mzuzu and Nkhata Bay.

3. Craft markets: Mzuzu and Nkhata Bay.

4. Prices: 1 kg maize grain: 2.5 kw      cattle: 3000 kw      goat: 300kw      duck: 55kw

chicken: 40kw      bike: 1200 kw      radio: 1700 kw  
dining set: 650kw      sofa: 2000kw      furniture: 4000kw  
plough: 1500kw      cart: 12000kw net: 100kw

#### How People Cope with a Bad Year

Rather than adopt new strategies in a bad year, households tend to intensify existing methods for acquiring food and income. While food consumption was said to increase by 10-15% above normal (0-5%) in a bad year. As such, it would cover next to nothing of the bad year food shortfall. The rich were estimated to give 20% of their surplus income and production to deficit households.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Cassava: Planting and harvest can occur year round. The recommended planting time is Dec/Jan while the harvest time is June/July.

Rice: Dec - April

Maize: Nov/Dec/Jan - April/May/June

Rain: Dec - July

Peak Ganyu: Aug - May

Wild Food: Nov-April

Bananas: Planted Dec-March and harvested year round.

Dimba season: April - Dec

## 6. Western Rumphu and Mzimba <sup>64</sup>

### Summary of Food Economy

The most important aspects of this food economy are food crops, wild foods, cash crops and non-food production. The typical household in this area produces enough food to feed the family for 10 months. The major food crops are: maize, millet, beans and ground nuts. Both modal and rich households have the means to practice animal traction. Wild food consumption is a small but significant source of food for both poor and modal families. Proximity to Nyika National Park and the Vwaza Game Reserve may allow for above average wild food collection opportunities. Tobacco and maize are the most important cash crops whose sale comprises over half the annual income of typical households. Non-food production (beer brewing, craft and firewood sales) is extremely important for the poor and to a lesser extent the modal families. The approximate population of this area is 112,000.<sup>65</sup>

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) wild foods, 3) cash crops, 4) non-food production, 5) livestock, 6) trade and 7) employment/remittance.

### Geography and Rainfall

This food economy zone is found in the northern third of the country just to the southwest of the Nyika Plateau. It is distinguished from the Mzimba self-sufficient maize zone by lower rainfall and crop production levels. The zone includes the western portion of Rumphu District and the northwestern end of Mzimba District. The EPAs included in this area are: Bolero, Mpherembe and Euthini. The mean annual precipitation for the area is 900 mm.

### Sources of Food

Food crops are the largest source of food for rich, modal and poor households, accounting for 90-95%, 80-85% and 40-50% of annual food needs respectively. Modal households round out their diets with purchase (5-15%) and wild food consumption (5-10%). The poor purchase as much food as they grow (40-50% of annual diet) as well as acquiring some food from wild fruit and vegetable collection (5-15%). The rich complete their diets with farm raised meat (0-10%) and food purchase (0-10%).

**Table 6.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-50%	80-85%	90-95%
Milk/Meat	0%	0%	0-10%
Fishing	0%	0%	0%

<sup>64</sup>The information in this section is largely based on two key informant interviews as well secondary sources.

<sup>65</sup>EPA population data from USAID/FEWS document which used NSO data. See Appendix I for FEZ population calculations.

Wild Foods	5-15%	5-10%	0%
Gift/Relief	0%	0%	0%
Purchase	40-50%	5-15%	0-10%
Total	85-115%	90-110%	90-115%

### *Food Crop Production*

Food crops are the largest source of food for rich, mode and poor, with normal year production equal to 17-18, 9.5-10.5 and 5-6 months respectively of food for these households.

The major food crops (from most to least important) are: 1) maize, 2) millet, 3) beans, 4) ground nuts, 5) peas, sweet potatoes and 6) cassava. Both rich and modal households have the means to practice animal traction. Rainfall is the major constraint to higher production levels.

### *Wild Foods*

Wild food collection accounts for 5-15% and 5-10% of annual food needs for poor and modal households respectively. The types of wild foods collected in this area include: mushrooms, palm fruit, *terere* (wild okra), *masuku*, *masaw* and *mowura*.

### *Fishing*

Fishing is not a significant source of food or income for any of the socio-economic groups in this food economy zone.

### Sources of Cash

Food purchase accounts for 40-50%, 5-15% and 0-10% of annual food needs for the poor, mode and rich respectively. Cash crop sales are the most important source of cash for modal and rich households at 50-55% and 60-65% of annual income respectively. Modal households also obtain income from: non-food production (10-20%), livestock sales (5-15%), trade (5-15%) and employment/remittance (5-15%). Rich households acquire the balance of their income from trade (25-30%) and livestock sales (5-15%). In contrast to the mode and rich, the poor earn the largest share of their income from non-food production (65-75%), followed by employment/remittance (10-25%), cash crops (5-10%) and livestock sales (5-10%).

**Table 6.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	10-25%	5-15%	0%
Livestock Sales	5-10%	5-15%	5-15%
Cash Crop	5-10%	50-55%	60-65%
Non-Food Production	65-75%	10-20%	0%
Other Trade	0%	5-15%	25-30%

Total	85-120%	75-120%	90-110%
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### *Employment and Remittance*

Employment and remittance income accounts for 5-15% of annual income for the mode and 10-25% of income for the poor. Three quarters of employment income for the mode is derived from local piece work with the remaining quarter attributable to remittances from non-local employment. The poor earn 85% of their employment income from local piece work, 15% from non-local jobs and 0-5% from work in neighbouring countries. Non-local employment for persons from this FEZ tends to be found in: 1) Lilongwe, 2) Blantyre, 3) Mzuzu and 4) Nkhata Bay Tea and Rubber Estates. Work in neighbouring countries is most typically found in: 1) South Africa, 2) Zimbabwe and 3) Zambia.

**Table 6.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	85%	15%	0-5%	0%
Mode	75%	25%	0%	0%
Rich	0%	0%	0%	0%

**Table 6.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Within Country	1) Lilongwe, 2) Blantyre, 3) Mzuzu, 4) Nkhata Bay Tea & Rubber Estates.
Neighbouring Country	1) South Africa, 2) Zimbabwe, 3) Zambia

### *Livestock*

Livestock sales account for 5-15% of annual income for the rich and mode while contributing somewhat less for the poor (5-10%). The typical household in this area would have: 6-7 cattle, 5 goats and 10-15 chickens. Livestock are often sold at local markets in Bwengu and Gowoko.

**Table 6.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0-2	6-7	24-26
Goats	1-3	5	8-9
Sheep	0	0	0-3
Chickens	7	10-15	25-30

### *Cash Crop Production*

Cash crop sales account 60-65%, 50-55% and 5-10% of annual income for the rich, mode and poor respectively. This is the most important source of income for the rich and poor. The major cash crops (from most to least important) are: 1) tobacco and 2) maize.

#### *Non-Food Production*

Non-food production is extremely important for the poor, accounting for two thirds to three quarters of their annual income. The poor are involved in beer brewing, craft and firewood sales. Ten to twenty percent of annual income for the mode is derived from non-food production (mostly beer brewing and firewood sales).

#### *Trade*

Trade accounts for 25-30% and 5-15% of annual income for rich and modal households respectively. Trade largely entails the running of small businesses, e.g. groceries, maize mills, etc.

#### Surplus Production and Income

Only the rich produce surplus crops which are equal to 40-50% of annual food needs. Surplus cash income for the rich and mode is equivalent to 95-105% and 5-15% of annual food needs respectively.

**Table 6.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	40-50%
Surplus Cash Production	0%	5-15%	95-105%

#### Assets and Savings

Only the rich have food stocks or reserves which are equivalent to 40-50% of annual food needs. When livestock is converted to grain at normal year prices the poor, mode and rich would have the equivalent of 20-150%, 395-455% and 1445-1600% of annual food needs respectively. Similarly, when cash savings and the resale of assets are converted to grain, the mode could satisfy 145% of annual food needs and the rich 330%. Both the mode and the rich were reported to normally possess: radio, bicycle, plough and ox cart. The rich would also own small businesses.

**Table 6.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	40-50%
Livestock	20-150%	395-455%	1445-1600%
Cash & Other Property	0%	145%	330%

#### Income Distribution and the Mode

It is assumed that 70% of the population would fall within and below the mode.

### Cereal Markets and Food Flows

This is a borderline area which is either just barely self-sufficient in grain production or slightly below self-sufficiency. Maize grain is bought and sold at ADMARC depots and with private traders.

### Other Markets and Prices

1. *Livestock Markets*: Cattle markets at Gowoka and Bwengu. Private traders also go directly to villages.

2. *Cash Crop Markets*: ADMARC depots and private traders.

3. *Trade*: 1) Mzuzu, 2) Rumphu, 2) Mzimba

4. *Non-Food Production*: Local

**Table 6.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	-	Cultivator	-	Radio	325 kw
Ax	-	other ag.		Bicycle	1000 kw
Plough	780 kw	ox cart	5750 kw	Business	10000 kw

**Table 6.8: Livestock Prices**

Animal	Price	Animal	Price
poultry	40 kw	pig	250 kw
goat	250 kw	cattle	1500 kw
sheep	250 kw	ox	-

### How People Cope with a Bad Year

Rather than adopt new strategies in difficult years households tend to intensify existing ones. While there is some variation within the FEZ, wild food consumption does not expand on average in difficult years. Income redistribution from rich to poor was not reported to be significant.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - June/July

Ground Nuts: Nov/Dec - Feb/March/April

Tobacco: Sept - Feb/March/April

Rain: Nov-April

Piece work or ganyu: Sept - April

Wild food collection: Nov-April

Peak livestock sale period: September

## 7. Northern Mountainous Areas<sup>66</sup>

### Summary of Food Economy

This is a geographically fragmented food economy zone which is being grouped together due to similarities in agroclimatology as well as cash cropping. The most important aspects of this food economy are: food crops, cash crops and non-food production. This is a maize deficit zone. The main food crops in this area are: maize, cassava, beans, bananas, millet and sweet potatoes. The typical household produces enough food crops to feed the family for nine months and earns half of its income from the sale of cash crops. Coffee and beans are the most important cash crops. The removal of price supports and the lower world coffee price has meant that many small hold farmers are moving out of coffee. With the exception of Khosolo in southeast Mzimba, the land is generally too hilly for the use of animal traction. Non-food production (firewood sales, beer brewing and craft) is also quite important, especially for poor and modal households. The total population of these areas is approximately 53,000 persons<sup>67</sup> with Misuku being the most populated and Mphompha the least.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) non-food production, 4) employment/remittance, 5) wild foods/hunting, 6) livestock, 7) trade and 8) gifts and relief.

### Geography and Rainfall

As mentioned above, this is a geographically fragmented FEZ which is being grouped together due to similarities in agroclimate and cash cropping strategies. This zone includes the EPAs of Misuku (Chitipa District), Ntchenachena (Rumphi District), Mphomba (Rumphi District), Chikwina (Nkhata Bay District) and Khosolo (Mzimba District). Misuku is dominated by a set of hills of the same name. It is also the most northern of the aforementioned EPAs and shares a border with Tanzania. The Ntchenachena, Mphomba and Chikwina EPAs border one another and have Lake Malawi on their eastern border (fishing is minimal along this section of the lakeshore because the lake is too deep)<sup>68</sup> and the Nyika plateau (and Nyika National Park) on their western side. Khosolo is the most southern of the four EPAs and is found at the southern end of the Viphya Mountain chain. The rainy season is approximately 6 months in length and lasts from November to April. These areas have an annual average rainfall of 1400-1800 mm. Misuku is the wettest of the five EPAs and Mphomba the driest. Average elevation ranges from about 1400-1900 metres.

### Sources of Food

Own food crops are the largest source of food for poor, modal and rich households at 40-55%, 75-80% and 95-100% of annual food needs respectively. Modal households complete their diets with purchase (15-25%) and a small amount of wild food consumption (0-5%). In

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<sup>66</sup>The information in this section is based on 5 key informant interviews as well as secondary sources.

<sup>67</sup>EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations

<sup>68</sup>The Nkhata Bay Cassava Zone FEZ occupies a 5km wide strip along the lakeshore between this Mountainous FEZ and Lake Malawi.

addition to food crops, poor households purchase a large portion of their food (35-45%), collect some wild foods and hunt (5-10%) and receive some food relief and gifts (0-10%). The only other source of food for the rich is purchase which is quite small at 0-5% of annual food needs.

**Table 7.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-55%	75-80%	95-100%
Milk/Meat	0%	0%	0-5%
Fishing	0%	0%	0%
Wild Foods	5-10%	0-5%	0%
Gift/Relief	0-10%	0%	0%
Purchase	35-45%	15-25%	0-5%
Total	80-120%	90-110%	95-110%

#### *Food Crop Production*

Own food crops are the largest source of food for poor, modal and rich households at 40-55%, 75-80% and 95-100% of annual food needs respectively. The main food crops in this area are: 1) maize, 2) cassava, 3) beans, 4) bananas, 4) millet, 4 sweet potatoes, 4) Irish potatoes, 4) yams, 4) vegetables and 4) wheat. With the exception of Khosolo in southeast Mzimba, the land is generally too hilly for the use of animal traction. In normal years<sup>69</sup> this is a maize deficit area.

#### *Wild Foods*

Wild foods and hunting account for 5-10% and 0-5% of annual food needs for poor and modal households. Animals that are frequently trapped or hunted include: rats, guinea fowl, deer, antelope, hares, kudu, birds and warthogs. Wild fruits and vegetables that are frequently collected include: mushrooms, amaranth, black jack (Dec-Feb), *masuku* (Nov-Jan), *mntopa* (Sept-Nov), *mangolongondo* (Sept-Oct), *mavilo* (Aug-Sept), *matyokolo*, *matowo* (July-Oct), *ntundu* (Nov-Jan), *bwanga* (Aug), *mbula* (Aug), *vikuyu* (all year) and *maula* (Nov-Jan).

#### *Fishing*

Fishing is not a significant source of food for any of the socio-economic groups in this FEZ.

#### Sources of Cash

Purchase accounts for 35-45%, 15-25% and 0-5% of annual food needs for poor, modal and rich households respectively. Modal households obtain approximately half of their annual income from the sale of cash crops. The balance of income is obtained from non-food production (20-30%), employment/remittance (10-25%), livestock sales (0-10%), and trade (0-5%). Cash crop sales are also the largest source of income for rich households (65-80%),

<sup>69</sup>Key informants considered the 90/91 and 93/94 agricultural seasons to be normal or average for the period 1990-1996.

followed by trade (5-15%), employment/remittance (5-15%), livestock sales (0-10%) and non-food production (0-5%). The poor have a more limited number of income source which include: employment/remittance (40-65%), non-food production (35-45%) and cash crop sales (5-10%).

**Table 7.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	40-65%	10-25%	5-15%
Livestock Sales	0%	0-10%	0-10%
Cash Crop	5-10%	45-55%	65-80%
Non-Food Production	35-45%	20-30%	0-5%
Other Trade	0%	0-5%	5-15%
Total	80-120%	75-125%	75-125%

#### *Employment and Remittance*

Employment and remittance account for 40-65%, 10-25% and 5-15% of annual income for the poor, mode and rich respectively. Modal households earn approximately 80-90% of their employment income from local piece work and employment as well as 10-20% from work at other locations in Malawi. In addition to piece work for better off farmers, local employment tends to be for the Small Holder Coffee Authority or local businesses. Poor households earn an even greater share of their income from local piece work (85-95%) and a small portion from other locations in Malawi (5-15%). The rich earn all of their income from non-local employment in Malawi. Common non-local employment locations include: 1) Mzuzu, 2) Lilongwe and 3) Blantyre.

**Table 7.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	85-95%	5-15%	0%	0%
Mode	80-90%	10-20%	0%	0%
Rich	0%	100%	0%	0%

**Table 7.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Piece Work, Small Holder Coffee Authority, Local Businesses
Within Country	1) Mzuzu, 2) Lilongwe, 3) Blantyre

### *Livestock*

Livestock sales account for 0-10% of annual income for modal and rich households. The typical household in this FEZ would normally own 5-7 goats, 9-11 chickens and 0-3 pigs. Livestock is sold in the larger towns such as Livingstonia.

**Table 7.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	0	4-5
Goats	0	5-7	8-10
Sheep	0	0	0
Chickens	4-6	9-11	20-22
Pigs	0	0-3	0

### *Cash Crop Production*

Cash crops are the largest source of income for rich and modal households, accounting for 65-80% and 45-55% of annual income respectively. The poor earn a much smaller share of their income from these sales (5-10%). The most important cash crops (from most to least important) are: 1) coffee, 2) beans, 3) vegetables, 3) cassava, 3) bananas, 3) maize, 3) Irish potatoes and 3) sunflower. The removal of price supports and the lower world coffee price has meant that many small hold farmers are moving out of coffee. As coffee does not produce beans for three years after it is initially planted, it is difficult to cost effectively enter and exit this market quickly. While coffee has traditionally been sold to the Small Holder Coffee Authority (which has paperies or coffee processing plants located throughout this FEZ), private traders are slowly becoming more active in purchasing coffee. Beans are often sold to private traders. With the exception of Khosolo in southeast Mzimba, the land is generally too hilly for the use of animal traction.

### *Non-Food Production*

Non-food production accounts for 35-45%, 20-30% and 0-5% of annual income for poor, modal and rich households respectively. Non-food production is the second largest source of income for the poor and includes such activities as firewood sales, craft making and beer brewing. Craft work includes making mats, baskets, tool handles and pots. This category of income is also the second most important for modal households and involves: firewood and grass sales, beer brewing, craft making and wild game sales. The rich earn a very small share of their income from these activities which are largely beer brewing and some bee keeping.

### *Trade*

Trade is only relevant to the rich and mode where it accounts for 5-15% and 0-5% of annual income respectively. Trade entails running small shops and businesses.

### Surplus Production and Income

Only the rich produce surplus crops in a normal year which are equivalent to approximately a half to two months of food for the household. Both rich and modal households have surplus income which equates to 55-65% and 5-10% of annual food needs.

**Table 7.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	5-15%
Surplus Cash Production	0%	5-10%	55-65%

#### Assets and Savings

None of the economic groups were reported to have food stocks or reserves that would last beyond the next harvest. When livestock is converted to grain at normal year prices, the rich, mode and poor could satisfy 410-510%, 65-165% and 5-15% of annual food needs respectively. When cash savings and the resale value of movable, physical assets is converted to grain at normal year prices, the rich could feed the household for approximately one and three quarters year and the mode for three quarters of a year. Assets commonly held by the rich include: sprayer, bicycle, radio, wheel barrow, water cart and hand held implements. The rich in Khosolo EPA (SE Mzimba) would also have ploughs. Modal households were reported to typically own: sprayer, bicycle, radio and hand held implements.

**Table 7.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	5-15%	65-165%	410-510%
Cash & Other Property	0%	75-80%	170-175%

#### Income Distribution and the Mode

It is estimated that approximately 80-85% of the population falls within or below the mode. A PRA exercise using hectares cultivated as an indicator of wealth suggested the following wealth distribution: 1st wealth quintile, 5-10% of the population; 2nd wealth quintile, 35% of the population; 3rd wealth quintile, 40% of the population; 4th wealth quintile, 10% of the population; and 5th or wealthiest quintile, 5-10% of the population.

#### Cereal Markets and Food Flows

This is a grain deficit area in normal years. Maize grain is bought and sold at ADMARC depots, including those in Mzuzu, Livingstonia, Nchenachena, Chitemba, Chiweta and Khosolo.

#### Other Markets and Prices

- 1) *Livestock Markets*: livestock is sold in the larger towns such as Livingstonia.
- 2) *Cash Crop Markets*: Coffee is generally sold to the Small Holder Coffee Authority which has paperies (coffee processing plants) in: Chikwina, Mphombha, Nchenachena, Vungu

Vungu, Kajoni, Kapita, Khosolo and Msese. Coffee is also sold to private traders. Beans are sold to private traders. Bananas are sold in towns such as Misuku and Livingstonia.

**Table 7.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	60 kw	Cultivator	-	Radio	700 kw
Sickle	25 kw	other ag.	-	Bicycle	1300 kw
Plough	500 kw	ox cart	2500 kw	-	
Furniture	-	wheelbarrow	-	-	

**Table 7.8: Livestock Prices**

Animal	Price	Animal	Price
poultry	55 kw	pig	700 kw
goat	250 kw	cattle	2000 kw
sheep	-	ox	-

#### How People Cope with a Bad Year

Rather than adopt new strategies, households tend to intensify existing ones in difficult years.

While the possibilities for the expansion of wild food consumption seem to vary widely among different areas within this FEZ, such consumption tends to stay the same on average in bad years. Income redistribution from rich to poor was not reported to occur to any significant degree.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - July/Aug

Cassava: Year round but ideally planted in Nov/Dec/Jan and harvested one year later.

Beans (2 crops): Nov/Dec/Jan - March/April and March/April - July/Aug or July/Aug - Oct/Nov

Coffee: Harvested in May/June/July/Aug. It takes three years to be productive after planting.

Rain: Nov-April

Ganyu: Dec-Jan (weeding), March-April and Aug-Sept (coffee picking)

Estate Ganyu: Jan-Feb

## 8. Mzimba Self Sufficient Maize Zone <sup>70</sup>

### Summary of Food Economy

Food and cash cropping are the most important elements of this food economy zone. Maize is the major food crop. The rich produce a significant food crop surplus in normal years while the modal families are nearly self-sufficient. Tobacco is the most prevalent cash crop which is grown by both small holders and estate owners. Livestock holdings and wild food availability are above average for Malawi. The approximate population of this area is 461,000<sup>71</sup>.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) wild foods, 4) trade, 5) employment/remittance, 6) livestock and 7) non-food production.

### Geography and Rainfall

The Mzimba Self-Sufficient Maize Zone is located in the north-central portion of the country. The Viphya Mountains form the eastern border of the FEZ. The western side is formed by the Zambian border in the south and then curves from Euthini northeastward up to Rumphu in the north. The northeast end of the FEZ stops at the beginning of Nyika National Park (and the Nyika Plateau). The southern end of the FEZ stops around the town of Jenda on the Zambian border. The EPAs found in this zone are: Bwengu, Zombwe, Muhuju, Eswazini, Bulala, Mjinge, Manyamula, Mbawa and Champhira. Rainfall is somewhat less than surrounding zones (due to it's location vis-a-vis the mountains), with a mean annual precipitation of 900-1000 mm. The northern third of the zone is drier than the southern two-thirds. This FEZ's fertile soils<sup>72</sup> make it capable of producing grain surpluses in normal years.

### Sources of Food

The typical household in this FEZ acquires the vast majority of its food from own crops (90-95%), followed by a small amount of food purchase (0-10%) and wild food consumption (0-10%). The poor produce enough food crops to last for just under half the year, obtaining the balance of their food needs from purchase (45-55%) and wild food consumption (0-10%). The diet of the rich in this FEZ is nine-tenths their own food crops, followed by farm produced meat (0-10%) and purchase (0-10%).

**Table 8.1: Sources of Food Table** (% Annual Food Needs)

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<sup>70</sup>Information presented in this section reflects data from 4 key informant interviews as well various secondary sources.

<sup>71</sup>EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations.

<sup>72</sup>Kamgwira, YG. 1996. "Brief Notes on RDP Set-UP Prepared for Risk-Mapping Visit of Save the Children(UK) Staff." pp. 2. To be more precise, these soils are mainly light and classified as moderately fertile. RiskMap Malawi Final Report

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-45%	90-95%	85-95%
Milk/Meat	0%	0%	0-10%
Fishing	0%	0%	0%
Wild Foods	0-10%	0-5%	0%
Gift/Relief	0%	0%	0%
Purchase	45-55%	0-10%	0-10%
Total	85-115%	90-110%	85-115%

### *Food Crop Production*

The major food crops in this area are (in order of importance): maize, cassava, millet, sweet potato and sorghum. Maize is by far the most common crop covering 70% of the cultivated area.<sup>73</sup> Approximately one quarter of the population has access to dimba fields. The major dimba crops are: beans, potatoes, leafy vegetables, tomatoes, sweet potatoes, cassava and maize. Mixtures of pulses and maize are common. Unlike other parts of Malawi, land is not a serious constraint to production in this FEZ. The modal families are nearly self-sufficient in food crops, producing 10.5 to 11.5 months of food in normal years, or 90-95% of annual food needs. The rich produce significant surpluses averaging 19 months of food. This food accounts for 85-95% of the annual diet of the rich. The poorest households average 5 to 6 months of production or 40-50% of annual food needs.

### *Wild Foods*

The main wild foods found in this area are: wild mangoes, *masuku*, *masaw*, mushrooms, wild okra, palm fruit and wild vegetables. As compared to other areas of Malawi, this zone is relatively well endowed with wild foods. The presence of the Viphya Mountains to the east as well as the Nyika National Park to the North may mean that there are more natural areas to fall back on for wild foods. Wild foods account for 0-10% of the annual food needs of the poor. Wild foods are a less consistent source of food for the mode but still account for 0-5% of annual food needs.

### *Fishing*

Fishing was not reported as a significant source of food for any of the socio-economic groups in this FEZ.

### Sources of Cash

Purchase accounts for 45-55%, 0-10% and 0-10% of annual food needs for the poor, mode and rich respectively. The most important sources of cash income or exchange for food are (from most to least important): cash crop sales, trade, employment, livestock sales and non-food production. While the rich and modal households rely on cash crop sales and trade for the bulk of their income, the poor are heavily dependent upon *ganyu* or casual labour.

**Table 8.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	55-65%	10-15%	0%
Livestock Sales	10-15%	5-10%	5-15%
Cash Crop	5-10%	50-60%	55-65%
Non-Food Production	15-20%	0%	0%
Other Trade	0%	20-25%	25-35%
Total	85-110%	85-110%	85-115%

#### *Employment and Remittance*

Employment represents a significant source of income for poor and modal families. The poor earn 55-65% of their annual income from employment. Of this, 90-95% is *ganyu* or casual labour for better off farmers in the area and 5% is remittance income from family members in other Malawian towns as well as other countries (0-5%). There are two tiers of employment markets. The first is on estates in Kasungu and Nkhata Bay as well as in nearby regional towns: Mzuzu, Mzimba and Rumphu. The second tier includes the larger towns of Lilongwe and Blantyre. It was mentioned that a few families might have relatives in other countries, especially S.Africa, Zimbabwe and Zambia. Employment is less important for the mode at 10-15% of annual income. Of modal family members employed, 30% are engaged in *ganyu* while 70% have employment in other towns. The most common destinations are: Lilongwe, Blantyre, Mzuzu and the Kasungu Estates.

**Table 8.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95%	5%	0-5%	0%
Mode	30%	70%	0%	0%
Rich	0%	0%	0%	0%

**Table 8.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Within Country	Lilongwe, Blantyre, Mzuzu, Kasungu Estates (tobacco & maize) Nkhata Bay Tea & Rubber Estates, Rhumpi, Mzimba
Neighbouring Country	1) South Africa, 2) Zimbabwe, 3) Zambia

#### *Livestock*

Cattle, goats and chickens are the most common forms of livestock kept in this FEZ. There are also certain parts of the zone where rabbits and pigeons are routinely kept. The typical household would have 5 cattle, 8-9 goats, 3 sheep, 25 chickens and 5 pigs. In spite of moderate holdings, livestock sales do not account for a significant portion of annual income. It is the poor that actually earn the largest portion of their income from livestock sales at 10-15%. Livestock sales account for 5-15% and 5-10% of annual income for the rich and mode respectively.

**Table 8.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	5	30
Goats	1	8-9	35
Sheep	0	3	10
Chickens	10	25	55
Pigs	0	5	0

#### *Cash Crop Production*

The major cash crops in this area are: tobacco, beans, ground nuts, millet, sorghum, sunflower and Irish potatoes. There is estate as well as small holder cash crop production. Cash crop sales are a very significant source of income for the rich and mode, accounting for 55-65% and 50-60% of annual income respectively. Most of these sales are of tobacco and maize. The poor earn a smaller proportion of their income from cash crop sales (5-10%). The poor tend to sell dimba crops such as ground nuts and beans.

#### *Non-Food Production*

Non food production accounts for 15-20% of the income of the poor. The major activities of this nature are firewood collection and sales, beer brewing, wild food sales and craft sales (hoe handles, baskets and axes).

#### *Trade*

Trade is a regular source of income for modal and rich families. Cross-border trade with Zambia is an important component of trade in this area. Modal families tend to obtain 20-25% of their annual income from these activities. Small groceries, maize mills and trading are the principle form of commerce. The rich earn 25-35% of their annual income from trading. The rich engage in the previously mentioned trading activities as well as transport.

#### Surplus Production and Income

Only the rich produce surplus food crops in a normal year which are equivalent to 7 months of food or 55-60% of annual food needs. Key informants indicated that surplus cash production for the rich was equal in value to 10 months of food or 80-85% of annual food needs. Surplus production for the mode was estimated as being equal to 2-3 months of food or 15-25%% of annual food needs.

**Table 8.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	55-60%
Surplus Cash Production	0%	15-25%	80-85%

### Assets and Savings

The modal and rich families have food stocks in normal years which are equivalent to 1 month (5-10% of annual food needs) and 3-4 months (25-35%) of food respectively. Livestock holdings are quite significant for the rich and mode. The holdings are equivalent to 2240% of annual food needs for the rich, 475% for the mode and 25-30% for the poor. Cash savings for the rich were estimated to be equal to five months of food. Movable assets commonly held by the rich include: furniture, radio, 3 ploughs, 2 ridgers, tobacco jack and 2 ox carts. Modal families were said to have the following assets: plough, ridger, ox cart, radio and bicycle. The poor were reported to have no assets of significance. When the resale value of assets and cash savings are converted to grain at normal year prices, the rich and mode would have the equivalent of 355-360% and 175% of annual food needs respectively.

**Table 8.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	5-10%	25-30%
Livestock	25-30%	475%	2240%
Cash & Other Property	0%	160-165%	355-360%

### Income Distribution and the Mode

It is assumed that 70% of the population falls within or below the mode.

### Cereal Markets and Food Flows

While private traders play an increasingly prominent role in grain trading, ADMARC still has a dominant influence on the market. ADMARC operates in Mzimba, Kamchocho and Euthini parent markets and the following seasonal markets: Manyamula, Eswazini, Machecheta, Malinyete, Chisasa, Chiseng'ezi, Kamteteka, Kamwala, Madede, Mkwangwali, Mzalongwe, Thumba and Yakuwata. Private traders do not have designated markets but buy maize where it is available. Mzimba is a net exporter of maize.

### Other Markets and Prices

- 1. Livestock Markets:* Cattle are sold to local butchers, private traders and at government markets. The most important cattle markets are: Phazi, Embangweni, Gowoka, Bwengu, Euthini and Mbalachaida
- 2. Cash Crop Markets:* Cash crops are sold to ADMARC or private traders.
- 3. Non-Food Production:* Crafts are sold locally.

**Table 8.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	-	Cultivator	-	Radio	325 kw
Ax	-	Ridger	900 kw	Bicycle	1000 kw
Plough	780 kw	ox cart	1500-10000	Scale	1000 kw
Furniture	300 kw	wheelbarrow	-	Tob. Jack	3000 kw

**Table 8.8: Livestock Prices**

Animal	Price	Animal	Price
chicken	45-50 kw	pig	150-200 kw
goat	250-300 kw	cow	1500 kw
sheep	300-350 kw	ox	-

#### How People Cope with a Bad Year

Wild food consumption was said to be capable of expanding in a bad year by 100%. This is mainly a coping strategy for the poor. It is estimated that additional wild food consumption could cover at least 5% of the food deficit in a bad year. Redistribution of wealth from rich to poor was actually said to contract in difficult years.

#### Seasonality

The seasonality of major crops and activities is summarized below:

- Rains are from November to April.
- Maize: growing season from Nov to May. Harvest in June and July. Fields prepared in Sept-Oct.
- Millet: same as maize.
- Tobacco: growing season from Sept to Jan. Harvest from Feb to April.
- Wild foods are most prevalent from Nov to April.
- Ground nuts: growing season from Nov to June
- Dimba season: April - November

## 9. Southern Lakeshore<sup>74</sup>

### Summary of Food Economy

This is the most important fishing area in the country (due to shallower depths than the northern half of the Lake) which is and will be severely impacted by the declining productivity of Lake Malawi. The most important aspects of this food economy zone are food crops, fishing, employment and trade. The typical household produces enough crops to satisfy 55-60% of annual food needs in a normal year<sup>75</sup>. The most important food crops are: maize, cassava, rice, sweet potatoes, pulses and ground nuts. Fishing involves, either directly or indirectly, all households in this FEZ. The typical household acquires close to a tenth of its annual food needs from fish consumption, earns over a quarter of its annual income from the sale of fish it has caught, generates another tenth of its income through casual labour for wealthier fisherfolk and earns a portion of its trading income from the buying and re-selling of fish. The Yao are the dominant ethnic group in this area and are known for their ability as traders<sup>76</sup>. The approximate population of this FEZ is 189,000.<sup>77</sup>

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) fishing, 3) employment/remittance, 4) trade, 5) livestock, 6) cash crops and 7) non-food production.

### Geography and Rainfall

The Southern lakeshore FEZ includes all of the southern end of the lake as well as the area surrounding Lake Malombe. It extends as far north up the lakeshore as the Unaka Lagoon in north-central part of Malawi (Nkotakota District). The zone extends approximately five kilometres inland from the lake and encompasses roughly 20% of the population of the EPAs that border the shoreline. The only exception to this is Mpilipili EPA (northern Mangochi) which is totally included in this FEZ. The EPAs included in this FEZ are: Mpilipili (100% of population), Lungwena (20%), Maiwa (20%), Nasenga (20%), Mbwadzulu (20%), Namkumba (20%), Golomoti (20%), Mtakataka (20%), Chipoka (20%), Tembwe (20%), Khombedza (20%), Zidyana (20%), Linga (20%) and Nkhunga (10%). The mean annual precipitation in this area is 900-1200 mm.

### Sources of Food

Food crops are the largest source of food for rich and modal households at 80-90% and 55-60% of annual food needs respectively. Modal households round out their diets with food purchase (30-35%), fish (5-10%) and meat/milk consumption (0-5%). The rich consume roughly the same quantity of farm raised milk/meat, but consume more fish (10-15%) and

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<sup>74</sup>Information in this section is based on three key informant interviews as well as secondary sources.

<sup>75</sup>Key informants considered the 91/92 and 92/93 seasons to have been normal or average in terms of fish catch and ag production for the period 1990-1996. While crop production was probably below standard in these years, it appears that fish catch was sufficient enough to make these years normal or average.

<sup>76</sup> Mangochi District Profile. 5th Country Programme. UNDP.

<sup>77</sup>EPA population data from USAID/FEWS. See Appendix I for FEZ population calculations.

less purchased food (0-5%). The poor, on the other hand, acquire the largest portion of their food from purchase (60-70%), followed by own food crops (25-35%) and fish (0-10%).

**Table 9.1: Sources of Food** (% of annual food needs)

Sources of Food	Poor	Mode	Rich
Own Food crops	25-35%	55-60%	80-90%
Milk/Meat	0%	0-5%	0-5%
Fishing	0-10%	5-10%	10-15%
Wild Foods	0%	0%	0%
Gift/Relief	0%	0%	0%
Purchase	60-70%	30-35%	0-5%
Total	85-115%	90-110%	90-115%

#### *Food Crop Production*

In terms of grain production, this is a deficit area. Own food crops account for 25-35%, 55-60% and 80-90% of annual food needs for the poor, mode and rich respectively. The major food crops (from most to least important) are: 1) maize, 2) cassava, 2) rice, 3) sweet potatoes, 4) vegetables and beans, 5) ground nuts, 6) sorghum, 7) sugar cane, and 7) bananas. Only the rich typically have the necessary equipment and draft power to practice animal traction.

#### *Wild Foods*

While wild foods are consumed, they are not a significant source of food for any of any of the socioeconomic strata. The wild foods that are consumed include: mwana aligone, amalanthus, wild pumpkin and wild okra. The wild foods are available between December and March.

#### *Fishing*

This is the most important fishing area in the country (due to shallower depths than the northern half of the Lake) which is and will be severely impacted by the declining productivity of Lake Malawi. Fishing is the distinctive feature of this FEZ and permeates the livelihood strategies of all households. The typical household acquires 5-10% of its annual food needs and 25-30% of annual income from the consumption and sales of fish it has caught. More indirectly, half of all casual labour is for better off fisher folk and a large portion of trade income (20-25% of annual income) is from the buying and reselling of fish. In the southern end half of Lake Malawi, approximately 80% of fishing is done by small scale fisherfolk whereas 20% if done by larger scale commercial operators (the preponderance of small scale fisher folk is partially related to the shallowness of the lake)<sup>78</sup>. The most important commercial fish species (from most to least important) are: 1) Chambo or Tilapia spp., 2) Catfish or Bagrus spp., 3) Haplochromis spp. and 4) Ramphochromis spp.

<sup>78</sup>Interview with Mr. Friday Njaya, Fisheries Officer, Fisheries Dept., Mangochi.

*Engrancypris sardilla* is frequently eaten by poorer fisherfolk as it has limited commercial value. As stocks have dwindled, fisherfolk have progressively switched to nets with smaller and smaller holes.

### Sources of Cash

Food purchase accounts for 60-70%, 30-35% and 0-5% of annual food needs for the poor, mode and rich respectively. The largest source of income for modal households is fish sales which account for 25-30% of annual income. Typical households also earn money from: employment/remittance (15-35% of annual income), trading activities (20-25%), cash crop sales (10-15%), livestock sales (5-15%) and non-food production (0-10%). Like the mode, rich households also earn the largest share of their income from fish sales (40-50%), followed by trading (25-35%), cash crop sales (5-15%), livestock sales (5-15%) and employment/remittance (0-5%). Unlike the mode and the rich, the poorest households earn the lion's share of their income from employment/remittance (55-70%). The poor earn the balance of their income from non-food production (20-30%), cash crop sales (0-10%) and livestock sales (0-5%).

**Table 9.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	55-70%	15-35%	0-5%
Livestock Sales	0-5%	5-15%	5-15%
Cash Crop	0-10%	10-15%	5-15%
Non-Food Production	20-30%	0-10%	0%
Other Trade	0%	20-25%	25-35%
Fish	0%	25-30%	40-50%
Total	75-115%	75-130%	75-120%

### *Employment & Remittance*

Employment/remittance income is proportionately most important for the poor where it contributes to 55-70% of annual income. The vast majority (90-95%) of this income for the poor is from local piece work or *ganyu*. Roughly three quarters of this *ganyu* is fishing related, with the remainder being agricultural in nature. The remaining employment income for the poor is from work at various locations within Malawi (5-10%) as well as a very small portion in South Africa (0-5%). Modal households earn 15-35% of their annual income from employment and remittances. This income is split between local piece work (80%), work at other locations in Malawi (15-20%) and South Africa (0-5%). Of the local piece work, roughly 50% is fishing related and 50% agriculture related. Rich households earn a comparatively small share of their income from employment and remittance (0-5%). The vast majority of this income is earned from various employment locations in Malawi (95-100%) with a very small portion from South Africa (0-5%). For all three groups, the major non-local employment locations within Malawi are Blantyre and Lilongwe.

**Table 9.3: Employment & Remittance** (% of employment income)

Strata	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95%	5-10%	0-5%	0%
Mode	80%	15-20%	0-5%	0%
Rich	0%	95-100%	0-5%	0%

**Table 9.3b: Employment Locations**

Location	Names of Towns / Countries and Rank
Within Country	1) Blantyre, 2) Lilongwe
Neighbouring Country	1) South Africa

#### *Livestock*

Livestock sales account for 5-15% of annual income for rich and modal households and 0-5% of income for poor households. The typical family would normally own: 2-3 cattle, 8-9 goats, 3-4 sheep, 16-17 chickens and 2-3 ducks. Livestock are normally sold to traders from Monkey Bay, Mangochi, Salima and Nkhotakota.

**Table 9.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0-1	2-3	12-14
Goats	6-7	8-9	12-15
Sheep	3	3-4	8
Chickens	8-9	16-17	24-25
Pigs	0	0	0
Ducks	3-4	2-3	11-12

#### *Cash Crop Production*

Cash crop sales account for 5-15%, 10-15% and 0-10% of annual income for the rich, mode and poor respectively. The major cash crops (from most to least important) are: 1) rice, 1) tobacco, 2) cotton, 2) sweet potato, 2) sugar cane, 3) vegetables, 3) cassava, 4) maize.

#### *Non-Food Production*

Non-food production accounts for 20-30% and 0-10% of annual income for poor and modal households respectively. Activities in this category for the poor include: beer brewing, crafts,

firewood sales and baking. Non-food production is limited to beer brewing and craft sales for the mode.

### *Trade*

Trading is only relevant to rich and poor households. The rich earn 25-35% of their annual income in this manner from such activities as : the buying and selling of fish, tea rooms small groceries and cross border trade. Trading accounts for 20-25% of income for modal households and largely involves the buying and selling of fish as well as maize trading and small businesses.

### Surplus Production and Income

None of the economic groups produce surplus crops in a normal year. Surplus income was reported to be equivalent to 55-65% of annual food needs for the rich and 20-30% of annual food needs for the poor.

**Table 9.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	0%
Surplus Cash Production	0%	20-30%	55-65%

### Assets and Savings

None of the economic groups have food stocks or reserves in a normal year that last beyond the next harvest. When livestock are converted to grain at normal year prices, the rich, mode and poor could satisfy the equivalent of 1125-1330%, 320-420% and 150-235% of annual food needs. The rich were reported to have the following types of moveable, physical assets: plough, bike, ox cart, 2 gill nets, 1 beach senne net, 2 boats, radio and hand held farming implements. When the resale value of these items and savings are converted to grain at normal year prices, the rich could satisfy 965-975% of annual food needs. Assets typically held by modal households include: 2 canoes, 1-2 gill nets, fish traps, bicycles, radio and hand implements. When the resale value of these assets as well as savings are converted to gain at normal year prices, modal households could satisfy 230-240% of annual food needs. The poor only have hand held implements which convert to negligible cash value.

**Table 9.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	150-235%	320-420%	1125-1330%
Cash & Other Property	0%	230-240%	965-975%

### Income Distribution and the Mode

Approximately 70% of the population would fall below the mode in this FEZ. When using fishing nets and hectares of land under cultivation as an indicator of wealth, PRA exercises

indicated that 50% of the population would fall into the 1st wealth quintile, 20% into the 2nd, 15% into the 3rd, 10% into the 4th and 5% into the 5th of wealthiest quintile.

### Cereal Markets and Food Flows

This FEZ is a deficit cereal producer in normal years. Grains tend to be bought at the ADMARC depots in the major towns up and down the southern coast: Nkotakota, Salima, Monkey Bay, Nkunguli and Mangochi.

### Other Markets & Prices

1) Livestock markets: Livestock is typically sold to private traders and butchers hailing from: Monkey Bay, Mangochi, Salima and Nkhotakota.

2) Cash crop markets: Tobacco is sold on the auction floors in Blantyre and Lilongwe. Rice is sold in Salima Boma.

3) Fish Markets: Fish is sold to traders in Salima and Mangochi where it is then taken to the urban markets in Blantyre, Lilongwe and Zomba.

4) Prices:

1 kg maize: 2.5 kw	cattle: 1750 kw	goat: 400 kw	sheep: 350 kw
chicken: 50 kw	duck: 85 kw	hand made gill net: 3000 kw	
canoe: 1500 kw	boat: 10000 kw	pre-made gill net: 12000 kw	
plough: 1300 kw	bicycle: 1300 kw	beach senne net: 15000 kw	
radio: 500 kw	ox cart: 3800 kw		

### How People Cope with a Bad Year

Rather than adopt new strategies in difficult years, households tend to intensify existing methods for acquiring cash and food. Wild food consumption does not expand in difficult years nor was redistribution of resources from rich to poor reported to be of any significance.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Rice: Oct/Nov - May/June

Maize: Nov/Dec - March/April

Tobacco: Nov - Feb/March

Peak periods for ag piece work: Nov - May

Peak periods for fishing piece work: Aug-Oct

Peak fishing season: Aug-Oct and Jan - April

## 10. Lilongwe East <sup>79</sup>

### Summary of Food Economy

This area is distinguished from the surrounding Kasungu-Lilongwe Plain by its significantly lower production levels for poor and modal households as well as smaller average land holding size. The most important aspects of this food economy are food crops, casual labour and non-food production. The typical household in this area produces enough crops to feed the family for six months. The major food crops are: maize, beans, cassava, ground nuts and sweet potatoes. The use of animal traction is quite limited. Typical households earn up to half their annual income performing ganyu for wealthier farmers from Lilongwe who rent land from poorer families in this food economy zone. Non-food production often involve making mats and selling baked goods at local markets. The population of this area is approximately 380,000.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) employment/remittance, 3) non-food production, 4) cash crop sales, 5) wild foods, 6) trade and 7) livestock sales.

### Geography and Rainfall

This zone is a relatively flat and gently rolling plain which surrounds the City of Lilongwe on its north, south and eastern sides. The area is entirely found within the District of Lilongwe and extends eastward to the border with Salima District. The EPAs included in this area are: Chitekwele, Kalira, Chitsime, Mpenu, Chiwamba and Chigonhi. The average annual precipitation in this area is 1000 mm.

### Sources of Food

Food crops are the largest source of food for rich and modal households at 95-100% and 45-50% of annual food needs respectively. Modal households complete their diets with food purchase (40-50%) and some wild food consumption (0-10%). After food crops, the rich also purchase a small amount of food (0-5% of annual food needs). Food purchase is the largest source of food for the poor (60-70%), followed by own food crops (20-30%) and wild food consumption (0-20%).

**Table 10.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	20-30%	45-55%	95-100%
Milk/Meat	0%	0%	0%
Fishing	0%	0%	0%
Wild Foods	0-20%	0-10%	0%
Gift/Relief	0%	0%	0%

<sup>79</sup>Information in this section is largely based on two, full profile key informant interviews as well as a number of more general discussions.  
RiskMap Malawi Final Report

Purchase	60-70%	40-50%	0-5%
Total	80-120%	85-115%	95-105%

### *Food Crop Production*

The rich, mode and poor produce food crops in a normal year<sup>80</sup> capable of feeding the household for approximately 19, 6 and 3 months respectively. The major food crops grown in the area are: 1) maize, 2) maize, 2) cassava, 3) ground nuts, 3) sweet potatoes and 4) vegetables. The poor may have low production levels in some parts of this zone because 1) they rent much of their land to wealthier farmers from Lilongwe and 2) they spend much of their time during critical periods in the agricultural cycle working the land for these same wealthier persons from Lilongwe. It is for the same aforementioned reasons that the local rich manage to produce a significant surplus, i.e. renting extra land and hiring labour. The necessary equipment and draft power to practice animal traction was also reported to be quite rare. Some households also have access to *dimbas* or wetland fields that are cultivated in the winter or dry season. The crops typically grown in these fields are: cabbage, vegetables, beans and maize.

### *Wild Foods*

Wild food consumption involves the trapping of mice and the consumption of some wild fruits and vegetables. Such consumption varies widely and accounts for 0-20% of annual food needs for the poor and 0-10% of annual food needs for the mode. Mice are most frequently caught and eaten between June and October. Wild fruits and vegetables that are collected include: wild okra (Dec-March), *Chisoso* (Dec-March), *Mnombwe* (Dec-March), *Bonongwe* (Jan-March) and *Mlozi* (Oct-Nov).

### *Fishing*

Fishing is not a significant source of income for any of the economic groups in this food economy zones.

### Sources of Cash

Purchase accounts for 60-70%, 40-50% and 0-5% of annual food needs for the poor, mode and rich respectively. Modal households gain the largest share of their income from *ganyu* or local piecework (45-50%), followed by non-food production (30-40%), cash crop sales (5-15%), trade (0-10%) and livestock sales (0-5%). The poor also earn the largest proportion of their income from piece work (over half), with the balance coming from trade (20-30%), non-food production (15-25%) and livestock sales (0-5%). The income strategies for rich are quite different with cash crop sales accounting for the largest share of income (60-65%), followed by livestock sales (20-25%), trade (5-20%) and employment (0-5%).

**Table 10.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-55%	45-50%	0-5%

<sup>80</sup>Key informants considered the 1992/93 agricultural season to be normal or average for the 1990-96 period.

Livestock Sales	0-5%	0-5%	20-25%
Cash Crop	0%	5-15%	60-65%
Non-Food Production	15-25%	30-40%	0%
Other Trade	20-30%	0-10%	5-20%
Total	85-115%	80-120%	85-115%

### *Employment and Remittance*

Local piecework or *ganyu* is the only form of employment income for modal and poor households in this area. This source is the largest source of income for both groups, accounting for just under half of total income for the mode and just above half for the poor. Labourers either receive cash or maize as compensation for their efforts. The bulk of this employment occurs during the agricultural season between October and February. The rich receive a very small proportion of their annual income (0-5%) from employment in Malawi's larger cities: Lilongwe and Blantyre.

**Table 10.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	100%	0%	0%	0%
Mode	100%	0%	0%	0%
Rich	0%	100%	0%	0%

**Table 10.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Piece work for wealthier land renting farmers from Lilongwe
Within Country	Lilongwe, Blantyre

### *Livestock*

Livestock sales account for 0-5% of annual income for poor and modal households and 20-25% of annual income for the rich. Livestock holdings are relatively limited in this area with the typical household generally having one goat and four chickens. Livestock is typically sold to buyers from Lilongwe at local markets such as Nanjiri and Mchezi.

**Table 10.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	-	-	-
Goats	-	1	2-3

Sheep	-	-	-
Chickens	2	4	7-8
Pigs	-	-	3
Ducks	-	-	2-3

### *Cash Crop Production*

Cash crop sales are the largest share of earnings for the rich at 60-65% of annual income. The poor generally earn no income from such sales while this is the third largest source of cash for modal households at 5-15% of annual income. The major cash crops are: 1) tobacco, 2) maize, 3) cassava, 3) sweet potatoes and 4) vegetables.

### *Non-Food Production*

Non-food production is a significant source of income for both the poor and the mode where it accounts for 15-25% and 30-40% of annual income respectively. Activities in this category include selling wild foods, making mats and selling small cakes.

### *Trade*

Trade accounts for 20-30%, 0-10% and 5-20% of annual income for the poor, mode and rich respectively. The bulk of this income for the poor is derived from renting land to wealthier farmers. Of the wealthier farmers who rent land, approximately 70% come from Lilongwe and 30% from the local community. The usual rate for renting land was said to be 150kw/acre/year which is typically paid in September or October. Trade for the mode and rich involves buying and selling goods and running small business (especially selling bricks).

### Surplus Production and Income

The rich produce surplus crops which are equivalent to seven months or 55-60% of annual food needs. The mode and the rich have surplus income which is equal to 0-10% and 15-20% of annual food needs respectively.

**Table 10.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	55-60%
Surplus Cash Production	0%	0-10%	15-20%

### Assets and Savings

None of the economic groups in this area typically keep food stocks or reserves which are capable of feeding the family beyond the next harvest. When livestock is converted to grain at normal year prices, the rich, mode and poor could satisfy 155-175%, 20-25% and 0-5% of annual food needs respectively. Savings and assets were reported to be relatively low in this zone. The rich were said to have savings capable of feeding the family for two months. Assets held by the rich include: bicycle, radio and dining set. When savings and the resale

value of assets are converted to grain at normal year prices, the rich could satisfy 65-70% of annual food needs.

**Table 10.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	0-5%	20-25%	155-175%
Cash & Other Property	0%	0%	65-70%

#### Income Distribution and the Mode

PRA exercises indicated a somewhat atypical income distribution in this area with the largest proportions of the population falling into the poorest and richest wealth quintiles. Using sacks of maize produced and acres of land under cultivation as wealth indicators, the following distribution was suggested: 1st wealth quintile, 30%; 2nd wealth quintile, 15-20%; 3rd wealth quintile, 15%; 4th wealth quintile, 15%; and 5th and wealthiest quintile: 20-25%. Assuming the middle three quintiles are fairly similar, then approximately 75-80% of the population would fall within and below the mode.

#### Cereal Markets and Food Flows

Maize grain is bought and sold at local ADMARC markets such as those found at Natenje and Alimaunde. Maize grain is also purchased at local shops.

#### Other Markets and Prices

- 1) *Livestock Markets*: Livestock is often sold to buyers from Lilongwe at local markets such as Nanjiri and Mchezi.
- 2) *Cash Crop Markets*: Cash crops (especially tobacco) are sold in Lilongwe (e.g. the auction floors) and at local ADMARC depots (e.g. Lumbadzi). Cash crops are also sold to private traders.
- 3) *Trade*: Lilongwe and local
- 4) *Non-Food Production*: Local markets.

**Table 10.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Bicycle	1200	Dining Set	300	Radio	1250

**Table 10.8: Livestock Prices**

Animal	Price	Animal	Price
chicken	60	pig	1000
goat	350	duck	70

#### How People Cope with a Bad Year

Rather than adopt new strategies, families tend to intensify existing ones in difficult years. Wild food collection was said to decrease by some 40% in difficult years. Income redistribution from the rich to poor was not reported to be significant.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - May

Piece work or ganyu: Sept/Oct - Feb

Rental payments: Sept-Oct

Wild Foods: Dec-March

Rain: Nov-April

## 11. Phirilongwe Hills <sup>81</sup>

### Summary of Food Economy

The most important aspects of this food economy zone are food crops, cash crops and employment. The typical household produces enough crops to satisfy 60-75% of annual food needs in a normal year. The most important food crops are maize, cassava and sorghum. Cash crop sales are the largest source of income for rich and modal households. The typical household earns approximately half of its income from the sale the crops. The major cash crops are tobacco and cotton. The approximate population of this FEZ is 246,000.<sup>82</sup>

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) livestock, 4) employment/remittance, 5) other trade and 6) wild foods.

### Geography and Rainfall

The Phirilongwe Hills FEZ is located half way between Lilongwe and Blantyre at the southern end of the lake. This FEZ is bordered by the lakes, Malawi and Malombe, and by the Rift Valley Escarpment. It includes the following EPAs: all of Namkumba, Chilipa and Mtiramanja, and 80% (of population) of Nasenga and Mbwadzulu. The mean annual precipitation in this area is 1000mm.

### Sources of Food

Food crops provide the largest source of food for both rich and modal households, 85-95% and 60-75% of annual food needs respectively. The rich complete their diets with similar contributions from milk/meat consumption (10%) and food purchased (5-10%). The mode make up their remaining food requirements largely from purchase (25-30%), with small supplements from milk/meat consumption (0-5%) and wild foods (0-5%). The poor divide their food sources largely between food crops (30-50%) and food purchased (40-55%), with a small supplement from wild foods.

**Table 11.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Food crops	30-50%	60-75%	85-95%
Milk/Meat	0%	0-5%	10%
Fishing	0%	0%	0%
Wild Foods	5-10%	0-5%	0%
Gift/Relief	0%	0%	0%

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<sup>81</sup>The information in this section is largely based on three key informant interviews as well as secondary sources.

<sup>82</sup>EPA population data from USAID/FEWS document which used NSO data. See Appendix I for FEZ population calculations.

Purchase	40-55%	25-30%	5-10%
Total	75-115%	85-115%	100-115%

### *Food Crop Production*

Own food crops account for 30-50%, 60-75% and 85-95% of annual food needs for the poor, mode and rich respectively. The major food crops (from most to least important) are: 1) maize, 2) cassava, 3) sorghum, 4) sweet potatoes, 4) soya beans, 4) millet, 4) groundnuts, 4) vegetables.

### *Wild Foods*

Wild foods are consumed by both modal (0-5%) and poor (5-10%) households. Mangoes, plentiful in October and November, are said to be particularly important as a source of food for the poor in these two months. Other wild foods, available mainly between November and April, are: *masuku*, *kamganje*, *thudza* (April), *mapoza* (Dec-March), *matowo* (July-Aug), *Chilazi* (Dec-March), *nkuta* (March), *ntambe* (Nov) and Baobab leaves (Dec).

### Sources of Cash

Food purchase accounts for 40-55%, 25-30% and 5-10% of annual food needs for the poor, mode and rich respectively. On average modal households earn half of their annual income from cash crops, with the remainder shared roughly equally between employment/remittance (10-25%), livestock sales (10-20%) and other trade (5-25%). The rich also obtain the largest portion of their annual income from cash crop sales (55-65%), followed by other trade (10-30%), livestock sales (10-15%) and employment/remittance (0-5%). The poor obtain half of their income from employment/remittance (45-55%), about one-third (25-45%) from cash crop sales, and the remainder from non-food production.

**Table 11.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	45-55%	10-25%	0-5%
Livestock Sales	0%	10-20%	10-15%
Cash Crop	25-45%	35-65%	55-65%
Non-Food Production	5-25%	0%	0%
Other Trade	0%	5-25%	10-30%
Total	75-125%	60-135%	75-115%

### *Employment and Remittance*

Employment/remittance income is proportionately most important for the poor, accounting for 45-55% of annual income. It is all local piecework or *ganyu*. For modal households employment/remittance contributes 10-25% of annual income, the vast majority (80%) of which is *ganyu*, the remainder (20%) being work on local tobacco estates. The rich earn a minimal (0-5%) amount of their annual income from this category.

**Table 11.3a: Employment and Remittance (% of employment income)**

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	100%	0%	0%	0%
Mode	80%	20%	0%	0%
Rich	0%	100%	0%	0%

**Table 11.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Within Country	1)Blantyre, 2)Lilongwe

#### *Livestock Holdings*

Livestock sales account for very similar proportions of the modal and rich households' income, 10-20% and 10-15% respectively. The typical family would in general own: 0-1 cattle, 5-10 goats, 4-6 sheep and 10-15 chickens. Livestock is sold to local butchers, neighbours as well to traders from Mangochi.

**Table 11.4: Livestock Holdings (livestock numbers)**

Livestock Type	Poor	Mode	Rich
Cattle	-	0-1	4-8
Goats	0-2	5-10	15
Sheep	-	4-6	10-12
Chickens	5-7	10-15	20-30

#### *Cash Crop Production*

Cash crop sales account for 55-65%, 35-65% and 25-45% of annual income for the rich, mode and poor respectively. The major cash crops (from most to least important) are: 1) tobacco, 2) cotton, 3) cassava, 3) groundnuts, 3) soya beans.

#### *Non-Food Production*

Only applicable to the poor (5-25% of their annual income), this category is predominantly firewood sales, but also includes small contributions from crafts and wild foods (Oct-Nov mangoes).

#### *Trade*

The rich receive a higher (10-30%) but none the less similar proportion of their annual income from trading activities, as compared to the mode (5-25%). These activities comprise a

mixture of small businesses (i.e. shops), the selling in Blantyre of locally bought crops and the buying and selling of second hand clothes.

### Surplus Production and Income

The rich were reported to have surplus crop production equivalent to 3-4 months worth of food for the household. Surplus cash income was found to be 20-30% and 55-65% of annual food needs for modal and rich households respectively.

**Table 11.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	25-35%
Surplus Cash Production	0%	20-30%	55-65%

### Assets and Savings

None of the economic groups have food stocks or reserves in a normal year that last beyond the next harvest. When livestock are converted to grain at normal year prices, the rich, mode and poor could satisfy the equivalent of 805-810%, 210-215% and 20-30% of annual food needs. The rich were reported to have the following types of moveable, physical assets: bicycle, radio, ox-cart, plough, sprayer, ridger and other hand held farming implements. When the resale value of these items and savings are converted to grain at normal year prices, the rich could satisfy 510% of annual food needs. Assets held by modal households typically include: bicycle, radio, sprayer and hand implements which, when converted could satisfy 65-70% of annual food needs.

**Table 11.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	20-30%	210-215%	805-810%
Cash & Other Property	0%	65-70%	510%

### Cereal Markets and Food Flows

Grains tend to be bought and sold at the ADMARC depots in the nearest small towns: Chiripa, Katema and Mthiramanja. It is also bought within the local communities.

### Other Markets and Prices

1. **Livestock Markets:** Livestock is typically sold to local butchers and neighbours, as well as to private traders from Mangochi.

2. **Cash Crop Markets:** Tobacco is sold directly to the auction floors in Blantyre and Lilongwe and also to private traders from Blantyre, Lilongwe, Zomba and the nearer locality. Cotton is sold to the ADMARC depots at Chiripa, Katema and Mthiramanja.

3. *Trade*: These activities comprise a mixture of small businesses (i.e. shops), the selling in Blantyre of locally bought crops and the buying and selling of second hand clothes.

**Table 11.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	95kw	Cultivator	-	Radio	800kw
Ax	-	other ag.	-	Bicycle	1200kw
Plough	450kw	ox cart	12000		

**Table 11.8: Livestock Prices**

Animal	Price	Animal	Price
poultry	55kw	pig	-
goat	325kw	cow	2000kw
sheep	325kw	ox	-

#### How People Cope with a Bad Year

Rather than adopt new strategies in difficult years, households tend to intensify existing methods for acquiring cash and food. Wild food consumption expands by up to 100% in a bad year, which it is estimated could cover 5-10% of a difficult year food deficit. Redistribution of resources from rich to poor expands by up to 50% in a bad year.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - Mar-June

Cassava: Dec/Jan - Sept-Nov

Sorghum: Nov/Dec - May-June

Tobacco: Nov/Dec - Feb/Mar

Cotton: Nov/Dec - Apr/May

Rains: Nov - Mar

## 12. Sparsely Populated Rift Valley Escarpment <sup>83</sup>

### Summary of Food Economy

This is a deficit area that is somewhat rocky and less productive than the surrounding zones. The most important aspects of this food economy are food crops, cash crops and livestock. The typical household in this area produces about eight months worth of food. The major food crops are: maize, cassava, sorghum, sweet potatoes, pigeon peas and ground nuts. Only the rich have the means to practice animal traction. Cash crop sales provide the typical household in this area with 35-45% of annual income. Cotton is the most common cash crop, followed by maize and tobacco. While livestock holdings are limited, income and food from these holdings make a modest but significant contribution to household food security. The approximate population of the zone is 884,000.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) livestock, 4) non-food production, 5) employment/remittance, 6) trade, 7) wild foods/hunting and 8) relief.

### Geography and Rainfall

This FEZ extends from Mwanza in the south and follows the Rift Valley escarpment north all the way to Dwangwa Estate (to the same place where the Southern Fishing Zone ends). In the northern half of the FEZ the area is characterized by an escarpment that slopes down eastward to Lake Malawi, ending just 5 kms from the lakeshore. To the west of this area are the higher Kasungu/Lilongwe Plains. In the south, the area slopes down eastward to the Middle Shire Valley on one side and meets the Mozambique Border Area on higher ground on its western side. Portions of the districts of Mwanza, Mchinga, Ntcheu, Dedza, Salima and Nkhotakota are found in this zone. The EPAs found in this FEZ are: the central section of Mwanza (40% of the population), the eastern half of Neno (50%), the western half of Lisungwi (50%), the western half of Phalula (50%), the western half of Mpilisi (50%), the western half of Ulongwe (50%), Bazale (100%), Manjawira (100%), Nsipe (100%), Kandeu (100%), Sharpevale (100%), Bilira (100%), Golomoti (80%)\*, Mtakataka (80%)\*, Chipoka (80%)\*, Tembwe (80%)\*, Zidyana (80%)\*, Linga (80%)\*, Chinguluwe (100%), Mwansambo (100%), Khombedza (80%)\* and the southern half of Nkhunga (40%)\*.<sup>84</sup> The soils are somewhat rocky and less productive than surrounding areas. The mean annual precipitation for this area is ranges from 700 mm to 1200 mm with the majority of the zone receiving 1000 mm.

### Sources of Food

Own crops are the largest source of food for modal and rich households at 65-70% and 85-95% of annual food needs respectively. Modal households compliment their crops with purchase (20-30%), wild foods (0-5%), gifts/relief (0-5%) and milk/meat consumption (0-5%). Rich households also receive some food from milk/meat consumption (5-10%), relief (0-5%) and purchase (0-5%). Poor households garner their largest share of food from

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<sup>83</sup>The information in this section is largely based on three full profile, key informant interviews as well as secondary sources.

<sup>84</sup> \* = all of EPA except 5 km along Lake Malawi shore.  
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purchase (45-50%), followed by food crops (30-35%), wild foods/hunting (10-15%) and gifts/relief (5-10%).

**Table 12.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	30-35%	65-70%	85-95%
Milk/Meat	0%	0-5%	5-10%
Fishing	0%	0%	0%
Wild Foods	10-15%	0-5%	0%
Gift/Relief	5-10%	0-5%	0-5%
Purchase	45-50%	20-30%	0-5%
Total	90-110%	85-115%	90-115%

### *Food Crop Production*

This is a food crop deficit area. The rich, mode and poor produce crops in a normal year<sup>85</sup> capable of feeding the family for 3.5 - 4, 8 - 8.5 and 15.5 - 16 months respectively. The major food crops (from most to least important) are: 1) maize, 2) cassava, 2) sorghum, 3) sweet potatoes, 3) pigeon peas, 4) ground nuts, 4) rice, 4) beans, 4) finger millet and 4) vegetables. Only the rich have the means to practice animal traction.

### *Wild Foods*

Wild foods and hunting account for 10-15% and 0-5% of annual food needs for the poor and mode respectively. Hunting entails trapping mice and small birds, mostly between May and September. Wild fruits and vegetables that are commonly collected include: *masao* (June-Sept), *matowu* or chewing gum (June-Sept), *nthuza* or wild plums (April-June), *maula* (June-Sept), *mateme* (June-Sept), *bwemba* (June-Sept), Baobob (June-Aug), *malambe* (June-Aug), *chitimbe*, *nkomwa*, wild mangoes (Nov-Dec), *goza*, *mpamba* and *ngwebe*.

### *Fishing*

Fishing was not found to be a significant source of food or income for any of the economic groups in this zone.

### Sources of Cash

Purchase accounts for 45-50%, 20-30% and 0-5% of annual food needs for the poor, mode and rich respectively. Cash crops are the largest source of income for modal and rich households at 35-45% and 45-50% of annual income respectively. Modal households earn the balance of their income from employment/remittance (15-20%), non-food production (15-20%), livestock sales (5-15%) and trade (10-15%). After cash crop sales, the largest source of income for the rich is trade (20-30%), followed by livestock sales (20-25%) and remittances (5-10%). The poor, on the other hand, earn the largest share of their income from

<sup>85</sup>Key informants considered the 90/91 agricultural season to be average or normal for the period 1990-96.  
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non-food production (50-60%), with the balance coming from employment/remittance (30-40%), cash crop sales (5-10%) and livestock sales (0-5%).

**Table 12.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	30-40%	15-20%	5-10%
Livestock Sales	0-5%	5-15%	20-25%
Cash Crop	5-10%	35-45%	45-50%
Non-Food Production	50-60%	15-20%	0%
Other Trade	0%	10-15%	20-30%
Total	85-115%	80-115%	90-115%

### *Employment and Remittance*

Employment and remittance accounts for 30-40%, 15-20% and 5-10% of annual income for the poor, mode and rich respectively. The poor earn all of this income from local *ganyu* or piecework for wealthier farmers and on nearby estates. Income from this category for the mode is largely earned from local piecework (70-75%) as well as from employment at other locations in Malawi (25-30%). The rich earn all of this type of income from employment at other locations in Malawi. The major non-local employment centres for people from this zone are: 1) Blantyre, 2) Lilongwe, and 3) Zomba.

**Table 12.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	100%	0%	0%	0%
Mode	70-75%	25-30%	0%	0%
Rich	0%	100%	0%	0%

**Table 12.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Piece work or <i>ganyu</i> for wealthier farmers and on local estates
Within Country	1) Blantyre, 2) Lilongwe, 2) Zomba

### *Livestock*

Livestock sales account for 20-25%, 5-15% and 0-5% of annual income for the rich, mode and poor. The typical household in this area would have: 2 cattle, 3-5 goats, 0-1 sheep, 8-9 chickens, 1-2 pigs, 0-3 rabbits and 0-1 ducks. Livestock is typically sold to butchers and private traders from Salima, Lilongwe, Ncheu and Balaka.

**Table 12.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	2	6-8
Goats	0	3-5	8-10
Sheep	0	0-1	0-1
Chickens	3-4	8-9	16-18
Pigs	0	1-2	2-3
Ducks	0	0-3	0-5
Rabbits	0	0-1	0-5

#### *Cash Crop Production*

Cash crop sales are the most important source of income for rich and modal households where they account for 45-50% and 35-45% of annual income respectively. Such sales are only the third most important source of income for the poor at 5-10% of annual income. The most commonly grown cash crops (from most to least important) are: 1) cotton, 2) maize, 3) tobacco, 4) ground nuts, 5) sunflower, 5) vegetables, 6) rice and 6) beans. Cash crops are typically sold to ADMARC or private traders. Tobacco is sold on the auction floors in Blantyre and Lilongwe.

#### *Non-Food Production*

Non-food production is of tremendous importance to the poor where it accounts for 50-60% of annual income. Activities undertaken by the poor in this category are: beer brewing, firewood sales, sale of wild foods and trapped mice and birds, mat making and the sale of palm leaves. This is the second largest source of income for the mode where it attributes for 15-20% of annual income. Activities in this category for the mode include: beer brewing, mat making and palm leaf sales.

#### *Trade*

The rich earn 20-30% of their annual income from trade, making it the second most important source of cash for this group. The rich often own small businesses and buy and sell timber and vegetables. Trade contributes for 10-15% of annual income for the mode. This group largely buys and sells vegetables and other produce.

#### Surplus Production and Income

The rich produce surplus crops which are equivalent to 30-35% of annual food needs or 3.5 - 4 months worth of food for a household. Surplus income for the rich and mode is equal to 50-55% and 15-20% of annual food needs respectively.

**Table 12.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich

Surplus Food Production	0%	0%	30-35%
Surplus Cash Production	0%	15-20%	50-55%

### Assets and Savings

Only the rich have food stocks or reserves which could feed the family for 3 to 6 months. When livestock is converted to grain at normal year prices, the rich, mode and poor would have the equivalent of 520-570%, 310-370% and 0-10% of annual food needs. The rich were reported to have cash savings which could feed the family for up to one year. Assets typically held by the rich include: bicycle, radio, ox cart, plough, ridger, furniture, and a cultivator or sprayer. When cash savings and the resale value of assets are converted to grain at normal year prices, the rich could satisfy 310-315% of annual food needs. Modal households were found to have savings capable of feeding the family for 4 months. Assets typically held by the mode include: radio, bicycle and furniture. When cash savings and the resale value of assets are converted to grain at normal year prices, the mode could purchase 70-80% of annual food needs.

**Table 12.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	25-50%
Livestock	0-10%	310-370%	520-720%
Cash & Other Property	0%	70-80%	310-315%

### Income Distribution and the Mode

PRA exercises using goats and/or cattle as indicators of wealth suggested the following wealth distribution: 1st wealth quintile: 25% of the population; 2nd wealth quintile, 30-35% of the population; 3rd wealth quintile, 20% of the population; 4th wealth quintile, 10-15% of the population; and 5th or richest quintile: 10% of the population.

### Cereal Markets and Food Flows

This is a grain deficit area. Cereals are purchased at a variety of ADMARC locations, including: Chona, Chatunya, Utale, Balaka, Mantawira, Ulongwe, Chiripa, Khombedza, Nsipe and Manjawira. Grain is also bought and sold with private traders.

### Other Markets and Prices

- 1) *Livestock Markets*: Livestock is sold to butchers and private traders from Salima, Lilongwe, Ncheu and Balaka.
- 2) *Cash Crop Markets*: Sold to ADMARC markets in: Chona, Chatunya, Utale, Balaka, Mantawira, Ulongwe, Chiripa, Khombedza, Nsipe and Manjawira. Tobacco is sold on the auction floors in Lilongwe and Blantyre. Vegetables are sold in Balaka, Lilongwe and Blantyre.
- 3) *Other Trade*: Local, Balaka, Ncheu and Salima.
- 4) *Non-Food Production*: Mats and firewood are sold along the paved roads.

**Table 12.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	-	Cultivator	1700	Radio	450
Sprayer	900	Ridger	1500	Bicycle	1500
Plough	1750	ox cart	4250	Furniture	300

**Table 12.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
chicken/duck	40	pig	325	sheep	500
goat	325	cattle	1700	rabbit	40

#### How People Cope with a Bad Year

Rather than adopt new strategies, households tend to intensify existing strategies in difficult years. Wild food consumption was reported to stay about the same. Income redistribution from the rich to poor does occur to a modest degree. It is estimated that the rich give roughly 10% of their surplus to deficit households.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - April/May

Sorghum: Nov/Dec - May

Cotton: Nov/Dec - April/May/June/July

Rice: Nov - June/July

Tobacco: Nov/Dec - Feb/March

Rain: Nov - March/April/May

Peak ganyu or piece work: late Oct - Feb

### **13. Surplus Producing Kasungu-Lilongwe Plain <sup>86</sup>**

#### Summary of Food Economy

This area is well-populated and highly productive. The most important aspects of this food economy are food crops, cash crops and trade. The typical household produces crops which generally last the family 10-11 months. The primary food crop which is cultivated in the area is maize. Cash cropping is the largest source of income for the typical household and accounts for nearly three-fifths of annual income. The primary cash crop is tobacco. As compared to other food economy zones within Malawi, the RiskMap data indicate that poorer households garner a greater percentage of cash income from the sale of cash crops. Trading activities contribute for a fifth of income for the typical household in this area. A 1996 Vulnerability Assessment and Mapping draft document and a 1995 World Bank study<sup>87</sup> found that small holders in areas corresponding to the Kasungu-Lilongwe Plain are among the most well off in Malawi.<sup>88</sup> The approximate population in the area is 2,374,000.<sup>89</sup>

#### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) trade, 4) livestock, 5) employment/remittance, 6) non-food production and 7) gifts/relief.

#### Geography and Rainfall

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<sup>86</sup>The information in this section is largely based on 5 key informant interviews as well as secondary sources.

<sup>87</sup>A Profile of Human Resources and Poverty in Malawi, Draft, June 1995, Human Resources Division, Southern Africa Department of the World Bank, p. 38.

<sup>88</sup>The assumptions drawn from the NSSA data which the World Bank employed in it's study might be misleading, particularly given the large number of estate tenants. However, relative to the rest of the country, this area is quite productive. The 3/26/96 VAM (Vulnerability Assessment and Mapping) indicates in "PC5: Magnitude of Poverty" that much of this FEZ is "most advantaged," i.e. less vulnerable to poverty. In addition, "PC4: Agriculture" indicates that a good portion of the zone is "most advantaged."

<sup>89</sup>EPA population data from USAID/FEWS document which used NSO data. See Appendix I for FEZ population calculations.

The Kasungu-Lilongwe Plain covers a fairly large area of the Central Region of Malawi. It includes the following EPAs: Emfeni, Kaluluma, Chulu, Chamama, Kasungu Chipal, Lisasadzi, Malomo, Ntchisi Boma, Chipuka, Madisi, Mkanda, Kalulu, Santhe, Bowe, Nachisaka, Mponela, Mndolera, Chisepo, Nthondo, Mikundi, Chioshya, Mlonyeni, Msitu, Demela, Chilaza, Ukwe, M'ngwangwa, Chivala, Mvera, Mayani, Kaphuka, Mpingu, Ming'ongo, Sinyala, Nakachoka, Nyanja, Kambanizithe, Mlomba, Kabwazi, Chafumba, Linthipe, and Kanyama. The zone does not cover a group of poorer EPAs which partially surround and lie to the east of Lilongwe City. Mean annual precipitation within much of the zone is 1,000 mm.<sup>90</sup> However, the northwestern part of the FEZ, the mean average precipitation is 700 mm.<sup>91</sup>

### Sources of Food

Own food crops account are the largest source of food for poor, modal and rich households at 45-65%, 85-90% and 90-100% of annual food needs respectively. Food purchase makes up the majority of the balance in all instances with the poor also receiving some relief (0-5%) and the rich consuming a certain amount of home produced milk and meat (0-10%).

**Table 13.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	45-65%	80-90%	90-100%
Milk/Meat	0%	0%	0-10%
Fishing	0%	0%	0%
Wild Foods	0%	0%	0%
Gift/Relief	0-5%	0%	0%
Purchase	40-50%	15-20%	0-10%
Total	85-120%	95-110%	85-120%

### *Food Crop Production*

This is a grain surplus area. The poor, mode and rich typically produce crops capable of feeding the household for 5-8, 10-11 and 15-16 months respectively. The primary food crops grown in the Kasungu-Lilongwe Plain are: maize, cassava, millet, groundnuts, common beans, sweet potatoes, pumpkins and Irish potatoes. Research conducted by Pearce, Ngwira and Chimseu indicates that the Mchinji, Kasungu and Lilongwe Districts are among the few in Malawi naturally endowed for agricultural production.<sup>92</sup> All three of these districts are

<sup>90</sup>"Mean Annual Precipitation by EPA," Agro-Climatic Zone Series documented for the Baseline VAM, FEWS.

<sup>91</sup>Ibid.

<sup>92</sup>Living on the Edge: A Study of the Rural Food Economy in the Mchinji and Salima Districts of Malawi, Pearce, J., Ngwira, A., and Chimseu, G. March 1996. Save the Children Fund (UK).

found within the Kasungu-Lilongwe Plain Food Economy Zone. Both rich and modal households have the means to practice animal traction.

#### *Wild Foods*

Although wild food consumption is not significant, the types of wild foods which are consumed in the area include the following: mushrooms, wild okra, *musuku*, *matenu*, *mato*, *banongwe* and flying ants.

#### *Fishing*

Fishing was not reported to be a significant source of income for the rich, mode or poor in this food economy zone.

#### Sources of Cash

Purchase accounts for 0-10%, 15-20% and 40-50% of annual food needs for the rich, mode and poor respectively. Cash crop sales are the largest source of income for modal and rich households at 55-60% and 65-70% of annual income. Modal households acquire the balance of their income from: trade (15-25%), livestock sales (10-15%) and employment/remittance (5-15%). The relative shares of income for the rich are very similar to those of the mode and include: trade (10-20%), livestock sales (5-15%) and employment/remittance (5-10%). The poor, on the other hand, earn the largest share of their income from employment/remittance (50-60%), followed by cash crop sales (25-30%), livestock sales (5-15%) and non-food production (5-15%).

**Table 13.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-60%	5-15%	5-10%
Livestock Sales	5-15%	10-15%	5-15%
Cash Crop	25-30%	55-60%	65-70%
Non-Food Production	5-15%	0%	0%
Other Trade	0%	15-25%	10-20%
Total	85-120%	85-115%	85-115%

#### *Employment and Remittance*

Employment/remittance is the largest source of income for the poor (50-60% of annual income) and relatively more important as a share of income than this source of cash for the mode and rich. Approximately three quarters of this income is derived from local piece work and up to a quarter from work at other locations in Malawi. A very small proportion (0-5%) is received in the form of remittances from neighbouring countries. Employment income for the mode (5-15% of total income) is largely acquired through local piece work for wealthier farmers and on estates (85%) as well as from work at other locations in Malawi (15%) and a small amount of remittances from neighbouring countries (0-5%). Of the employment income earned by the rich (5-10% of total income), approximately two-thirds is acquired from

work at other locations in Malawi, a third from work on local estates (mostly as managers) and a very small amount as remittances from neighbouring countries (0-5%). The most common, non-local employment locations within Malawi are: 1) Lilongwe, 2) Mzuzu, 3) Kasungu, 4) Tobacco Estates in Southern Kasungu, 5) Blantyre, and 6) Mzimba. Remittances were reported to be received from the following nearby countries: 1) Zambia, 2) South Africa, 3) Tanzania and 4) Zimbabwe.

**Table 13.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	75-80%	20-25%	0-5%	0%
Mode	85%	15%	0-5%	0%
Rich	30-35%	65-70%	0-5%	0%

**Table 13.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	1) Piece work for wealthier farmers, 2) Piece work on estates, 3) Managerial employment on local estates.
Within Country	1) Lilongwe, 2) Mzuzu, 3) Kasungu, 4) Tobacco Estates in Southern Kasungu, 5) Blantyre, 6) Mzimba
Neighbouring Country	1) Zambia, 2) South Africa, 3) Tanzania, 4) Zimbabwe

### *Livestock*

Livestock sales account for 5-15% of annual income for the rich and poor, and 10-15% of annual income for modal households. The typical household would own: 8 cattle, 10 goats, 21 chickens and 4 pigs. Meat consumption is rare or insignificant among all households in the food economy zone. Livestock is sold locally, to travelling traders and in the towns of Kasungu, Emfeni and Kosoro. Farmers will rarely slaughter their own holdings for personal consumption as livestock is considerably more valuable as a source of income. In poor households meat consumption doesn't occur at all except for special occasions. Although modal families consume small amounts of meat on a regular basis, the amounts are not significant. Richer households receive 0-10% of their annual calories from milk and meat produced on their own farms.

**Table 13.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0-1	8	24
Goats	2	10	15
Sheep	-	-	-

Chickens	6	21	55
Pigs	2	4	6

### *Cash Crop Production*

As a tobacco producing area, the primary source of cash for modal and rich households in the Kasungu-Lilongwe FEZ is tobacco sales which account for 55-60% and 65-70% of annual income respectively. Poor households also generate cash through the sales of cash crops (25-30% of annual income). However, the crops which they sell are more diversified and include: sunflower, soya bean, tobacco and garden produce from dambos in the area.<sup>93</sup> This area encompasses a large number of tobacco estates. With the recent Burley Tobacco Initiative, small-holders are now eligible to cultivate tobacco. This is a relatively new phenomenon, but is nonetheless having a considerable impact on the ability of small-holders to generate cash. As compared to other food economy zones within Malawi, the RiskMap data indicate that poorer households garner a greater percentage of income from the sale of cash crops.

### *Non-Food Production*

Non-food production is only relevant for the poor where it accounts for 5-15% of annual income. The sale of firewood and wild foods are the most common types of activities that fall into this category.

### *Trade*

Trade is the third most important source of income for rich and modal households where it accounts for 10-20% and 15-25% of annual income respectively. Trade includes a variety of small businesses such as shops and groceries as well as the buying and selling of some goods.

### Surplus Production and Income

Poor households typically have neither surplus food nor surplus cash. Modal households have small amounts of each, averaging around 10%. The rich produce surplus crops which are equivalent to a quarter to a third of annual food needs. Annual surplus cash income could satisfy from a third to half of annual food needs.

**Table 13.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	5-10%	25-35%
Surplus Cash Production	0%	10-15%	30-50%

### Assets and Savings

Rich and modal households have food stocks or reserves capable of satisfying 55% and 20-25% of annual food needs respectively. When livestock is converted to grain at normal year prices, the rich, mode and poor would have the equivalent of 2155-2160%, 815-820% and 75-

<sup>93</sup>The average figure for income from cash crop sales for poor households is 25-30%. However, the actual figures reported vary from 0-50%. This wide degree of variation may be accounted for by varying degrees of access to dambo land (for garden cultivation) and the increased capacity of small-holders to grow tobacco and their consequent ability to generate income from cash crop sales.

150% of annual food needs. The rich were reported to have cash savings capable of feeding the family for eight months. Assets typically held by the rich include: 2 ox carts, 2 ploughs, radio, motorbike, ridger, 2 bicycles, bailing jack, scale, 2 wheel barrows and a sewing machine. When the resale value of these assets and savings are converted to grain at normal year prices nearly thirteen years of food could be purchased (1280-1290% of annual food needs). Modal households were reported to have savings capable of feeding the family for four months. Assets commonly held by the mode include: bicycle, radio, furniture, plough, ox cart, sewing machine and ridger. When the resale value of these assets and savings are converted to grain at normal year prices then 160-170% of annual food needs could be satisfied. The poor were not reported to have any savings. Their assets include a radio and some furniture. The resale value of these assets is equivalent to 25-30% of annual food needs.

**Table 13.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	20-25%	55%
Livestock	75-150%	815-820%	2155-2160%
Cash & Other Property	25-30%	160-170%	1280-1290%

#### Income Distribution and the Mode

It is assumed that 70% of the population falls within and below the mode.

#### Cereal Markets and Food Flows

This is a maize surplus producing zone. Maize is bought and sold at ADMARC and by private traders.

#### Other Markets and Prices

1) *Livestock Markets*: 1) Locally among villagers. 2) Private traders at village level. 3)

Kasungu, Emfeni and Kosoro.

2) *Cash Crop Markets*: Tobacco is 1) sold to local permit holders who in turn sell on the auction floors in Lilongwe; 2) sold locally to private traders such as Lever Brothers; and 3) sold to ADMARC in Emfeni, Nkhamenya, Mphongole, Chetoma and Kamenya.

3) *Other Trade*: 1) Locally and with 2) Zambia

4) *Non-Food Production*: Local

**Table 13.7: Asset Prices**

Item	Price	Item	Price	Item	Price
scale	1000	bailing jack	3000	Radio	1250
-	-	ridger	900	Bicycle	1200
plough	750	ox cart	1700	Motorcycle	50,000
furniture	300	wheelbarrow	650	sewing mach	1000

**Table 13.8: Livestock Prices**

Animal	Price	Animal	Price
poultry	55	pig	600
goat	250	cattle	2000
sheep	-	ox	3000

How People Cope with a Bad Year

Three-fourths of key informants interviewed stated that wild food consumption does expand during difficult years. Estimates of the degree to which it expands range from 10-40%. Participants emphasized the fact that during drought years, the quantity of wild foods available also decreases. Among relatives, there is some income redistribution from rich to poor. It is estimated that the rich might give 5-10% of their surplus production and income to poorer relatives.

Seasonality

Maize: November - April/May

Tobacco: Nov/Dec. - Feb-May

Beans: Dec. - March

Groundnuts Nov. - April/May

Soybean Nov. - April/May

Dambo Garden Cultivation: April - October

Rain: Nov/Dec. - March/April

Employment:

Ganyu Nov - March

Estates: Transplanting: Nov-Dec

Harvest: Feb - May

Wild Foods: Nov - March/April

Fishing: Seasonal streams: Dec. - April

Livestock Sales no defined season

## 14. Sparsely Populated Middle Shire Valley

### Summary of Food Economy

This is a wide, low-lying valley floor lying in a rain shadow with poor soils and a relatively, less dense population. Many current inhabitants moved from the crowded highlands to the east from the 1930's onward<sup>94</sup>. This is primarily a maize producing zone which is typically in deficit. Cassava and rice are also major food crops, the second being primarily grown on dambo lands along the Shire River. The principle cash crops are cotton and tobacco. Fishing is a small, but consistent source of income for the modal and poor families. While the poor are highly dependent on ganyu for cash earnings, cash crop sales and trading constitute important sources of income for the mode and rich. Livestock holding are low compared to the rest of Malawi. The area has an approximate population of 289,000 persons.

### Main Elements of the Food Economy

The main elements of the food economy in this zone are as follows in order of importance: 1. Food crops, 2. Cash Crop Sales, 3. Non-Food Production, 4. Employment and Remittance Income, 5. Trade, 6. Fish, 7. Wild Foods/Game and 8. Livestock.

### Geography and Rainfall

The Middle Shire Valley FEZ extends from Mpatamanga Gorge in the south (west of Blantyre) to the south end of Lake Malombe in the north. The northern end of this FEZ includes a portion of the Liwonde National Park. The Shire highlands form the eastern side of this valley while the Rift Valley escarpment forms the western side. The EPAs that are found in this zone include: the central fifth of Mwanza, the eastern half of Lisungwi, the eastern half of Phalula, the western half of Lirangwe, the western halves of Chingale and Mpilisi, the western third of Ntubwi, the eastern half of Ulongwe and the western half of Mbonechera. All of these EPAs or sections of EPAs border the Shire River. The Middle Shire Valley extends about 10 km's on either side of the Shire River. The valley has few urban centres, the town of Liwonde being a notable exception. The zone has a relatively dry agroclimate (low mean annual precipitation, low ratio of precipitation to evapotranspiration, high number of dry months, etc) with mean annual precipitation ranging from 700-900 mm in the southern end of the zone to 1,000 mm in the northern end of the zone.

### Sources of Food

The greatest source of food for modal and rich families is own food crops. The second largest source is purchase. The opposite holds true among poor households wherein purchase is the largest source of food and own food crops is second. Fish provide a small amount of food for mode and rich households. Wild foods and game consumption contribute small amounts to modal and poor households. Gifts and relief are not very significant in this zone. They play no role for rich and modal households, however they provide 0-10% of annual foods in poor households.

**Table 14.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
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<sup>94</sup>Allen, Penny. 1993. "First Steps Towards an Understanding of Rural Economy in Malawi." Unpublished internal SCF(UK) document, p.9.  
RiskMap Malawi Final Report

Own Foodcrops	20-25	60-65	85-90
Milk/Meat	0	0	0
Fishing	0	0-5	0-5
Wild Foods	0-10	0-5	0
Gift/Relief	0-10	0	0
Purchase	70-75	30-40	5-15
Total	90-120	90-115	90-110

### *Food Crop Production*

Own food crop production provides the majority of food to modal and rich households in this zone. Food crops are the most important element of this food economy area. Poor families however gain a considerably smaller amount of food from these crops, equivalent to less than a quarter of their annual food needs. Despite the somewhat dry conditions in this zone, maize is the most prevalent food crop. It is followed secondly by sorghum and thirdly by cassava. Other food crops cultivated in the area include: rice, millet, sweet potatoes and pulses. Rice is grown close to the banks of the Shire River while maize is grown in the drier, upland areas. Poor soils and lower rainfall levels constrain production in this zone.

### *Wild Foods*

Wild foods are a small but significant source of food for the poor, accounting for 0-10% of annual foods and 0-5% for the mode. They are insignificant for the rich.. The bulk of households consume wild foods on a seasonal basis as a snack, rather than a critical component of their meals. Wild fruits and vegetables consumed in the area include: *Malambe* (fruit), *Wemba/bwemba* (fruit), wild Okra, *Chewe*, *Chisoso*, *Masao* (fruit) and wild mushrooms. Hunting is infrequent in this area. Only those who live near the mountains are able to find game. Due to animal scarcity hunting opportunities are not great. The poor in particular engage in some hunting but it does not add up to be a major portion of their diet. The type of game that is caught includes: mice, wild pigs, hare, rabbit, antelope and monkey.

### *Fishing*

Approximately 25% of the people living in the Middle Shire Valley do some fishing (especially those living close to the river). The poorest families may eat about .5 kg of fish per week (which is insignificant) while the typical and rich families would consume around 1.5 kilos per week for 0-5% of annual foods needs.

### Sources of Cash

The largest source of income for modal and rich households is cash crop sales which in both cases account for roughly half of annual income. Cash crop sales are the second most important element in this food economy area overall. The most important source of cash for poor families is employment (in this case *ganyu*) which contributes about three-quarters of annual income. Non-food production and other trade are also significant sources of income

in this area. Fish and livestock sales play very nominal roles among the three income groups in this area.

**Table 14.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	70-75	10-15	0-5
Livestock Sales	0	0-5	5-10
Cash Crop	0-5	45-55	45-50
Non-Food Production	20-30	20-25	5-15
Other Trade	0-5	10-15	25-35
Fishing	0-5	0-5	0-5
Total	90-120	85-120	80-120

#### *Employment and Remittance*

Employment and remittance income is an extremely significant source of cash for the poor in this area accounting for about three-quarters of their annual income. Within this category, the vast majority is composed of employment which for the poor is conducted locally doing piecework for somewhat wealthier farmers (*ganyu*). Small amounts of income are remitted from household members living in larger towns in Malawi. There are two tiers of labour markets beyond local employment. The first tier includes the smaller towns in the area (Liwonde, Balaka and Ulongwe). The second tier includes larger towns that are a bit further away (Blantyre, Zomba and Lilongwe). Employment and remittance is the third largest source of income for modal households (10-15%). Although modal families gain the majority of their employment income from local sources (80-90%), they do attain a bit more from remittances from relatives living in the larger towns mentioned. While an insignificant number of rich households gain income from employment, they acquire just about half of their employment income from family members remitting income from bigger towns in Malawi (usually from a relative working as a civil servant in one of the second tier labour markets). They do gain a small percent from a neighbouring country (Zimbabwe) and just less than half from local sources.

**Table 14.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95	5-10	0	0
Mode	80-90	10-20	0	0
Rich	45	50	0-5	0

**Table 14.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	<i>Ganyu</i>
Within Country	Liwonde, Balaka, Zomba, Ulongwe, Blantyre, Lilongwe
Neighbouring Country	Zimbabwe

### *Livestock*

Livestock sales in the Middle Shire Valley are small relative to other areas of Malawi such as the Lower Shire Valley and Karonga areas.<sup>95</sup> They do not contribute at all to the incomes of poor families. Modal households however gain a very small amount, 0-5%, while the rich acquire just a bit more 5-10%. Livestock holdings themselves are small although modal families on average own 1-2 cows. The poor own just a few small animals such as chickens, rabbits and pigeons. The holdings of modal and rich households are both more diversified and plentiful. Milk and meat consumption from personal holdings are insignificant in this zone. People prefer to sell their livestock for income rather than consume it directly themselves. (A more detailed listing of livestock holdings may be found in Table 14.4.)

**Table 14.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	1-2	3-4
Goats	0	6-7	9-10
Sheep	0	3	7-8
Chickens	2	8-10	15-20
Pigs	0	0-2	0-2
Donkey	0	0	0
Oxen	0	0	0
Other	rabbits, pigeons	rabbits, ducks	-

### *Cash Crop Production*

Cash crop sales are the most significant source of income for modal and rich families accounting for about half of annual income in both cases (slightly more for the mode than the rich.) In contrast to these two income groups however, the poor acquire very little income from cash crops; only 0-5%. The main cash crops grown in this area include the following in order of importance: 1. Cotton, 2. Tobacco, 3. Maize, 4. Vegetables, and 5. Sugar cane. All three income groups in this area gain 0-5% of income from selling fish.

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<sup>95</sup>One source indicated that given the Middle Shire's proximity to forested areas in the Highlands which border the sides of the valley, tsetse flies are present. Thus they contribute to decreased livestock production along the edges of this area.

### *Non-Food Production*

Non-food production is the second-most significant source of income for the typical family in the Middle Shire Valley, accounting for 20-25% of annual cash income. Brickmaking, charcoal production and crafts were the most commonly reported activities. Non-food production is even more important for the poorest, accounting for a solid 20-30% of annual income. While the poor do not have the capital to engage in brickmaking, they often brew beer, collect firewood for sale, fabricate charcoal and make crafts (mats, baskets, clay pots and cane chairs). The rich also engage in non-food production, earning, 5-15% of their annual income in this manner. Brickmaking was the chief activity of this nature engaged in by the rich. Wild food sales are not significant as a source of income in the Middle Shire.

### *Trade*

Income from trading is significant in this area. The typical household earns 10-15% of its annual income from these activities while poor households earn 0-5% from trade and rich households 25-35%. For modal households, trade often involves the buying of crafts and then reselling them along the major roads. This group may sometimes have small groceries as well. The rich tend to have larger groceries, shops and transport businesses.

### Surplus Production and Income

Surpluses are not sizable in this area. Poor and modal families do not produce surplus food during typical years. The rich however produce surpluses equivalent to 0-20% of annual food needs. The poor do not have any surplus cash. Modal families however, on average would have 0-35% while the rich would have a bit more equal to about half a year's food needs.

**Table 14.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	0-20
Surplus Cash Production	0	0-35	50-60

### Assets and Savings

Food stocks in the Middle Shire are quite small if they exist at all. Modal households could only meet 0-5% of their annual food needs using food stocks whereas the poor have none and the rich have about three months worth of stocks. Livestock when converted to grain (at normal year prices would yield about two to three years worth of food for modal families, four to over five for the rich and practically nothing for the poor (0-5%). The vast differences among the three income groups are attributable to both the quantity and type of livestock owned especially cattle. The assets of the poor are considered negligible in this area.<sup>96</sup> The poor also do not have any cash savings. Modal households, when cash and assets are converted to grain, could attain roughly one half of a years worth of food. Rich households are the largest. Their property and cash is equivalent from one to ten year's worth of food.

**Table 14.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich

<sup>96</sup>The limited possessions which the poor have include hoes and axes which have little or no resale value. They are also necessary to survive therefore they are rarely re-sold.

Food Stocks	0	0-5	20-25
Livestock	0-5	190-335	420-585
Cash & Other Property	0	45-50	120-1,085

### Income Distribution and the Mode

65-75% of the population falls within or below the mode in this area.

### Cereal Markets and Food Flows

Grain is bought and sold from ADMARC markets which are scattered throughout this zone. Some of the more significant markets are located in Liwonde, Chiendausiku, Disi, Mtila and Nsosa. Private traders are playing an increasingly important role in grain transactions.

### Other Markets and Prices

#### *Livestock Markets*

Livestock is frequently sold to private traders from Zomba, Balaka and Liwonde. Goats have a larger market in Liwonde.

#### *Cash Crop Markets*

The main market for tobacco is the Blantyre auction floor. Cotton is sold to ADMARC in Nsosa, Mtila, Chiendausiku, Disi and Balaka. Grains as a cash crop are sold in the same locations with the addition of Zomba and Liwonde.

#### *Other Trade*

Other trade occurs locally in decentralised locations.

#### *Non-Food Production*

Crafts, fuelwood and charcoal are sold along the tarmac roads which cross the Valley.

**Table 14.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	300
Ax		other ag.		Bicycle	1,400
Plough		ox cart	3,000	Car	
Furniture		wheelbarrow		sprayer	800

**Table 14.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	50	pig	900	donkey	
goat	300	cow	1,830	g. fowl, etc.	

sheep	340	ox		other	
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### How People Cope with a Bad Year

Wild foods do not constitute a significant coping strategy in difficult years. The majority of key informants indicate that wild foods decrease during bad years. Redistribution of wealth from rich to poor in difficult years was said to be limited. However, poor households may acquire some food from relatives. Child sharing (i.e. the children of poorer households being sent to be looked after by better off relatives) was also mentioned as another strategy to alleviate food requirements. For the poorest, seeking additional *ganyu* labour is probably the most significant strategy in bad years. The better off households were said to take on additional labour, even when it wasn't absolutely needed.

### Seasonality

Maize: planted: Nov/Dec.; harvested: March/April

Cotton: planted: Nov/Dec; harvested: June/July

Dimbas: June - Nov. (Cash crop and food crop cultivation)

Tobacco: plant: Nov/Dec.; harvest: Feb/March

Rain: Oct/Nov. - March/April

Peak Ganyu: Dec. - Jan.

## 15. Lake Chilwa Basin <sup>97</sup>

### Summary of Food Economy

This food economy zone is dominated by the geography of the Lake Chilwa basin. The most important aspects of the food economy are food crops, fishing and cash crops. Production levels (ag and fishing) fluctuate widely from year to year in the zone. Agricultural production is relatively poor with the typical household producing enough food to feed the household for six to seven months. The major food crops are maize, rice, cassava, sorghum, sweet potatoes, pigeon peas and pulses. Most the farming is done by hand. Fishing income vacillates significantly in relation to the state of the lake with the typical household earning 35-65% of annual income from the sale of their catch. In bad years, there is significant male migration as boat and net owners, along with employees, move to other areas to fish. Cash cropping accounts for a fifth to two fifths of annual income for the typical household. The most important cash crops are: rice, cassava, tobacco and garden produce. The population density in this zone is less than in surrounding areas. The approximate population for the zone is 454,000.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) fishing, 3) cash crops, 4) wild food/hunting, 5) employment/remittance, 6) trade and 7) livestock sales.

### Geography and Rainfall

The Lake Chilwa Basin encompasses the area surrounding Lake Chilwa, including many flat, seasonal wetlands and moist areas where the lake recedes during dry years. Lake Chilwa is found in the Southern Region of Malawi, south of Lake Malawi. The zone extends from just north of Lake Chiuta in the north to just north of Phalombe in the south. The Mozambican border forms the eastern side while western edge of the zone extends about 20 km from Lake Chilwa to the west. This zone includes portions of Mchinga, Zomba and Mulanje Districts. This food economy zone includes the following EPAs: Chikweo, Nampeya, Nanyumbu, Nsanama, one third of Ntubwi, Mpokwe, half of Tamani, half of Kasongo, half of Naminjiwa and Mpinda.

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<sup>97</sup>Information in this section is largely based on three, full profile, key informant interviews, discussions on specific issues with certain resource people as well as various secondary sources.

During normal years, Lake Chilwa's depth is about 2 meters<sup>98</sup> making it a shallow lake. The lake has dried up completely six times during human record.<sup>99</sup> The Lake Chilwa Basin has sandier and poorer quality soils than surrounding zones. Siltation in the lake is a serious problem which only exacerbates the aforementioned phenomenon. Increasing human population over time has led to more depletion of fish stocks in bad years. Fish stocks now take much longer to regenerate than in the past. Average annual rainfall ranges from 700 mm to 1200 mm with the majority of the area experiencing 1000 mm.

### Sources of Food

The most important source of food for rich and modal households is own crops which account for 85-90% and 50-60% of annual food needs respectively. The rich round out their diets with fish (5-10%), own milk/meat (0-10%) and purchase (0-5%). Modal households garner the balance of their food from purchase (30-35%), fish (5-10%) and wild foods (0-10%). Poor households, on the other hand, acquire the largest proportion of their food from purchase (45-55%), followed by own food crops (40-45%), wild foods/hunting (0-10%) and fish (0-5%).

**Table 15.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-45%	50-60%	85-90%
Milk/Meat	0%	0%	0-10%
Fishing	0-5%	5-10%	5-10%
Wild Foods	0-10%	0-10%	0%
Gift/Relief	0%	0%	0%
Purchase	45-55%	30-35%	0-5%
Total	85-115%	85-115%	90-115%

### *Food Crop Production*

This is a food crop deficit area. Agricultural production in the Lake Chilwa Basin is limited by poorer quality, sandy soils. Food crop production for the rich, mode and poor normally feeds the household for 10-11, 6-7 and 5 months respectively. The major food crops are: 1) maize, 2) rice, 3) cassava, 3) sorghum, 3) sweet potatoes, 3) pigeon peas and 3) pulses. Most the farming in the area is done by hand.

### *Wild Foods*

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<sup>98</sup>Interview with Food and Agriculture Organization Representative, Heimo Mikkola. 14 March 1996, Lilongwe.

<sup>99</sup>Ibid.

Wild food collection and hunting accounts for 0-10% of annual food needs for both the poor and modal groups. Hunting includes trapping mice and small birds. Wild fruits and vegetables that are commonly collected include: *kandudu* (year round), *therere* or wild okra (Nov-March), *bonongwe* (Nov-March), *chisoso* (Nov-March), *luni* (Nov-March), *masau* (June-Aug).

### *Fishing*

Fishing on Lake Chilwa is an erratic occupation. During normal years, Lake Chilwa's depth is about two meters, making it a relatively shallow lake. The lake has dried up completely six times during human record and as recently as 1995. Siltation in the lake is a serious problem which only exacerbates the aforementioned phenomenon. Increasing human population over time has led to more depletion of fish stocks in bad years. Fish stocks now take much longer to regenerate than in the past. The GOM has had impose bans on fishing in order to facilitate restocking. Fish catch from Lake Chilwa accounts for 15% of the national catch on average.<sup>100</sup>

Fishing income vacillates significantly in relation to the state of the lake with the modal household earning 35-65% of annual income from the sale of their catch. Poor households experience similar annual variation in catches and sales (5-25% of income) while the rich have the means and mobility to more consistently earn cash from fish sales (35-40% of income). In bad years, there is significant male migration as boat and net owners, along with employees, move to other areas to fish. Fishing also accounts for 0-5% of annual food needs for the poor and 5-10% of annual food needs for mode and rich.

### Sources of Cash

Purchase accounts for 45-55%, 30-35% and 0-5% of annual food needs for the poor, mode and rich respectively. The largest source of income for modal and rich households is fish sales at 35-65% and 35-40% of annual income respectively. Modal households earn the balance of their income from cash crop sales (20-40%), casual labour (0-15%), trade (0-15%) and livestock sales (0-15%). After fish sales, income for rich households is derived from cash crop sales (30-40%), trade (10-20%), livestock sales (5-15%) and remittances (0-5%). The poor earn the largest proportion of their income from local piece work or ganyu (40-65%), followed by cash crops (15-35%), fish sales (5-25%), trade (0-10%) and livestock sales (0-5%).

**Table 15.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	40-65%	0-15%	0-5%
Livestock Sales	0-5%	0-15%	5-15%
Cash Crop	15-35%	20-40%	30-40%
Non-Food Production	0%	0%	0%

<sup>100</sup>Mr Friday Njaya, Fisheries Officer, Fisheries Department, Mangochi.

Other Trade	0-10%	0-15%	10-20%
Fishing	5-25%	35-65%	35-40%
Total	60-140%	55-150%	80-120%

### *Employment and Remittance*

Employment and remittance account for 40-65%, 0-15% and 0-5% of annual income for the poor, mode and rich respectively. Poor and modal households earn all of their employment income from local piece work which mainly consists of working for wealthier fisherfolk and farmers. A much smaller amount of this piece work is on nearby tobacco estates. This type of income for the rich is mainly remittances from Malawian towns such as Zomba and Blantyre.

**Table 15.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	100%	0%	0%	0%
Mode	100%	0%	0%	0%
Rich	0%	100%	0%	0%

**Table 15.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Farm and fishing piece work, Estate piece work
Within Country	Zomba, Blantyre

### *Livestock*

Livestock sales account for 0-5%, 0-15% and 5-15% of annual income for poor, modal and rich households respectively. The typical family in this zone would have 1-2 cattle, 3-5 goats and 5-10 chickens. Livestock are sold at a variety of local markets, including: 1) Jali, 2) Govala, 3) Kachulu, 3) Mpheta, 4) Songani, 5) Malosa and 6) Kanda.

**Table 15.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	1-2	7-9
Goats	2-3	3-5	9-11
Sheep	1	0	0-3
Chickens	10-12	5-10	18-20

### *Cash Crop Production*

Cash crop sales are the second largest source of income for the rich, mode and poor at 30-40%, 20-40% and 15-35% of annual income respectively. The main cash crops are 1) rice, 2) cassava, 2) tobacco and 2) vegetables. The area is quite amenable to rice production as there are an abundance of low lying wetland areas. Much of the farming is done by hand.

### *Non-Food Production*

Non-food production was not reported as a source of income for any of the economic groups in this zone.

### *Trade*

Trade accounts for 0-10%, 0-15% and 10-20% of annual income for poor, mode and rich respectively. Trading for the poor and mode often involves buying and selling garden produce, rice, sweet potatoes and fish. The rich engage in the aforementioned trading activities, but also have small businesses and hire out their oxen and ploughs to other households.

### Surplus Production and Income

None of the households in this zone typically produce surplus crops. Surplus income for the rich and mode was reported to be equivalent to 20-30% and 5-10% of annual food needs respectively.

**Table 15.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	0%
Surplus Cash Production	0%	5-10%	20-30%

### Assets and Savings

None of the households in this zone were said to keep food stocks or reserves capable of feeding the family past the next harvest. When livestock is converted to grain at normal year prices, the rich could purchase nearly eight years of food or 790% of annual food needs. The mode and poor could satisfy 140-265% and 50-70% of annual food needs respectively. When cash savings and the resale value of assets are converted to grain at normal year prices, the rich and mode could purchase the equivalent of 205-215%(rich) and 65-70% (mode) of annual food needs. Assets typically held by the rich include: bicycle, radio, plough, ox cart, fishing net and canoe. Modal households were said to have a bicycle and a radio.

**Table 15.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	50-70%	140-265%	790-1050%

Cash & Other Property	0%	65-70%	205-215%
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### Income Distribution and the Mode

PRA exercises using cattle as an indicator of wealth suggested the following wealth distribution: 1st wealth quintile, 55-60% of the population; 2nd wealth quintile, 15% of the population; 3rd wealth quintile, 10-15% of the population; 4th wealth quintile, 10% of the population; 5th and richest wealth quintile: 5% of the population. It is estimated that 60% of the population falls within and below the mode.

### Cereal Markets and Food Flows

This is a grain deficit area. Maize grain is bought and sold at local ADMARC locations, including Likangala, Mpsupsu, Govala and Zomba.

### Other Markets and Prices

*Livestock Markets:* 1) Jali, 2) Govala, 3) Kachulu, 3) Mpheta, 4) Songani, 5) Malosa and 6) Kanda.

*Cash Crop Markets:* 1) Zomba, 2) Likangala and 3) Jali.

*Other Trade:* Local and Zomba

**Table 15.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Bicycle	1300	ox cart	3800	net	1500
radio	500	plough	1300	canoe	3000

**Table 15.8: Livestock Prices**

Animal	Price	Animal	Price
chicken	35	sheep	375
cattle	2500	goat	375

### How People Cope with a Bad Year

There is significant migration in bad years as boat and net owners and their employees move to other areas to fish. Some of the richer households have the capital to diversify their income in bad fishing years by investing in trade, shops and expanding agricultural production. The consumption of wild fruits and vegetables declines in bad years with additional effort put into trapping birds and mice. Income redistribution from rich to poor was said to vary widely with it on average not being a significant phenomenon.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: Nov/Dec - April/May

Rice: Jan/Feb - May/June

Sorghum: Nov/Dec - July/Aug  
Tobacco: Nov/Dec - April/May  
Fishing: Year Round  
Ganyu or Piece Work: Dec-Jan and May-June  
Gardens: July - Oct/Nov/Dec  
Wild Foods: Nov-March  
Rain: Nov-March

## 16. Productive Mozambique Border Crescent <sup>101</sup>

### Summary of Food Economy

This is a somewhat unique area in that much of its character is a result of it bordering on a highly productive portion of Mozambique (an area considered to be the bread basket of Mozambique) This combined with a road running along most of the border has resulted in a high level of border trade (particularly for the rich). Furthermore, Malawians frequently cross the border to do ganyu or piece work where land holdings are several times larger. On the Malawian side, only the rich are self-sufficient in grain production. The major food crops are maize, potatoes, beans, sweet potatoes and ground nuts. Many parts of the crescent are considered to be some of the poorest in Malawi. After food crops, cash crops are the second most important aspect of this food economy. The major cash crops are beans, potatoes, soybeans, groundnuts and tobacco. Livestock holdings are relatively low. All of the refugees that were in this area during the Mozambican civil war have returned home. The approximate population of the area is 260,000.

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) cash crops, 3) employment/remittance, 4) livestock, 5) wild food/hunting, 6) non-food production, and 7) trade.

### Geography and Rainfall

This area extends from Lobi in the north (in the Dedza District), curves southeastward past Ntcheu and ends just south of Mwanza. This is an upland area that borders on prime agricultural land in Mozambique. The EPAs that are found in this zone include: the western two fifths of Mwanza, the western half of Neno, Tsanganano, Njolomole, Bembeke and Lobi. Mean annual rainfall in this area is 1000 mm.

### Sources of Food

Food crops are the most important source of food for the mode and rich at 65-75% and 95-100% of annual food needs respectively. Modal households acquire the balance of their annual food needs from purchase (20-35%) and wild foods (0-5%). The rich round out their diets with small amounts of farm raised meat/milk (0-5%) and purchase (0-5%). The poor, on the other hand, obtain the largest share of their food from purchase (55-70%), followed by food crops (25-35%), wild foods/hunting (0-10%) and gifts/relief (0-5%).

**Table 16.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Food crops	25-35%	65-75%	95-100%
Milk/Meat	0%	0%	0-5%
Fishing	0%	0%	0%
Wild Foods/Hunt	0-10%	0-5%	0%

<sup>101</sup>Information in this section is based on 7, full profile, key informant interviews as well as secondary sources.

Gift/Relief	0-5%	0%	0%
Purchase	55-70%	20-35%	0-5%
Total	80-120	85-115%	95-110%

### *Food Crop Production*

The main food crops grown in this area are: maize, Irish potatoes, beans, sweet potatoes, ground nuts, finger millet and vegetables. Animal traction is used by the rich and some of the modal families. Ninety percent of Malawi's Irish potatoes are produced in the Dedza District (at the northern end of this FEZ). Approximately 60% of people in this area have access to dimba fields.<sup>102</sup> The rich produce a surplus of food crops in normal years with total production being equivalent to 14 months of food. This production accounts for 95-100% of annual consumption for the rich. Modal families produce about 8-9 months of food or 65-75% of annual food needs. The poor only produce about 3-4 months of food or 25-35% of annual food needs.

### *Wild Foods*

Wild foods account for 0-10% of the annual food needs of the poor and from 0-5% for modal families. While the rich may eat wild foods, they would rarely collect these on their own (preferring to purchase). The most frequently consumed wild foods in this area are: *masuku* (Sept-Nov), mangoes (Nov-Dec), mushrooms (Dec-Jan), wild okra, wild amaranth, black jack (Nov-April), *luni*, *chikande* (April-June), *kamuba kamuba* (May-Nov), *nethudza* (Feb-May) and *matowo* (Aug-Nov)

### *Fishing*

Fishing was not reported to be significant as a source of food or income for any of the economic groups in this area.

### Sources of Cash

Purchase accounts for 55-70%, 20-35% and 0-5% of annual food needs for the poor, mode and rich respectively. The largest source of income for the mode and rich is cash crop sales which account for 45-55% (mode) and 65-75% (rich) of annual income. Modal households also earn a significant portion of their income from employment (30-35%), followed by small amounts from non-food production (0-5%) and trade (0-5%). The rich earn the balance of their income from livestock sales (15-20%), trade (5-15%) and remittances and pensions (0-10%). The poor earn the largest share of their income from employment (60-70%), followed by non-food production (15-25%), cash crop sales (5-10%) and trade (0-5%).

**Table 16.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	60-70%	30-35%	0-10%
Livestock Sales	0%	15-25%	15-20%

<sup>102</sup>GOM/UNDP. 1993. Dedza District Profile. 5th Country Programme. pp. 7.  
RiskMap Malawi Final Report

Cash Crop	5-10%	45-55%	65-75%
Non-Food Production	15-25%	0-5%	0%
Other Trade	0-5%	0-5%	5-15%
Total	80-110%	90-125%	85-120%

### *Employment and Remittance*

Employment is the most important source of income for the poor, accounting for 60-70% of their annual income. The bulk of this work is *ganyu* or local piece work (95-100%) for wealthier households. Much of this *ganyu* is performed on the Mozambican side of the border where landholdings are about ten times larger than those on the Malawian side. The poor also receive some remittance income (0-5%) from family members working in Lilongwe and Blantyre. Modal households depend on employment for 25-35% of their annual income.

Unlike the poor, remittance income from family members working in Lilongwe, Blantyre and the Kasungu Estates is most important for this group (50-60% of employment income) with the balance coming from local piece work. Employment is of minor significance to the rich at 0-10% of annual income. This is mainly remittance income from Lilongwe and Blantyre (75%) as well as some employment in Dedza, Ntcheu and Mwanza BOMAs (25%).

**Table 16.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	95-100%	0-5%	0%	0%
Mode	40-50%	50-60%	0%	0%
Rich	25%	75%	0%	0%

**Table 16.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Local piece work within community & Mozambique, work in Dedza, Ntcheu and Mwanza BOMAs.
Within Country	Lilongwe, Blantyre, Kasungu

### *Livestock*

Livestock holdings in this area are relatively low as compared to other parts of the country. The typical household in this zone would have 1-2 cattle, 3-4 goats, 5-7 chickens and 0-1 pigs. Livestock sales account for 15-25% of the annual income of modal households. Such sales contribute 15-20% of annual income to the rich and are not an income source for the poor in normal years. Cattle is sold to local butchers as well as at the following markets: Tete, Mitundu, Ntengowagwa, Dedza Boma, Chilousi, Chimbria, Ntipe, Nkona, Mpalare, Colourou, Thimbria and Ntcheu Boma.

**Table 16.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	-	1-2	6-7
Goats	-	3-4	6-7
Sheep	-	-	5-7
Chickens	1-2	5-7	23-25
Pigs	-	0-1	1-2

#### *Cash Crop Production*

The major cash crops in this area are kidney beans, Irish potatoes, tobacco, soy beans, maize, ground nuts and vegetables (tomatoes, onion, cabbage). Cash crop sales are highly significant to the mode and rich, accounting for 45-55% and 65-75% of annual income respectively. The poor earn a much smaller share of their income from such sales (5-10%).

#### *Non-Food Production*

Non-food production is most important for the poor at 15-25% of annual income. For the poor this includes weaving, firewood collection and sales, charcoal, pottery, beer brewing and thatch sales. Modal families earn 0-5% of their income from these activities (mostly crafts and firewood sales).

#### *Trade*

Trade accounts for 0-5% of annual income for poor and modal households and 5-15% of annual income for the rich. Trading for the poor and mode often involves buying and selling vegetables and other produce. The rich engage in a considerable amount of cross border trade in crops as well as the running of small businesses.

#### Surplus Production and Income

Only the rich produce a surplus in normal years which is equivalent to 1.5-2 months of food or 10-20% of annual food needs. Key informants estimated that the rich had surplus cash earnings equivalent to 7-8 months of food or 55-65% of annual food needs. Surplus cash earnings for modal households were estimated to be 2.5-3 months of food or 20-25% of annual food needs.

**Table 16.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	10-20%
Surplus Cash Production	0%	20-25%	55-65%

#### Assets and Savings

Only the rich have food stocks which were said to be 2.5 months of food or 20% of annual food needs. The value of livestock when converted to grain at normal year prices is 525-650% of annual food needs for the rich, 95-200% for the mode and 0-5% for the poor. Cash savings for the rich were reported to be equal to 8-9 months of food. Physical assets listed for the rich include: bike, ox cart, radio, dining set, plough, sewing machine, shop and ridgers. The cumulative value of savings and the resale value of assets (in terms of annual food needs) for the rich is 270-280%. Cash savings for the mode were reported to be worth 1-2 months of food. Physical assets for this group include: bike, ox cart, radio, and sometimes a plough. The cumulative value of savings and the resale value of assets for the mode is 145-150%. The poor were reported to have no savings and insignificant assets.

**Table 16.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	15-25%
Livestock	0-5%	95-200%	525-560%
Cash & Other Property	0%	145-150%	270-280%

#### Income Distribution and the Mode

It is assumed that 70% of the population falls within and below the mode.

#### Cereal Markets and Food Flows

This is a grain deficit area which acquires many of its cereals from neighbouring Mozambique. Maize is also purchased from local ADMARCs such as those in Nsipe, Ntcheu and Kandeu.

#### Other Markets and Prices

*Livestock Markets:* Cattle is sold to local butchers as well as at the following markets: Tete, Mitundu, Ntengowagwa, Dedza Boma, Chilousi, Chimbria, Ntipe, Nkona, Mpalare, Colourou , Thimbria and Ntcheu.

*Cash Crop Markets:* Cash crops are sold at local ADMARC markets, Dedza Boma, Ntcheu Boma and Lilongwe. Tobacco is sold on the auction floors in Blantyre and Lilongwe.

*Other Trade:* Mozambique and along paved road between Dedza and Ntcheu.

**Table 16.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Plough	780	Ridger	900	Radio	325
Ox cart	5750	Furniture	300	Bicycle	1000
Sew machine	2000	-	-	-	-

**Table 16.8: Livestock Prices**

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Animal	Price	Animal	Price	Animal	Price
chicken	50	pig	800	sheep	300
goat	300	cattle	1500	-	-

#### How People Cope with a Bad Year

Wild food consumption was reported to have some expendability in difficult years. This expansion is limited for the poor but may increase by as much as 50% for modal households. It is estimated that 1-2% of the food deficit in a difficult year may be absorbed by additional wild food consumption. Redistribution of wealth from the rich to the poor was said to occur in difficult year. It was thought that this could rise from 0-5% of annual food needs in normal years for the poor to 10% in difficult years. It is estimated that the rich give 10-15% of their surplus income and production to deficit households.

#### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Rains: Nov to March/April

Dimba Season: July to Sept/Oct.

Maize: Nov-April

Potatoes: Nov/Dec - June/July

Tobacco: Nov/Dec - Feb/March

Peak ganyu: Jan-Feb

Peak trading period: March-July

## **17: Densely Populated Shire Highlands**

### Summary of Food Economy

This is a fairly large food economy zone which covers one of the most densely populated portions of the country. The area also includes two of southern Malawi's most important urban areas, Blantyre and Zomba. Modal families do not produce enough grain to feed themselves in a normal year. Modal and rich families rely on cash crop sales for the majority of their income. The most significant source of income for the poor is ganyu which provides the bulk of their food through purchase. Generally speaking, more tobacco, sunflower and pigeon peas are grown in the southwestern part of this FEZ. There are no crops grown on the Zomba plateau as it is mostly forest reserve. Main food crops for this area are (in order of importance): 1. maize, and 2. cassava. The two are inter-cropped together. Other food crops include: sorghum, beans, sweet potatoes, ground nuts, pigeon peas and vegetables. The most significant cash crop in the area is tobacco. Other cash crops cultivated in the Shire Highlands include: ground nuts, cassava, vegetables (beans, cabbage, tomatoes), bananas, pigeon peas, and small amounts of cotton. Land holding size is a significant constraint to agricultural production. Livestock holdings in this area are relatively low. The approximate population of the area (not including Blantyre) is 1,080,000.

### Main Elements of the Food Economy

The main elements of the Shire Highlands food economy in order of importance are: 1. Food crops, 2. Cash crops, 3. Livestock, 4. Employment/Remittance Income, 5. Non-Food Production, and 6. Trade. Fish, Game/Wild Foods and Gifts/Relief are insignificant features of this area.

### Geography and Rainfall

This upland FEZ averages about 1,200-1,400 metres in elevation and runs from the Thyolo Escarpment in the southwest to the Likulilo Hills near the Mozambican border in the northeast. It is bordered by the Lake Chilwa Basin to the east (a lower lying and less fertile area) and the Middle Shire Valley to the west (a lower rainfall area). This FEZ includes the EPAs of: Ntonda, Matapwata, Thumbwe, Mombezi, Dzaone, the southeastern half of Chingale, Thondwe, Malosa, the central third of Ntubwi, the eastern half of Mbonechera, Masuku, Nyambi, Ntiya, Katuli and parts of Malwa and Lungwena. Mean annual precipitation ranges from 1,000-1,400 mm. The rainy season is 6.5 months in length, typically beginning in mid October and ending in April<sup>103</sup>.

### Sources of Food

The primary source of food in the Shire Highlands is own crops among modal and rich households. Among the mode they account for roughly two thirds of annual food needs while for the rich just under 100%. The poor however garner only just over a quarter of their annual food needs from food crops. Purchase is the largest source of food for poor families. It accounts for nearly two-thirds of their annual food. Purchase is the second largest source of food among modal and rich households in the area. Milk and meat consumption play a very small role in the area as livestock holdings are rather small. Fish consumption and food

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<sup>103</sup>From baseline VAM Agro-Climatic Zone Series.  
RiskMap Malawi Final Report

obtained through relief or as a gift are all insignificant in this zone. Poor families acquire a very small amount of food from wild foods and game.

**Table 17.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	25-35	55-65	85-95
Milk/Meat	0	0-5	0-10
Fishing	0	0	0
Wild Foods	0-5	0	0
Gift/Relief	0	0	0
Purchase	55-65	25-35	5-10
Total	80-105	80-105	90-115

#### *Food Crop Production*

Modal and rich families acquire the majority of their food through own food crop production. For the mode, this is equivalent to about two-thirds and for the rich nearly 100%. The poor however do not gain much food from their own crops; only 25-35%. The two primary food crops cultivated in this area include firstly maize and secondly cassava. They are inter-cropped with each other. Other food crops which are produced in the area include: sorghum, beans, sweet potatoes, ground nuts, pigeon peas and vegetables.

#### *Wild Foods*

Wild foods and game as a source of food are significant only in poor households where they contribute 0-5% of annual needs. Wild fruits and vegetables that are consumed in this area include: *masaw*, *masuku/o*, *Luni* (Nov-March), *bonongwa* (Nov-March), mulberry, grenadine, mangoes, mushrooms and wild tubers. It was also mentioned that caterpillars and termites are consumed.

#### *Fishing*

Fish as a source of food are insignificant among all three income groups in the Shire Highlands.

#### Sources of Cash

The most significant source of income among modal and rich households in this area is cash crop sales. They account for just under two-thirds of annual income for the mode and just over two-thirds for the rich. Employment (largely as *ganyu*) is the most important source of income for poor households in this zone. Within typical or modal households, employment is the second largest source of income, followed by other trade which is third, non-food production fourth and livestock sales fifth. The second largest source of income for rich households is trade, while non-food production is second for the poor. Fish sales are the only

potential source of income which do not make a significant contribution to incomes in this area.

**Table 17.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-55	10-15	0-5
Livestock Sales	0	5-10	5-10
Cash Crop	10-15	55-65	65-70
Non-Food Production	30-40	0-20	0
Other Trade	0	5-15	20-25
Fishing	0	0	0
Total	90-110	75-125	90-110

*Employment and Remittance*

Employment and remittance is the second largest source of income among modal families in this zone, however it only contributes 10-15% to annual income. It is quite small for the rich (0-5%) yet in contrast is the most significant source of cash for poor families, contributing just over half of annual income. Most employment for modal and poor households is in the form of *ganyu*. It has been estimated that wealthiest 20-30% of households in the Shire Highlands hire others for *ganyu* labour on their farms.<sup>104</sup> It has also been suggested that the *ganyu* labour market is amazingly resilient and capable holding up even in drought years.<sup>105</sup> Many key informants suggested that wealthier farmers could rarely find enough labour, except for in the very worst years (i.e. it is only in bad years that large numbers of poorer farmers are willing to work for the minimal, *ganyu* wages/food in kind). In addition to *ganyu*, poorer families potentially receive a very small proportion of employment income (0-5% of total employment) in remittances from family members working in places such as Zomba, Malosa, the tobacco estates and forestry reserves in the Central Region. Of the modal families that receive employment income, the majority is derived from local piecework with a small complementary percentage obtained from minor clerical jobs in places such as Zomba. If the rich had employment income, it was from relatives who worked as civil servants in the major urban centres with a small percentage potentially originating in a neighbouring country such as South Africa or Zimbabwe.

**Table 17.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	95-100	0-5	0	0

<sup>104</sup> Allen, 1993b, p. 4.

<sup>105</sup> *Ibid*: p. 5.

Mode	95	0-5	0	0
Rich	0	90-100	0-10	0

**Table 17.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Local piecework ( <i>ganyu</i> )
Within Country	Blantyre, Lilongwe, Balaka, Liwonde (civil servants), Zomba (clerks and messengers), Zomba, Malosa (nannies, watchmen), Tobacco estates (Oct-Nov), Chikangawa (tree cutting)
Neighbouring Country	Zimbabwe, South Africa

### *Livestock*

Livestock sales as a source of income are relatively small in this zone for all income groups. They account for 5-10% of income for modal and rich households in the Shire Highlands whereas they make no contribution for the poor. The relatively small cattle holdings in the area may in part be attributable to the presence of tsetse fly in some parts of the zone. Poor households have very limited livestock including just a few chickens. The modal households however own a wider variety and greater number of animals than the poor. The rich own the same types of animals as the mode, only more: a couple cows on average, less than 10 goats a few sheep, chickens and potentially a pig or two. (Please see Table 17.4 for more details regarding livestock holdings.)

**Table 17.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	0-1	2-3
Goats	0	3-4	6-8
Sheep	0	1-3	3
Chickens	3-4	5-10	12
Pigs	0	0-1	0-2
Donkey	0	0	0
Oxen	0	0	0
Other	-	turkey: 0-1	-

### *Cash Crop Production*

Cash crops are very significant in this area, they are the second largest element of the Shire Highlands food economy. They account for the primary source of income for modal and rich households. They provide nearly two-thirds of annual income for typical families and just

over two-thirds for the rich. They are far less significant for the poor who gain 10-15% of their annual income from this source. The most significant cash crop in the area is tobacco. Other cash crops cultivated in the Shire Highlands include: ground nuts, cassava, vegetables (beans, cabbage, tomatoes), bananas, pigeon peas, and small amounts of cotton.

*Non-Food Production*

Non-food production is significant in this zone although it is the fourth largest contributor to annual income in modal households (0-20%). It is of greater significance to poor households for whom it provides 30-40% of annual income. It plays no role in rich households. The types of non-food production which occurs in this area includes: beer brewing, fuelwood, thatch, charcoal, and baked goods.

*Trade*

Trade is a somewhat significant source of income in this area. It is the third largest source of cash for modal households contributing 5-15%. It is second largest for the rich: 20-25% and makes no contribution to poor households. The type of trade which occurs here includes small shops or businesses, grocery stores and buying and selling of fish and beans.

Surplus Production and Income

Poor households in the Shire Highlands do not produce surplus food or cash. Modal households do not produce surplus food, however they potentially produce surpluses equivalent to 0-20% of annual food needs. Rich households are better off than either of the aforementioned. They would be able to cover about a third of a year's worth of food with their surplus production. The surplus cash which the rich own could cover just over half of a year's food needs for an average sized household here.

**Table 17.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	30-35
Surplus Cash Production	0	0-20	50-60

Assets and Savings

Modal and poor households in this zone have no food stocks. The rich have very small ones equivalent to about a fifth of annual food needs. Livestock holdings when converted to grain are the most substantial asset when compared to food stocks and property. Among modal households livestock holdings would be equivalent to half a year to two year's worth of food. At normal year prices, the rich could potentially attain two and a half years to nearly four year's worth of food. The poor would gain very little; 5-10% of annual food needs. The amount and variety of livestock owned by rich and modal households account for the substantial differences between them and the poor. Cash and other property when converted yield rather small amounts of food; 0% for the poor, 20-25% for the mode and 85-105% for the rich.

**Table 17.6: Assets and Savings** (% of annual food needs)

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Asset Type	Poor	Mode	Rich
Food Stocks	0	0	15-20
Livestock	5-10	55-200	250-390
Cash & Other Property	0	20-25	85-105

### Income Distribution and the Mode

Within the Shire Highlands food economy area, 65-75% of the population falls within and below the mode.

### Cereal Markets and Food Flows

Cereal markets in this area are dominated by ADMARC and private traders. ADMARC has markets based in the following towns: Limbe, Luchenza, Matindi, Namera and Lundu.

Grains are bought and sold at the ADMARC markets. The private traders travel out from urban centres such as Blantyre to rural settings in order to purchase grain.

### Other Markets and Prices

#### *Livestock Markets*

Livestock sales occur locally as exchange among neighbour;, butchers travel to villages in order to purchase; and they occur in the markets of Thondwe, Miaku, Dzaonene, Limbe, Blantyre, Luchenga, Thyolo and Chiradzulu.

#### *Cash Crop Markets*

Tobacco, as the primary cash crop in the Shire Highlands, is sold on the auction floors in Blantyre/Limbe. Food crops are sold to ADMARC and private traders. Some of the more significant ADMARC cash crop markets include: Limbe, Matindi and Lundu.

#### *Other Trade*

Other trade in the form of small grocery stores, businesses, and buying and selling of goods occurs locally.

#### *Non-Food Production*

Sales of non-food items largely occur locally. Beer is sold out of the home. Foodstuffs/baked goods are sold along road and at schools. Fuelwood, thatch, and charcoal are sold along the road. Fuelwood and charcoal are also sold in Blantyre (the largest town in Malawi).

**Table 17.7: Asset Prices** (in Malawian Kwachas)

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	250
Ax		sprayer	300	Bicycle	1,000
Plough		ox cart		Car	
Furniture		wheelbarrow		sewing machine	1,000

**Table 17.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	60	pig	700	donkey	
goat	305	cow	1,660	turkey	125
sheep	330	ox		other	

#### How People Cope with a Bad Year

Key informants indicated that they scope for the expansion of wild foods in drought years was limited. The majority indicate that wild food consumption decreases during dry years. Redistribution of wealth from rich to poor in difficult years was said to be a limited phenomenon which occurs chiefly between relatives. This said, many reported that the rich might give the poor work when, in fact, they did not really need the labour. Some key informants indicated that income redistribution is actually greater during normal years as opposed to difficult ones.

#### Seasonality

- Field Preparation: (burying of maize stalks, banking and ridging): May - July
- Planting: November and early December
- cassava: plant and harvest: December
- maize: plant: Nov; harvest: April/May
- sorghum: plant: Nov; harvest: June/July
- sweet potato: plant: Dec/Jan; harvest: June/July
- tobacco: nursery: Oct/Nov, plant: Nov/Dec; harvest: Feb-March
- rain: Oct. - March
- Employment (*ganyu*): Aug/Sept, Oct/Nov/Dec/Jan, March/April  
Estate labour: year-round
- Dimba season: May - Sept.

## 18: Phalombe Plain <sup>106</sup>

### Summary of Food Economy

Although a reasonably fertile highland plain, this FEZ is known to be food insecure due to it lying in a rain-shadow. The most important aspects of the food economy are food crops, cash crops and trade. The typical household raises crops capable of feeding the family for 5-7 months. Maize is the main crop grown but will only do well in a season of good rainfall. Cash crop sales account for approximately 40% of the annual income of the typical household. Tobacco is the main cash crop. The approximate population of this area is 674,000.<sup>107</sup>

### Main Elements of the Food Economy

The main elements of the food economy in the Phalombe Plain area are (in order of importance): 1. Food Crops, 2. Cash Crops, 3. Trade, 4. Employment/Remittance Income, 5. Hunting/Wild Foods, 6. Livestock, and 7. Non-Food Production.

### Geography and Rainfall

This FEZ lies in the south-east corner of the country. It partly surrounds the Mulanje Mountain and divides the tea growing Thyolo and Mulanje FEZ. It also borders the Shire Highlands and the low lying Lake Chilwa basin. In addition there are two border strips with Mozambique. The EPAs included within this FEZ are all of Mulanje West, Waruma, Nkhulambe, Naminjiwa and Ngwerero, as well as the western half of Mulanje South and the southern halves of Thumbwe, Kasongo, and Tamani. The mean annual precipitation is 700-1,000 mm.

### Sources of Food

Rich households grow virtually 12 months worth of food crops with little surplus and purchase the remainder of their food needs. Poor households grow at most a quarter of their annual food needs with modal households growing about half. Again purchase makes up the deficits for these latter two groups, with hunting and wild foods contributing a small amount for the poor.

**Table 18.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	15-25%	40-60%	85-95%
Milk/Meat	0	0	0-5%
Fishing	0	0	0
Wild Foods	10-15%	5-10%	0

<sup>106</sup>Information in this section is largely based on three key informant interviews as well as secondary sources.

<sup>107</sup>EPA population data from USAID/FEWS document which used NSO data. See Appendix I for FEZ population calculations.

Gift/Relief	0	0	0
Purchase	60-80%	30-40%	5-10%
Total	85-120%	75-110%	90-110%

### *Food Crop Production*

Food crop production accounts for 15-25%, 40-60% and 85-95% of annual food needs for the poor, mode and rich respectively. Maize is widely planted in this area but its success depends largely on the unreliable rainfall. Sorghum and Cassava are respectively the next most important food crops grown. A variety of pulses are also cultivated.

### *Wild Foods*

Wild food consumption accounts for 10-15% and 5-10% of annual food needs for the poor and mode respectively. The main wild foods contributing to the diet of the poor and modal groups are *Amaranthus* spp., *Lightfootia* spp. and wild okra which are available from November to February. Mangoes in December and January are also an important food supplement. The hunting and trapping of mice, birds and grasshoppers can also supplement, to a small degree, the diets of poor and modal households.

### *Fishing*

Fishing is not a significant source of food or income for any of the economic groups in this area.

### Sources of Cash

Purchase accounts for 60-80%, 30-40% and 5-10% of annual food needs for the poor, mode and rich respectively. The most important source of cash for the poor is ganyu (50-65%) followed by a variety of small income generating activities (e.g. selling own cooked snacks) (10-20%). The major income source for the rich and modal groups is cash crops sales (about 50 and 40% respectively) followed by business and trading activities. Remittances, livestock sales and own brewed beer sales each make up very small (0-10%), but in combination potentially significant contributions to poor and modal family income.

**Table 18.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-70%	15-30%	0-10%
Livestock Sales	0-5%	5-10%	10-15%
Cash Crop	0%	35-45%	40-55%
Non-Food Production	15-40%	0-10%	0%
Other Trade	0%	20-30%	25-45%
Total	65-115%	75-125%	75-125%

### *Employment and Remittance*

Employment/remittance income accounts for 50-70%, 15-30% and 0-10% of annual income for poor, modal and rich households. Working on a wealthier person's land (ganyu) typically provides a poor household with the bulk of this income 95-100% which is supplemented by a small amount of remittance income (0-5%). Modal households obtain roughly two thirds of their employment income from local labour and one third from remittances. The rich obtain all of their employment income from remittances. Remittance income is most likely to be received from family members working in Blantyre, Zomba and Lilongwe.

**Table 18.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	95-100%	0-5%	0%	0%
Mode	65-70%	30-35%	0%	0%
Rich	0%	100%	0%	0%

**Table 18.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Within Country	1) Blantyre, 2) Zomba, 3) Lilongwe

### *Livestock*

The rich own a variety of livestock and earn 10-15% of their income from this source. The modal group own small numbers of goats (2-5) and chickens (7-10) and the odd sheep or pig, with the poor only owning chickens (3-5). Livestock is rarely slaughtered, primarily being sold when money is required.

**Table 18.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	0-1	5-15
Goats	0	2-5	15-20
Sheep	0	0	0-2
Chickens	3-5	7-10	20-30
Pigs	0	0-1	3-5

### *Cash Crop Production*

The primary cash crops are tobacco, cotton and sunflower seeds. Maize and rice are also sold for cash. This is the major source of income for modal and rich households (35-45% and 40-55% of annual income respectively).

### *Non-Food Production*

Non-food production accounts for 15-40% and 0-10% of annual income for poor and modal households respectively. Non-food production in this area includes various income generating activities such as selling cooked snacks, beer, as well as firewood sales.

### *Trade*

Trading is important for rich (25-45% of annual income) and modal households (20-30%) and comprises grocery and butcher stores for the rich and the buying and selling of different commodities (e.g. vegetables, second hand clothes) for both groups.

### Surplus Production and Income

None of the groups were reported to produce surplus food crops in a normal year. Only the rich were said to have surplus income equal to 35-40% of annual food needs.

**Table 18.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	0%
Surplus Cash Production	0%	0%	35-40%

### Assets and Savings

None of the economic groups in this FEZ were reported to have food stocks or reserves which would last beyond the next harvest. The rich have significant capital, largely in the form of livestock, which could buy several years (up to 12) worth of food if livestock was to be exchanged for grain at normal year prices.. Livestock value for the modal group might be equivalent to about a year of food. Non-livestock capital holdings are relatively small (radio, bicycles and hand hoes for the rich, just hand hoes for the mode) and, when sold at normal, resale prices, could purchase six months of food for the rich and next to nothing for the mode and poor.

**Table 18.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	0%	0%
Livestock	5-10%	100-110%	1225-1230%
Cash & Other Property	0%	0-5%	45-50%

### Income Distribution and the Mode

It is assumed that approximately 70% of the population would fall within and below the mode.

### Cereal Markets and Food Flows

This is a grain deficit FEZ in normal years. Maize is typically bought and sold from the following ADMARC markets: Phalombe, Kalinde, Namulenga, Luchenza and Kamwendo.

### Other Markets and Prices

1. *Livestock Markets*: Livestock is sold at produce Markets along with vegetables. These being Nkando, Mulomba, Phalombe, Chitakale and Chiringa.

2. *Cash Crop Markets*: Private traders from within the area and from the major towns are common. Otherwise ADMARC parent markets and its seasonal selling points are the main outlets.

**Table 18.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe	45	Cultivator	-	Radio	-
Ax	-	other ag.	-	Bicycle	1,200

**Table 18.8: Livestock Prices**

Animal	Price	Animal	Price
poultry	45 kw	pig	400 kw
goat	275 kw	cow	2,500 kw
sheep	250 kw	ox	

### How People Cope with a Bad Year

Wild food consumption is thought to expand significantly in a difficult year, by 60 -100%, from 5-10% of annual food needs for the poor in a normal year. It is estimated that additional wild food consumption could absorb approximately 5% of the food deficit in a difficult year. Income redistribution from the rich to the poor was not reported to be significant.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

Maize: November-April/May

Sorghum: November-June/July

Tobacco: December-late Feb/March

Cotton: November/December-May/June

Ganyu: November-April

## 19. Northern Lower Shire Valley<sup>108</sup>

### Summary of Food Economy

The most important aspects of this food economy are food crops, employment, cash crops and livestock. The majority of families in this area are not self-sufficient in grain production. The main food crops grown in upland fields are maize and sorghum, followed by millet. The major crops grown in dimba fields are: maize, rice, tomatoes, vegetables, cowpeas and pigeon peas. Unlike the rich and the modal groups, the poor do not typically have access to dimba fields. This is significant as a quarter to half of food production for the better off groups may be coming from these dimba fields. The Sucoma Sugar Estate is a significant employer (and therefore source of income) for the middle and poor income groups in the area. The most important cash crops are (in order of importance): cotton, rice, sugar, tobacco and spices. Relatively large livestock holding are a significant feature of this zone. While livestock sales are the largest source of income for the rich, this revenue source ranks third after cash crop sales and employment for the mode. Other significant features within this area are Elephant Marsh (important for dambo lands) and Lengwe National Park. The approximate population of the area is 513,000.<sup>109</sup>

### Main Elements of the Food Economy

The main elements of the food economy (from most to least important) are: 1) food crops, 2) employment/remittance, 3) cash crops, 4) livestock, 5) fishing, 6) trade, 7) non-food production and 8) wild food.

### Geography and Rainfall

The Northern Lower Shire Valley is located in the southern part of the country and is at a fairly low elevation as compared to the rest of the country. The area comprises the whole of the Chikwawa District and as well as the northern part of the Nsange District. The EPAs included in this food economy zone are: Dolo, Kalambo, Livunzu, Magoti, Makhanga, Mbewe, Mikalango and Mitole. The eastern side of this zone is formed by the Thyolo escarpment while the Mozambican border and the Marangwe mountain range form the western side. To the northern end of the zone one climbs in elevation to the Majete Game Reserve. The southern end of the food economy zone extends just beyond the town of Bangula. Mean annual precipitation is 900-1000 mm, which is low compared to the rest of the country. Temperatures are also relatively high, averaging, 26.25 to 28.75 C during the growing period. The rainy season is approximately 4.5 months in length, lasting from December to March.

### Sources of Food

In normal years the richest tenth of families produce a surplus of food crops with a total of 14-16 months of food production, a portion of this grain production accounts for 85-90% of their diet. They also acquire 5-10% of their food through the slaughter of their own animals as well as an additional 5-10% of food needs from purchase (mostly meat and relish

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<sup>108</sup>Information presented in this section is based primarily on six key informant interviews as well as secondary sources. See appendix for a list of persons who participated in key informant interviews.

<sup>109</sup>EPA population data from USAID/FEWS document which used NSO data. See Appendix I for FEZ population calculations.

ingredients). The modal families (most commonly occurring type of family) produce about 8-10 months of grain, or 65-85% of annual food needs. This modal group also acquires from 0-5% of their food from milk and meat derived from their own stock as well as 0-5% from fish which they catch themselves (from the Shire River and its tributaries). This group also purchases approximately 15-35% of its annual food needs. The poorest tenth of families typically produce 5 to 5.5 months of foods which equates to 40-50% of annual food needs. An additional 0-10% of annual food needs is acquired through the collection of wild foods. Roughly 40-60% of food is purchased for this group

**Table 19.1: Sources of Food Table** (% Annual Food Needs)

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-50%	65-85%	85-90%
Milk/Meat	0%	0-5%	5-10%
Fishing	0%	0-5%	0%
Wild Foods	0-10%	0%	0
Gift/Relief	0%	0%	0%
Purchase	40-60%	15-35%	5-10%
Total	80-120%	80-140%	95-110%

#### *Food Crop Production*

The majority of families in this area are not self-sufficient in grain production. Food crops account for 40-50%, 65-85% and 85-90% of annual food needs for the poor, mode and rich respectively. Several years of drought and a change in government policy have meant that growing numbers of farmers are switching from maize to sorghum. The main food crops grown in upland fields are maize and sorghum, followed by millet. The major crops grown in dimba fields are: maize, rice, tomatoes, cabbage, turnips, pumpkins, cowpeas and pigeon peas. Unlike the rich and the modal groups, the poor do not typically have access to dimba fields. This is significant as a quarter to half of food production for the better off groups may be coming from these dimba fields.

#### *Wild Foods*

Wild fruits and vegetables commonly consumed include: *Masawu* (May-June), Baobob or *Malambe*, *Bwemba*, *Matando*, *Ngambo* and *Nfula*. Flying ants and caterpillars were also mentioned as wild foods. Wild food consumption is only relevant for the poor where it accounts for 0-10% of annual food needs.

#### *Fishing*

Fishing accounts for 0-5% of annual food needs for typical households in this area. Fishing is mainly done in the Shire River on a seasonal basis.

#### Sources of Cash

The most important source of income for the rich is livestock sales which account for 50-60% of their annual income. Cash crop sales, mostly cotton, are the second most significant source of income for this group at 35-40%. Non-food production (mostly craft sales and beer brewing) also bring in an additional 0-5% of income. Other trade (small businesses such as groceries) also accounts for another 5-10% of annual income. The most significant source of income for the modal group is employment and remittances which accounts for 45-50% of annual income. The most common place of work for these individuals was on the Sucoma Sugar Estate or as clerks in the small, local businesses of the wealthy. Cash crop sales were the second most significant source of income at 30-35%. As for the rich, the major cash crop is cotton. Non-food production (firewood sales and beer brewing) accounts for a further 0-5% of income while other trade (small businesses) contributes 5-10%. The poor acquire the bulk of their income from local employment (60-80%) which consists of ganyu labour on the farms of the wealthy and seasonal employment on the Sucoma Sugar Estate. Income is also acquired from cash crop sales (mostly cotton) at 10-20%, non-food production (craft, firewood, mat and wild food sales) at 5-15% and livestock sales at 0-5%.

**Table 19.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	60-80%	45-50%	0%
Livestock Sales	0-5%	10-15%	50-60%
Cash Crop	10-20%	30-35%	35-40%
Non-Food Production	5-15%	0-5%	0-5%
Other Trade	0%	5-10%	5-10%
Total	75-120%	90-115%	90-115%

#### *Employment and Remittance*

Employment and labour is the most significant source of income for the poor who generally work locally performing *ganyu* labour for the rich. Some poor also work at the Sucoma Sugar estate on a seasonal basis. To lesser degree (5-25% of employment income), some poor receive remittance income from family members working in Blantyre, the Central Region tobacco estates or Thyolo tea estates. Employment is also an important source of income for the modal families. The Sucoma Sugar Estate was the most common employer for members of these families. Working as clerks in local businesses was also a common form of employment. While less important than local work, some modal families also received remittance income from family members working in towns such as Blantyre (10-15% of employment income). The rich do not gain a significant source of income from employment or remittance. Key informants indicated that the Sucoma Sugar Estate employs about 9,000 workers on a permanent basis as well as an additional 9,000 on a seasonal basis (important for a food economy zone of 513,000 people).

**Table 19.3a: Employment and Remittance** (% of employment income)

Socio-			Neighbouring	

Economic Grp.	Locally	Within Country	Country	Distant Country
Poor	70-95%	5-25%	0-5%	0%
Mode	85-90%	10-15%	0-5%	0%
Rich	-	-	-	-

**Table 19.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Ganyu for wealthier farmers, Sucoma Sugar Estates, Clerks in local businesses
Within Country	1) Blantyre, 2) Central region Tobacco Estates, 3) Thyolo
Neighbouring Country	1) South Africa (Mines), 2) Zimbabwe

### *Livestock*

Livestock sales account for 0-5%, 10-15% and 50-60% of annual income for the poor, mode and rich respectively. Livestock holdings in this zone are among the highest, if not the highest, in the country. The typical household was reported to have: 15-25 cattle, 25 goats, 5-10 sheep, 20-30 chickens and 0-5 pigs. Livestock is generally sold at various markets and purchasing points which include: Jombo cattle market near Nchalo, Bangula and Ngabou. Livestock is sold to buyers from Blantyre as well as to local butchers.

**Table 19.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	15-25	65-70
Goats	3	25	60-65
Sheep	1	5-10	20-25
Chickens	10	20-30	85-100
Pigs	0-3	0-5	0

### *Cash Crop Production*

Cash crop sales are the second largest source of income for all three economic groups. These sales account for 10-20%, 30-35% and 35-40% of annual income for the poor, mode and rich respectively. The most important cash crop is cotton, followed by rice, tobacco and spices. This is the major cotton growing area in the country.

### *Non-Food Production*

Non-food production is most important as a share of income for the poor at 5-10% of annual income. Activities for the poor in this category include: craft, firewood, mat and wild food

sales. Non-food production accounts for 0-5% of income for the mode and rich. Beer brewing is the most common for these groups, followed by craft and firewood sales.

### *Trade*

Trade is relevant to the mode and rich where it contributes for 5-10% of annual income. Trade in this instance is mostly small businesses.

### Surplus Production and Income

Only the rich were said to have surplus grain production which was equal to 2-4 months of food or 15-30% of annual food needs. The rich were also thought to have surplus cash income that was equivalent to 145-155% of annual food needs. The modal families were thought to have surplus income equivalent to 25-30% of annual food needs. The poor had no surplus food production or income.

**Table 19.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0%	0%	15-30%
Surplus Cash Production	0%	25-30%	145-155%

### Assets and Savings

The rich were said to have food stocks equivalent to approximately 5.5 months of food or 45-50% of annual food needs. The modal families were reported as having 1-2 months of food stocks or approximately 10% of annual food needs. The poor had no food stocks. Livestock holdings for the rich and modal families were equivalent to more than 1000% of annual food needs.<sup>110</sup> Livestock holdings for the poor are equivalent to 50-85% of annual food needs. Typical assets for the rich were a bicycle, television, dish set and radio. Assets for the modal families included a bike, radio and dish set. The only asset named for the poor was a bicycle. Estimates of cash savings for the rich varied widely but average approximately 10, 000 kwachas. Cash savings for the modal families were thought to be approximately 450 kwachas. The poor were not reported to have savings. As such, the total value of cash savings and physical assets (not including livestock) for the rich would be equivalent to 420-430%, for the mode 45-55%, and 15-20% for the poor.

**Table 19.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0%	5-15%	45-50%
Livestock	50-85%	1615-2650%	6750-7365%
Cash & Other Property	15-20%	45-55%	420-430%

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<sup>110</sup>The actual figures are 6750-7365% for the rich and 1615-2650% for the mode. These figures represent percentage of annual food needs if livestock were exchanged for grain at normal year prices.

### Income Distribution and the Mode

It is assumed that 70% of the population falls within and below the mode.

### Cereal Markets and Food Flows

This is a grain deficit area. Cereals are often purchased locally from surplus producing farmers at ADMARC depots such as those found in Ngabou and Chikwawa. Generally speaking, maize and beans are moved “down the hill” from Blantyre to this area while cotton, livestock and guar beans are sent up.

### Other Markets and Prices

*Livestock Markets:* (in order of importance): Jombo Cattle Market (near Nchalo), Bangula, various other government purchasing points (buyers come from Blantyre), local butchers, Ngabou (Makande Market).

*Cash Crop Markets:* Private traders who visit the villages, ADMARC market in Ngabou.

*Non-Food Production:* Beer and firewood are sold locally.

**Table 19.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Dining set	500	Bicycle	1000-1200	Radio	500-1000

**Table 19.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
chicken	35	pig	340	sheep	375
goat	200	cattle	2400	-	-

### How People Cope with a Bad Year

In difficult years households have been known to intensify dimba cultivation, particularly in Elephant Marsh and along the Shire River. In drought years when the Shire River recedes earlier and further, it allows for even more land to be put under dimba cultivation<sup>111</sup>. Key informants were very mixed in their responses to whether or not wild food consumption increases in difficult years. The problem is that while demand may increase for these foods, wild foods are also less abundant in drought years. Game reserves and parks in the area also mean that there is significant competition from wildlife (particularly monkeys) for these same foods. If wild food does increase, it is a very minor augmentation. Income redistribution (from rich to poor) in difficult years was also thought to be a very minor phenomenon. Key informants did mention that some charity was carried out by local churches and mosques.

### Seasonality

This section presents the seasonality of the major crops, rains and other activities. For crops, the first set of dates is the planting time while the second set of dates is the harvest time.

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<sup>111</sup> Allen, Penny. “First Steps Towards an Understanding of Rural Economy in Malawi.” page 11.

Maize: Nov/Dec - March/April  
Dimba season: May/June - Oct/Nov  
Cotton: Nov/Dec - June/July  
Rain: Dec-March

## 20. Thyolo-Mulanje Tea Estate Area

### Summary of Food Economy

This food economy zone is characterized by its extensive tea plantations (with some coffee and macadamia nut plantations). Within the Thyolo District, 45% of arable land is said to be under tea cultivation.<sup>112</sup> Despite the 8.5 months long growing season,<sup>113</sup> this area is among the poorest in the country.<sup>114</sup> Small hold farmers' plots are quite small in size, estimated to be less than 0.4 ha/household.<sup>115</sup> The area is also well known for its high population density, 243.58 persons/ha. The population for the Thyolo-Mulanje area is roughly 607,000.<sup>116</sup> Modal, poor and rich households all produce insufficient food crops annually thus purchased food is very important in this zone. Small-hold farms found in the Thyolo-Mulanje Tea Estate food economy zone not under tea cultivation include the following primary crops: maize, cassava, bananas, millet, pigeon peas and sweet potatoes. Some fruit trees grow in the area such as pear and mango. In addition to tea estate employment, many small hold farmers earn cash through *ganyu* employment both of which are extremely important as sources of income in order to purchase food. Average sources of cash from employment for poor families is 75%. The amount of cash garnered through employment diminishes with ascending economic status although it is significant among all three income groups.

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<sup>112</sup> World Food Program, Food Aid Monitor for Thyolo and Mulanje, Interview, 20 March 1996, Blantyre.

<sup>113</sup> Agro-Climatic Zone Series. "Average Length of Growing Period per EPA in Days," FEWS, 1996.

<sup>114</sup> A Profile of Human Resources and Poverty in Malawi. Draft, June 1995, Figure 3.6 *Percent Households Poor Using 40th Percentile NSSA Income Cutoff, by RDP*, p. 39a.

<sup>115</sup> District Commissioner - Thyolo, Mr. Kampango Chatepa and Project HOPE, Thyolo, Administrative and Computer Analyst, Mr. Lovemore Mopiha. Interview conducted 21/3/96.

<sup>116</sup> This figure is a weighted average based on the population densities and areas for each EPA. Source: HIS '94 Map Series, Prepared by FEWS-Malawi. Sources: Ministry of Health, CHSU. It includes population estimates for the following EPAs: Masambanjati, Thyolo Boma, and Mulanje South.

The World Bank Poverty Mapping exercise indicates that this area is among the poorest in Malawi.<sup>117</sup> The feminization of poverty as a phenomenon in the zone is clear. A fairly substantial number of households in the area are female-headed. Exact figures for this food economy zone are not yet available. However, the World Bank estimates that 32% of all households in the Southern Region are female-headed, while 59% of all households found in the lowest 20% of income, are female-headed in the same region. Project HOPE, which works exclusively with tea estate workers in the area, estimates that 15% of tea pluckers are female heads of household.<sup>118</sup> A third source<sup>119</sup> indicates that between 46.4% - 54.7% of tea estate worker households are female-headed.

### Main Elements of the Food Economy

The main elements of the food economy in this area (in order of importance) include the following: 1. Food Crops, 2. Employment/Remittance Income, 3. Trade, 4. Livestock sales, and 5. Cash crop sales. Fish, Hunting/Wild Foods, Non-food production and Gifts/Relief are not significant in this zone.

### Geography and Rainfall

The Thyolo-Mulanje Tea Estate Food Economy Zone is found in the southern halves of the Thyolo and Mulanje Districts in Malawi's Southern Region. It includes the following EPA's: Masambanjati, Thyolo Boma and Mulanje South. The area is characterized by high elevation 700-1400 m<sup>120</sup>; high annual rainfall 2,000+ mm/yr<sup>121</sup>; and a long growing season.

### Sources of Food

The main source of food in the Thyolo-Mulanje area is own food crops, although it is marginally larger than purchase. This is complemented by a very small amount of meat consumption (0-5%). Poor households in contrast obtain nearly two-thirds of their food from purchase with the remaining third derived from own food crops. The rich gain a bit more food from crops (nearly three-quarters) with purchase as the second largest source and meat consumption as the third.

**Table 20.1: Sources of Food Table (% Annual Food Needs)**

Sources of Food	Poor	Mode	Rich

<sup>117</sup> A Profile of Human Resources and Poverty in Malawi. Draft, June 1995, Figure 3.6 Percent Households Poor Using 40th Percentile NSSA Income Cutoff, by RDP, p. 39a.

<sup>118</sup> Project Hope further estimates that in the Thyolo District tea estates, 500,000 workers are employed; 70,000 as permanent residents and 430,000 as casual labourers. Therefore, approximately 48,750 tea estate workers are female heads of household.

<sup>119</sup> Rural Employment Policy Research Programme: Women in the Tea Estate Sector of Malawi: The Tea and Tobacco Industries, Megan Vaughan & Graham H.R. Chipande, International Labour Office, Geneva. World Employment Programme Research Working Papers, WEP 10/WP.42, May 1986, p. 43.

<sup>120</sup> Map of Malawi. Malawi Government. 1995.

<sup>121</sup> Agro-Climatic Zone Series: Document for the Baseline VAM, Source: Land Resources Evaluation Project; MOALD (Land Husbandry Branch); Digitized by IFDC. Prepared by FEWS (MOALD: AES/USAID). Map: Mean Annual Precipitation by EPA. RiskMap Malawi Final Report

Own Foodcrops	35-40	55-65	65-75
Milk/Meat	0	0-5	5-10
Fishing	0	0	0
Wild Foods	0	0	0
Gift/Relief	0	0	0
Purchase	60-65	40-60	30-60
Total	95-105	95-130	100-145

### *Food Crop Production*

Food crops are the most important element of this food economy although they are just marginally greater than purchase which is very significant in this zone dominated by tea estates and estate labour. Food crops account for about two-thirds of annual food for modal households. Among the rich, they fall just short of three-quarters, and for the poor they contribute a bit over a third to annual foods. Two reasons have been cited for the significantly lower production of poorer households. One, the land holdings of small-hold farmers are indeed quite small (0.4 ha/household). Secondly, the poorer households are caught in a seemingly inextricable cycle of poverty. Due to the small size of their holdings, it is estimated that .4 ha would never be adequate to feed an average sized family of five. Even given an ideal scenario of plentiful rain and rich soil, most poor households would be in a food deficit situation. Thus, they look for income generating opportunities which in this case largely involves work on the tea estates or labour for other better off farmers as ganyu. What exacerbates already low production on personal holdings is the fact that when jobs are available elsewhere, is exactly when labour demands for working one's own plot are highest. Thus already low production drops even lower, requiring more cash to purchase food, requiring more off-farm labour and time away from one's own land. And so the cycle continues. Added to this are the effects of credit, interest, debt payments and selling what small grain harvested there might be at low prices when the market is flooded, then being food short when prices are highest.

The primary food crop in the Thyolo-Mulanje area is maize. A variety of other crops are also grown, but their relative importance is unknown. These additional food crops include: cassava, millet, sweet potatoes, sorghum, bananas, beans, and pigeon peas.

### *Wild Foods*

Wild foods are insignificant in the Thyolo-Mulanje area as a source of food. Hunting, fishing and wild food consumption do not occur given the overall lack of wild areas. Much of the land is covered either by tea plantations or small-hold farms, therefore wild foods growing in uncultivated areas are not widely found. Nonetheless, the types of wild foods consumed in this area include: mushrooms, *masuku* (fruit), *mapoza* (fruit) and *magalagadaya* (fruit).

### *Fishing*

Fish are insignificant in this zone as a source of food.

### Sources of Cash

The most significant source of cash for modal and poor households in this area is employment and remittance income. It accounts for about half of annual income for the mode and over three-quarters for the poor. In this particular case, the majority of income earned is from *ganyu*. Rich households in contrast gain about a quarter of annual income from employment/remittances which is their second largest source of cash. The second largest income source among modal households is other trade (20-30%) whereas it is the largest source of income for richer households (30-40%), and third for the poor (0-5%). Livestock sales are third and cash crops are fourth. In contrast to the modal and rich families in this area, the poorer ones gain a significant amount of cash from non-food production (10-15%) while the other income groups don't gain any money in this way.

**Table 20.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	75-80	40-60	25-30
Livestock Sales	0	10-20	15-25
Cash Crop	0	5-15	10-20
Non-Food Production	10-15	0	0
Other Trade	0-5	20-30	30-40
Fishing	0	0	0
Total	85-100	75-125	80-115

### *Employment and Remittance*

Employment and remittance income is the most significant source of cash for modal and poor families in this zone. It is second most significant for the rich. For all three income groups, the majority of income is earned locally. For the poor and mode this includes *ganyu* labour as well as employment on local tea estates. Small amounts of supplementary income are derived from remittances from household members working either in larger towns in Malawi or on other estates further away (e.g. tobacco in Kasumu). Local sources of employment for the better off households largely takes the form of skilled workers on estates or the civil service. The within country sources, i.e. larger towns, are the same for the rich as the mode and poor. A very small amount of remittances might be derived from household members working farther afield in neighbouring countries. Rare cases of remittances earned in England or Kenya were also cited.

### *Tea Estate Employment*

Project HOPE, which works exclusively with tea estate workers, indicates that 65% of all tea estate workers are pluckers (and that 50% of the local population; i.e. 500,000 people are employed on the estates.) The pluckers are considered to be the poorest among the workers.

Pluckers earn 7.80 Kwachas<sup>122</sup>/day for plucking a minimum of 44 kg tea/person/day. (They earn a poultry 12 tambalas for each additional kilo plucked). Therefore, during the course of an average month of 26 days a plucker earns 202 Kwachas/month. One 90 kg. bag of maize (which should feed an average family of five for one month) costs 225 Kwachas. The disparity between earnings and food prices is clear. Additional food is accounted for by small amounts of crops grown in home villages and the fact that if a male head of household is a plucker, chances are, given the circle of poverty, that his wife will also be a plucker as well as the two oldest children (school fees being too expensive). Therefore, the only way the majority of families (involved in estate labour as pluckers) are able to acquire enough food for survival on a year to year basis is to have four family members employed as pluckers.<sup>123</sup>

**Table 20.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	90-95	5-10	0	0
Mode	90-95	5-10	0-5	0
Rich	80-90	10-20	0-5	0

**Table 20.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	<i>Ganyu</i> (for richer farmers and on estates), Local Tea Estates: all capacities including managers, accountants, security -Civil Service
Within Country	Blantyre, Lilongwe, Zomba (private & public sector), Kasumu (tobacco estates), Mchingi, Mulanje
Neighbouring Country	Botswana, Zimbabwe, Zambia, Tanzania, So. Africa
Distant Country	Kenya, UK (extremely rare)

### *Livestock*

Livestock sales are fairly significant in this area. They are the third largest source of income for modal and rich families contributing 10-20% and 15-25% respectively. They make an insignificant contribution to poorer households. Meat consumption is greatest for wealthier households providing 5-10% of annual food. It provides half as much to modal families (0-5%). Milk or meat is not consumed at all in poor households and nominally even in rich and modal households. This is due to two reasons. One is that most of the available land is under cultivation hence there isn't any space for livestock grazing. Secondly however, it is considerably more lucrative and rational to sell livestock and purchase other food items with

<sup>122</sup>1 Malawi Kwacha = \$US 15 in April 1996.

<sup>123</sup>Interview conducted with Project HOPE, Thyolo, 21 March 1996.  
RiskMap Malawi Final Report

that money than to slaughter one's own holdings for home consumption. (A detailed presentation of livestock holdings in the Thyolo-Mulanje area is found in Table 20.4.)

**Table 20.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	2	20
Goats	0-1	1-2	0
Sheep	0-1	0	0
Chickens	5-10	10-30	40-60
Pigs	0	0	4-8
Donkey	0	0	0
Oxen	0	0	0
Other	-	0	-

#### *Cash Crop Production*

Cash crop sales are fairly significant in this area. They are the fourth largest source of cash for modal households (5-15%) and fourth largest for richer households (10-20%). They make no contribution to the annual income of poorer families. The major cash crop cultivated here is maize. Even if surpluses are not produced by all households it is sold to obtain cash in order to pay off debts or to purchase other items (such as paying school fees). Other cash crops produced in Thyolo-Mulanje include tobacco, vegetables, and pigeon peas.

#### *Non-Food Production*

Non-food production plays no role in rich and modal households as a source of income. Among the poor however, it is rather significant as the second largest source of cash (10-15%). Non-food production includes a variety of activities and products in this area. They include: beer brewing and sales, tea bush trimmings as firewood, fried snacks or cakes, and *mandazis*.

#### *Trade*

Trade is a very significant source of income in the Thyolo-Mulanje zone. It is the second most important source of cash in modal homes (20-30%) and the first most important among the rich (30-40%). Although the contribution is small, it is significant in poor households as well accounting for 0-5% of annual income. Trade in this case includes small businesses such as grocery shops.

#### Surplus Production and Income

Poor households in the Thyolo-Mulanje area produce neither surplus food nor surplus cash during average years. Modal households also do not produce surplus food. They do however have cash surpluses equivalent to about 40% of their annual food needs. The rich may

produce food surpluses ranging from zero to a quarter of year's annual food needs. Their cash surpluses, when converted to food, range from covering a half of a year to one full year.

**Table 20.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	0-25
Surplus Cash Production	0	40	50-100

### Assets and Savings

All three income groups in the Thyolo-Mulanje area do not have food stocks. Livestock holdings when converted to food would provide varying amounts of grain to households within each income group. Poor holdings are quite small. When sold and exchanged for grain they would provide about a fifth of annual food needs. The modal households in contrast could cover about three-quarters of annual needs whereas the rich might obtain enough food for seven years. Rich and modal households have fairly significant assets when converted to percentage annual food needs.<sup>124</sup> These include radios, bicycles, motorcycles, furniture, and possibly a television set. Poor families' holdings are quite small which might include a radio which is equivalent to 150 Kwachas, or 5% of annual food needs when converted to cash then grain.

**Table 20.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0	0	0
Livestock	20	75	700
Cash & Other Property	250	150	5

### Income Distribution and the Mode

It is assumed that 70% of the population falls within and below the mode.

### Cereal Markets and Food Flows

The main cereal produced in this area is maize. The primary market for it is ADMARC in Thyolo. Smaller towns with markets in the area include Phombe and Luchenza. The role which private traders play in this area is unknown.

### Other Markets and Prices

#### *Livestock Markets*

Livestock markets are found in three types of locations in the Thyolo-Mulanje area. These include: 1. Markets: Thyolo Boma, Phombe, Luchenza (equally important); 2. Estate Markets: On Payday at Tea Estates; and 3. Butcheries & Trading Stores located in Urban

<sup>124</sup>Rough estimates for the assets for modal and rich households were used in these calculations as the data gathered reflected holdings for the super-rich and not the top 10% of rich. The total value of stated assets were also decreased in order to reflect these realities.

centres and decentralized villages (widespread). A source of goats in this area appears to be the Lower Shire Valley with Chikwawa and Nkhate cited in particular.

*Cash Crop Markets*

- Maize ADMARC (Widespread markets including Thyolo boma and Luchenza)
- Tobacco Auction floor Blantyre
- Bananas 1. Blantyre, 2. Zomba, 3. Lilongwe
- Pigeon peas Local markets or ADMARC
- Tea Sold to local Estate Owners

*Other Trade*

Non-food production occurs locally throughout the district in decentralized locations. Some trading stores are found in the following locations: Luchenza, Phombe, Thyolo Boma (all of which are of equal importance).

*Non-Food Production*

Non-food production occurs locally in decentralized locations; e.g. Fuelwood Sales: Sold all over/door to door; Foodstuffs (cakes, etc.): Out of individual homes.

**Table 20.7: Asset Prices**

Item	Price	Item	Price	Item	Price
Hoe		Cultivator		Radio	150
Ax		other ag.		Bicycle	
Plough		ox cart		motorcycle	10,000
Furniture		wheelbarrow		television	20,000

**Table 20.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	40	pig	60	donkey	
goat	200	cow	1,000	g. fowl, etc.	
sheep	225	ox		other	

How People Cope with a Bad Year

Wild food consumption is not a valid coping strategy in difficult years. Income redistribution from rich to poor does not occur to a significant degree in normal or bad years.

### Seasonality

Maize: soil tilling/field preparation: June - September; plant: with rains: Oct/Nov;  
weeding: Dec. - Feb.; Harvest: March, April, May

Tea: Perennial

Rain: Oct./Nov. - May/June

Employment: Peak tea plucking: Nov/Dec - March/April, although plucking does occur year-round.

Peak Unemployment (i.e. when people are laid-off from tea estates) is stated to be: Aug. - Oct./Nov. when the rains recommence.

## 21. Southern Lower Shire Valley

### Summary of Food Economy

This is a cereal deficit zone where millet and sorghum predominate as food crops. Livestock holdings are relatively high. Livestock sales and trade account for the bulk of income for modal and rich households. *Ganyu* labour is the most significant source of income for the poor. The population of the food economy zone is 169,000.<sup>125</sup> The average population density for the zone is 175.28 persons/ha (1987 census figures). While this area hosted large numbers of Mozambican refugees in previous years (30% of all Mozambican refugees in Malawi were in Nsange District<sup>126</sup>), these persons have now returned home since peace was restored in 1993. The departure of the refugees and the relief programs associated with their presence means that an active trade in relief rations is no longer a factor in this food economy.

### Main Elements of the Food Economy

The main elements of the food economy in the Southern Lower Shire Valley are as follows in order of importance: 1. Food crops, 2. Livestock, 3. Trade, 4. Cash Crops, 5. Employment/Remittance income, and 6. Hunting/Wild Foods.

### Geography and Rainfall

Located in the southern most end of Malawi, this food economy zone is surrounded on three sides by Mozambique. Prominent geographic features include: the Shire River which forms this area's eastern border with Mozambique, the Ndinde Marsh to the south, and the Mulaka Hills to the west. This area encompasses the southern two thirds of the Nsange district and includes the EPAs of Mpatsa, Nsange and Nyachilenda. Mean annual precipitation is 1,000 - 1,200 mm. Rainfall is somewhat higher along the western border in the Mulaka Hills. The rainy season is typically 4.5 to 5.5 months in duration, lasting from November/December to March/April.<sup>127</sup> Soils are relatively fertile and sandy.

### Sources of Food

Own food crop production is the most significant element in the Southern Lower Shire Valley food economy area. It is the largest source of food annually for modal and rich households. It is the second largest source of food for poor families accounting for just under half of annual needs. Purchase is the second largest source of food among modal households contributing over a third. Purchase is also the second largest source of food for rich households, while it is the largest for the poor. Meat consumption as well as wild foods and game complement these main two areas of food.

**Table 21.1: Sources of Food Table** (% Annual Food Needs)

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<sup>125</sup> This figure is the sum of population numbers for the three mentioned EPAs. Population figures are for 1994 from: HIS '94 Map Series, Table 1, compiled by USAID/FEWS using Ministry of Health and CHSU data.

<sup>126</sup>Nsange District Profile, 5th Country Programme, p.1.

<sup>127</sup>Annual precipitation data and rainy season information is from the Agro-climatic zone series, baseline VAM, Land Resources Evaluation Project (LREP). This information was confirmed by key informants.  
RiskMap Malawi Final Report

Sources of Food	Poor	Mode	Rich
Own Foodcrops	40-50	60-65	80-95
Milk/Meat	0	0-5	0-5
Fishing	0	0	0
Wild Foods	0-5	0-5	0
Gift/Relief	0	0	0
Purchase	45-60	30-40	5-15
Total	85-115	90-115	90-115

### *Food Crop Production*

Food crops are the most significant source of food for modal and rich families in the Southern Lower Shire Valley providing 60-65% and 80-95% respectively. They are the second largest source of food for poor families providing just under half of annual food needs. Food crops are grown in both upland areas and *dimbas*.<sup>128</sup> The main types grown in upland fields are (in descending order of importance): millet, sorghum, cowpeas, pigeon peas and ground nuts. Upland crops are grown during the rainy season. The main crops grown in *dimba*<sup>129</sup> fields are sweet potatoes, maize, rice and vegetables. Approximately half of food production comes from upland fields and half from *dimba*<sup>130</sup> fields. The diversity of crops planted in this area is relatively high for Malawi.<sup>131</sup>

### *Wild Foods*

Wild food and game consumption is not great in this area although it is significant for poor and modal households providing 0-5% of food needs annually. Commonly mentioned wild fruits consumed in the area include: baobab (*Adansonia digitata*, *masao*, *masuku*, and *malambe*. Other wild foods mentioned were: *ninga* roots, wild lilies, *nkhoka* (a grass whose seeds are eaten like millet), *nika* (a tuber), and *thove* (a leaf).

### *Fishing*

Fish as a source of food (when caught and consumed by household members) in this zone is insignificant.

### Sources of Cash

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<sup>128</sup>A *dimba* is a field located in a *dambo* which is a seasonal or year-round wetland area cultivated for agricultural products.

<sup>129</sup>A *dimba* is a field located in a *dambo* which is a seasonal or year-round wetland area cultivated for agricultural products.

<sup>130</sup>A *dimba* is a field located in a *dambo* which is a seasonal or year-round wetland area cultivated for agricultural products.

<sup>131</sup>.631 to .82 on Simpson's Diversity Index, USAID/FEWS RiskMap Malawi Final Report

The rich and modal strata use very similar methods (although to differing degrees) to obtain income while the poor have more diversified strategies. The rich secure the majority of their income from business endeavours (butcheries, bottle shops, transport, groceries, credit and rental properties), which account for 45-60% of cash earnings. The second most significant source of income is cattle sales providing 30-40% of total annual income, followed by cash crop sales (5-15%) and employment (0-5%). As with the rich, modal families also gain the majority of their income from business endeavours, or trade (shops and rental property) which account for 35-45% of annual income. Other sources of income for the modal families include: livestock sales (25-35%), cash crop sales (10-20%) and employment (5-15%). The number one source of income for the poor is *ganyu*, i.e. local piece-work labour for wealthier households, which accounts for 50-60% of annual income. The second most important source of income is non-food production which contributes for 35-45% of income. In this instance, non-food production included the production or collection and sale of firewood, charcoal, pottery, beer, crafts and baked goods. The remainder of poor household income is derived from cash crop sales (0-5%) and fish sales (0-5%).

**Table 21.2: Sources of Cash** (% of annual income)

Sources of Cash	Poor	Mode	Rich
Employment & Remittance	50-60	5-15	0-5
Livestock Sales	0	25-35	30-40
Cash Crop	0-5	10-20	5-15
Non-Food Production	35-45	0	0
Other Trade	0-5	35-45	45-60
Fishing	0-5	0	0
Total	85-120	75-115	80-120

#### *Employment and Remittance*

Employment and remittance income is a significant source of cash in this area although it is most important to poor families accounting for 50-60% of annual income. As a source of income, employment (in the form of *ganyu*) is by far the most significant for the poorest households. *Ganyu* is performed by the poor for wealthier households in the same area. While less important, some poor households have family members working in other parts of the country. The most common places were on the nearby SUCOMA sugar estate in Chikwawa District or on the tobacco estates in Kasungu District (Central Region). Employment as a source of income for modal and rich households is much less significant (5-15% and 0-5% of annual income respectively). Remittance income from family members working in other parts of the country was the most common source of employment income for both modal and rich households. While less important, some modal families perform *ganyu* labour locally, while some rich families are receiving remittance income from family members in other countries (though this is thought to be very insignificant).

**Table 21.3a: Employment and Remittance** (% of employment income)

Socio-Economic Grp.	Locally	Within Country	Neighbouring Country	Distant Country
Poor	95-100	0-5	0	0
Mode	65-85	15-35	0	0
Rich	0-10	90-100	0-5	0

**Table 21.3b: Employment Markets and Locations**

Location	Name of Town/Country and Rank
Local	Ganyu for wealthier households, Some employed as civil servants
Within Country	Chikwawa (sugar estate), Kasungu (Tobacco estates), Blantyre, Lilongwe, Zomba
Neighbouring Country	South Africa, Mozambique

### *Livestock*

Livestock sales are quite significant in the Southern Lower Shire Valley. Among modal households they account for 25-35% of income second in importance to trade. They are also second most important to rich households for whom they contribute 30-40% of annual income. These figures are in keeping with the Lower Shire Valley's reputation for animal husbandry. Poor households however do not gain significant amounts of cash from livestock sales. The livestock holdings for rich and modal households are quite large.<sup>132</sup> (See Table 21.4 for more details regarding livestock holdings.) Despite the relatively large numbers of livestock owned in this area, consumption from own holdings is not particularly big. Modal and rich families acquire 0-5% of their annual food needs from meat. The poor do not gain significant proportions of their annual diet from meat consumption.

**Table 21.4: Livestock Holdings** (livestock numbers)

Livestock Type	Poor	Mode	Rich
Cattle	0	5-10	35-45
Goats	1-2	10-15	20-25
Sheep	0	1	5-7
Chickens	1-5	15-20	15-25
Pigs	0	5-10	5-15

<sup>132</sup>The average holdings determined for this zone were actually decreased by 25%. This is due to the fact that the RiskMap research team felt that key informants might have been reporting values for the super-rich as opposed to the richest 10%. In either case, when converted to grain the values exceed 1,000% or ten year's of food which is enormous.

Donkey	0	0	0
Oxen	0	0	0
Other	-	-	-

### *Cash Crop Production*

Cash crop sales are fairly important in this area. They are the third largest source of income to all three economic groups however the percentage of income provided to each varies as follows: modal families (10-20%), the rich (5-15%), and poor (0-5%). The major cash crops which are cultivated in this area are guar beans and rice. Unlike the Northern Lower Shire Valley, cotton is not an important cash crop in this zone.

### *Non-Food Production*

Non-food production is insignificant to both modal and rich households. However, it is very important to the poor as it is the second largest source of income (35-45%). Non-food production in the Southern Lower Shire includes: pottery, beer, crafts, baked goods, charcoal and firewood.

### *Trade*

Trade is the largest source of income for modal households in this area. It contributes 35-45% of income annually. It is also the most significant source of cash for rich families, providing 45-50%. It is quite small among poor households accounting for only 0-5% of annual income. Trade takes the form of businesses, shops, maize mills, butchery, bottle store, transport, groceries, credit and rent.

### Surplus Production and Income

Poor and modal households do not produce surplus food during normal years. The rich however could produce small surpluses on average, equivalent to zero to two months of food. The poor also do not have surplus cash. Modal households however, could cover about three months worth of food with surplus cash. The rich could likewise cover nearly a year's worth of food using surplus cash.

**Table 21.5: Surplus Production and Income** (% of annual food needs)

Surplus Type	Poor	Mode	Rich
Surplus Food Production	0	0	0-15
Surplus Cash Production	0	25	95

### Assets and Savings

None of the key informants indicated that even the richest farmers have food stocks remaining at the end of the year. Typical cash holdings for the rich were said to be equivalent to 95% of annual food needs (if food were purchased with these savings), while that for the modal group was thought to be roughly equivalent to 25-30% of annual food needs. The poor were said to not have cash savings. Typical assets possessed by the different income groups were not determined. Animal holding were found to be quite significant for the rich and

modal groups. When livestock holdings (see table 18.4 for figures) were converted to annual food needs (livestock sold in exchange for grain at normal year prices), the holdings for the rich and modal families were found to be equivalent to greater than 500% while the holdings for the poor were equivalent to 5-20%.<sup>133</sup>

**Table 21.6: Assets and Savings** (% of annual food needs)

Asset Type	Poor	Mode	Rich
Food Stocks	0	0	0
Livestock	5-20	620-1,165	3,600-4,500
Cash & Other Property	0	25-30	95

#### Income Distribution and the Mode

It is estimated that 70% of the population lies within and below the mode.

#### Cereal Markets and Food Flows

The major cereal market in this area is assumed to be the ADMARC market in Nsanje.

#### Other Markets and Prices

##### *Livestock Markets*

Government markets at Nsanje, Bangula, Mankhokwe, Mpsa, Tengani, Chimambo (sp?) and Chuluchangango (sp?). People also sell locally to butchers and along side the road.

##### *Cash Crop Markets*

50% of cash crop sales are to ADMARC and 50% to private traders. The major ADMARC market in the area is located in Nsanje as well as other smaller points throughout the area. Private traders travel around to villages to purchase animals.

##### *Other Trade*

Trade occurs locally in decentralised locations.

##### *Non-Food Production*

Non-food production includes a variety of goods which are largely sold locally. Some of the specialized locations for a given good follow. Firewood is either sold locally in the village or at the nearest trading centre. Pottery is either sold locally, in Nsanje or Mankhakwe. Baked goods are sold in Nsanje market or at the local school. Beer is sold locally.

Assets and asset prices are unknown for this food economy area.

**Table 21.8: Livestock Prices**

Animal	Price	Animal	Price	Animal	Price
poultry	35	pig	340	donkey	

<sup>133</sup>The actual figures for the rich were 3,600% to 4,500% of annual food needs. Holdings for modal households were equivalent to 620-1165%.

goat	200	cow	2400	g. fowl, etc.	
sheep	375	ox		other	

### How People Cope with a Bad Year

Wild food consumption was said to expand in difficult years for the poor and middle income groups to roughly double of what it would be in a normal year. As such, the poor would expand from two weeks total food to four weeks total food. The middle income families would expand from one to two weeks. Based on these quantities, the expansion in wild food consumption is believed to be able to cover 0-5% of a potential food deficit. Redistribution of income from rich to poor in difficult years was said to be insignificant.

### Seasonality

Maize: planted: Nov/Dec; harvested: March/April

Dimbas: June - Nov.

Rain: Oct/Nov. - March/April

(Rice: probably coincides with the rainy season, but not certain.)

## Appendix I: Food Economy Zone Population Estimates

<b>1. Northern Karonga</b>			
EPA	Pop	% FEZ	FEZ Pop
46. Kaporo North	27150	0.8	21720
47. Kaporo South	35805	0.8	28644
Rounded Pop '000			50
<b>2. Central Karonga</b>			
EPA	Pop	% FEZ	FEZ Pop
49. Karonga South	41585	0.35	14555
48. Karonga Central	25085	0.8	20068
Rounded Pop '000			35
<b>3. Chitipa Millet &amp; Maize</b>			
EPA	Pop	% FEZ	FEZ Pop
22. Chisenga	10050	1	10050
53. Kavukuku	15800	1	15800
63. Lufita	21705	1	21705
112. Mwamkumbwa	25280	1	25280
Rounded Pop '000			73
<b>4. Northern Lakeshore</b>			
EPA	Pop	% FEZ	FEZ Pop
Likoma & Chizumulu Islands	12000	1	12000
46. Kaporo North	27150	0.2	5430
47. Kaporo South	35805	0.2	7161
48. Karonga Central	25085	0.2	5017
49. Karonga South	41585	0.5	20793
125. Nkhata Bay Boma	65460	0.2	13092
18. Chintheche	53525	0.2	10705
127. Nkhunga	54007	0.1	5401
Rounded Pop '000			50
<b>5. Nkhata Bay Cassava Zone</b>			
EPA	Pop	% FEZ	FEZ Pop
125. Nkhata Bay Boma	65460	0.8	52368
18. Chintheche	53525	0.8	42820
127. Nkhunga	54007	0.4	21603
93. Mpamba	44805	1	44805
25. Chitheka	6500	1	6500
13. Chikwina	18878	0.55	10383
97. Mphompha	4338	0.55	2386
131. Ntchenachena	15224	0.55	8373
49. Karonga South	41585	0.15	6238
Rounded Pop '000			195
<b>6. Western Rumphi &amp; Mzimba</b>			
EPA	Pop	% FEZ	FEZ Pop
4. Bolero	43175	1	43175

96. Mpherembe	28300	1	28300
35. Euthini	40250	1	40250
Rounded Pop '000			112
<b>7. Northern Mountainous Areas</b>			
EPA	Pop	% FEZ	FEZ Pop
13. Chikwina	18878	0.45	8495
97. Mphompha	4338	0.45	1952
131. Ntchenachena	15224	0.45	6851
85. Misuku	22707	1	22707
55. Khosolo	13234	1	13234
Rounded Pop '000			53
<b>8. Mzimba Self-Suffecient Maize</b>			
EPA	Pop	% FEZ	FEZ Pop
108. Muhuju	34940	1	34940
7. Bwengu	32000	1	32000
154. Zombwe	41935	1	41935
34. Eswazini	53210	1	53210
73. Mnayamula	52500	1	52500
6. Bulala	39070	1	39070
87. Mjinge	16000	1	16000
78. Mbawa	58585	1	58585
10. Champhira	32415	1	32415
Rounded Pop '000			361
<b>9. Southern Lakeshore</b>			
EPA	Pop	% FEZ	FEZ Pop
127. Nkhunga	54007	0.1	5401
56. Linga	50979	0.2	10196
153. Zidyana	34626	0.2	6925
54. Khombedza	100096	0.2	20019
145. Tembwe	38665	0.2	7733
20. Chipoka	60597	0.2	12119
106. Mtakataka	45862	0.2	9172
36. Golomoti	29530	0.2	5906
118. Namkumba	22575	0.2	4515
81. Mbwadzulu	50598	0.2	10120
121. Nasenga	101844	0.2	20369
68. Malwa	81315	0.2	16263
64. Lungwena	62573	0.2	12515
98. Mpilipili	47565	1	47565
Rounded Pop '000			189
<b>10. Lilongwe East</b>			
EPA	Pop	% FEZ	FEZ Pop
24. Chitekwele	87900	1	87900
39. Kalira	20015	1	20015

26. Chitsime	79475	1	79475
95. Mpenu	71095	1	71095
28. Chiwamba	70100	1	70100
11. Chigonthi	51880	1	51880
Rounded Pop '000			380
<b>11. Phirilongwe Hills</b>			
EPA	Pop	% FEZ	FEZ Pop
118. Namkumba	22575	1	22575
15. Chilipa	46262	1	46262
107. Mtiramanja	55620	1	55620
121. Nasenga	101844	0.8	81475
81. Mbwadzulu	50598	0.8	40478
Rounded Pop '000			246
<b>12. Rift Valley Escarpment</b>			
EPA	Pop	% FEZ	FEZ Pop
127. Nkhunga	54007	0.4	21603
56. Linga	50979	0.8	40783
153. Zidyana	34626	0.8	27701
54. Khombedza	100096	0.8	80077
145. Tembwe	38665	0.8	30932
20. Chipoka	60597	0.8	48478
106. Mtakataka	45862	0.8	36690
36. Golomoti	29530	0.8	23624
113. Mwansambo	28302	1	28302
17. Chinguluwe	31381	1	31381
43. Kandeu	12670	1	12670
142. Sharpevale	56024	1	56024
130. Nsipe	79585	1	79585
3. Bilira	47010	1	47010
72. Manjawira	72740	1	72740
1. Bazale	66980	1	66980
151. Ulongwe	72000	0.5	36000
99. Mpilisi	53164	0.5	26582
140. Phalula	57900	0.5	28950
60. Lisungwi	31850	0.5	15925
114. Mwanza	99000	0.4	39600
122. Neno	65200	0.5	32600
Rounded Pop '000			884
<b>13. Surplus Producing Kasungu-Lilongwe Plain</b>			
EPA	Pop	% FEZ	FEZ Pop
33. Emfeni	46990	1	46990
41. Kaluluma	87750	1	87750
29. Chulu	43160	1	43160
9. Chamama	68500	1	68500
51. Kasungu Chipala	70575	1	70575

59. Lisasadzi	40665	1	40665
70. Malomo	45290	1	45290
132. Ntchisi Boma	28070	1	28070
39. Kalira	20015	1	20015
21. Chipuka	30500	1	30500
66. Madisi	35080	1	35080
5. Bowe	44305	1	44305
141. Santhe	44845	1	44845
88. Mkanda	80980	1	80980
40. Kalulu	47455	1	47455
83. Mikundi	60565	1	60565
133. Nthondo	60760	1	60760
23. Chisepo	44695	1	44695
91. Mndolera	58405	1	58405
103. Mponela	58320	1	58320
115. Nachisaka	66620	1	66620
111. Mvera	65500	1	65500
27. Chivala	36445	1	36445
90. Mlonyeni	40865	1	40865
19. Chioshya	59380	1	59380
30. Demela	44015	1	44015
150. Ukwe	64500	1	64500
65. Mngwangwa	61400	1	61400
104. Msitu	68255	1	68255
14. Chilaza	90600	1	90600
84. Mingongo	69010	1	69010
101. Mpingu	67525	1	67525
143. Sinyala	62830	1	62830
116. Nakachoka	57405	1	57405
89. Mlomba	81835	1	81835
42. Kambanizithe	45340	1	45340
37. Kabwazi	47845	1	47845
8. Chafumba	48060	1	48060
57. Linthipe	92865	1	92865
45. Kaphuka	55040	1	55040
77. Mayani	64565	1	64565
44. Kanyama	67150	1	67150
Rounded Pop '000			2374
<b>14. Middle Shire Valley</b>			
EPA	Pop	% FEZ	FEZ Pop
151. Ulongwe	72000	0.5	36000
80. Mbonechera	63698	0.5	31849
99. Mpilisi	53164	0.5	26582
136. Ntubwi	34680	0.33	11444
16. Chingale	69480	0.5	34740
140. Phalula	57900	0.5	28950

60. Lisungwi	31850	0.5	15925
114. Mwanza	99000	0.2	19800
58. Lirangwe	167300	0.5	83650
Rounded Pop '000			289
<b>15. Lake Chilwa Basin</b>			
EPA	Pop	% FEZ	FEZ Pop
12. Chikweo	45924	1	45924
119. Nampeya	37343	1	37343
120. Nanyumbu	68163	1	68163
128. Nsanama	37392	1	37392
136. Ntubwi	34680	0.33	11444
102. Mpokwe	91480	1	91480
105. Msondole	59200	1	59200
144. Tamani	44550	0.5	22275
50. Kasongo	40600	0.5	20300
117. Naminjiwa	51400	0.5	25700
100. Mpinda	34750	1	34750
Rounded Pop '000			454
<b>16. Mozambique Border</b>			
EPA	Pop	% FEZ	FEZ Pop
62. Lobi	59355	1	59355
2. Bembeke	43285	1	43285
124. Njolomole	43140	1	43140
149. Tsangano	42035	1	42035
122. Neno	65200	0.5	32600
114. Mwanza	99000	0.4	39600
Rounded Pop '000			260
<b>17. Shire Highlands</b>			
EPA	Pop	% FEZ	FEZ Pop
135. Ntonda	183250	1	183250
76. Matapwata	16100	1	16100
92. Mombezi	171350	1	171350
147. Thumbwe	101950	0.5	50975
32. Dzaone	103880	1	103880
146. Thondwe	84600	1	84600
16. Chingale	69480	0.5	34740
71. Malosa	54080	1	54080
136. Ntubwi	34680	0.33	11444
80. Mbonechera	63698	0.5	31849
138. Nyambi	38954	1	38954
75. Masuku	58768	1	58768
68. Malwa	81315	0.8	65052
134. Ntiya	70708	1	70708
52. Katuli	53756	1	53756
64. Lungwena	62573	0.8	50058
Rounded Pop '000			1080

<b>18. Phalombe Plain</b>			
EPA	Pop	% FEZ	FEZ Pop
109. Mulanje South	339750	0.5	169875
110. Mulanje West	236450	1	236450
152. Waruma	57950	1	57950
117. Naminjiwa	51400	0.5	25700
126. Nkhulambe	79250	1	79250
50. Kasongo	40600	0.5	20300
144. Tamani	44550	0.5	22275
123. Ngwerero	11260	1	11260
147. Thumbwe	101950	0.5	50975
Rounded Pop '000			674
<b>19. Northern Lower Shire Valley</b>			
EPA	Pop	% FEZ	FEZ Pop
38. Kalambo	63980	1	63980
86. Mitole	69905	1	69905
79. Mbewe	70815	1	70815
61. Livunzu	69250	1	69250
82. Mikalango	87710	1	87710
31. Dolo	43815	1	43815
69. Makhanga	66655	1	66655
67. Magoti	40970	1	40970
Rounded Pop '000			513
<b>20. Thyolo/Mulanje Tea Estates</b>			
EPA	Pop	% FEZ	FEZ Pop
109. Mulanje South	339750	0.5	169875
74. Masambanjati	223050	1	223050
148. Thyolo Boma	214550	1	214550
Rounded Pop '000			607
<b>21. Southern Lower Shire Valley</b>			
EPA	Pop	% FEZ	FEZ Pop
94. Mpatza	28635	1	28635
129. Nsanje	53130	1	53130
137. Nyachilenda	87630	1	87630
Rounded Pop '000			169
<b>GRAND TOTAL</b>			<b>9049</b>

## **Appendix II: List of Key Informants**

### **General**

1. Mr. Charles Clark, Emergency Team Mgmt Leader, World Food Programme, Lilongwe
2. Dr. Charles Mann, Food Security Advisor (MOALD), HIID, Lilongwe
3. Mr. Theo Leijser, Former Field Director, Save the Children Fund (UK), Lilongwe
4. Dr. Patrick O'Sullivan, Former Health Programme Manager, SCF (UK), Lilongwe
5. Ms. Julie Pearce, Former Food Security Researcher, Save the Children (UK), Lilongwe
6. Mr. Charles Changaya, Water Programme Manager, Save the Children Fund (UK), Lilongwe
7. Mr. Neil Marsland, Consultant, Action Aid, Lilongwe
8. Mr. Murphy Kajumi, Action Aid, Lilongwe
9. Mrs. Lezlie Caro Moriniere, Country Representative, FEWS, Lilongwe
10. Mr. Sam Chimwaza, Assistant Field Representative, FEWS, Lilongwe
11. Mr. Milton Kutengule, Ministry of Economic Planning and Development, Lilongwe
12. Mr. Zissimus Vergos, Food Security Advisor, European Union, Lilongwe
13. Mr. Tom Barret, ODA, Lilongwe
14. Dr. Heimo Mikkola, Representative, FAO Lilongwe
15. Ms. Wia Barrens, UNICEF, Lilongwe
16. Mr. David Faiti, Deputy Executive Secretary, CONGOMA, Blantyre
17. Mr. John Kapaninga, Drought Monitoring Director, CONGOMA, Blantyre
18. Ms. Bernadette Crawford, Regional Manager (North), CONGOMA, Mzuzu
19. Mr. Rob Donnelly, Concern Universal, Blantyre
20. Mr. Bimul Lodh, Advisor, Ministry of Economic Planning and Development, GOM

### **1. Northern Karonga Rice and Banana Zone**

1. Mr. Ng'oma, Senior Agriculture Extension Officer, Karonga ADD
2. Mr. Nkoka, Evaluation Officer, Karonga ADD
3. Mr Singini, Project Officer, Karonga ADD
4. Mr. B.N.D. Mboma, ADO, Kopo North, Karonga
5. Representatives of Chakwela Village, Karonga North. Assisted by Mr. Kalambo, Development Officer

### **2. Central Karonga Maize and Livestock Zone**

1. Mr Ernest Kaitano, District Commissioner, Karonga
2. Mr. Waison Chaona, ADC, Karonga
3. Mr. Austin Ngwira, Deputy Project Manager, Vulnerability Assessment Project, SCF (UK)
4. Mr. Rolex Tolani, Mpata Area Project Manager, World Vision, Karonga
5. Mr. Godfrey Mdoko, ADMARC Officer, Karonga

### **3. Chitipa Millet and Maize Zone**

1. Mr. Renard Tchongwe, Assistant Project Officer, Karonga RDP
2. Mr. Warren NDhlovu, Assistant Crops Officer-Seed, Karonga ADD
3. Mr. Victor Kabaghe, Health Coordinator, World Vision, Mpata, Karonga
4. Mr. Albert Bwinga, Field Health Coordinator Africare, Mpamba, Nkhata Bay (Formerly in Chitipa)

#### **4. Northern Lakeshore**

1. Mr. Jonathon Mwalwimba, Accountant, CCAP, Ekwendeni
2. Mr. Gavie Phiri, Ag Field Worker, CCAP, Ekwendeni
3. Members of the Kayuni Fishing Village
4. Mr. E.G. Yamikani, Lupembe, Karonga Central EPA, Karonga RDP
5. Mr. BND Mboma, ADO, Kaporo North EPA, Kaporo, Karonga District
6. Yadinga Village, Nkhata Bay District
7. M. Sibweni, Field Coordinator, Africare, Nkhata Bay
8. S.A. Jere, Supervisor, Habitat for Humanity
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12. IKR Lgambo, AHRMO, DC's Office, Nkhata Bay
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#### **5. Nkhata Bay Cassava Zone**

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2. Mr. Phillip Banda, Project Officer, Karonga RDP
3. Chisindilizi Village, Nkhata Bay
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11. S.O. Mwalungiva, Assistant Development Officer, Ministry of Ag
12. Mr JSA Manyetera, District Commissioner, Nkhata Bay
13. DDT Kalua Field Crops Officer, Ministry of Ag, Nkhata Bay
14. FM Mauvia, Information Officer, Information Department, Nkhata Bay
15. Mr. YL Kaunda, Area Programme Manager, World Vision, Karonga South

#### **6. Western Rumphi and Mzimba**

1. Mr. M.S. Jere, District Information Officer, Mzimba
2. Mr. S.C.M. Kaluba, Horticulture Officer, Karonga RDP, Karonga
3. Mr. Mwendo Phiri, World Vision, Rumphi

#### **7. Northern Mountainous Areas**

1. Mr. R.M. Mbowera, Operations Manager, Smallholder Coffee Authority, Mzuzu
2. Mr. Christon Zukazuka Msiska, Ag Extension Worker, CCAP, Livingstonia, Rumphi
3. Kajoni Village, Rumphi District
4. Mr. M.H.L. Sande, Divisional Manager, Smallholder Coffee Authority, Mzuzu
5. Mr. CSM Chanika, Field Services Manager, Smallholder Coffee Authority, Mzuzu
6. Mr. Richard Kerr, PHC Advisor, CCAP, Livingstonia, Rumphi

#### **8. Mzimba Self-Suffecient Maize Zone**

1. Mr. George Phelini, District Commissioner, Mzimba

2. Mr. M.S. Jere, District Information Officer, Mzimba
3. Mr. Sangster Nkhandwe, Deputy Coordinator, CCAP, Ekwendeni
4. Mr. YG Kamgwira, Project Officer, Central Mzimba RDP
5. Mr. EA Gondwe, Project Officer, Southern Mzimba RDP

### **9. Southern Lakeshore**

1. Mr. T.K. Mtegha, Horticultural Assistant, Mangochi RDP
2. Cholokoto Village, Salima District
3. Mr. Friday Njaya, Fisheries Officer, Fisheries Department, Mangochi

### **10. Lilongwe East**

1. Kalindamowa Village, Lilongwe District
2. Nafelangi Village, Lilongwe District
3. Mr. PMW Pukusu, Field Assistant, Chiwamba EPA, Lilongwe East RDP
4. Mrs Mzondwase Mgomezulu, Senior Ag Extension Officer, Lilongwe ADD
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### **11. Phirilongwe Hills**

1. Mr. H. Maungena, D.O., Chiripa EPA, Ministry of Ag, Chiripa
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4. Timothy Ron Kapichi, Education Supervisor, Save the Children (USA), Chiripa

### **12. Rift Valley Escarpment**

1. Mr. AW Phiri, Horticulturist, Ncheu RDP
2. Mr. WL Kaundama, Assistant Project Officer, Ncheu RDP
3. Levi Village, Salima District
4. BS Chimanya, Field Assistant, Min of Ag, Balaka
5. BL Mwapeya, Social Welfare, Balaka
6. MS Mihowa, Programme Manager, Sue Rider Foundation, Balaka
7. JFF Ulaya, DO, Min of Ag, Balaka

### **13. Surplus Producing Kasungu-Lilongwe Plain**

1. Mr. RBC Moyo, District Commissioner, Kasungu
2. Mrs. Catherine Mwaluwanda, District Distribution Officer Malawi Red Cross
3. Mr. Godfrey Mahango, Relief Clerk, Mzimba
4. Mr. Dominique Longu, Relief Clerk, Mzimba
5. Mr. J.E. Juta, District Relief Officer, Mzimba
6. Mr. Nkhata, Land Husbandry Field Assistant, Lisasadzi EPA, Kasungu
7. Mr. Martin Peter Tenthani, Development Officer, Lisasadzi EPA, Kasungu
8. Mr. M.S. Ludzu, Project Manager Kasungu RDP
9. Mr. Jonah Katsonga, Project Manager, Kasungu Program, Plan International
10. Mrs. G. Phili, Technical Assistant, Lisasadzi EPA, Kasungu

### **14. Middle Shire Valley**

1. Mr. Foster Salamu, Land Husbandry Assistant, Mtubwi EPA, Machinga RDP, MOALD
2. Mrs. Freida Kayuni, Senior Ag Officer, Women's Programme, Machinga RDP, MOALD

3. Mrs. Juletta Nsanjama, Ag Officer, Food & Nutrition, Liwonde ADD, MOALD
4. Mrs. Useni, Assistant Women's Program Officer, Balaka RDP
5. Mrs. Mmanga, Social Welfare Assistant Trainee, Department of Social Welfare
6. Mr. M.M. Zenengeya, Assistant Community Development Officer, Community Services
7. Mr. Manduwa, Head Clerk, ADC office

#### **15. Lake Chilwa**

1. Mr. John Penembe, Project Officer, Zomba RDP, Zomba
2. Dr. SS Chiotha, University Research Coordinator, University of Malawi, Zomba
3. Dr. Heimo Mikkola, Representative, FAO Lilongwe
4. Mr. F Mwalabu, Assistant Tobacco Supervisor, Zomba RDP, Zomba
5. Mr. Vaya, Assistant Crops Officer, Zomba RDP, Zomba
6. Njala Village, Mpokwa EPA, Zomba District
7. Mr. Jackson Kachidede, Horticulture Assistant, Zomba RDP

#### **16. Productive Mozambique Border Crescent**

1. Mr. AG Chbwana, District Commissioner, Dedza
2. Mr. J.M.A. Chima, Evangelical Lutheran Development Programme
3. Mr. CR Nyondo, SCO Evaluation, Dedza Hills RDP
4. Mrs. Chrissie C. Chivsiwa, Assistant Women's Program Officer, Dedza Hills RDP
5. Mr. Joshua J. Mphanda, Field Officer, Dedza Hills RDP
6. Mr. A.J. Nyasulu, Dedza Hills RDP
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8. Mr. BSJ Mhango, APJO, Dedza
9. Mr. M Mussa, D.O., Thiwi Lifidzi RDP, Lobi
10. Mr. AC Chimbizi, Thiwi Lifidzi RDP, Lobi
11. Mr. Evans Kagwira, Divisional Coordinator, Red Cross, Dedza
12. Mr. Dan Bishop, Concern Universal, Dedza

#### **17. Shire Highlands**

1. Mr. Harris SB Potani, Assistant DC, Zomba
2. Mr. S.H. Moyo, Assistant DC, Blantyre
3. Mr. J.K. Baula, Field Assistant, Mtubwe EPA
4. Mrs. J. Phiri, Project Officer Under Study, Zomba RDP
5. Mr. John Kapininga, Coordinator of DVMU, CONGOMA, Blantyre
6. Mr. Ben Chingwaru, Shire Highland RDP, Assistant Project Officer, Blantyre
7. Mr. C.M.S. Mbisa, Land Resource and Conservation Field Officer, Mangochi
8. Mr. F.D. Mathewe, Crops Officer, Mangochi RDP, Mangochi

#### **18. Phalombe Plain**

1. Jalasi Village
2. Mr. Zitta, A.D.O., Ministry of Ag, Mulanje
3. Mr. H.M. Zimba, Tobacco Extension Agent, Ministry of Ag, Mulanje
4. District Commissioner, Mulanje

#### **19. Northern Lower Shire Valley**

Villagers of Kulima, Ngabu, Chikwawa District  
Mr M.B. Nakhumwa, Field Assistant, Mikalango EPA, Ngabu ADD  
Mr. Gordon Makata, IGA & Drug Revolving Fund Coordinator, IEF, Nchalo  
Mr. H. Mpanyula, District Commissioner, Chikwawa  
Mr. F.E. Nyiwa, Chikwawa  
Mr. M. Chinkhota, Chikwawa  
Mr. E.N. Nkhudzi, Chikwawa  
Farmers from Makande Village, Ngabou, Chikwawa District  
Mr. Patrick Piriminta, Evaluation Officer, Ngabu ADD  
Mr Munthali, Evaluation Supervisor, Ngabu ADD  
Mr. K.F. Katukumala, Agro-Economic Supervisor, Ngabu ADD  
Mrs. Ngwira, Nutrition Supervisor, Ngabu Rural Hospital  
Mr. Ralph Mulders, Social Anthropologist, Malawi Wildlife Society, Chikwawa

## **20. Thyolo-Mulanje**

Mr. Kampango Chatepa, District Commissioner-Thyolo  
Mr. C.B.N. Maloya, Assistant Development Officer, Thyolo  
Chief Nchiramwela  
Mr. Kasakula, Drought Relief Officer, Thyolo District  
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Mr. Ol Mapemba, Project Assistant, World Food Program, Blantyre  
Mr. Sinku Mangoche, Food Aid Monitor, Thyolo and Mulanje

## **21. Southern Lower Shire Valley**

Mr. Charles Makansa, Assistant District Commissioner, Nsanje  
Mr. Eric Zingapeta, District Relief Officer, District Relief Officer, Nsanje  
Mr. Byson Chanika, Agriculture Extension Supervisor, Christian Council of Malawi  
Mr. Bernard A. Liche, Assistant Project Officer, Nsange RDP  
Mr. Vincent Chakale, Project Officer, Nsange RDP  
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