

Preface

The National Census of Agriculture and Livestock (NACAL) was conducted by the Agriculture Statistics Division of the National Statistical Office (NSO) in collaboration with the Ministry of Agriculture and Food Security (MoAFS) between October 2006 and October 2007. It was based on a random sample that covered 25 000 households drawn from all districts of the country.

The NACAL is the fourth census of Agriculture to be conducted in Malawi, the last being that of 1991/92 National Sample Survey of Agriculture (NSSA). It is part of a concerted effort by government to provide relevant information on the structure of agriculture in the country, especially in view of its importance to the economy. The census was designed to collect information on different aspects of small holder agriculture including crops grown, area planted and production, land husbandry practices, food security, marketing and structure of the small holder sector. This is the main report to be produced from the census.

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Charles Machinjili

Commissioner of Statistics

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Head of Agriculture Statistics Division

Accronyms

ADD	Agriculture Development Division
ADMARC	Agriculture Development and Marketing Corporation
AIDS	Acquired Immune Deficiency Syndrome
EA	Enumeration Area
GDP	Gross National Product
GPS	Global Positioning System
Ha	Hecterers
HIV	Human Immuno Deficiency Virus
MoAFS	Ministry of Agriculture and Food Security
MARDEF	Malawi Rural Development Fund
MRFC	Malawi Rural Finance Company
NACAL	National Census of Agriculture and Livestock
NASSA	National Sample Survey of Agriculture
NSO	National Statistical Office
PHC	Population and Housing Census
SPSS	Statistical Package for Social Sciences
WMS	Welfare Monitoring Survey
YSP	Yield Sub-Plot

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Executive summary

The National Census of Agriculture and Livestock (NACAL) 2006/07 is the third in a series conducted by the NSO. It was conducted with technical and financial support from the Norwegian Government. The total sample size was 25,000 small holder farming households nationwide. The sample size at EA level was 15 households. Data collection took place from January to October 2007. Data entry was done through scanning using the Eyes and Hands software. It was cleaned and analyzed using the Statistical Package for Social Sciences (SPSS) software. Areas of parcels and plots were measured using Geographical Positioning System (GPS).

This report presents information about production, area and yield of major crops grown, livestock and poultry, farming practices, food security, impact of HIV/AIDS on agriculture sector and village level information on socio-economic sector.

Area under crop cultivation

The total area under cultivation or under crop in the small holder agricultural sector in the 2006/07 season was 2.2 million hectares.

Land situation

More than three quarters of land used by agricultural smallholders was customary land. The majority of land was inherited, and was operated by male operators. Land area had mostly remained unchanged during the past ten years. Less than ten percent of the households had rented out land in the past agricultural season, and sales of land were very rare. Results show that 15 percent of households had a dispute over land and one out of five households feared that their land would either be encroached upon or taken away from them.

Land Size

There were a total of 2.5 million holdings in the small holder sector and 7.7 million parcels of which 2.8 million were for dwelling units only. In addition, there were 7.7 million plots. The average holding size was 1ha, average parcel size of 0.4ha and plot size of 0.3ha. Furthermore, three out of four holdings had an area of less than 1 ha. Consequently, parcels and plots are also small. About two thirds of the parcels and more than 80 percent of the plots had an area of less than 0.5 ha. Female headed households and female operators had less land than male headed households and male operators. Most parcels and plots were located within the village and also close to the dwelling area. Very little land improvement took place, whether it was building of terraces, construction of canals or digging of wells or dams.

Land conflicts

Almost half the villages (47 percent) had conflicts over land. Southern region had more land conflicts (49 percent) than villages in the other regions.

Provision of inputs ,ownership of equipment and farm structures

About half of the smallholder agricultural households had benefited from the fertilizer subsidy program. A very small proportion of the small scale agricultural farming households had received credit, about three percent. Except for insecticides acquired by about 10 percent of the households, the use of chemicals was almost nonexistent. About half of the households had bought seeds for the 2006/07 agricultural season. This was almost exclusively maize seeds, and most often hybrid maize seeds. Almost every farming household in Malawi owns at least one hoe, otherwise, the most commonly owned equipment was an axe, panga knife, sickle, watering can and slasher. A small proportion of households owned modern equipment like tractors and generators. Granary was the most commonly owned structure for agricultural use. More male headed households than female headed households had acquired inputs, owned equipment and farm structures.

Farming practices

Agricultural extension service reached out to a little less than one out of five households in Malawi in 2006/07 agricultural season. Almost all parcels had been used for cultivation at one point or another and one out of five parcels had been cultivated for 20 years or more. Crop rotation was only practiced on about one out of five parcels. Irrigation for both parcels and plots was very rare. In instances where irrigation took place, the most common method used was watering cans or flooding. Almost all farm activities, whether it be ridging, planting, weeding or harvesting were carried out manually, with or without the use of a hoe. Mechanized farming methods were almost non existent and pesticides were applied on a very small proportion of plots during the 2006/07 agricultural season. Almost all plots were weeded, and more than half of the plots were weeded twice. Inorganic fertilizer was applied twice to about one third of the maize plots.

The most common storage facilities for maize were granary and bags. Granary was commonly used for local maize while bags were widely used for hybrid maize. Post harvest treatment was common for hybrid than local maize but in more than half the cases, the hybrid maize was not treated. The most common method for treating maize was using actelic super. However, farmers still used traditional treatments such as ash, dust, sun or heat baked.

Food supply and sources

In January 2007 around 55 percent of households relied upon own produce for food in the last 7 days prior to the survey, while 66 percent relied on food purchased from the market. In June of the same year, 89 percent relied on own produce and 66 percent on the market. In September 2007, own produce and purchased food from the market were the most important food sources; 77 percent and 76 percent respectively.

Meals taken daily

In January 2007, about one out of three households took three or more main meals daily, during the last 7 days prior to the survey. About 62 percent of the households took two main meals while five percent took only one meal. In June, almost half the households took three or more main meals daily (47 percent). Only two per cent took one main meal daily. In September, slightly more than 40 percent took three or more main meals, while the majority of the households (55 percent) took two main meals daily. In general, poor households and female headed households were worse off.

Agricultural production

The yield and area for each crop presented in this report is based on pure stand crop, but for production, total production is considered; both pure and mixed stand. Farmers' post harvest estimate was used to measure production, except for cassava where farmers' pre harvest estimate was used. Production of maize in the 2006/07 agricultural season was about 2.1 million tons, the overall yield was 1726 kg/ha, and the total area planted with pure stand maize was about 1.1 million hectares.

Among maize varieties, local maize occupied the largest area (560 000 ha) and provided the biggest production (870 000 tons). Hybrid maize occupied 400 000 ha with a production of about 760 000 tons. Hybrid maize had the highest yield, 1,907 kg/ha as compared to local maize, 1,372 kg/ha.

For all maize varieties, plots operated by male operators gave a higher yield than those operated by female operators. The yield for fertilized maize plots was consistently higher than the yield for unfertilized plots, and also consistently higher was yield for plots where fertilizer was applied twice. For example, the yield for hybrid maize plots fertilized once was 1,740 kg/ha and 2,342 kg/ha for those fertilized twice. Very few maize plots were not weeded. Maize plots weeded twice had a higher yield than those weeded only once. For the other staple crops, production was as follows: Rice, 68 000 tons; sorghum 13 000 tons and millet, 7 000 tons. Close to 250 000 tons of beans, pulses and ground nuts were produced. On root crops, cassava production was 407 000 tons (fresh weight), sweet potatoes, 247 000 tons and 12 000 tons for Irish potatoes were produced.

Fruit trees

About three out of four small holder farming households had at least one fruit tree on their holding. Mango trees were commonly found, and in total about 10.7 million mango trees were owned by small holder agriculture sector.

Impact of HIV/AIDS on agriculture.

In a majority of households, care for chronically ill persons took place both at home and in a clinic. In 80 percent of the households who gave care to sick persons at home only, or combined with care at a clinic, care was given by female household members. About one third of the households with chronically ill persons had to sell produce because of illness. A significant proportion of households got credit, or sold assets to care for the sick. Due to caring for the sick, one in five households had no time for land preparation and about one third had no time for weeding while one in five households did not harvest in time.

Deaths in households and communities

About 7 percent of the households had experienced at least one death within the household during the 2006/07 agricultural season, while more than three out of four households had experienced at least one death in their community. Of households which experienced one or more deaths in the community, more than three out of four households reported that farming activities had to be postponed due to deaths while one out of five households were not affected.

Orphan care

More than one out of every four farming households had orphans in the household. Female headed households had more orphans (35 percent) than male headed households (24 percent). Results further indicate that 36 percent of households reported that orphans provided farm labour and half of the households reported that orphans provided help with household chores. One third of the households mentioned that they had to look for food instead of farming. One in five households said they had to look for school fees instead of farming and 40 percent of the households said they had to spend time to care for orphans who were sick.

Livestock

Almost 60 percent of households in Malawi owned or kept livestock or poultry. Furthermore 6 percent of owned at least one head of cattle, 24 percent owned at least one goat, two percent owned at least one sheep, 9 percent owned at least one pig, while almost half the households owned at least one chicken. There were no differences in the ownership of sheep and goats across the regions. However, households in the northern region were more likely to own cattle, pigs and chickens as compared to households in the Central and Southern regions. At the time of the census, there were 884,130 heads of cattle in the small holder sector, 2,623,000 goats, 76,600 sheep, 792,300 pigs and 7,558,000 chickens. There were 14,000 donkeys, 167,500 rabbits, 34,000 Guinea pigs, 429,200 ducks, 281,500 guinea fowls, 610,500 pigeons and doves and 61,000 turkeys.

Village information

At village level, most villages had a foot path or track passing through the village, while only about one in three had a gravel road passing through and even much fewer (8 percent) had a tarmac road passing through. Results also show that 72 percent of villages were located at a short distance of less than 5 kilometers to local and mobile markets. In more than half the villages, produce was brought to the selling point on head. In about one out of three villages, a bicycle was used to ferry produce to the market point.

The Census results further show that 82 percent of the villages had access to tap water, with better access in the Northern and Southern regions as compared to the Central region. About one out of three villages had some households moving away from the village during the past 12 months before the census. In villages where households had moved away, land scarcity was the most important reason, followed by looking for paid work. Results also show that 42 percent of the villages had received new households to the village during the past 12 months.

Chapter 1: Introduction

1.1 About Malawi

Malawi is a landlocked country with 118,484 sq km and has an estimated population of 13.1 million (Population and Housing Census, 2008). The population is growing at 2.8 percent per annum and the population density is 139 persons per sq km. About 85 percent of the population live in rural areas and depend on agriculture for their livelihood (ibid).

1.2 Agricultural sub-sector

Malawi's agricultural production is derived from two sub sectors; the estate sector, which operates on freehold and leasehold land, and the smallholder sector, which operates under the customary land tenure system. An estimated 85 percent of the Malawian population practice subsistence farming as agricultural small holder farmers and rely on agricultural output either directly or indirectly for their livelihood. Agricultural output generates over 90 percent of export earnings, and 33 percent of Gross Domestic Product (GDP), most of which is produced by smallholder farmers. The Government has placed high priority on the development of smallholder agricultural sector. In view of the importance of agriculture to the economy, increased agricultural production for both domestic consumption and export is the primary goal of the National Rural Development Programme (NRDP).

Malawi's economic growth and development depends on the agricultural sector. In order to plan for agricultural development, comprehensive, reliable and up to date data on state of agriculture, ownership, use of agricultural land, volume and value of production are essential. Reliable data of food and agricultural production for marketing and own consumption are also required for poverty reduction, food security management and estimation of agricultural GDP. Data on various aspects of agriculture are also required for monitoring of agricultural development programmes. The last agricultural sample census was carried out in 1991/92. Given the large demographic, economic and social changes since 1991/92, it is therefore important to get up to date information.

1.3 Basic objectives

- To provide data for clarifying the social and economic factors affecting the country's agricultural structure by interrelating various characteristics of the holding;
- To provide aggregate totals for fundamental agricultural data from both smallholder and commercial sectors for use as the benchmark for inter-censal estimates;
- To provide basic data for the formulation and implementation of a comprehensive integrated system of food and agriculture;
- To analyse food security at the household level;
- To provide basic data regarding current use and changes in agriculture;
- To enable government to formulate plans to improve productivity especially of smallholder sector and
- To provide a frame for other agricultural sample surveys;

1.3.1 Modules

Module 1: Household Composition
Module 2: Land parcel
Module 3: Plot details
Module 4: Food security and HIV/AIDS
Module 5: Marketing

Module 6: Welfare Monitoring Survey
Module 7: Livestock Survey
Module 8: Village facility
Module 9: Estate Survey

1.4 Sample Design and Survey Organisation

A two stage sample design was used; where the first sampling units were the Enumeration Areas (EAs) and the second sampling units were farming households. Stratification was done at district level and at EA level. Each district was stratified by agro-ecological zones and each EA was stratified by land cultivated (small scale farmers and large scale farmers). This stratification was done to improve the precision of the estimates by reducing the variance between EA and within EA. The total sample size was 25 000 households nationwide. The sample size at EA level was 15 households.

The data provides reliable estimates at national, regional, Agricultural Development Divisions (ADD) and district level. The NACAL recruited about 600 enumerators, supervised by 60 district supervisors and 10 National supervisors.

A modular approach was employed for data collection. Data collection on food security took place during the months of January, June and September 2007, using Modules 1, 4 and. The questions asked were almost identical in the three rounds. Data collection for the information on HIV/AIDS took place during the months of June 2007, using information from Module 4: Food security and HIV/AIDS. Information on production and area under cultivation came from module 3, while livestock information came from module 7 and community level information was from module 8. Module 4 did not provide any background information at household level. This information was collected in Module 1, as well as in the Welfare Monitoring Survey and was added on to Module 4 data to analyze various household groups. Holding size was provided from Module 2 on parcels.

1.5 Main definitions and standards

1.5.1 Household:

This is made up of one person or a group of persons who normally live and eat together. They regularly take all their food from the same pot, or share the same grain store (nkhokwe) or pool their incomes together for purposes of purchasing food. They maybe related or unrelated, living in the same house or several dwelling units including all children at boarding schools.

1.5.2 Household Head:

This is the person who is responsible for making decisions for the household and his or her authority is acknowledged by other members of the household.

1.5.3 Parcel:

A parcel of land is a piece of land that has been allocated to any member of the household, whether used for farming or not. It includes grazing land, woodlot, orchard, and the land where the household has built its dwelling unit.

If one parcel of land has a path in the middle of three meters or more, this will be counted as 2 parcels. The land where the household has built its dwelling is always a separate parcel. Areas of parcels and plots were measured using GPS equipment.

1.5.4 Operator of a parcel of land

The operator is the one who makes all important decisions pertaining to the use of the parcel.

1.5.5 Holding:

Consists of all parcels belonging to a household

1.5.6 Holding size

Size of all of parcels belonging to a household

1.5.7 Plot

Part of a parcel that contains a different crop or crop mixture or is operated by a different person in the same household. It must be a continuous piece of land and should not be split by a path of more than one meter in width. Thus, a parcel can have one plot or several plots. Plot boundaries are defined according to the crops grown and the operator. Any part of a parcel that is under fallow will be considered as a plot.

1.5.8 Poverty quintiles

The poverty quintiles (both on household and individual level) are constructed using the model for predicting poverty used in WMS. The poverty quintiles are the same as the quintiles for estimated household consumption per capita. Using quintiles, the sample is divided into five equal parts, each comprising 20 percent of the sample according to estimated consumption. This means that the lowest quintile comprise 20 percent of the population with the least estimated household consumption per capita, in other words the 20 percent most poor. While the highest (5th) quintile, comprises the 20 percent with the highest estimated household consumption per capita, or the 20 percent least poor (or richest) in the sample.

Chapter 2: Land ownership, Farming practices and Agriculture structure

2.1 Area under crop and Type of land, ownership and Land transfer

Table 2.1 shows that a total of 2.2 million hectares was under cultivation in the small holder agricultural sector in 2006/07 agricultural season.

About three quarters of land used by agricultural smallholder farmers is customary land. Customary land means all land which is held, occupied or used under customary law but does not include public land. Table 2.2 shows that around 80 percent of the parcels owned by small holder agricultural households were on customary land, while one in five parcels were freehold and only 2 percent were leasehold. Across regions, 83 percent of customary land was in the Northern region, while there were no differences in Central and Southern region (76 percent). Freehold land accounted for 20 percent in both Central and Southern regions, and 12 percent in the Northern region.

Table 2.3 shows that 42 percent of the parcels were inherited from the mother's side while 23 percent were inherited from the father's side. Female operators accounted for 47 percent of land inherited from the mother's side, while male operators accounted for 38 percent. Results further show that male operators accounted for 27 percent of land inherited from the father's side while female operators accounted for 17 percent.

At regional level, 52 percent of operators in the Southern region had inherited land from the mother's side, 40 percent and 5 percent from the Central and Northern regions respectively. Results also show that 53 percent of operators in the northern region had inherited land from the father's side, 26 percent in the Central region and 13 percent in the Southern region.

2.2 Number and Size of Holdings

There were a total of around 2.67 million holders in the small holder sector¹ Across regions, Southern region had 1.2 million holders, Central region had 1 million holders and northern region had 307,057 holders. Table 2.4 shows that the average holding size was 1 ha. As much as three out of four holdings had an area less than 1 ha. Female headed households in general had smaller holdings than male headed households. About one out of three male headed households had holdings with less than 0.5 ha, as compared to almost half the female headed households. Results also show that average holding size for the northern region was 1.178 ha, while for the Central and Southern regions, 1.145 ha and 0.732 ha, respectively.

2.3 Parcel and Plot Size

Table 2.5 shows that average parcel size was 0.4 ha. About one out of three parcels had a size of less than 0.2 ha, 39 percent had a size of between 0.2 to 0.5 ha and 30 percent had a size of more than 0.5 ha. Table 2.6 shows that average plot size was 0.3 ha and 43 percent of plots were less than 0.2 ha, 41 percent were between 0.2 and 0.5 ha, and 16 percent were more than 0.5 percent. Across regions, the average plot size were 0.298 ha and 0.276 for Central region and Southern region respectively and 0.237 ha for northern region..

2.4 Number of Parcels and Plots

Table 2.7 shows that there were 7.7 million parcels in small holder sector in Malawi, out of which 2.8 million were used for dwelling units. Results further indicate that of all parcels, a total of 4.9 million were from male headed households and 2.8 million were from female headed households.

¹ This excludes holders in the four cities who engaged in some form of farming away from the cities.

The table further shows that 1.7 million parcels for dwelling units were from male headed households and 1.1 million were from female headed households.

More holdings in Northern region had three or more parcels than those in Central and Southern region (Table 2.7). Results also shows that 48 percent of holdings consisted of only one parcel, one in three holdings had 2 parcels, while about 18 percent had 3 or more parcels.

Table 2.8 shows that there were 6.7 million plots in Malawi, out of which 4.4 million were operated by males and 2.3 million were operated on by females. There were more plots in Central region (2.95 million) compared to Northern region (2.81 million) and Southern region (1.17 million).

The table also shows that 77 percent of the parcels had one plot, while 23 percent of the parcels had more than two plots. Results further show that 86 percent of parcels in the Southern region had one plot, 70 percent in the Central region and 61 percent in the Northern region had one plot.

2.5 Change of land area

The parcel area had remained unchanged during the past 10 years in about 69 percent of the households. Table 2.9 shows that 13 percent of the households had their parcel area increased, while 18 percent had their parcel area decreased. The table also shows that 21 percent of parcels were reported to have decreased for female headed households against 17 percent of their male counterparts. The table further shows that, 15 percent of male headed households had their parcel area increased compared to 9 percent for female headed households. Poor households were more likely to have their parcel area decreased, while households with larger holding size were more likely to have their parcels area increased. In Northern region, 20 percent of households reported that their land area had increased in the last 10 years prior to the census, 13 percent in the Central region and 11 percent in the Southern region.

Table 2.10 shows that of those households whose parcel area had increased, about one out of five households reported that it was because of inheritance; about one in four said that it was because of allocation from the lineage and less than one out of five households had rented more land and around 6 percent had bought more land.

Table 2.11 shows that of those households whose parcel area had decreased, 32 percent mentioned that the land had been given to relatives, 25 percent transferred to heirs, 17 percent washed away by floods, 12 percent taken away or exploited and 10 percent encroached.

2.6 Fear of losing land

Table 2.12 shows that more than one out of five households feared that their land would be encroached upon or taken away from them. The tables shows that 25 percent of male headed households feared that their land would be taken away from them compared to 16 percent of the female headed households. The poorer the household, the larger the proportion that feared that their land would be taken away. The fear of encroachment and of losing land was mentioned more in the Central region (27 percent) than both in the Northern (21 percent) and Southern region (16 percent). Selling and Renting out of Land.

The table further shows that one percent of the households sold some parcel of land during the past ten years. Results further shows that about seven percent of households had rented out one or more parcels of land during the 2005/06 agricultural season.

The proportion who had rented out land was higher, 10 percent in Central region, than in both Northern and Southern regions (5 percent).

Table 2.13 shows that 41 percent of households rented out land because they needed money. This was mentioned more in female headed (50 percent) than male headed households (36 percent). The table further shows that Selling of land for need of money was more common in the Central region (51 percent) than in the Northern and Southern region (26 percent and 21 percent respectively). Abundance of land was the main reason for renting out land in about one out of five households both in Malawi and among male headed households. This also accounted for 13 percent female headed households.

2.7 Land disputes

Table 2.14 shows that 15 percent of the households had a dispute over land during the past ten years prior to the Census. Among those households 38 percent of the disputes were with non-relatives, 19 percent were with relatives from the husband's side, 14 percent were with relatives from the wife's side and 12 percent were disputes with the village headman.

2.8 Location of parcels and plots

The NACAL also collected information on distance from households to their parcels. Table 2.15 shows that 51 percent of the parcels were situated less than 1 km from the dwelling while 21 percent were situated between 1 and 2 km from the dwelling unit.

2.9 Topography and land improvement

Table 2.16 shows that 75 percent of the parcels were on plains and 14 percent were situated on mountain slopes. Table 2.17 shows that on 8 percent of the parcels, terraces were built and 1 percent irrigation canals, dams or wells were either constructed or dug.

2.10 Use of uncultivated land

Table 2.18 provides information on why all or part of land parcels were not used for cultivation during the 2006/07 agricultural season. The table shows that 20 percent of the households failed to cultivate their land due to lack of capital, 16 percent mentioned insufficient labour, and 8 percent did not cultivate land in order to preserve woodland.

2.11 Agricultural subsidy programme

In order to increase agricultural production, and to enable poor households acquire seeds and fertilizer, the Malawi Government embarked on a large scale subsidy programme for seeds and fertilizer. Table 2.19 shows that about 53 percent of agricultural households received coupons for fertilizer or seeds in the 2006/07 agricultural season. The table also shows that 54 percent of male headed households received subsidy coupons compared to 49 percent of female headed households.

The Results also show that more households in the Northern region (66 percent) had received coupons than households in the Central (51 percent) and Southern regions (51 percent). More than 90 percent reported that they had used the coupons to buy fertilizer, 4 percent of the households reported that they did not use the coupons and 1 percent gave the coupons away.

2.12 Access to credit

Table 2.20 shows that 3 percent of the small scale agricultural farming households had received credit. Table 2.21 shows that of those households which had received credit, 35 percent were from NGOs, 13 percent from Malawi Rural Finance Company (MRFC) and 12 percent from Malawi Rural Development Fund (MARDEF). Very few households had received credit from formal lending agencies like banks (one percent).

2.13 Purchase of fertilizer

The results show half of the small holder agricultural households acquired inorganic fertilizer while one out of five households obtained organic fertilizer (Table 2.22). The table further shows that more male headed households (56 percent) had obtained inorganic fertilizer than female headed households (45 percent). The poorer the households, the less likely for it to obtain inorganic fertilizer. Households with the largest holdings obtained fertilizer more than those with smaller holdings especially so regarding inorganic fertilizer.

2.14 Purchase of Chemicals

Except for insecticides, use of other chemicals in the smallholder sector was almost nonexistent (Table 2.23). The table further shows that 9 percent of households bought insecticides while only one percent bought fungicides, herbicides and fumigants.

2.15 Purchase of Maize Seeds

Table 2.24 shows that 88 percent of households bought maize seeds in the 2006/07 agricultural season. Among these 71 percent bought hybrid maize seeds, 21 percent bought local maize seeds and 11 percent bought composite maize seeds.

Table 2.25 shows that 71 percent of maize plots with local maize were planted with seeds retained from the previous season and 14 percent of the plots were planted using seeds obtained locally.

The results in Table 2.26 shows that in 35 percent of the plots where composite maize was planted as first main crop, the seeds were retained from the previous season, 29 percent had planted with seeds obtained from a subsidy program and 14 percent with seeds bought locally.

The results further show that the largest proportion of plots with hybrid maize (30 percent) was planted with seeds from subsidy program 29 percent of the plots had seeds bought locally, 15 percent of the plots were planted with seeds from Admarc (Table 2.27).

About 14 percent of hybrid maize plots were planted with seeds retained from the previous season. More male operated plots (31 percent) were planted with seeds from subsidy programs as compared to female operated plots (26 percent). The table also shows that more female operated plots (33 percent) were planted with seeds bought locally compared to male operated plots (27 percent).

2.16 Ownership of equipment

Almost every farming household in Malawi owns at least one hoe (Table 2.28). The table also shows that 55 percent of the households owned an axe, 54 percent owned a panga knives, 27 percent owned a sickle, 26 percent owned a watering can and 19 percent owned slashers. The general trend was that, except for hoes, more male headed households owned equipment than female headed households and the poorer the household, the smaller the proportion who owned equipment. Furthermore, results show that the larger the holding size, the more likely the households owned various types of equipment.

2.17 Ownership of structures

Table 2.29 shows that about 22 percent of the households owned a granary, 18 percent owned either livestock kraal or chicken house. The table also shows that 9 percent of the households owned poultry kraal while 7 percent either owned a storage house, drying area or barn. Results also show that male headed households were likely to own the above mentioned structures than female headed households. Further, the larger the holding size, the larger the proportion which owned the above mentioned structures.

2.18 Hired and permanent labour

The results from the Census indicate that 17 percent of the households hired men to do land preparation and 8 percent hired women (Table 2.30). The table further shows that 18 percent of the households hired men to do weeding while 12 percent hired females. Table 2.31 shows that 4 percent of the households used permanent male workers to do land preparation and weeding, while 3 percent of the households used permanent female workers for the same tasks.

2.19 Extension services

The results show that 18 percent of the households attended various extension services during the 2006/07 agricultural season, 12 percent attended village meetings, while 4 percent either attended extension course or were visited on the farm (Table 2.32).

Table 2.33 shows that about 38 percent of the households who had not attended extension services had not done so because no extension worker was available, while almost half the households said the service was available, but they had not been visited. The table also shows that about one in ten households reported that the service was available but they did not participate in any activities.

2.20 Cultivation of parcels and crop rotation

The results indicate that 14 percent of the parcels had been left fallow during the last three years (Table 2.34). The larger the parcel size, the more often the parcel had been left fallow. Northern region had a larger proportion of parcels left fallow than the other regions, 24 percent compared to 15 percent in the Central and 10 percent in the Southern region.

Table 2.35 shows that one out of five households had practiced crop rotation on the whole parcel, and 9 percent had practiced crop rotation on a part of the parcel. Crop rotation was more often practiced on male-operated parcels (22 percent) as compared to female operated parcels (15 percent). The table further show that the larger the parcel size, the more often crop rotation had been practiced. Furthermore, crop rotation was common in the Central region (36 percent) as compared to Northern region (17 percent) and Southern region (7 percent). Results also indicate that on parcels where crop rotation had been practiced half of the parcels had a irregular cropping pattern, while 46 percent had a systematic crop rotation.

2.21 Irrigation

The results show that irrigation was practised on 5 percent of the parcels . Among those parcels that were irrigated 62 percent used watering can, 14 percent used flooding, 11 percent gravity fed and 6 percent used treddle pumps (Table 2.36).

2.22 Ridging, planting and weeding of plots

Table 2.37 shows that 91 percent of the plots were ridged using a hoe, 2 percent was ridged used a mechanised device while 7 percent of the plots were not ridged .

The results further indicate that one in four plots were planted manually, while three out of four were planted using a hoe and one percent used mechanized planting (Table 2.38). Most plots (95 percent) were weeded using a hoe (Table 2.39).

2.23 Use of pesticides and fertilizer

Pesticides were applied on a very small proportion of plots, 2 percent (Table 2.40). Table 2.41 shows that half of the plots were fertilized using inorganic fertilizer, while 47 percent were not fertilized at all, and only one percent were fertilized using organic fertilizers. Results show that 60 percent of the plots where inorganic fertilizer was applied holders obtained it from the subsidy program while 47 percent used cash (Table 2.42).

2.24 Use of fertilizer on maize plots

Organic fertilizer was applied on 35 percent of the plots once, and on 5 percent of the plots it was applied twice, while on 60 percent of the maize plots no organic fertilizer was applied (Table 2.43).

Table 2.44 through 2.47 shows that inorganic fertilizer was applied on 94 percent of the maize plots at least once, and twice in 32 percent of the plots. In the case of local maize inorganic fertilizer was applied at least once on 91 percent of the plots, and twice on 28 percent of the plots. For hybrid maize, inorganic fertilizer was applied at least once on 96 percent of the plots and twice on 36 percent of the plots.

2.25 Weeding

Table 2.47 through Table 2.48 shows that almost all plots were weeded. 40 percent were weeded once, while about 60 percent were weeded twice.

2.26 Storage

Table 2.49 show that the most common storage facilities for local maize were granary (42 percent) and bags (39 percent). Table 2.50 shows that for hybrid maize, the most common storage facilities were bags (59 percent) and granary (27 percent).

2.27 Post harvest treatment

Post harvest treatment for all maize, local maize and hybrid maize is shown in Table 2.51 to Table 2.53. For hybrid maize, 55 percent of operators did not treat their maize, and for local maize it was 71 percent. The most common method for treatment was actelic super. However, operators were still using traditional treatments, such as ash, dust, sun or heat baked.

2.28 Staple food crops grown and cropping patterns

The results show that staple food crops were grown on about two out of three plots (Table 2.54). The main staple food crop grown was maize, and it was grown on 63 percent of the plots. Among maize varieties, local maize was grown on one out of three plots, while hybrid maize was grown on one out of five plots. The other staple food crops; rice, sorghum, millet and cassava, were grown only on a small proportion of plots, with cassava grown on 8 percent of the plots. Staple food crops were grown more on female operated than male operated plots; 77 percent as compared to 71 percent. The major difference between female operated and male operated plots were the proportion of plots where local maize was grown, 41 percent of female operated plots as compared to 31 percent of male operated plots.

Table 2.55 shows that 75 percent of maize plots were pure stand, while 24 percent were mixed stand, that is planted together with another crop.. Maize plots with male operators (77 percent) were more often planted as pure stand as compared to female operated plots (72 percent). The majority of cassava plots were planted as pure stand 54 percent and 19 percent was planted as mixed stand, while one out of four plots were planted with scattered plants (Table 2.56).

2.29 Cropping pattern for beans and pulses

Beans and pulses were grown in 29 percent of the plots (Table 2.57). These were more often grown in female operated plots as compared to male operated plots, 33 percent as compared to 27 percent. The smaller the plot size, the more often beans and pulses were grown. The majority of ordinary beans plots were planted as mixed stand, 75 percent (Table 2.58).

The majority of soya beans plots were planted as pure stand (53 percent) but a substantial proportion (38 percent) was planted as mixed stand (Table 2.59). The smaller the plot size, the more often soya beans were planted as pure stand. In Northern region, more than 70 percent of soya beans plots were planted as pure stand, as compared to 51 percent in Central region and 36 percent in Southern region. Southern region had the largest proportion of plots where soya beans plots were planted as scattered plants.

Pigeon peas were most often planted either as mixed stand, 52 percent, or as scattered plants, 40 percent (Table 2.60).

2.30 Cropping pattern for Ground nuts

The majority of ground nut plots (65 percent) was planted as pure stand while one out of four plots were planted as mixed stand (Table 2.62). The table also shows that one out of ten ground nut plots had scattered plant.

2.31 Cropping pattern for Potatoes

Sweet potatoes were grown on about 5 percent of the plots while Irish potatoes were grown on less than one percent of plots. Both sweet potatoes and Irish potatoes were mainly planted as pure stand (Table 2.62 and Table 2.63).

2.32 Cropping pattern for Cash crops

Table 2.64 shows that tobacco was grown on 3 percent of the plots and cotton on 2 percent of the plots. Tobacco was exclusively planted as pure stand (Table 2.65) while cotton was planted as pure stand on about 76 percent of the plots (Table 2.66). Results further show that 38 percent of sunflower plots were planted as pure stand (Table 2.67), 33 percent of sunflower was planted as scatters while 28 percent was mixed stand.

2.33 Threats to produce

The results show that 17 percent of the households had experienced theft of livestock during the past five years, 28 percent had experienced theft of produce from the field, while about five percent had experienced theft of produce from storage (Table 2.68). Households had used various protection methods to protect their produce during the 2006/07 agricultural season. The most common protection methods were to store harvested crop in the house, 32 percent; harvest early, 20 percent; and guarding the field, 18 percent (Table 2.69). Results also show that half the households (47 percent) had used no protection method at all (Table 2.69).

Table 2.1: Total number of small holder households and total area under crop (in ha) small holder farmers, 2006/2007 Agricultural Season

		Total number of holders	Total area under crop [ha]
	Malawi	2,665,565	2,239,542
Region of residence	Northern	318,572	290,662
	Central	1,091,757	1,118,015
	Southern	1,255,236	830,865
ADD	Karonga	92,523	73,917
	Mzuzu	226,049	216,745
	Kasungu	383,538	427,253
	Salima	138,631	165,646
	Lilongwe	569,588	525,116
	Machinga	514,643	314,265
	Blantyre	595,332	416,700
	Shire Valley	145,261	99,901
District	Chitipa	38,124	38,010
	Karonga	54,399	35,907
	Rumphi	36,773	28,877
	Nkhata Bay	38,655	35,456
	Likoma	1,775	92
	Mzimba	142,260	149,917
	Mzuzu City	6,586	2,403
	Kasungu	127,131	159,676
	Ntchisi	44,623	55,488
	Dowa	118,936	120,559
	Nkhota kota	63,224	85,301
	Salima	75,407	80,345
	Dedza	144,141	118,570
	Ntcheu	111,685	69,326
	Lilongwe Rural	260,391	300,778
	Lilongwe City	53,371	91,530
	Mchinji	92,848	91,530
	Balaka	70,765	57,820
	Mangochi	182,827	111,691
	Machinga	112,049	43,609
	Zomba Rural	140,799	100,685
	Zomba City	8,204	3,919
	Chiradzulu	71,963	36,286
	Blantyre Rural	79,987	44,557
	Blantyre City	60,366	28,837
	Thyolo	141,159	51,015
	Mulanje	125,963	110,531
	Phalombe	75,764	114,159
	Mwanza	40,131	27,855
	Chikwawa	96,331	65,623
	Nsanje	48,930	34,278

Table 2.2 Percentage distribution of parcels by type of land, according to background variables. 2006/2007 Agricultural Season

		Customary land	Leasehold	Freehold	Public	Total
Sex	Malawi	77	2	19	1	100
	Male	77	2	19	2	100
	Female	78	2	19	1	100
Parcel size	<0.100 ha	78	2	19	2	100
	0.100- 0.199 ha	77	2	20	1	100
	0.200- 0.499 ha	79	2	18	1	100
	0.500- 0.999 ha	76	3	20	1	100
	1.000 ha +	71	4	25	1	100
	Southern	76	2	20	2	100
	Central	76	3	20	1	100
	Northern	83	2	12	2	100
Region	Karonga	97	1	1	1	100
	Mzuzu	76	3	19	3	100
	Kasungu	76	5	18	1	100
	Salima	81	2	17	1	100
	Lilongwe	75	2	22	1	100
	Machinga	80	2	16	2	100
	Blantyre	70	2	26	2	100
	Shire					
District	Valley	88	1	10	2	100
	Chitipa	97	0	1	2	100
	Karonga	98	1	0	1	100
	Rumphi	89	8	2	1	100
	Nkhata					
	Bay	49	1	48	2	100
	Likoma	83	0	7	10	100
	Mzimba	81	2	14	4	100
	Kasungu	89	7	2	2	100
	Ntchisi	75	1	22	2	100
	Dowa	70	4	25	1	100
	Nkhota					
	kota	66	2	32	0	100
	Salima	94	2	2	1	100
	Dedza	85	2	13	0	100
	Ntcheu	57	2	40	1	100
	Lilongwe					
	Rural	76	2	22	1	100
	Mchinji	63	3	34	0	100
	Balaka	49	3	42	6	100
	Mangochi	99	0	1	0	100
	Machinga	87	1	11	0	100
	Zomba					
	Rural	75	3	20	2	100
	Chiradzulu	38	1	60	1	100
	Blantyre					
	Rural	72	1	25	2	100
	Thyolo	70	1	28	1	100
	Mulanje	71	4	24	1	100
	Phalombe	91	1	8	0	100
	Mwanza	69	1	28	2	100
	Chikwawa	83	0	14	2	100
	Nsanje	98	1	0	0	100

Table 2.3: Percentage distribution of parcels by how the parcel was obtained, according to background variables. 2006/2007 Agricultural Season

		From village headman	Inherited when wife or husband passed away	Inherited from mothers side	Inherited from fathers side	Borrowed from parents	Borrowed from other	Bought	Rented	Govt	Other	Total
Sex of operator	Malawi	18	3	42	23	1	2	4	3	1	2	100
	Male	17	2	38	27	1	3	4	4	2	3	100
	Female	18	4	47	17	1	2	4	3	1	1	100
Parcel size	<0.100 ha	19	3	42	22	1	2	4	3	2	2	100
	0.100-0.199 ha	17	3	44	21	1	2	4	4	2	3	100
	0.200-0.499 ha	17	3	42	24	1	2	4	4	1	2	100
	0.500-0.999 ha	19	3	38	28	1	3	3	3	1	2	100
	1.000 ha +	18	2	34	32	1	3	4	2	1	2	100
Region	Southern	18	2	52	13	1	1	3	4	2	3	100
	Central	16	3	40	26	1	3	5	3	1	2	100
	Northern	22	6	5	53	1	2	4	2	2	3	100
ADD	Karonga	31	6	3	45	1	2	4	3	2	2	100
	Mzuzu	17	5	6	57	1	2	4	2	2	3	100
	Kasungu	19	1	24	41	1	3	5	2	1	2	100
	Salima	25	3	33	24	1	3	5	2	1	2	100
	Lilongwe	13	3	49	20	1	3	5	3	1	2	100
District	Machinga	25	3	52	9	1	1	2	3	1	1	100
	Blantyre	11	2	59	12	1	1	4	4	3	4	100
	Shire Valley	26	2	20	35	1	3	6	7	0	1	100
	Chitipa	21	8	5	53	1	2	2	5	2	1	100
	Karonga	38	5	2	38	2	2	6	2	2	3	100
	Rumphi	19	5	4	56	1	1	7	3	2	1	100
	Nkhata Bay	26	3	18	37	4	3	1	3	2	3	100
	Likoma	0	0	24	20	4	38	4	0	10	0	100
	Mzimba	14	6	3	66	1	1	2	1	1	4	100
	Kasungu	24	1	12	42	1	6	7	3	1	3	100
	Ntchisi	25	1	25	32	2	4	4	2	2	2	100
	Dowa	15	2	29	44	1	1	3	3	1	2	100
	Nkhota kota	30	3	25	30	2	2	3	3	0	2	100
	Salima	21	3	41	19	0	4	7	2	1	2	100
	Dedza	11	3	57	20	1	1	4	2	1	1	100
	Ntcheu	16	4	55	14	1	1	2	2	1	5	100
	Lilongwe Rural	12	4	49	23	1	2	4	3	0	1	100
	Mchinji	14	1	34	40	3	2	4	2	0	1	100
	Balaka	24	10	43	10	0	2	5	3	0	1	100
	Mangochi	25	1	52	13	1	1	2	3	1	1	100
	Machinga	32	3	51	8	0	1	2	1	1	1	100
	Zomba Rural	23	1	58	8	1	1	1	4	2	1	100
	Chiradzulu	11	2	56	8	1	1	2	2	1	18	100
	Blantyre Rural	18	2	54	16	2	1	2	3	2	1	100
	Thyolo	8	3	62	12	0	1	3	4	6	1	100
	Mulanje	4	1	80	10	0	0	1	2	1	1	100
	Phalombe	5	3	71	12	0	2	4	2	0	0	100
	Mwanza	24	1	54	12	1	2	2	3	1	0	100
	Chikwawa	26	2	20	34	1	2	6	7	0	1	100
	Nsanje	25	1	18	37	1	4	6	7	0	1	100

Table 2.4: The mean holding size and percentage distribution of households by holding size, according to background variables. 2006/2007 Agricultural Season

			holding size						
		Mean size of holding[Ha]	<0.100 ha	0.100-0.199 ha	0.200-0.499 ha	0.500-0.999 ha	1.000 - 1.999 ha	2.000 ha+	Total
Sex of head of Household	Malawi	0.964	5	7	26	34	19	8	100
	Male	1.031	5	7	24	34	21	9	100
	Female	0.803	6	9	32	34	15	5	100
Region	Northern	1.178	4	5	18	30	28	14	100
	Central	1.145	4	5	23	36	21	12	100
	Southern	0.732	6	9	30	36	15	4	100
ADD	Karonga	1.212	5	7	21	27	27	13	100
	Mzuzu	1.086	4	5	16	32	28	15	100
	Kasungu	1.523	2	3	15	30	29	21	100
District	Salima	1.044	7	7	23	34	17	11	100
	Lilongwe	1.079	4	6	27	39	18	8	100
	Machinga	0.762	6	8	28	37	17	4	100
	Blantyre	0.706	6	11	32	35	13	3	100
	Shire								
	Valley	0.787	6	8	27	34	19	6	100
	Chitipa	1.608	2	3	14	25	36	19	100
	Karonga	0.815	7	10	26	29	21	8	100
	Rumphi	0.932	3	7	22	33	29	6	100
	Nkhata								
	Bay	0.991	3	7	21	40	20	9	100
	Likoma	0.107	18	16	5	62	0	0	100
	Mzimba	1.328	4	3	13	27	32	20	100
	Kasungu	1.376	3	3	15	35	26	19	100
	Ntchisi	1.802	1	4	13	33	25	24	100
	Dowa	1.390	4	2	16	26	31	21	100
	Nkhota								
	kota	0.930	8	9	24	32	16	9	100
	Salima	1.158	6	6	22	35	18	13	100
	Dedza	0.995	2	3	27	43	18	8	100
	Ntcheu	0.811	4	6	27	43	16	5	100
	Lilongwe								
	Rural	1.008	2	8	25	37	19	10	100
	Mchinji	1.503	1	3	14	27	33	23	100
	Balaka	0.862	7	3	22	40	23	4	100
	Mangochi	0.681	3	8	29	40	18	2	100
	Machinga	0.915	3	6	30	39	14	7	100
	Zomba								
	Rural	0.691	6	11	31	32	15	4	100
	Chiradzulu	0.650	4	9	38	34	12	2	100
	Blantyre								
	Rural	0.606	6	10	38	33	10	3	100
	Thyolo	0.588	12	18	37	24	6	4	100
	Mulanje	0.728	4	6	26	43	19	1	100
	Phalombe	0.912	3	7	23	54	10	3	100
	Mwanza	0.754	7	10	30	33	15	6	100
	Chikwawa	0.767	6	9	27	34	18	6	100
	Nsanje	0.808	5	5	28	36	22	5	100

Table 2.5: The mean parcel size and percentage distribution of parcels by parcel size, according to background variables. 2006/2007 Agricultural Season

			Distribution of parcels by parcel size					
		Parcel Mean size [ha]	<0.100 ha	0.100- 0.199 ha	0.200- 0.499 ha	0.500- 0.999 ha	1.000 ha +	Total
Sex of operator	Malawi	0.409	15	18	39	19	10	100
	Male	0.427	13	18	39	20	11	100
	Female	0.375	17	18	39	17	9	100
Region	Southern	0.373	18	21	40	16	5	100
	Central	0.558	9	15	39	22	16	100
	Northern	0.315	19	17	33	19	10	100
ADD	Karonga	0.357	22	24	33	13	8	100
	Mzuzu	0.383	17	14	34	23	12	100
	Kasungu	0.672	8	11	29	27	25	100
District	Salima	0.445	16	18	39	16	11	100
	Lilongwe	0.514	8	16	43	20	12	100
	Machinga	0.298	14	19	43	19	5	100
	Blantyre	0.334	21	22	37	14	6	100
	Shire Valley	0.297	14	18	41	20	7	100
	Chitipa	0.500	22	19	27	15	16	100
	Karonga	0.223	23	27	37	11	2	100
	Rumphi	0.313	21	17	34	18	9	100
	Nkhata Bay	0.292	23	22	35	14	6	100
	Likoma	0.044	94	2	5	0	0	100
	Mzimba	0.458	14	10	33	28	15	100
	Kasungu	0.757	7	13	26	27	26	100
	Ntchisi	0.840	5	10	29	22	34	100
	Dowa	0.527	10	10	33	28	19	100
	Nkhota kota	0.425	24	22	35	10	9	100
	Salima	0.466	9	15	43	21	12	100
	Dedza	0.507	6	16	45	21	11	100
	Ntcheu	0.305	10	19	41	24	6	100
	Lilongwe							
	Rural	0.658	8	16	42	18	16	100
	Mchinji	0.593	4	9	29	27	31	100
	Balaka	0.304	14	14	41	26	5	100
	Mangochi	0.324	8	16	46	24	6	100
	Machinga	0.361	8	20	47	17	8	100
	Zomba Rural	0.271	20	22	41	14	3	100
	Chiradzulu	0.210	23	26	39	11	1	100
	Blantyre							
	Rural	0.230	19	18	43	16	3	100
	Thyolo	0.238	28	25	30	11	5	100
	Mulanje	0.249	17	22	40	20	2	100
Phalombe	0.879	19	23	35	9	13	100	
Mwanza	0.302	14	19	40	17	10	100	
Chikwawa	0.310	14	17	40	20	8	100	
Nsanje	0.283	15	19	41	21	4	100	

Table 2.6: The mean plot size and percentage distribution of plots by plot size, according to background variables. 2006/2007 Agricultural Season.

		Plot Mean Size [ha]	Distribution of plots by plot size				
			Less than 0.1 ha	0.100-0.199 ha	0.200-0.499 ha	0.500-0.999 ha	1.000 ha+
Sex of operator	Malawi	0.277	21	22	41	13	3
	Male	0.284	20	21	41	14	3
	Female	0.265	24	22	39	12	3
Region	Northern	0.237	32	25	31	10	2
	Central	0.298	16	20	44	15	4
	Southern	0.276	21	21	41	13	3
ADD	Karonga	0.196	38	28	29	5	1
	Mzuzu	0.257	30	23	32	12	2
	Kasungu	0.314	15	18	42	19	5
District	Salima	0.267	24	18	41	12	5
	Lilongwe	0.291	16	22	46	14	3
	Machinga	0.309	16	20	46	16	3
	Blantyre	0.244	26	23	37	11	3
	Shire Valley	0.295	16	21	44	15	4
	Chitipa	0.197	42	25	26	6	1
	Karonga	0.195	32	31	32	4	1
	Rumphi	0.224	38	21	31	8	3
	Nkhata Bay	0.199	39	27	25	8	1
	Likoma	0.058	98	0	2	0	0
	Mzimba	0.281	24	23	35	15	3
	Kasungu	0.311	15	20	42	19	5
	Ntchisi	0.281	19	21	40	14	6
	Dowa	0.315	16	16	43	19	6
	Nkhotakota	0.227	38	18	32	8	4
	Salima	0.306	8	18	51	17	6
	Dedza	0.289	15	24	44	15	3
	Ntcheu	0.282	20	23	40	14	3
	Lilongwe rural	0.290	16	22	46	13	4
	Mchinji	0.340	13	16	44	23	5
	Balaka	..	17	17	43	21	2
	Mangochi	..	10	17	47	21	4
	Machinga	0.339	8	20	48	21	3
	Zomba rural	0.264	21	23	44	11	2
	Chiradzulu	..	31	26	35	7	1
	Blantyre rural	0.268	26	19	40	13	3
	Thyolo	0.214	34	25	32	8	1
	Mulanje	..	19	23	40	16	2
	Phalombe	0.239	24	24	41	9	2
	Mwanza	0.267	25	21	39	12	3
	Chikwawa	0.285	17	19	45	14	5
	Nsanje	..	14	24	42	17	3

Table 2.7: Total number of parcels and percentage distribution of households by number of parcel per holding, according to background variables. 2006/2007 Agricultural Season

				Number of parcels per holding				
				1	2	3	4+	Total
				Number of parcels	Parcels for dwelling units only			
Sex of household head	Malawi	7,686,111	2,759,443	48	33	12	6	100
	Male	4,921,533	1,740,787	45	34	14	7	100
	Female	2,764,578	1,018,655	55	32	10	4	100
Holding size	<0.100 ha	265,570	152,542	74	20	5	1	100
	0.100-0.199 ha	477,982	214,124	71	24	4	1	100
	0.200-0.499 ha	1,936,243	789,512	61	30	7	2	100
	0.500-0.999 ha	2,601,626	930,333	42	41	13	5	100
	1.000 -1.999 ha	1,900,266	813,661	28	39	22	11	100
Region	2.000 ha+	851,634	..	35	32	17	16	100
	Northern	3,769,057	1,399,469	33	32	19	16	100
	Central	3,215,605	1,191,981	53	32	11	5	100
ADD	Southern	1,051,685	309,963	49	34	12	5	100
	Karonga	373,836	104,262	27	30	18	25	100
	Mzuzu	677,849	205,701	36	34	20	11	100
District	Kasungu	866,653	322,692	57	28	11	4	100
	Salima	367,592	129,373	41	38	15	7	100
	Lilongwe	1,981,360	739,917	54	32	10	5	100
	Machinga	1,395,140	530,666	51	32	12	5	100
	Blantyre	1,958,226	721,420	47	37	12	5	100
	Shire Valley	415,691	147,383	50	28	15	7	100
	Chitipa	156,752	43,458	23	37	19	21	100
	Karonga	217,084	60,804	30	25	18	28	100
	Rumphi	142,511	45,385	29	39	23	9	100
	Nkhata Bay	123,604	36,974	27	37	22	14	100
	Likoma	1,757	722	73	27	0	0	100
	Mzimba	396,333	116,164	39	31	19	11	100
	Kasungu	314,277	121,309	58	28	11	4	100
	Ntchisi	84,325	33,809	58	31	7	3	100
	Dowa	293,394	105,504	53	25	15	7	100
	Nkhota kota	178,037	60,682	30	43	21	6	100
	Salima	189,555	68,691	50	33	10	7	100
	Dedza	493,006	180,354	53	33	10	5	100
	Ntcheu	276,437	107,095	54	37	8	2	100
	Lilongwe Rural	1,029,049	370,509	49	34	11	6	100
	Mchinji	174,658	62,069	60	33	6	1	100
	Balaka	201,998	72,484	45	37	13	5	100
	Mangochi	377,963	159,101	68	26	5	1	100
	Machinga	256,938	101,192	58	27	12	3	100
	Zomba Rural	542,322	186,602	33	40	17	10	100
	Chiradzulu	215,555	69,909	33	39	19	10	100
	Blantyre Rural	550,400	209,186	46	41	10	3	100
	Thyolo	322,982	129,929	58	31	8	2	100
	Mulanje	377,139	140,916	47	33	15	4	100
	Phalombe	182,971	56,344	29	39	18	14	100
	Mwanza	95,166	36,953	49	38	10	3	100
	Chikwawa	282,137	102,800	56	25	12	7	100
	Nsanje	133,554	44,583	38	35	20	7	100

Table 2.8: Total number of plots and percentage distribution of parcels by number of plots in the parcel, according to background variables. 2006/2007 Agricultural Season

		Number of plots in the parcel				
		Total number of plots	1	2	3+	Total
Sex of operator	Malawi	6,693,025	77	15	8	100
	Male	4,419,540	76	15	10	100
	Female	2,273,485	79	15	6	100
Parcel size	<0.100 ha	262,163	91	7	1	100
	0.100-0.199 ha	284,636	87	10	3	100
	0.200-0.499 ha	1,148,892	80	15	5	100
	0.500-0.999 ha	1,549,227	64	23	14	100
	1.000 ha +	2,079,229	45	21	34	100
Region	Southern	1,174,036	86	11	3	100
	Central	2,954,287	70	18	12	100
	Northern	2,819,627	61	21	18	100
ADD	Karonga	401,179	64	20	17	100
	Mzuzu	772,856	59	22	18	100
	Kasungu	947,967	53	25	22	100
	Salima	319,635	80	11	8	100
	Lilongwe	1,686,685	76	16	8	100
	Machinga	1,004,958	84	13	3	100
	Blantyre	1,502,430	89	9	2	100
	Shire Valley	312,239	82	14	4	100
	Chitipa	226,116	51	19	30	100
	Karonga	175,064	73	20	8	100
District	Rumphi	151,292	58	26	16	100
	Nkhata Bay	141,948	76	10	14	100
	Likoma	3,563	65	33	2	100
	Mzimba	465,965	54	25	21	100
	Kasungu	370,209	54	25	21	100
	Ntchisi	121,920	41	27	32	100
	Dowa	269,828	59	23	18	100
	Nkhota kota	168,662	78	10	11	100
	Salima	150,973	82	12	6	100
	Dedza	433,763	72	18	10	100
	Ntcheu	224,193	75	15	9	100
	Lilongwe Rural	904,686	74	18	8	100
	Mchinji	186,010	48	26	26	100
	Balaka	170,835	87	11	2	100
	Mangochi	256,128	87	10	3	100
	Machinga	104,465	87	10	3	100
	Zomba Rural	452,952	80	16	5	100
	Chiradzulu	165,994	85	11	3	100
	Blantyre Rural	431,923	89	9	2	100
	Thyolo	231,190	86	10	4	100
	Mulanje	274,593	94	5	1	100
	Phalombe	189,677	87	11	1	100
	Mwanza	88,701	71	20	9	100
	Chikwawa	205,802	78	17	5	100
	Nsanje	106,437	90	8	2	100

Table 2.9: Percentage distribution of households by how the total area of parcels had changed compared to 10 years ago, according to background variables. 2006/2007 Agricultural Season

		Increased	Decreased	Remained the same	Total
	Malawi	13	18	69	100
Sex of head of Household	Male	15	17	69	100
	Female	9	21	70	100
Poverty quintile	Poorest quintile	12	20	69	100
	Second quintile	14	20	66	100
	3rd quintile	14	19	67	100
	Fourth quintile	13	17	70	100
Holding size	Highest quintile	15	17	68	100
	<0.100 ha	11	14	75	100
	0.100-0.199 ha	8	16	77	100
	0.200-0.499 ha	10	19	71	100
	0.500-0.999 ha	14	19	67	100
	1.000 -1.999 ha	16	17	68	100
Region	2.000 ha+	19	19	62	100
	Northern	20	15	66	100
	Central	13	20	67	100
	Southern	11	17	71	100
ADD	Karonga	21	17	62	100
	Mzuzu	19	14	67	100
	Kasungu	13	21	66	100
	Salima	11	16	73	100
District	Lilongwe	14	20	66	100
	Machinga	14	14	72	100
	Blantyre	10	16	74	100
	Shire Valley	9	32	59	100
	Chitipa	22	19	60	100
	Karonga	20	16	63	100
	Rumphi	15	22	62	100
	Nkhata Bay	15	15	70	100
	Mzimba	23	10	67	100
	Kasungu	8	20	72	100
	Ntchisi	18	17	64	100
	Dowa	13	23	64	100
	Nkhota kota	8	20	73	100
	Salima	14	12	74	100
	Dedza	15	17	68	100
	Ntcheu	13	16	71	100
	Lilongwe Rural	12	21	67	100
	Mchinji	19	19	62	100
	Balaka	12	22	66	100
	Mangochi	17	12	71	100
	Machinga	11	13	76	100
	Zomba Rural	13	14	73	100
	Chiradzulu	13	17	70	100
	Blantyre Rural	10	17	73	100
	Thyolo	10	20	70	100
	Mulanje	5	10	86	100
	Phalombe	12	16	72	100
	Mwanza	27	16	57	100
	Chikwawa	9	32	59	100
	Nsanje	9	32	59	100

Table 2.10: Proportion of households whose parcel area had increased compared to 10 years ago by reason for the increase, according to background variables. 2006/2007 Agricultural Season

		Inherited	Allocation from lineage	Allocation Village head	by	Bought more land	Rented more land	Gift relatives	from Other
	Malawi	21	24	8		6	20	18	12
Sex of head of	Male	22	24	8		6	21	18	11
	Female	19	25	8		6	13	17	18
Poverty quintile	Poorest quintile	24	31	10		3	9	20	14
	Second quintile	27	23	14		3	14	18	12
	3rd quintile	20	26	8		7	18	18	12
	Fourth quintile	20	23	5		8	26	17	11
Holding size	Highest quintile	20	17	5		10	27	17	10
	<0.100 ha	20	23	12		8	18	13	17
	0.100-0.199 ha	22	21	7		5	14	18	15
	0.200-0.499 ha	19	27	7		6	20	18	12
	0.500-0.999 ha	19	25	7		6	20	20	13
	1.000 -1.999 ha	22	24	9		6	19	18	12
	2.000 ha+	32	19	10		9	21	13	8
Region	Northern	35	19	16		6	13	16	9
	Central	21	28	4		7	23	15	11
	Southern	16	22	9		5	18	21	15
ADD	Karonga	16	25	11		12	23	20	6
	Mzuzu	44	17	18		2	9	14	10
	Kasungu	22	35	5		11	15	15	12
	Salima	16	23	3		4	38	14	3
	Lilongwe	22	25	3		6	25	15	12
	Machinga	19	20	14		2	14	25	13
	Blantyre	16	24	5		9	23	16	14
District	Shire Valley	7	24	10		5	20	27	23
	Chitipa	24	19	8		6	13	30	11
	Karonga	11	30	13		16	30	12	2
	Rumphi	26	25	39		0	14	17	9
	Nkhata Bay	34	28	20		6	2	21	9
	Mzimba	51	12	13		1	9	12	10
	Kasungu	25	18	11		5	21	26	9
	Ntchisi	23	21	2		8	15	9	31
	Dowa	19	57	6		17	12	11	4
	Nkhota kota	11	9	3		2	32	37	8
	Salima	18	29	4		5	41	4	2
	Dedza	32	26	3		6	18	14	13
	Ntcheu	44	28	1		5	20	12	5
	Lilongwe Rural	17	12	3		10	39	11	16
	Mchinji	24	36	3		9	14	17	9
	Balaka	4	30	13		3	20	21	18
	Mangochi	10	24	17		2	6	37	13
	Machinga	31	9	20		1	13	13	17
	Zomba Rural	28	17	8		1	20	20	11
	Chiradzulu	9	27	2		4	30	18	19
	Blantyre Rural	16	26	9		14	20	10	8
	Thyolo	8	41	2		7	13	11	28
	Mulanje	16	6	1		8	33	31	9
	Phalombe	8	16	2		8	36	24	17
	Mwanza	46	23	8		2	6	22	1
	Chikwawa	5	20	6		5	22	34	21
	Nsanje	11	32	20		3	15	11	26

Table 2.11: Proportion of households whose parcel area had decreased compared to 10 years ago, by reason for the decrease, according to background variables. 2006/2007 Agricultural Season

		Transferred to heirs	Sold	Stopped renting	Encroachment	Gift to relatives	Taken away exploited	Taken away Govt	Washed away by flood	Other
Malawi		25	2	4	10	32	12	1	17	9
Sex of head of Household	Male	22	3	5	11	30	14	2	19	10
	Female	32	2	2	8	37	9	1	15	7
	Poorest quintile	27	1	3	10	31	11	1	20	9
Poverty quintile	Second quintile	23	4	2	10	32	14	3	17	8
	3rd quintile	25	0	3	7	39	12	1	13	9
	Fourth quintile	27	4	5	9	32	13	0	17	7
	Highest quintile	22	4	9	14	24	14	1	15	12
Holding size	<0.100 ha	24	3	4	18	21	12	1	23	12
	0.100-0.199 ha	24	2	4	8	29	7	0	23	10
	0.200-0.499 ha	24	3	5	9	29	13	1	18	12
	0.500-0.999 ha	25	1	4	9	33	14	1	17	8
	1.000 -1.999 ha	24	4	3	11	36	9	4	17	7
	2.000 ha+	32	2	1	12	36	10	0	11	8
Region	Northern	23	1	4	16	27	8	2	20	13
	Central	26	4	5	9	37	14	1	8	8
	Southern	25	2	3	9	28	11	2	25	9
ADD	Karonga	22	2	6	14	30	10	1	15	10
	Mzuzu	23	1	3	17	25	7	2	23	15
	Kasungu	26	2	5	11	30	18	0	13	12
	Salima	19	1	2	16	32	8	0	28	5
	Lilongwe	26	5	6	8	42	13	1	4	6
	Machinga	20	2	4	11	31	6	1	20	13
District	Blantyre	32	2	2	9	31	16	3	14	7
	Shire Valley	13	0	3	8	17	6	1	62	11
	Chitipa	13	3	7	13	48	13	1	7	7
	Karonga	30	1	5	15	15	7	1	21	12
	Rumphi	23	0	8	16	23	8	0	34	6
	Nkhata Bay	27	2	2	16	18	11	0	25	18
	Likoma	11	0	0	30	0	4	7	45	4
	Mzimba	22	0	1	17	29	5	5	13	20
	Kasungu	26	6	7	13	29	8	1	18	7
	Ntchisi	40	0	4	7	27	19	0	7	13
	Dowa	29	0	1	13	26	23	0	14	4
	Nkhota kota	13	0	4	20	43	9	0	16	3
	Salima	27	2	0	11	18	8	0	44	9
	Dedza	34	0	4	8	41	5	3	4	5
	Ntcheu	33	2	3	4	47	7	0	6	4
	Lilongwe Rural	25	8	5	9	48	5	0	2	6
	Mchinji	15	0	7	6	38	24	0	4	29
	Balaka	13	2	0	8	43	6	2	30	8
	Mangochi	13	4	11	4	25	3	1	30	14
	Machinga	23	1	1	11	21	11	0	20	18
	Zomba Rural	30	0	3	17	33	5	0	6	15
	Chiradzulu	33	1	5	9	42	6	1	8	4
	Blantyre Rural	39	2	3	2	35	30	3	7	1
	Thyolo	34	1	1	2	23	16	0	19	11
	Mulanje	30	1	0	5	35	7	2	26	12
	Phalombe	39	0	2	8	27	5	0	26	4
	Mwanza	31	3	2	6	33	21	0	12	5
	Chikwawa	12	0	3	7	21	7	0	61	11
	Nsanje	15	0	3	10	7	3	1	65	10

Table 2.12: Proportion of households who sold out or who had rented out one or more parcel of land in the 2006/07 agricultural season and who feared that their own land will be encroached upon or taken away, according to background variables. 2006/2007 Agricultural Season

		Sold out land	Rented out land	Fear land will be Encroached upon	Fear land will be Taken away
	Malawi	1	7	21	23
Sex of head	Male	1	7	22	25
	Female	1	8	18	16
Poverty quintile	Poorest quintile	2	6	17	18
	Second quintile	1	7	22	24
	3rd quintile	0	6	21	23
	Fourth quintile	1	11	25	26
	Highest quintile	1	6	21	22
Holding size	<0.100 ha	4	6	19	20
	0.100-0.199 ha	2	8	23	25
	0.200-0.499 ha	1	8	21	24
	0.500-0.999 ha	1	6	19	22
	1.000 -1.999 ha	1	8	23	22
	2.000 ha+	1	8	24	22
Region	Northern	1	5	21	17
	Central	2	10	27	28
	Southern	1	5	16	19
ADD	Karonga	1	5	14	13
	Mzuzu	1	5	24	19
	Kasungu	1	9	27	27
	Salima	0	5	20	21
	Lilongwe	2	12	28	30
	Machinga	0	5	15	20
	Blantyre	1	4	15	18
	Shire Valley	1	8	23	21
District	Chitipa	1	3	13	12
	Karonga	1	6	16	13
	Rumphi	0	8	25	25
	Nkhata Bay	1	3	17	17
	Likoma	12	2	17	31
	Mzimba	0	5	26	17
	Kasungu	1	9	25	31
	Ntchisi	0	7	28	28
	Dowa	1	9	27	21
	Nkhota kota	0	5	28	27
	Salima	1	6	13	15
	Dedza	1	7	25	26
	Ntcheu	0	8	15	21
	Lilongwe Rural	3	17	31	32
	Mchinji	0	9	32	30
	Balaka	1	7	22	26
	Mangochi	0	3	15	19
	Machinga	0	2	13	15
	Zomba Rural	0	8	13	22
	Chiradzulu	0	5	15	23
	Blantyre Rural	0	4	15	18
	Thyolo	1	3	17	22
	Mulanje	0	2	7	10
	Phalombe	0	7	12	24
	Mwanza	0	5	21	21
	Chikwawa	1	7	21	19
	Nsanje	1	10	27	25

Table 2.13: Percentage distribution of households who had rented out one or more parcel of land in the 2006/07 agricultural season, by main reason for renting out, according to background variables. 2006/2007 Agricultural Season

		Went away from village	Married away	Have enough land	Needed Money	Was sick	Looking after sick	Not enough labour	Other	Total
	Malawi	2	0	18	41	13	3	15	7	100
Sex of head of Household	Male	3	0	20	36	13	3	16	8	100
	Female	1	0	13	50	11	4	14	6	100
	Poorest quintile	2	0	15	42	17	4	12	7	100
Poverty quintile	Second quintile	4	1	12	45	13	8	7	9	100
	3rd quintile	0	0	19	38	15	3	16	8	100
	Fourth quintile	2	0	15	46	8	1	24	4	100
Holding size	Highest quintile	2	0	18	37	19	3	15	6	100
	<0.100 ha	5	3	22	37	13	2	16	2	100
	0.100-0.199 ha	1	0	9	22	14	2	46	6	100
	0.200-0.499 ha	1	0	20	51	8	3	11	6	100
	0.500-0.999 ha	4	0	16	38	15	5	12	8	100
	1.000 -1.999 ha	2	0	21	39	16	2	14	7	100
	2.000 ha+	3	0	17	38	11	5	16	11	100
Region	Northern	1	0	40	21	3	2	23	10	100
	Central	3	0	13	51	12	3	13	6	100
	Southern	2	1	23	26	16	4	18	9	100
ADD	Karonga	2	1	28	18	5	6	35	5	100
	Mzuzu	1	0	45	22	2	0	17	12	100
	Kasungu	2	0	17	48	18	2	7	7	100
	Salima	0	0	12	25	6	0	40	18	100
	Lilongwe	3	0	11	54	10	4	13	5	100
	Machinga	2	3	33	25	7	2	18	10	100
	Blantyre	3	0	16	25	24	6	17	9	100
District	Shire Valley	2	0	26	31	9	1	25	7	100
	Chitipa	5	3	55	8	11	0	14	5	100
	Karonga	0	0	14	23	3	9	46	5	100
	Rumphi	3	0	26	36	2	0	30	4	100
	Nkhata Bay	0	0	61	5	10	0	0	23	100
	Likoma	0	0	0	100	0	0	0	0	100
	Mzimba	0	0	54	16	0	0	15	14	100
	Kasungu	5	0	22	57	2	0	7	7	100
	Ntchisi	0	0	13	36	16	4	12	19	100
	Dowa	1	0	12	40	36	3	3	6	100
	Nkhota kota	0	0	22	12	1	0	34	31	100
	Salima	0	0	3	34	10	0	44	8	100
	Dedza	0	0	10	61	7	2	18	3	100
	Ntcheu	2	1	25	47	3	1	12	9	100
	Lilongwe Rural	4	0	9	53	12	5	13	4	100
	Mchinji	1	0	20	56	6	2	13	2	100
	Balaka	1	4	20	23	9	2	24	16	100
	Mangochi	1	0	59	14	3	0	20	3	100
	Machinga	6	0	44	36	0	0	0	14	100
	Zomba Rural	2	3	27	29	9	2	17	10	100
	Chiradzulu	4	0	7	46	8	11	15	9	100
	Blantyre Rural	3	0	21	15	32	2	18	9	100
	Thyolo	2	0	19	9	32	0	21	16	100
	Mulanje	0	0	13	39	4	32	8	4	100
	Phalombe	0	0	7	49	10	8	18	9	100
	Mwanza	1	0	24	22	47	1	1	2	100
	Chikwawa	2	0	22	32	11	1	26	5	100
	Nsanje	1	0	31	29	4	1	25	9	100

Table 2.14: Proportion of households who had any dispute with anyone over land in the past 10 years, and by whom they had the dispute, according to background variables. 2006/2007 Agricultural Season

		Persons with whom they had dispute							
		Proportion with dispute	Relative from husband side	Relative from wife side	Other relative	Non relative	Village headman	Politicians	Other
	Malawi	15	19	14	18	38	12	1	2
Sex of head of Household	Male	15	20	15	18	38	10	1	2
	Female	13	17	12	20	37	15	1	1
Poverty quintile	Poorest quintile	15	18	15	18	40	11	0	2
	Second quintile	15	19	17	21	35	8	2	2
	3rd quintile	16	17	16	17	36	18	0	1
	Fourth quintile	14	24	13	14	38	12	0	2
	Highest quintile	13	16	10	23	37	11	0	6
Holding size	<0.100 ha	12	21	14	16	40	8	0	6
	0.100-0.199 ha	12	17	12	20	49	2	1	2
	0.200-0.499 ha	11	15	17	17	42	10	1	2
	0.500-0.999 ha	15	18	16	16	36	14	1	3
	1.000 -1.999 ha	17	22	12	23	34	10	0	2
	2.000 ha+	21	23	12	21	33	14	0	1
Region	Northern	19	28	5	22	35	11	0	2
	Central	16	20	15	21	31	14	0	2
	Southern	13	14	17	15	45	9	1	3
ADD	Karonga	15	23	4	10	48	16	1	2
	Mzuzu	20	30	6	26	31	10	0	2
	Kasungu	19	26	12	22	30	12	0	3
	Salima	15	9	13	17	39	24	0	1
	Lilongwe	14	19	17	21	29	13	1	1
	Machinga	12	11	13	14	48	13	1	3
	Blantyre	12	14	21	15	43	8	1	2
District	Shire Valley	17	23	11	16	47	6	0	2
	Chitipa	12	30	5	8	35	21	1	6
	Karonga	18	19	3	11	54	13	1	1
	Rumphi	27	37	15	16	29	6	0	0
	Nkhata Bay	15	14	9	31	42	11	1	1
	Likoma	12	36	0	26	37	13	0	0
	Mzimba	21	31	1	30	28	11	0	2
	Kasungu	16	34	3	15	38	12	0	3
	Ntchisi	27	24	19	24	25	13	0	1
	Dowa	19	24	12	21	27	16	1	3
	Nkhota kota	17	10	9	21	52	13	0	0
	Salima	13	8	17	13	26	35	0	2
	Dedza	15	11	19	31	33	6	1	0
	Ntcheu	15	14	20	19	45	4	1	0
	Lilongwe Rural	16	21	17	19	25	18	0	2
	Mchinji	19	20	19	30	27	6	0	6
	Balaka	23	7	14	14	58	9	1	1
	Mangochi	8	9	18	14	48	2	0	9
	Machinga	15	16	8	14	41	22	0	1
	Zomba Rural	10	12	11	14	42	18	1	2
Chiradzulu	13	7	35	24	30	2	0	2	
Blantyre Rural	13	15	21	10	45	13	2	1	
Thyolo	17	18	24	19	37	2	0	5	
Mulanje	8	22	26	12	27	14	3	0	
Phalombe	9	23	21	18	26	14	0	0	
Mwanza	14	8	26	23	40	9	1	2	
Chikwawa	16	24	11	15	48	4	0	3	
Nsanje	19	21	9	19	45	9	0	0	

Table 2.15: Percentage distribution of parcels by distance to dwelling unit according to background variables. 2006/2007 Agricultural Season

		Less than 1 km	1 km – less than 2km	2 km – less than 3km	3 km – less than 4km	4km+	Total
Sex of operator	Malawi	51	21	9	5	13	100
	Male	51	21	9	6	13	100
	Female	52	22	9	5	12	100
Parcel size	<0.100 ha	66	16	7	3	8	100
	0.100-0.199 ha	57	20	9	5	9	100
	0.200-0.499 ha	48	24	10	6	13	100
	0.500-0.999 ha	48	24	11	6	11	100
	1.000 ha +	47	23	11	5	14	100
Region	Southern	54	19	8	6	14	100
	Central	44	25	11	6	14	100
	Northern	62	20	7	4	7	100
ADD	Karonga	61	22	9	4	4	100
	Mzuzu	62	19	5	4	9	100
	Kasungu	59	23	10	4	5	100
	Salima	42	18	8	6	26	100
	Lilongwe	37	28	12	6	16	100
	Machinga	52	19	8	6	14	100
	Blantyre	62	17	7	4	12	100
	Shire Valley	25	25	18	11	22	100
	Chitipa	67	17	7	3	5	100
	Karonga	57	26	11	4	3	100
District	Rumphi	77	10	3	1	9	100
	Nkhata Bay	47	26	6	5	16	100
	Likoma	95	0	0	0	5	100
	Mzimba	62	21	6	5	6	100
	Kasungu	84	9	2	1	2	100
	Ntchisi	54	23	15	4	4	100
	Dowa	42	36	13	5	5	100
	Nkhota kota	50	18	9	5	18	100
	Salima	35	18	7	6	34	100
	Dedza	27	31	13	9	20	100
	Ntcheu	29	28	20	8	15	100
	Lilongwe Rural	50	31	10	4	6	100
	Mchinji	45	23	14	8	10	100
	Balaka	57	19	7	5	12	100
	Mangochi	33	27	13	13	15	100
	Machinga	50	19	11	5	15	100
	Zomba Rural	64	16	6	4	11	100
	Chiradzulu	63	19	6	3	10	100
	Blantyre Rural	66	17	7	4	5	100
	Thyolo	64	16	6	3	11	100
	Mulanje	72	12	6	2	8	100
	Phalombe	50	23	10	6	11	100
	Mwanza	40	15	11	7	27	100
	Chikwawa	25	26	17	11	21	100
	Nsanje	24	23	19	11	23	100

Table 2.16: Percentage distribution of parcels by topography of the parcel, according to background characteristics. 2006/2007 Agricultural Season

		Mountain slope	Dregs [rough]	Plain	Plateau	Other	Total
Sex of operator	Malawi	14	9	75	1	2	100
	Male	14	9	75	1	2	100
	Female	14	9	74	1	2	100
Parcel size	<0.100 ha	15	9	73	1	2	100
	0.100-0.199 ha	14	9	73	1	2	100
	0.200-0.499 ha	13	8	76	1	2	100
	0.500-0.999 ha	13	9	74	1	2	100
	1.000 ha +	13	7	76	1	2	100
Region	Southern	14	11	72	1	2	100
	Central	11	6	81	1	1	100
	Northern	24	8	62	3	3	100
ADD	Karonga	21	7	66	3	3	100
	Mzuzu	26	8	60	2	4	100
	Kasungu	14	8	76	1	1	100
	Salima	6	6	87	1	1	100
	Lilongwe	11	5	82	0	1	100
	Machinga	6	7	85	1	1	100
	Blantyre	19	15	62	1	3	100
	Shire Valley	14	8	76	1	1	100
District	Chitipa	42	2	52	4	0	100
	Karonga	6	10	76	3	5	100
	Rumphi	39	9	51	1	0	100
	Nkhata Bay	33	10	48	2	8	100
	Likoma	11	30	59	0	0	100
	Mzimba	20	7	67	3	3	100
	Kasungu	6	5	88	0	1	100
	Ntchisi	27	12	60	0	1	100
	Dowa	25	11	58	4	2	100
	Nkhota kota	8	9	81	1	2	100
	Salima	5	3	92	0	0	100
	Dedza	13	4	81	0	1	100
	Ntcheu	25	10	63	2	0	100
	Lilongwe Rural	7	5	87	0	1	100
	Mchinji	4	5	90	0	0	100
	Balaka	3	5	91	1	1	100
	Mangochi	7	6	86	1	0	100
	Machinga	5	11	82	0	1	100
	Zomba Rural	7	6	85	0	2	100
	Zomba Municipality	10	11	77	1	0	100
	Chiradzulu	11	10	77	0	2	100
	Blantyre Rural	20	13	63	1	4	100
	Thyolo	22	29	41	4	4	100
	Mulanje	10	10	77	0	2	100
	Phalombe	7	2	90	0	1	100
	Mwanza	24	26	46	4	1	100
	Chikwawa	14	7	78	0	1	100
	Nsanje	13	9	74	3	1	100

Table 2.17: Proportion of parcels where terraces have been built, irrigation canals or well or dam been dug, according to background variables. 2006/2007 Agricultural Season

		Built terraces	Dug irrigation canals	Dug well/dam
	Malawi	8	1	1
	Male	9	2	2
Sex of operator	Female	7	1	1
Parcel size	<0.100 ha	5	1	1
	0.100-0.199 ha	6	1	2
	0.200-0.499 ha	6	1	1
	0.500-0.999 ha	10	1	2
	1.000 ha +	13	1	2
Region	Southern	7	1	1
	Central	10	2	2
	Northern	4	1	1
ADD	Karonga	3	2	0
	Mzuzu	5	1	1
	Kasungu	21	3	3
	Salima	6	1	1
	Lilongwe	5	2	2
	Machinga	6	1	1
	Blantyre	8	1	1
	Shire Valley	6	1	0
District	Chitipa	6	1	1
	Karonga	1	2	0
	Rumphi	2	0	1
	Nkhata Bay	1	2	1
	Likoma	18	0	0
	Mzimba	7	0	1
	Kasungu	20	1	4
	Ntchisi	19	0	2
	Dowa	21	8	3
	Nkhota kota	11	1	2
	Salima	1	0	1
	Dedza	13	4	2
	Ntcheu	10	2	1
	Lilongwe Rural	2	1	3
	Mchinji	24	2	2
	Balaka	20	0	2
	Mangochi	1	0	2
	Machinga	7	3	0
	Zomba Rural	3	1	1
	Chiradzulu	6	3	0
	Blantyre Rural	6	0	1
	Thyolo	22	0	1
	Mulanje	5	0	1
	Phalombe	8	2	2
	Mwanza	3	1	1
	Chikwawa	5	1	0
	Nsanje	7	2	0

Table 2.18: Percentage distribution of parcels not used for dwelling unit and not used completely for cultivation in the 2006/07 agricultural season, by main reason why all or a part of the parcel was not used for cultivation, according to background variables. 2006/2007 Agricultural Season

		Still in the process of opening up the land	Woodland preservation	Lack of capital	Put under Fallow	Insufficient labour	Land under dispute	Land for future use	Other	Total
	Malawi	18	8	20	9	16	3	10	16	100
Sex of operator	Male	18	7	20	11	16	2	10	15	100
	Female	17	9	22	7	17	3	10	16	100
Parcel size	<0.100 ha	21	11	14	6	11	5	15	18	100
	0.100-0.199 ha	15	7	16	12	19	2	11	19	100
	0.200-0.499 ha	16	7	22	10	18	2	9	16	100
	0.500-0.999 ha	19	5	21	9	18	2	9	17	100
	1.000 ha +	19	10	27	10	14	1	9	11	100
Region	Southern	20	10	20	7	14	3	11	15	100
	Central	18	7	18	9	18	2	9	19	100
	Northern	14	6	25	14	17	2	11	12	100
ADD	Karonga	9	10	21	17	10	1	16	16	100
	Mzuzu	16	4	27	12	20	3	8	10	100
	Kasungu	19	9	24	10	10	2	9	18	100
	Salima	17	6	10	12	29	2	13	11	100
	Lilongwe	16	4	14	8	24	3	9	21	100
District	Machinga	17	3	27	8	14	2	9	20	100
	Blantyre	20	16	18	7	13	4	11	11	100
	Shire Valley	31	2	12	2	15	2	16	20	100
	Chitipa	10	10	27	22	7	0	20	4	100
	Karonga	8	12	7	7	15	3	7	40	100
	Rumphi	23	5	20	10	17	6	3	16	100
	Nkhata Bay	16	3	19	30	9	1	14	8	100
	Likoma	6	9	0	63	0	3	12	6	100
	Mzimba	14	5	30	7	24	3	8	10	100
	Kasungu	16	9	21	12	7	2	12	19	100
	Ntchisi	12	7	35	12	11	0	5	17	100
	Dowa	20	10	23	7	11	2	9	19	100
	Nkhota kota	14	9	13	7	36	1	4	16	100
	Salima	22	1	6	20	17	2	28	3	100
	Dedza	27	3	15	4	13	3	11	22	100
	Ntcheu	20	8	32	2	14	1	12	12	100
	Lilongwe Rural	10	5	11	8	33	4	7	23	100
	Mchinji	31	5	25	10	16	0	3	10	100
	Balaka	16	5	23	8	12	0	8	29	100
	Mangochi	18	1	32	7	15	3	6	17	100
	Machinga	7	1	36	7	3	0	15	30	100
	Zomba Rural	19	5	24	8	19	2	9	12	100
	Chiradzulu	14	12	7	8	12	4	15	29	100
	Blantyre Rural	21	19	23	10	10	2	5	11	100
	Thyolo	15	14	24	7	10	0	15	15	100
	Mulanje	6	0	30	11	18	5	13	16	100
	Phalombe	10	3	51	3	16	0	10	7	100
	Mwanza	9	5	23	9	18	1	28	7	100
	Chikwawa	37	1	8	1	19	1	18	15	100
	Nsanje	11	3	25	6	6	3	12	34	100

Table 2.19: Proportion of households who used coupons for fertilizer in various ways during the 2006/07 agricultural season , according to background variables. 2006/2007 Agricultural Season

		received coupons	Use of the coupons				
			Bought fertilizer	Gave it to friends/relatives	Did not use the voucher	Sold the voucher	
Sex of head of Household	Malawi	53	96	1	4	0	
	Male	54	96	1	3	0	
	Female	49	95	2	5	0	
Holding size	< 0.100ha	37	93	1	6	0	
	0.100-0.199 ha	47	94	2	4	0	
	0.200-0.499 ha	49	95	1	5	0	
	0.500-0.999 ha	53	96	1	4	0	
	1.000 -1.999 ha	60	98	1	2	0	
	2.000 ha+	65	96	1	3	1	
	Region	Northern	66	96	1	4	0
		Central	51	98	1	1	0
Southern		51	94	1	6	0	
ADD	Karonga	48	92	1	7	0	
	Mzuzu	74	97	1	3	0	
	Kasungu	68	98	1	1	1	
District	Salima	28	98	1	1	0	
	Lilongwe	47	98	1	1	0	
	Machinga	52	97	1	2	0	
	Blantyre	59	91	1	8	0	
	Shire Valley	10	81	3	17	1	
	Chitipa	76	99	0	0	0	
	Karonga	28	77	1	21	0	
	Rumphi	80	99	0	0	0	
	Nkhata Bay	25	93	0	7	0	
	Likoma	30	75	0	19	7	
	Mzimba	92	98	1	3	0	
	Kasungu	68	99	0	1	0	
	Ntchisi	81	96	3	1	2	
	Dowa	59	98	1	1	1	
	Nkhota kota	23	97	0	3	0	
	Salima	33	99	1	0	0	
	Dedza	34	98	1	1	0	
	Ntcheu	62	98	1	1	0	
	Lilongwe Rural	56	98	1	1	0	
	Mchinji	77	98	0	0	1	
	Balaka	30	97	1	2	0	
	Mangochi	42	99	1	0	0	
	Machinga	69	97	1	2	0	
	Zomba Rural	64	97	1	3	0	
	Chiradzulu	78	90	2	10	0	
	Blantyre Rural	72	92	0	8	0	
	Thyolo	58	92	1	7	0	
	Mulanje	43	90	1	9	0	
	Phalombe	63	92	1	7	0	
	Mwanza	65	94	0	6	0	
	Chikwawa	8	89	4	9	1	
Nsanje	13	55	0	45	0		

Table 2.20: Percentage distribution of households by whether they received any credit during the 2006/07 agricultural season, according to background variables. 2006/2007 Agricultural Season

		Received	Did not receive	Total
	Malawi	3	97	100
Sex of head of Household	Male	4	96	100
	Female	2	98	100
Holding size	<0.100 ha	3	97	100
	0.100-0.199 ha	3	97	100
	0.200-0.499 ha	2	98	100
	0.500-0.999 ha	4	96	100
	1.000 -1.999 ha	4	96	100
	2.000 ha+	6	94	100
Region	Northern	4	96	100
	Central	4	96	100
	Southern	3	97	100
ADD	Karonga	4	96	100
	Mzuzu	3	97	100
	Kasungu	6	94	100
	Salima	4	96	100
	Lilongwe	3	97	100
	Machinga	3	97	100
	Blantyre	3	97	100
	Shire Valley	6	94	100
District	Chitipa	5	95	100
	Karonga	4	96	100
	Rumphi	6	94	100
	Nkhata Bay	1	99	100
	Likoma	7	93	100
	Mzimba	3	97	100
	Kasungu	5	95	100
	Ntchisi	9	91	100
	Dowa	6	94	100
	Nkhota kota	3	97	100
	Salima	5	95	100
	Dedza	2	98	100
	Ntcheu	3	97	100
	Lilongwe Rural	3	97	100
	Mchinji	4	96	100
	Balaka	4	96	100
	Mangochi	2	98	100
	Machinga	2	98	100
	Zomba Rural	5	95	100
	Chiradzulu	3	97	100
	Blantyre Rural	2	98	100
	Thyolo	5	95	100
	Mulanje	2	98	100
	Phalombe	4	96	100
	Mwanza	3	97	100
	Chikwawa	8	92	100
	Nsanje	1	99	100

Table 2.21: Proportion of households who received credit during the 2006/07 agricultural season by various sources, according to background variables. 2006/2007 Agricultural Season

		Govt	ADMARC	Malawi Rural Finance	Mardef	Another parastals	Bank	Money/ lender	NGO	Other sources
Sex of head of Household	Malawi	1	1	12	13	7	1	9	35	22
	Male	1	1	11	14	6	1	9	34	23
	Female	1	2	17	9	9	0	7	38	17
	Poorest quintile	0	2	6	8	5	1	4	55	21
Poverty quintile	Second quintile	0	1	17	9	7	0	7	38	22
	3rd quintile	3	2	14	1	7	2	7	30	34
	Fourth quintile	1	1	15	8	9	2	15	32	19
	Highest quintile	0	2	7	41	5	1	5	29	10
Region	Northern	1	0	22	7	2	4	11	26	28
	Central	1	1	15	23	10	1	8	28	15
	Southern	1	2	6	5	4	0	9	44	28
ADD	Karonga	1	0	5	10	2	0	8	37	39
	Mzuzu	1	0	33	5	2	7	12	19	21
	Kasungu	0	1	16	11	8	3	8	33	23
	Salima	0	0	20	9	47	1	2	18	2
	Lilongwe	1	1	14	37	3	0	9	26	11
	Machinga	2	3	4	2	8	1	17	52	11
	Blantyre	2	0	10	9	3	0	7	53	19
	Shire Valley	0	5	2	4	0	0	1	14	74

Table 2.22: Proportion of households who bought/obtained fertilizer during the 2006/07 agricultural season, according to background variables. 2006/2007 Agricultural Season

		Inorganic fertilizer	Organic fertilizer
Sex of head of Household	Malawi	53	22
	Male	56	23
	Female	45	18
	Poorest quintile	46	17
Poverty quintile	Second quintile	50	23
	3rd quintile	53	22
	Fourth quintile	59	25
	Highest quintile	64	22
Holding size	<0.100 ha	47	19
	0.100-0.199 ha	51	23
	0.200-0.499 ha	51	18
	0.500-0.999 ha	51	21
	1.000 -1.999 ha	59	24
	2.000 ha+	61	32
Region	Northern	57	19
	Central	57	31
	Southern	49	15
ADD	Karonga	47	25
	Mzuzu	61	16
	Kasungu	70	35
	Salima	29	31
	Lilongwe	56	29
	Machinga	46	14
	Blantyre	60	17
	Shire Valley	9	6

Table 2.23: Proportion of households who bought various chemicals during the 20006/2007 agricultural season, according to background characteristics. 2006/2007 Agricultural Season

		Insecticides	Fungicides	Herbicides	Fumigants
	Malawi	9	1	1	1
Sex of head of Household	Male	11	1	1	2
	Female	5	1	1	1
Poverty quintile	Poorest quintile	6	1	1	1
	Second quintile	7	1	1	1
	3rd quintile	10	1	1	1
	Fourth quintile	12	1	2	2
	Highest quintile	11	1	1	2
Holding size	<0.100 ha	6	1	1	2
	0.100-0.199 ha	7	1	1	1
	0.200-0.499 ha	6	1	2	1
	0.500-0.999 ha	9	1	1	1
	1.000 -1.999 ha	12	2	1	2
	2.000 ha+	16	2	1	2
Region	Northern	21	1	2	2
	Central	9	1	1	1
	Southern	8	1	1	1
ADD	Karonga	96	0	3	1
	Mzuzu	17	1	1	2
	Kasungu	11	2	2	2
	Salima	22	0	1	1
	Lilongwe	7	1	1	1
	Machinga	9	1	0	1
	Blantyre	4	1	1	2
	Shire Valley	23	3	3	2

Table 2.24: Proportion of households who bought maize seeds by variety, according to background characteristics. 2006/2007 Agricultural Season

		Bought maize seeds	Local Maize	Composite Maize	Recycled maize	Hybrid maize
Sex of head	Malawi	88	21	11	7	71
	Male	88	18	12	8	73
	Female	89	29	10	5	66
Poverty quintile	Poorest quintile	84	30	12	8	63
	Second quintile	85	21	13	7	69
	3rd quintile	87	23	10	6	70
	Fourth quintile	92	19	13	7	71
Holding size	Highest quintile	91	9	11	8	82
	< 0.099 ha	88	22	11	5	69
	0.100-0.199 ha	93	32	6	4	70
	0.200-0.499 ha	92	27	10	6	65
	0.500-0.999 ha	87	20	11	9	71
	1.000 -1.999 ha	85	13	13	10	77
Region	2.000 ha+	83	11	16	4	79
	Northern	78	7	16	4	82
	Central	90	16	12	8	72
	Southern	89	27	10	7	68
ADD	Karonga	82	6	19	2	81
	Mzuzu	76	8	14	5	83
	Kasungu	87	8	13	7	78
	Salima	78	7	21	4	71
	Lilongwe	93	20	11	9	69
	Machinga	85	22	10	5	70
	Blantyre	94	28	10	8	68
	Shire Valley	65	33	7	6	55
District	Chitipa	89	5	26	3	74
	Karonga	73	7	9	1	91
	Rumphi	46	7	10	5	85
	Nkhata Bay	91	6	10	4	83
	Likoma	100	0	0	12	88
	Mzimba	86	7	17	5	82
	Kasungu	88	5	18	7	77
	Ntchisi	86	10	8	15	74
	Dowa	89	13	12	6	71
	Nkhota kota	81	4	25	2	71
	Salima	75	10	16	5	72
	Dedza	75	24	8	3	69
	Ntcheu	82	16	4	5	79
	Lilongwe Rural	101	25	12	13	64
	Mchinji	85	12	2	4	91
	Balaka	73	23	14	6	61
	Mangochi	92	16	8	6	73
	Machinga	87	18	11	2	74
	Zomba Rural	86	30	9	5	70
	Chirazulu	89	25	27	2	65
	Blantyre Rural	87	19	9	5	76
	Thyolo	94	26	15	7	69
	Mulanje	100	42	6	14	59
	Phalombe	88	25	9	12	63
	Mwanza	89	15	9	4	78
	Chikwawa	62	35	9	6	51
	Nsanje	72	28	4	6	65

Table 2.25: Percent distribution of plots by source of seeds for local maize where local maize was first main crop, according to background variables. 2006/2007 Agricultural Season.

		Retained from previous season	Project, Scheme, Credit	From ADMARC	From food	Contract farming	Bought locally	Subsidy program	Free seed	Other	Total
Sex	Malawi	71	0	2	2	2	14	2	5	2	100
	Male	71	0	2	2	2	14	3	4	2	100
	Female	71	0	1	2	2	14	2	5	2	100
Plot size	<0.100 ha	69	1	2	3	2	14	2	6	1	100
	0.100-0.199 ha	71	0	1	2	2	15	2	5	2	100
	0.200-0.499 ha	72	0	2	2	2	14	3	4	1	100
	0.500-0.999 ha	72	1	2	1	2	15	3	3	2	100
Region	1.000 ha+	75	1	3	1	1	11	4	2	2	100
	Northern	88	0	1	1	0	4	1	3	1	100
	Central	69	0	2	2	4	12	3	5	2	100
ADD	Southern	68	1	2	2	0	19	3	4	1	100
	Karonga	91	0	1	3	0	2	1	2	0	100
	Mzuzu	87	0	1	0	0	4	2	4	2	100
	Kasungu	68	0	3	1	2	10	4	7	5	100
District	Salima	66	0	3	1	4	12	1	9	4	100
	Lilongwe	70	0	2	2	5	12	3	5	1	100
	Machinga	68	1	2	2	0	17	4	4	2	100
	Blantyre	68	0	2	2	0	20	2	4	1	100
	Shire Valley	66	2	3	2	0	24	0	2	1	100
	Chitipa	95	0	0	1	0	2	1	1	0	100
	Karonga	83	0	2	7	0	2	0	4	1	100
	Rumphi	72	0	2	0	0	9	5	8	3	100
	Nkhata Bay	56	0	1	0	0	11	0	3	28	100
	Likoma	16	0	21	41	0	4	0	17	0	100
	Mzimba	92	0	1	0	0	3	1	3	0	100
	Kasungu	71	0	1	1	1	12	2	9	3	100
	Ntchisi	62	1	5	0	3	10	8	5	6	100
	Dowa	74	0	2	1	3	8	5	4	2	100
	Nkhotakota	56	0	5	2	0	6	2	27	1	100
	Salima	69	0	2	0	5	14	1	3	5	100
	Dedza	73	0	1	1	8	12	0	4	0	100
	Ntcheu	75	0	0	1	4	11	1	6	1	100
	Lilongwe rural	67	0	4	2	4	12	5	4	1	100
	Mchinji	57	0	6	0	3	11	3	9	12	100
	Balaka	65	3	1	2	0	20	2	5	1	100
	Mangochi	62	0	3	2	0	20	5	5	2	100
	Machinga	77	0	1	0	1	11	5	4	0	100
	Zomba rural	69	1	1	2	1	16	5	4	2	100
	Chiradzulu	69	0	0	4	0	17	1	6	2	100
	Blantyre rural	65	0	4	2	1	19	2	6	0	100
	Thyolo	69	1	1	1	0	20	3	4	1	100
	Mulanje	62	0	1	3	0	31	0	1	2	100
	Phalombe	68	0	2	1	0	20	2	4	2	100
	Mwanza	80	0	1	2	0	10	2	3	1	100
	Chikwawa	69	3	2	3	0	21	0	2	1	100
	Nsanje	55	0	5	1	0	35	0	2	1	100

Table 2.26: Proportion of plots by source of seeds for composite maize where composite maize was first main crop, according to background variables. 2006/2007 Agricultural Season.

		Retained from previous season	Project, Scheme, Credit	From ADMARC	From food	Contract farming	Bought locally	Subsidy program	Free seed	Other	Total
	Malawi	35	3	8	1	1	14	29	5	3	100
Sex	Male	34	3	9	1	2	15	28	5	3	100
	Female	37	2	7	1	1	12	32	7	2	100
Plot size	<0.100 ha	28	3	12	0	0	13	34	8	1	100
	0.100-0.199 ha	43	1	6	1	1	10	32	4	2	100
	0.200-0.499 ha	32	4	8	1	2	15	28	6	4	100
	0.500-0.999 ha	42	2	8	3	1	15	20	6	2	100
	1.000 ha+	33	3	18	0	1	5	35	1	3	100
Region	Northern	26	1	7	1	0	4	56	3	2	100
	Central	37	2	10	1	2	14	24	7	3	100
	Southern	37	5	8	1	1	17	23	6	2	100
ADD	Karonga	41	2	11	0	0	8	33	3	2	100
	Mzuzu	19	0	6	1	0	3	67	3	2	100
	Kasungu	30	1	6	0	2	9	40	9	3	100
	Salima	34	0	25	0	1	7	14	8	10	100
	Lilongwe	42	2	8	2	3	18	18	5	2	100
	Machinga	31	5	8	1	0	15	31	5	3	100
	Blantyre	38	3	7	1	1	18	23	7	2	100
	Shire Valley	50	10	10	3	0	21	3	3	1	100
District	Chitipa	41	2	10	0	0	7	39	2	1	100
	Karonga	40	2	19	0	0	12	5	11	11	100
	Rumphi	9	2	25	2	0	8	45	6	3	100
	Nkhata Bay	13	1	1	0	0	4	75	6	1	100
	Likoma	35	0	21	11	0	0	0	34	0	100
	Mzimba	21	0	3	0	0	2	69	1	3	100
	Kasungu	22	3	7	0	1	9	50	6	3	100
	Ntchisi	40	0	5	0	10	2	41	0	1	100
	Dowa	36	0	4	0	1	13	30	15	1	100
	Nkhotakota	31	0	30	0	0	5	18	9	6	100
	Salima	42	1	9	1	2	13	3	6	23	100
	Dedza	24	4	10	0	6	36	5	11	4	100
	Ntcheu	64	1	9	0	0	5	12	6	3	100
	Lilongwe rural	45	2	6	4	2	12	26	3	0	100
	Mchinji	32	0	13	0	0	8	12	22	13	100
	Balaka	34	3	5	0	0	16	26	8	8	100
	Mangochi	37	1	18	0	0	16	20	6	2	100
	Machinga	24	8	8	0	1	27	25	7	0	100
	Zomba rural	29	8	3	1	0	10	44	2	3	100
	Chiradzulu	18	0	12	2	0	9	50	8	1	100
	Blantyre rural	25	2	12	2	2	22	23	11	0	100
	Thyolo	36	4	2	0	1	26	17	6	9	100
	Mulanje	34	7	4	6	0	27	16	6	0	100
	Phalombe	28	13	7	0	0	5	37	6	3	100
	Mwanza	50	1	4	0	0	9	26	9	1	100
	Chikwawa	49	11	10	3	0	19	4	3	1	100
	Nsanje	54	0	5	0	0	33	0	8	0	100

Table 2.27: Proportion of plots by source of seeds for hybrid maize where hybrid maize was first main crop, according to background variables. 2006/2007 Agricultural Season.

		Retained from previous season	Project, Scheme, Credit	From ADMARC	From food	Contract farming	Bought locally	Subsidy program	Free seed	Other	Total
Sex	Malawi	14	2	15	1	2	29	30	5	3	100
	Male	14	2	14	1	2	27	31	5	4	100
	Female	15	1	15	1	1	33	26	5	2	100
Plot size	<0.100 ha	12	2	12	1	1	30	31	7	3	100
	0.100-0.199 ha	13	1	15	1	1	29	29	5	5	100
	0.200-0.499 ha	15	2	15	1	1	28	30	5	3	100
	0.500-0.999 ha	16	1	13	1	4	30	29	3	4	100
Region	1.000 ha+	19	1	15	1	1	40	18	4	2	100
	Northern	17	1	15	0	0	15	41	6	5	100
	Central	15	1	20	1	3	26	28	4	3	100
	Southern	13	2	10	1	1	36	28	6	3	100
ADD	Karonga	19	2	22	0	0	12	36	7	2	100
	Mzuzu	16	1	12	0	0	16	43	5	7	100
	Kasungu	17	1	10	1	1	20	44	4	4	100
	Salima	15	0	29	1	0	21	17	7	10	100
District	Lilongwe	14	2	26	1	4	30	19	3	1	100
	Machinga	18	3	18	1	0	16	31	8	4	100
	Blantyre	10	1	6	1	1	45	28	4	3	100
	Shire Valley	37	0	19	1	0	27	4	10	2	100
	Chitipa	21	1	17	0	1	14	42	5	1	100
	Karonga	16	3	34	1	0	8	21	12	4	100
	Rumphi	13	1	14	0	0	10	53	4	5	100
	Nkhata Bay	6	1	12	0	0	50	16	3	12	100
	Likoma	2	0	77	6	0	0	2	13	0	100
	Mzimba	22	1	7	0	0	8	49	7	6	100
	Kasungu	11	1	16	1	1	20	44	4	3	100
	Ntchisi	18	1	11	0	0	13	50	1	6	100
	Dowa	31	1	8	0	2	28	22	6	3	100
	Nkhotakota	13	0	36	2	0	19	10	10	9	100
	Salima	17	0	23	0	0	23	23	3	10	100
	Dedza	32	3	17	0	1	23	14	8	1	100
	Ntcheu	24	2	18	1	0	13	37	2	2	100
	Lilongwe rural	7	2	37	1	1	24	24	2	1	100
	Mchinji	16	0	1	1	2	16	55	3	5	100
	Balaka	32	3	21	2	0	12	22	5	3	100
	Mangochi	29	5	25	0	0	16	17	5	3	100
	Machinga	16	1	17	0	1	9	48	2	7	100
	Zomba rural	12	3	14	1	0	15	40	12	3	100
	Chiradzulu	20	1	11	2	0	15	40	8	3	100
	Blantyre rural	10	0	8	3	4	25	40	8	2	100
	Thyolo	11	4	8	2	0	35	33	3	4	100
	Mulanje	11	0	3	0	0	59	20	1	5	100
	Phalombe	12	4	9	0	0	16	45	5	8	100
	Mwanza	6	3	12	1	0	20	46	9	2	100
	Chikwawa	51	0	17	1	0	20	0	9	1	100
	Nsanje	23	0	21	0	0	34	9	11	2	100

Table 2.28: Proportion of households who own various farm equipment by type of equipment and background characteristics, 2006/2007 Agricultural Season

		Hoe	Slasher	Axe	Sprayer	Grain Mill	Panga knife	Watering can	Plough	Ridger	Ox cart	Treadle pump
Sex of head of Household	Malawi	99	19	55	3	1	54	26	2	1	3	3
	Male	99	22	59	4	1	61	31	2	1	4	4
	Female	99	10	44	2	1	38	13	1	1	2	2
	Poverty quintile											
	Malawi	99	19	55	3	1	55	26	2	1	3	4
	Poorest quintile	100	12	51	3	0	48	19	1	0	1	2
	Second quintile	99	16	57	3	1	53	25	2	1	2	4
	3rd quintile	100	21	56	3	1	56	30	2	1	4	4
	Fourth quintile	98	23	54	3	1	57	29	2	2	4	4
Holding size	Highest quintile	99	26	57	5	1	61	28	1	1	4	4
	Malawi	99	19	55	3	1	54	26	2	1	3	3
	<0.100 ha	99	18	49	3	1	49	16	1	0	1	1
	0.100-0.199 ha	100	14	42	1	0	50	16	1	1	1	2
	0.200-0.499 ha	99	16	47	2	1	49	17	1	0	1	2
	0.500-0.999 ha	100	18	54	3	0	55	25	1	1	2	3
	1.000 -1.999 ha	99	24	65	5	1	60	35	3	2	5	5
	2.000 ha+	99	24	73	7	0	66	49	2	3	12	9
	Region											
ADD	Malawi	99	19	55	3	1	54	26	2	1	3	3
	Northern	100	35	85	5	2	41	36	12	7	10	7
	Central	99	20	52	3	0	58	36	0	1	4	4
	Southern	100	14	50	3	1	55	14	0	0	1	2
	Karonga	100	40	83	5	1	30	20	18	1	5	8
	Mzuzu	100	33	86	4	2	46	43	9	10	12	7
	Kasungu	100	18	66	3	0	60	52	1	2	8	6
	Salima	99	37	55	7	0	58	11	0	0	0	4
	Lilongwe	98	17	44	1	0	57	33	0	0	3	3
	Machinga	100	15	48	4	1	54	17	0	0	0	3
	Blantyre	99	13	50	1	0	54	14	0	0	0	1
	Shire Valley	100	16	59	10	0	62	10	0	0	5	5

Table 2.29: Proportion of households who owned structures by type of structure, according to background variables. 2006/2007 Agricultural Season

		Chicken house	Livestock kraal	Poultry kraal	Attic	Drying area	Storage house	Water pump	Granary	Barn
	Malawi	18	18	9	3	7	7	0	22	7
Sex of head of Household	Male	20	20	11	3	8	8	0	23	8
Poverty quintile	Female	12	14	6	2	6	5	0	19	4
	Poorest quintile	16	19	8	4	7	6	0	21	5
	Second quintile	16	18	9	3	7	5	0	24	6
	3rd quintile	19	20	10	3	9	6	0	24	8
	Fourth quintile	20	18	10	3	8	8	1	23	8
	Highest quintile	22	17	10	2	6	9	0	20	6
Holding size	<0.100 ha	16	11	5	1	5	6	0	13	3
	0.100-0.199 ha	14	8	5	1	4	3	0	10	3
	0.200-0.499 ha	12	11	5	2	5	5	0	14	3
	0.500-0.999 ha	18	16	9	3	7	7	0	22	6
	1.000 -1.999 ha	22	27	14	4	10	8	1	33	11
	2.000 ha+	28	40	21	5	13	12	1	38	16
Region	Northern	26	24	27	5	22	12	1	37	12
	Central	19	20	7	2	7	6	0	26	10
	Southern	15	15	7	3	4	6	0	15	2
ADD	Karonga	29	20	26	3	28	15	0	23	4
	Mzuzu	25	25	28	6	19	10	1	44	16
	Kasungu	24	27	11	3	13	10	1	27	15
	Salima	27	18	13	8	10	5	2	20	1
	Lilongwe	16	17	5	1	4	5	0	27	10
	Machinga	14	13	9	3	6	5	0	27	3
	Blantyre	14	15	5	1	4	5	0	7	1
	Shire Valley	18	23	9	8	2	11	1	14	7

**Table 2.30: Proportion of households with casual workers by activity , according to background variables.
2006/2007 Agricultural Season.**

		Land preparation		Planting		Weeding		Harvesting		Marketing	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Sex of head	Malawi	17	8	7	5	18	12	9	10	1	0
	Male	19	8	8	6	19	13	10	11	1	0
	Female	14	7	6	4	15	9	7	7	0	0
Poverty quintile	Poorest quintile	9	5	3	3	8	7	4	4	1	0
	Second quintile	13	6	5	4	14	10	6	7	1	1
	3rd quintile	15	7	7	5	19	12	8	9	1	0
	Fourth quintile	20	9	7	6	20	15	11	12	1	0
Holding size	Highest quintile	36	13	18	12	36	20	22	20	1	0
	<0.099 ha	21	8	12	8	20	11	13	11	1	0
	0.100-0.199 ha	11	4	5	2	11	6	5	3	0	0
	0.200-0.499 ha	15	5	7	5	16	9	8	8	0	0
	0.500-0.999 ha	15	6	6	4	16	10	8	8	1	0
	1.000-1.999ha	22	10	9	8	23	17	12	13	1	1
Region	2.000 ha+	26	17	12	9	26	22	14	18	2	1
	Northern	22	8	7	5	18	13	7	8	1	1
	Central	15	8	6	5	15	11	8	10	1	0
ADD	Southern	18	7	9	6	20	12	10	9	0	0
	Karonga	28	5	10	5	14	11	4	6	0	0
	Mzuzu	20	10	6	5	19	14	8	9	2	2
	Kasungu	14	8	5	3	14	10	8	8	1	1
	Salima	17	10	8	6	16	13	8	6	0	0
	Lilongwe	15	7	6	6	16	11	8	12	1	0
	Machinga	15	5	6	5	20	13	8	8	0	0
	Blantyre	21	9	10	7	22	12	12	10	0	0
	Shire Valley	13	8	8	6	14	11	10	11	2	1

**Table 2.31: Proportion of households with permanent workers by activity, according to background variables.
2006/2007 Agricultural Season.**

		Land preparation		Planting		Weeding		Harvesting		Marketing	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Sex of head	Malawi	4	3	4	3	4	4	4	3	1	1
	Male	5	3	4	3	5	4	4	3	2	1
	Female	2	3	2	2	2	3	2	2	1	1
Poverty quintile	Poorest quintile	2	3	2	3	3	4	2	3	1	1
	Second quintile	4	3	3	3	4	4	3	3	1	1
	3rd quintile	4	3	3	2	4	3	3	2	1	1
	Fourth quintile	5	3	4	2	4	3	4	2	1	1
	Highest quintile	5	2	5	2	5	3	5	3	1	1
Holding size	Less than 0.1 ha	2	2	2	2	2	3	2	3	1	1
	0.100-0.199 ha	2	2	2	2	2	3	2	2	0	0
	0.200-0.499 ha	3	3	3	3	3	3	3	3	1	1
	0.500-0.999 ha	4	3	3	3	3	3	3	3	1	1
	1.000-1.999ha	5	3	4	2	6	3	4	3	1	1
Region	2.000 ha+	11	5	9	5	10	6	10	5	3	3
	Northern	6	4	5	4	5	4	5	4	3	2
	Central	4	3	4	2	4	3	4	3	1	1
ADD	Southern	4	3	3	3	4	4	3	3	1	1
	Karonga	2	1	1	1	1	1	1	1	0	0
	Mzuzu	7	5	7	5	7	5	7	5	4	3
	Kasungu	6	3	6	3	6	4	6	3	2	2
	Salima	3	0	3	0	2	1	3	1	0	0
	Lilongwe	3	3	3	3	3	3	3	3	1	1
	Machinga	3	2	2	2	3	3	2	2	1	1
	Blantyre	3	2	3	2	4	3	3	2	1	1
	Shire Valley	10	11	10	10	10	13	10	10	2	0

Table 2.32: Proportion of households who attended various extension services during the 2006/07 agricultural season, according to background variables. 2006/2007 Agricultural Season

		Proportion that attended	Attended course extension	Attended meeting village	Visited on farm
	Malawi	18	4	12	4
Sex of operator	Male	20	4	14	4
	Female	14	3	9	3
Holding size	<0.099 ha	13	4	8	2
	0.100-0.199 ha	14	4	8	4
	0.200-0.499 ha	16	3	12	3
	0.500-0.999 ha	19	3	12	4
	1.000-1.999ha	21	6	14	6
	2.000 ha+	25	6	18	6
Region	Northern	33	8	22	7
	Central	18	4	11	3
	Southern	16	3	11	4
ADD	Karonga	37	10	24	9
	Mzuzu	32	7	22	7
	Kasungu	17	4	11	4
	Salima	14	4	7	5
	Lilongwe	18	4	12	3
	Machinga	14	3	9	4
	Blantyre	15	2	12	4
	Shire Valley	23	3	16	4
District	Chitipa	51	17	29	10
	Karonga	28	5	21	7
	Rumphi	37	18	27	12
	Nkhata Bay	25	7	16	3
	Likoma	20	5	11	5
	Mzimba	34	4	23	6
	Kasungu	18	4	12	4
	Ntchisi	20	2	13	5
	Dowa	14	4	8	3
	Nkhota kota	16	6	8	7
	Salima	12	2	6	4
	Dedza	18	7	11	3
	Ntcheu	24	4	16	3
	Lilongwe Rural	18	4	12	3
	Mchinji	19	5	12	4
	Balaka	11	4	7	3
	Mangochi	15	2	12	5
	Machinga	15	4	8	3
	Zomba Rural	13	3	7	3
	Chiradzulu	23	3	18	5
	Blantyre Rural	16	1	13	2
	Thyolo	13	2	9	2
	Mulanje	20	6	15	9
	Phalombe	9	0	5	3
	Mwanza	26	3	20	7
	Chikwawa	25	3	18	4
	Nsanje	16	2	13	2

Table 2.33: Proportion of households who did not attend and Percentage distribution of households who did not attend extension services during the 2006/07 agricultural season by reason for not attending, according to background variables. 2006/2007 Agricultural Season

		Proportion that did not attend	Reason for not attending			Total
			Extension worker not available	Available but no visit	Available but farmer not part in ext work meet	
	Malawi	82	38	49	13	100
Sex of head of Household	Male	80	39	49	12	100
	Female	86	37	48	15	100
Holding size	<0.099 ha	87	48	37	14	100
	0.100-0.199 ha	86	46	41	13	100
	0.200-0.499 ha	84	37	46	17	100
	0.500-0.999 ha	81	38	50	12	100
	1.000-1.999ha	79	36	55	9	100
	2.000 ha+	75	37	53	10	100
Region	Northern	67	24	61	15	100
	Central	82	36	53	11	100
	Southern	84	42	43	14	100
ADD	Karonga	63	20	60	20	100
	Mzuzu	68	25	62	13	100
	Kasungu	83	37	57	6	100
	Salima	86	37	56	8	100
	Lilongwe	82	36	50	13	100
	Machinga	86	42	43	16	100
	Blantyre	85	44	45	11	100
	Shire Valley	77	39	34	27	100
District	Chitipa	49	11	67	23	100
	Karonga	72	25	57	18	100
	Rumphi	63	14	71	15	100
	Nkhata Bay	75	25	65	11	100
	Likoma	80	24	32	44	100
	Mzimba	66	25	61	14	100
	Kasungu	82	31	63	6	100
	Ntchisi	80	26	69	5	100
	Dowa	86	50	46	3	100
	Nkhota kota	84	44	43	14	100
	Salima	88	31	67	3	100
	Dedza	82	32	58	10	100
	Ntcheu	76	35	55	9	100
	Lilongwe Rural	82	37	50	12	100
	Mchinji	81	31	57	12	100
	Balaka	89	43	52	5	100
	Mangochi	85	35	42	23	100
	Machinga	85	41	49	10	100
	Zomba Rural	87	44	38	18	100
	Chiradzulu	77	33	56	11	100
	Blantyre Rural	84	37	53	11	100
	Thyolo	87	42	44	13	100
	Mulanje	80	39	42	18	100
	Phalombe	91	37	57	6	100
	Mwanza	74	24	66	11	100
	Chikwawa	75	32	35	33	100
	Nsanje	84	53	34	13	100

Table 2.34: Percentage distribution of parcels by whether they have ever been left fallow during the last three years, according to background variables. 2006/2007 Agricultural Season

		Left fallow	Not left fallow	Total
	Malawi	14	86	100
Sex of operator	Male	14	86	100
	Female	13	87	100
Parcel size	<0.100 ha	10	90	100
	0.100-0.199 ha	10	90	100
	0.200-0.499 ha	12	88	100
	0.500-0.999 ha	18	82	100
	1.000 ha +	26	74	100
Region	Southern	10	90	100
	Central	15	85	100
	Northern	24	76	100
ADD	Karonga	22	78	100
	Mzuzu	26	74	100
	Kasungu	23	77	100
	Salima	19	81	100
	Lilongwe	11	89	100
	Machinga	11	89	100
	Blantyre	8	92	100
	Shire Valley	15	85	100
District	Chitipa	36	64	100
	Karonga	13	87	100
	Rumphi	13	87	100
	Nkhata Bay	27	73	100
	Likoma	37	63	100
	Mzimba	31	69	100
	Kasungu	27	73	100
	Ntchisi	24	76	100
	Dowa	20	80	100
	Nkhota kota	25	75	100
	Salima	14	86	100
	Dedza	9	91	100
	Ntcheu	14	86	100
	Lilongwe Rural	12	88	100
	Mchinji	19	81	100
	Balaka	11	89	100
	Mangochi	6	94	100
	Machinga	8	92	100
	Zomba Rural	14	86	100
	Chiradzulu	7	93	100
	Blantyre Rural	7	93	100
	Thyolo	6	94	100
	Mulanje	8	92	100
	Phalombe	11	89	100
	Mwanza	23	77	100
	Chikwawa	16	84	100
	Nsanje	12	88	100

Table 2.35: Percentage distribution of parcels by whether crop rotation has been practiced, and type of rotation on plots with crop rotation according to background variables. 2006/2007 Agricultural Season

			If crop rotation has been practiced				Type of rotation			
			Yes, on all	Yes, on a part	No	Total	Irregular rotation of crops	Systematic rotation of crops	Other	Total
Sex of operator	Malawi		19	9	72	100	51	46	2	100
	Male		22	9	69	100	51	47	2	100
	Female		15	8	78	100	53	44	3	100
Parcel size	<0.100 ha		15	4	82	100	50	46	4	100
	0.100-0.199 ha		16	5	79	100	47	50	3	100
	0.200-0.499 ha		19	7	74	100	51	47	2	100
	0.500-0.999 ha		24	12	64	100	53	45	3	100
	1.000 ha +		29	24	47	100	50	48	2	100
Region	Southern		7	4	89	100	58	33	9	100
	Central		36	14	50	100	48	51	1	100
	Northern		17	12	71	100	52	47	1	100
ADD	Karonga		11	9	79	100	54	46	0	100
	Mzuzu		21	13	66	100	52	47	2	100
	Kasungu		47	22	30	100	57	43	1	100
	Salima		24	7	68	100	64	32	3	100
	Lilongwe		33	12	55	100	41	59	1	100
District	Machinga		10	5	85	100	64	33	3	100
	Blantyre		4	3	94	100	58	28	14	100
	Shire Valley		13	4	84	100	40	43	17	100
	Chitipa		17	16	68	100	46	54	1	100
	Karonga		8	5	87	100	69	31	0	100
	Rumphi		30	6	64	100	52	47	1	100
	Nkhata Bay		3	6	91	100	66	19	15	100
	Likoma		5	13	83	100	100	0	0	100
	Mzimba		23	19	58	100	51	49	1	100
	Kasungu		43	22	36	100	69	31	1	100
	Ntchisi		49	18	33	100	35	64	1	100
	Dowa		53	21	26	100	68	31	1	100
	Nkhota kota		18	7	75	100	65	30	5	100
	Salima		30	8	62	100	63	34	3	100
	Dedza		21	14	65	100	39	60	2	100
	Ntcheu		13	9	79	100	55	43	2	100
	Lilongwe Rural		47	13	40	100	42	58	1	100
	Mchinji		46	28	26	100	28	72	0	100
	Balaka		18	13	70	100	70	30	1	100
	Mangochi		6	5	89	100	65	27	8	100
	Machinga		5	4	92	100	67	28	4	100
	Zomba Rural		12	4	84	100	58	39	3	100
	Chiradzulu		7	4	88	100	55	39	5	100
	Blantyre Rural		2	4	94	100	69	13	18	100
	Thyolo		2	1	96	100	72	21	8	100
	Mulanje		3	1	96	100	52	32	16	100
	Phalombe		9	3	88	100	54	40	7	100
	Mwanza		3	6	91	100	56	34	10	100
	Chikwawa		15	4	81	100	33	53	15	100
	Nsanje		7	3	90	100	67	9	24	100

Table 2.36: Proportion of parcels with irrigation and percentage distribution of parcels with irrigation by irrigation method used, according to background variables. 2006/2007 Agricultural Season

		Proportion with irrigation	Irrigation method used							Total	
			Motorised pump	Treadle pump	Gravity fed	Watering					
						Sprinkler	cans	Flooding	Other		
Sex of operator	Malawi	5	1	6	11	1	62	14	5	100	
	Male	5	1	7	11	1	64	13	3	100	
	Female	4	0	4	11	1	57	18	9	100	
Parcel size	<0.100 ha	7	0	4	9	0	66	14	6	100	
	0.100-0.199 ha	5	1	8	10	0	60	16	6	100	
	0.200-0.499 ha	4	2	5	11	1	60	17	4	100	
	0.500-0.999 ha	4	2	9	14	2	57	12	4	100	
	1.000 ha +	4	0	11	8	1	69	6	5	100	
	Region	Southern	4	1	4	14	0	55	18	8	100
		Central	6	1	9	7	0	70	12	2	100
Northern		3	4	6	20	4	49	11	6	100	
ADD	Karonga	3	10	5	38	3	23	18	5	100	
	Mzuzu	3	0	6	7	6	68	6	6	100	
	Kasungu	7	2	10	7	0	79	1	0	100	
District	Salima	4	0	14	24	0	33	20	9	100	
	Lilongwe	6	0	8	4	0	69	17	2	100	
	Machinga	5	1	5	15	1	45	31	3	100	
	Blantyre	4	0	2	15	0	68	2	13	100	
	Shire Valley	4	1	16	5	0	28	47	2	100	
	Chitipa	2	0	3	16	2	51	16	12	100	
	Karonga	4	13	5	45	3	13	18	2	100	
	Rumphi	2	2	2	5	30	58	3	1	100	
	Nkhata Bay	5	0	8	13	3	47	16	14	100	
	Likoma	12	0	49	0	0	22	11	19	100	
	Mzimba	3	0	5	2	0	90	0	3	100	
	Kasungu	7	1	11	0	0	86	2	0	100	
	Ntchisi	6	21	23	2	0	52	1	0	100	
	Dowa	10	0	4	16	0	81	0	0	100	
	Nkhota kota	6	0	9	26	0	36	18	11	100	
	Salima	1	0	29	17	0	22	29	3	100	
	Dedza	8	0	9	1	0	57	31	2	100	
	Ntcheu	4	1	7	7	0	37	47	1	100	
	Lilongwe Rural	6	0	6	5	0	83	3	2	100	
	Mchinji	4	0	20	0	0	71	6	3	100	
	Balaka	4	4	2	9	0	74	2	9	100	
	Mangochi	3	0	20	0	2	54	17	8	100	
	Machinga	9	0	1	31	0	7	61	0	100	
	Zomba Rural	5	1	3	10	1	60	25	0	100	
	Chiradzulu	5	0	2	0	0	88	0	10	100	
	Blantyre Rural	4	0	1	7	0	76	0	15	100	
	Thyolo	5	0	1	2	0	80	1	16	100	
Mulanje	2	0	1	16	0	65	8	10	100		
Phalombe	7	0	1	50	0	34	4	10	100		
Mwanza	5	0	8	7	2	64	1	17	100		
Chikwawa	3	0	24	11	0	56	6	3	100		
Nsanje	7	2	9	0	0	3	84	2	100		

Table 2.37: Percent distribution of Plots by ridging method, according to background variables, 2006/2007 Agricultural Season

		Not ridged	Used a hoe	Mechanized ridging	Total
	Malawi	7	91	2	100
Sex	of Male	7	90	3	100
operator	Female	7	91	2	100
Plot size	<0.100 ha	9	89	1	100
	0.100-0.199 ha	8	90	2	100
	0.200-0.499 ha	7	91	2	100
	0.500-0.999 ha	4	92	3	100
	1.000 ha+	6	91	3	100
Region	Northern	11	81	8	100
	Central	3	95	2	100
	Southern	9	90	1	100
ADD	Karonga	22	76	2	100
	Mzuzu	5	84	11	100
	Kasungu	2	95	3	100
	Salima	12	87	0	100
	Lilongwe	3	96	1	100
	Machinga	6	93	1	100
	Blantyre	4	96	1	100
	Shire Valley	51	48	1	100
District	Chitipa	7	92	1	100
	Karonga	41	55	4	100
	Rumphi	2	97	0	100
	Nkhata Bay	11	89	0	100
	Likoma	0	100	0	100
	Mzimba	5	78	18	100
	Kasungu	1	92	7	100
	Ntchisi	2	97	1	100
	Dowa	4	96	0	100
	Nkhotakota	16	84	0	100
	Salima	8	92	0	100
	Dedza	3	95	2	100
	Ntcheu	2	95	3	100
	Lilongwe rural	2	97	1	100
	Mchinji	0	99	0	100
	Balaka	5	94	1	100
	Mangochi	8	91	2	100
	Machinga	9	89	2	100
	Zomba rural	5	95	0	100
	Chiradzulu	3	97	0	100
	Blantyre rural	2	98	0	100
	Thyolo	3	97	0	100
	Mulanje	3	94	3	100
	Phalombe	10	90	0	100
	Mwanza	2	96	2	100
	Chikwawa	45	53	2	100
	Nsanje	63	37	1	100

Table 2.38: Percent distribution of Plots by planting method, according to background variables, 2006/2007 Agricultural Season

		Manual only	Used a hoe	Mechanized	Total
	Malawi	25	74	1	100
Sex of operator	Male	26	73	1	100
	Female	23	76	0	100
Plot size	<0.100 ha	36	64	1	100
	0.100-0.199 ha	29	71	1	100
	0.200-0.499 ha	21	79	1	100
	0.500-0.999 ha	17	82	0	100
	1.000 ha+	16	84	0	100
Region	Northern	49	50	1	100
	Central	30	70	1	100
	Southern	10	90	1	100
ADD	Karonga	45	53	2	100
	Mzuzu	52	48	0	100
	Kasungu	33	67	0	100
	Salima	37	63	0	100
	Lilongwe	27	73	1	100
	Machinga	12	87	1	100
	Blantyre	9	91	0	100
	Shire Valley	8	92	1	100
District	Chitipa	30	70	0	100
	Karonga	64	32	5	100
	Rumphi	33	67	0	100
	Nkhata Bay	84	16	0	100
	Likoma	75	25	0	100
	Mzimba	48	52	0	100
	Kasungu	45	55	0	100
	Ntchisi	43	57	1	100
	Dowa	25	75	0	100
	Nkhotakota	66	34	0	100
	Salima	6	94	0	100
	Dedza	42	57	1	100
	Ntcheu	38	61	1	100
	Lilongwe rural	18	82	0	100
	Mchinji	18	82	0	100
	Balaka	21	79	1	100
	Mangochi	9	89	2	100
	Machinga	17	81	1	100
	Zomba rural	10	90	0	100
	Chiradzulu	5	95	0	100
	Blantyre rural	11	88	0	100
	Thyolo	2	98	0	100
	Mulanje	5	93	1	100
	Phalombe	14	85	0	100
	Mwanza	31	68	0	100
	Chikwawa	7	92	1	100
	Nsanje	8	91	1	100

Table 2.39: Percent distribution of Plots by weeding method, according to background variables, 2006/2007 Agricultural Season

		Not weeded	Manual only	Used a hoe	Mechanized	Total
	Malawi	1	3	95	1	100
Sex of operator	Male	1	3	95	1	100
	Female	1	4	95	0	100
Plot size	<0.100 ha	2	5	92	1	100
	0.100-0.199 ha	2	4	94	1	100
	0.200-0.499 ha	1	3	96	1	100
	0.500-0.999 ha	1	1	98	0	100
	1.000 ha+	2	2	96	0	100
Region	Northern	2	7	89	1	100
	Central	1	2	96	0	100
	Southern	1	3	95	0	100
ADD	Karonga	3	14	80	2	100
	Mzuzu	2	3	94	1	100
	Kasungu	1	1	97	0	100
	Salima	1	9	91	0	100
	Lilongwe	1	1	97	0	100
District	Machinga	1	4	95	0	100
	Blantyre	1	2	97	0	100
	Shire Valley	3	6	91	1	100
	Chitipa	5	5	90	0	100
	Karonga	1	26	68	5	100
	Rumphi	3	3	95	0	100
	Nkhata Bay	2	9	89	0	100
	Likoma	0	2	98	0	100
	Mzimba	2	1	96	1	100
	Kasungu	1	0	99	0	100
	Ntchisi	3	1	96	0	100
	Dowa	1	4	95	0	100
	Nkhotakota	1	13	86	0	100
	Salima	0	4	95	1	100
	Dedza	1	3	96	1	100
	Ntcheu	1	1	98	1	100
	Lilongwe rural	2	1	97	0	100
	Mchinji	1	0	99	0	100
	Balaka	0	5	94	1	100
	Mangochi	1	1	97	0	100
	Machinga	2	9	87	2	100
	Zomba rural	0	5	95	0	100
	Chiradzulu	3	0	96	1	100
	Blantyre rural	0	1	99	0	100
	Thyolo	1	0	99	0	100
	Mulanje	1	3	96	0	100
	Phalombe	5	7	88	0	100
	Mwanza	1	1	99	0	100
	Chikwawa	3	4	92	1	100
	Nsanje	2	10	88	0	100

Table 2.40: Proportion of plots where pesticides were applied, according to background variables. 2006/2007 Agricultural Season.

		Pesticides applied	Pesticides not applied	Total
	Malawi	2	98	100
Sex of operator	Male	3	97	100
	Female	2	98	100
Plot size	<0.100 ha	2	98	100
	0.100-0.199 ha	2	98	100
	0.200-0.499 ha	3	97	100
	0.500-0.999 ha	3	97	100
	1.000 ha+	3	97	100
Region	Northern	2	98	100
	Central	2	98	100
	Southern	3	97	100
ADD	Karonga	3	97	100
	Mzuzu	1	99	100
	Kasungu	1	99	100
	Salima	7	93	100
	Lilongwe	1	99	100
	Machinga	4	96	100
	Blantyre	1	99	100
	Shire Valley	13	87	100
District	Chitipa	1	99	100
	Karonga	6	94	100
	Rumphi	1	99	100
	Nkhata Bay	0	100	100
	Likoma	0	100	100
	Mzimba	1	99	100
	Kasungu	1	99	100
	Ntchisi	2	98	100
	Dowa	2	98	100
	Nkhotakota	1	99	100
	Salima	14	86	100
	Dedza	3	97	100
	Ntcheu	1	99	100
	Lilongwe rural	1	99	100
	Mchinji	1	99	100
	Balaka	11	89	100
	Mangochi	4	96	100
	Machinga	1	99	100
	Zomba rural	3	97	100
	Chiradzulu	1	99	100
	Blantyre rural	1	99	100
	Thyolo	1	99	100
	Mulanje	0	100	100
	Phalombe	0	100	100
	Mwanza	3	97	100
	Chikwawa	18	82	100
	Nsanje	4	96	100

Table 2.41: Number of Plots by fertilizer use, according to background variables. 2006/2007 Agricultural Season.

		Not fertilized	Used organic fertilizer	Used inorganic fertilizer	Total
Sex	Malawi	47	1	51	100
	Male	46	1	52	100
	Female	49	1	50	100
Plot size	<0.100 ha	61	1	38	100
	0.100-0.199 ha	50	1	49	100
	0.200-0.499 ha	44	1	55	100
	0.500-0.999 ha	37	1	62	100
	1.000 ha+	36	2	61	100
Region	Northern	50	1	49	100
	Central	48	2	51	100
	Southern	46	1	53	100
ADD	Karonga	63	1	36	100
	Mzuzu	43	0	56	100
	Kasungu	48	2	51	100
	Salima	70	1	30	100
	Lilongwe	43	2	54	100
	Machinga	44	1	55	100
	Blantyre	38	1	61	100
	Shire Valley	92	0	8	100
District	Chitipa	45	2	53	100
	Karonga	86	0	14	100
	Rumphi	30	0	69	100
	Nkhata Bay	81	0	19	100
	Likoma	29	7	64	100
	Mzimba	37	0	63	100
	Kasungu	49	1	50	100
	Ntchisi	47	2	51	100
	Dowa	48	3	49	100
	Nkhotakota	70	1	29	100
	Salima	69	1	30	100
	Dedza	50	1	49	100
	Ntcheu	35	2	63	100
	Lilongwe rural	46	3	52	100
	Mchinji	46	1	53	100
	Balaka	68	2	31	100
	Mangochi	57	1	42	100
	Machinga	36	2	62	100
	Zomba rural	32	0	68	100
	Chiradzulu	29	1	71	100
	Blantyre rural	33	1	66	100
	Thyolo	31	2	68	100
	Mulanje	61	1	38	100
	Phalombe	46	1	53	100
	Mwanza	52	1	47	100
	Chikwawa	91	0	9	100
	Nsanje	95	0	5	100

Table 2.42 : Proportion of plots where inorganic fertilizer was applied by how it was obtained according to background variables. 2006/2007 Agricultural Season.

		Bought	Credit	Contract farming	Subsidy	Free,NGO, Church	Other
Sex of operator	Malawi	47	1	1	60	2	1
	Male	47	1	1	61	1	1
	Female	46	1	1	59	2	1
Plot size	<0.100 ha	45	2	1	55	3	1
	0.100-0.199 ha	40	1	1	63	2	1
	0.200-0.499 ha	48	1	1	60	1	1
	0.500-0.999 ha	51	1	1	61	1	0
Region	1.000 ha+	61	2	1	54	1	1
	Northern	38	1	0	75	1	1
	Central	57	1	1	53	1	0
	Southern	40	2	1	61	3	1
ADD	Karonga	38	1	1	66	2	1
	Mzuzu	38	1	0	78	1	1
	Kasungu	46	2	1	66	1	1
	Salima	53	1	0	45	4	1
District	Lilongwe	63	1	1	48	1	0
	Machinga	42	2	2	60	3	1
	Blantyre	39	1	1	62	2	1
	Shire Valley	66	18	0	22	20	5
	Chitipa	40	1	1	65	2	0
	Karonga	30	1	0	68	2	4
	Rumphi	42	2	0	72	1	3
	Nkhata Bay	49	0	0	42	3	9
	Likoma	9	0	0	54	39	0
	Mzimba	35	1	0	85	1	0
	Kasungu	50	1	1	64	1	1
	Ntchisi	41	3	0	79	2	0
	Dowa	55	2	1	54	0	1
	Nkhotakota	55	1	1	39	5	1
	Salima	50	1	0	51	3	0
	Dedza	74	1	0	37	2	0
	Ntcheu	58	1	0	64	1	0
	Lilongwe rural	51	1	1	57	1	0
	Mchinji	30	1	1	78	0	0
	Balaka	41	4	1	59	2	1
	Mangochi	48	1	0	53	2	1
	Machinga	28	0	0	79	1	1
	Zomba rural	40	2	3	61	4	1
	Chiradzulu	28	2	0	74	2	0
	Blantyre rural	38	1	3	61	1	1
	Thyolo	50	4	1	53	1	1
	Mulanje	22	0	0	80	1	1
	Phalombe	8	1	0	88	4	2
	Mwanza	39	1	0	71	2	1
	Chikwawa	66	22	0	19	15	4
	Nsanje	66	3	0	32	39	11

Table 2.43: Percentage distribution of maize plots by number of times organic fertilizer was applied, according to background variables. 2006/2007 Agricultural Season.

		Not applied	Once	Twice	Total
Sex of operator	Malawi	60	35	5	100
	Male	58	37	5	100
Plot size	Female	64	32	4	100
	< 0.099 ha	62	30	7	100
	0.100-0.199 ha	58	38	4	100
	0.200-0.499 ha	64	32	5	100
	0.500-0.999 ha	49	46	5	100
	1.000 ha+	61	36	3	100
Region	Northern	41	48	10	100
	Central	62	34	4	100
	Southern	61	34	5	100
ADD	Karonga	17	72	11	100
	Mzuzu	44	45	10	100
	Kasungu	31	65	4	100
	Salima	89	10	1	100
	Lilongwe	68	28	4	100
	Machinga	81	18	1	100
	Blantyre	59	37	4	100
	Shire Valley	54	8	38	100

Table 2.44: Percentage distribution of maize plots by number of times inorganic fertilizer was applied, according to background variables. 2006/2007 Agricultural Season.

		Not applied	Once	Twice	Total
Sex of operator	Malawi	7	62	32	100
	Male	6	61	33	100
Plot size	Female	8	63	29	100
	< 0.099 ha	8	63	29	100
	0.100-0.199 ha	6	66	28	100
	0.200-0.499 ha	7	61	32	100
	0.500-0.999 ha	6	62	32	100
	1.000 ha+	6	51	43	100
Region	Northern	2	44	54	100
	Central	8	65	27	100
	Southern	7	65	28	100
ADD	Karonga	1	44	55	100
	Mzuzu	2	44	54	100
	Kasungu	3	68	29	100
	Salima	12	59	29	100
	Lilongwe	10	65	25	100
	Machinga	4	66	30	100
	Blantyre	6	66	28	100
	Shire Valley	83	7	11	100

Table 2.45: Percentage distribution of local maize plots by number of times inorganic fertilizer was applied, according to background variables. 2006/2007 Agricultural Season.

		Not applied	Once	Twice	Total
	Malawi	9	63	28	100
Sex of operator	Male	8	61	31	100
	Female	11	65	24	100
Plot size	< 0.099 ha	12	63	24	100
	0.100-0.199 ha	8	66	26	100
	0.200-0.499 ha	9	63	28	100
	0.500-0.999 ha	7	63	30	100
	1.000 ha+	9	51	40	100
Region	Northern	2	42	55	100
	Central	11	67	21	100
	Southern	9	67	24	100
ADD	Karonga	1	49	50	100
	Mzuzu	2	41	56	100
	Kasungu	5	70	25	100
	Salima	17	61	21	100
	Lilongwe	14	67	20	100
	Machinga	6	68	26	100
	Blantyre	9	68	23	100
	Shire Valley	81	1	18	100

Table 2.46: Percentage distribution of hybrid maize plots by number of times inorganic fertilizer was applied, according to background variables. 2006/2007 Agricultural Season.

		Not applied	Once	Twice	Total
	Malawi	4	60	36	100
Sex of operator	Male	3	59	37	100
	Female	5	62	33	100
	< 0.099 ha	5	62	33	100
	0.100-0.199 ha	4	65	31	100
	0.200-0.499 ha	4	59	37	100
	0.500-0.999 ha	4	58	38	100
	1.000 ha+	3	50	47	100
Region	Northern	2	45	53	100
	Central	5	63	33	100
	Southern	4	61	35	100
ADD	Karonga	1	36	63	100
	Mzuzu	2	48	50	100
	Kasungu	2	64	34	100
	Salima	13	55	32	100
	Lilongwe	6	63	32	100
	Machinga	2	59	39	100
	Blantyre	3	62	35	100
	Shire Valley	79	17	4	100

Table 2.47: Percentage distribution of plots by number of times weeded, according to background variables. 2006/2007 Agricultural Season.

		Not weeded	Weeded twice	Weeded once	Total
Sex of operator	Malawi	1	40	60	100
	Male	1	40	60	100
	Female	0	40	60	100
Plot size	< 0.099 ha	1	40	59	100
	0.100-0.199 ha	0	42	58	100
	0.200-0.499 ha	1	39	60	100
	0.500-0.999 ha	0	41	58	100
	1.000 ha+	0	37	63	100
Region	Northern	1	42	58	100
	Central	1	41	59	100
	Southern	0	38	62	100
ADD	Karonga	0	46	54	100
	Mzuzu	1	40	59	100
	Kasungu	0	47	52	100
	Salima	0	51	49	100
	Lilongwe	1	33	66	100
	Machinga	0	25	75	100
	Blantyre	0	41	59	100
	Shire Valley	0	20	80	100

Table 2.48: Percentage distribution of maize plots by number of times weeded, according to background variables. 2006/2007 Agricultural Season.

		Not weeded	Weeded twice	Weeded once	Total
Sex of operator	Malawi	0	39	61	100
	Male	0	39	61	100
	Female	0	40	60	100
Plot size	< 0.099 ha	0	38	62	100
	0.100-0.199 ha	0	43	57	100
	0.200-0.499 ha	0	38	61	100
	0.500-0.999 ha	0	40	60	100
	1.000 ha+	0	36	64	100
Region	Northern	0	41	59	100
	Central	0	41	59	100
	Southern	0	37	63	100
ADD	Karonga	0	47	53	100
	Mzuzu	0	38	62	100
	Kasungu	0	51	49	100
	Salima	0	40	60	100
	Lilongwe	0	34	65	100
	Machinga	0	23	76	100
	Blantyre	0	40	60	100
	Shire Valley	0	10	90	100

Table 2.49: Percentage distribution of plots by storage facility used for local maize , according to background variables. 2006/2007 Agricultural Season.

		Granary	Bags	Not stored anywhere	Other	Total
	Malawi	42	39	7	12	100
Sex of operator	Male	46	38	7	9	100
	Female	37	39	8	16	100
Plot size	< 0.099 ha	29	46	12	13	100
	0.100-0.199 ha	37	42	8	13	100
	0.200-0.499 ha	43	38	8	12	100
	0.500-0.999 ha	54	32	4	10	100
	1.000 ha+	53	33	7	8	100
Region	Northern	50	30	15	6	100
	Central	56	31	5	9	100
	Southern	22	53	7	19	100
ADD	Karonga	16	55	16	14	100
	Mzuzu	60	22	14	3	100
	Kasungu	57	30	5	9	100
	Salima	52	36	6	6	100
	Lilongwe	56	30	5	9	100
	Machinga	39	40	6	16	100
	Blantyre	18	55	7	19	100
	Shire Valley	29	48	9	15	100
District	Chitipa	15	64	11	9	100
	Karonga	16	33	26	25	100
	Rumphi	43	41	12	3	100
	Nkhata Bay	26	21	44	10	100
	Likoma	0	41	59	0	100
	Mzimba	65	19	13	3	100
	Kasungu	41	46	3	9	100
	Ntchisi	42	42	6	9	100
	Dowa	64	22	3	11	100
	Nkhota kota	14	57	15	15	100
	Salima	65	29	3	3	100
	Dedza	58	24	8	10	100
	Ntcheu	61	25	3	11	100
	Lilongwe Rural	55	32	4	8	100
	Mchinji	71	18	8	3	100
	Balaka	19	53	25	4	100
	Mangochi	51	15	25	9	100
	Machinga	55	18	9	18	100
	Zomba Rural	40	38	5	16	100
	Chiradzulu	14	68	6	13	100
	Blantyre Rural	25	56	5	13	100
	Thyolo	1	91	4	5	100
	Mulanje	15	62	12	11	100
	Phalombe	27	21	7	45	100
	Mwanza	46	24	2	28	100
	Chikwawa	51	34	16	0	100
	Nsanje	23	52	7	18	100

Table 2.50: Percentage distribution of plots by storage facility used for Hybrid maize , according to background variables. 2006/2007 Agricultural Season.

		Granary	Bags	Not stored anywhere	Other	Total
	Malawi	27	59	8	6	100
Sex of operator	Male	30	57	8	5	100
	Female	20	65	8	7	100
Plot size	< 0.099 ha	17	63	11	8	100
	0.100-0.199 ha	21	68	6	5	100
	0.200-0.499 ha	29	56	9	6	100
	0.500-0.999 ha	35	54	4	6	100
	1.000 ha+	38	52	5	5	100
Region	Northern	28	51	15	5	100
	Central	44	46	5	6	100
	Southern	6	79	9	6	100
ADD	Karonga	7	71	12	10	100
	Mzuzu	37	43	16	4	100
	Kasungu	46	42	5	7	100
	Salima	29	59	9	3	100
	Lilongwe	45	46	4	5	100
	Machinga	16	77	3	4	100
	Blantyre	5	79	10	6	100
	Shire Valley	5	82	3	10	100
District	Chitipa	9	72	11	7	100
	Karonga	3	67	15	16	100
	Rumphi	46	43	8	4	100
	Nkhata Bay	8	54	25	13	100
	Likoma	0	44	44	12	100
	Mzimba	43	39	17	1	100
	Kasungu	26	68	3	3	100
	Ntchisi	53	32	9	6	100
	Dowa	44	39	4	13	100
	Nkhota kota	8	76	14	3	100
	Salima	50	44	4	2	100
	Dedza	53	34	6	6	100
	Ntcheu	52	33	4	11	100
	Lilongwe Rural	48	43	4	5	100
	Mchinji	65	20	6	9	100
	Balaka	100	0	0	0	100
	Mangochi	53	36	11	0	100
	Zomba Rural	17	76	3	5	100
	Chiradzulu	5	86	5	3	100
	Blantyre Rural	5	79	5	11	100
	Thyolo	0	91	7	1	100
	Mulanje	6	77	16	1	100
	Phalombe	11	55	8	26	100
	Mwanza	27	46	5	22	100
	Chikwawa	0	69	15	16	100
	Nsanje	5	85	1	9	100

Table 2.51: Percentage distribution of plots by Postharvest treatment used for hybrid maize, according to background variables. 2006/2007 Agricultural Season.

		Actelic Super	Super grain dust	Ash	Sun or heat baked	Other	Not treated	Total
	Malawi	33	7	1	2	3	55	100
Sex of operator	Male	31	7	1	2	3	56	100
	Female	36	5	1	2	4	53	100
Plot size	< 0.099 ha	35	6	1	2	6	51	100
	0.100-0.199 ha	37	7	0	2	3	51	100
	0.200-0.499 ha	28	7	1	1	3	60	100
	0.500-0.999 ha	37	6	0	2	3	52	100
	1.000 ha+	33	10	1	1	1	54	100
Region	Northern	26	7	0	3	6	57	100
	Central	20	4	1	2	2	72	100
	Southern	50	10	1	1	4	34	100
ADD	Karonga	34	16	1	2	12	34	100
	Mzuzu	23	3	0	4	4	67	100
	Kasungu	20	7	0	1	1	70	100
	Salima	24	5	0	2	4	64	100
	Lilongwe	19	1	1	2	2	75	100
	Machinga	46	7	0	0	7	40	100
	Blantyre	50	11	1	1	4	34	100
	Shire Valley	73	0	2	4	0	20	100

Table 2.52: Percentage distribution of plots by Postharvest treatment used for local maize , according to background variables. 2006/2007 Agricultural Season.

		Actelic Super	Super grain dust	Ash	Sun or heat baked	Other	Not treated	Total
	Malawi	16	4	2	3	3	71	100
Sex of operator	Male	16	4	2	3	3	71	100
	Female	17	4	2	2	3	72	100
Plot size	< 0.099 ha	19	3	2	3	5	68	100
	0.100-0.199 ha	19	3	1	3	4	69	100
	0.200-0.499 ha	15	5	2	3	3	72	100
	0.500-0.999 ha	16	5	3	1	2	73	100
	1.000 ha+	16	4	2	3	1	74	100
Region	Northern	15	3	1	1	4	76	100
	Central	10	3	2	3	2	79	100
	Southern	25	6	2	2	5	59	100
ADD	Karonga	37	8	0	2	7	46	100
	Mzuzu	9	2	1	1	3	85	100
	Kasungu	7	4	1	2	1	84	100
	Salima	7	2	3	4	3	81	100
	Lilongwe	12	3	3	3	2	76	100
	Machinga	19	2	0	2	7	70	100
	Blantyre	26	7	3	2	4	57	100
	Shire Valley	30	0	5	11	8	46	100

Table 2.53: Percentage distribution of plots by Postharvest treatment used for maize, according to background variables. 2006/2007 Agricultural Season.

		Actelic Super	Super grain dust	Ash	Sun or heat baked	Other	Not treated	Total
	Malawi	23	5	1	2	3	65	100
Sex of operator	Male	23	6	1	2	3	65	100
	Female	24	5	1	2	3	65	100
Plot size	< 0.099 ha	26	4	1	3	5	61	100
	0.100-0.199 ha	26	5	1	3	3	62	100
	0.200-0.499 ha	21	6	1	2	3	67	100
	0.500-0.999 ha	24	5	2	1	2	66	100
	1.000 ha+	23	7	1	2	1	66	100
Region	Northern	19	5	0	2	4	70	100
	Central	14	4	2	2	2	76	100
	Southern	37	8	2	2	5	47	100
ADD	Karonga	36	12	0	2	8	43	100
	Mzuzu	13	2	0	2	3	80	100
	Kasungu	13	5	1	2	1	77	100
	Salima	16	3	2	3	3	74	100
	Lilongwe	15	3	2	3	2	75	100
	Machinga	30	3	0	2	6	58	100
	Blantyre	37	9	2	2	5	46	100
	Shire Valley	54	0	3	7	3	32	100

Table 2.54: Proportion of plots where various staple food crops were grown, according to background variables, 2006/2007 Agricultural Season

		Maize variety						Rice	Sorghum	Millet	Cassava
		All staple	Maize	Hybrid Maize	Composite Maize	recycled maize	Local maize				
Sex of operator	Malawi	73	63	21	6	6	34	3	3	2	8
	Male	71	62	22	6	6	31	3	3	2	8
	Female	77	67	20	6	5	41	3	4	2	8
Plot size	< 0.099 ha	62	47	15	5	5	26	5	3	2	11
	0.100-0.199 ha	70	60	22	6	6	30	4	3	2	9
	0.200-0.499 ha	77	69	23	6	7	38	3	3	2	7
	0.500-0.999 ha	80	75	22	7	8	43	1	3	2	5
	1.000 ha+	78	73	29	5	4	39	1	3	2	5
Region	Northern	72	52	15	6	6	29	5	0	2	17
	Central	64	59	20	6	7	30	2	0	0	4
	Southern	82	73	25	6	5	42	4	8	4	8
ADD	Karonga	78	51	14	6	8	25	12	0	3	19
	Mzuzu	68	52	15	6	5	31	2	0	1	15
	Kasungu	56	54	22	6	6	23	0	0	0	2
	Salima	77	49	14	7	10	19	9	0	0	26
	Lilongwe	67	65	20	6	7	35	1	0	0	1
District	Machinga	79	70	19	6	5	50	5	6	5	10
	Blantyre	85	81	32	6	5	42	3	6	2	8
	Shire Valley	80	43	12	8	6	24	7	24	12	1
	Chitipa	69	59	16	8	9	28	1	0	4	7
	Karonga	89	40	11	4	7	21	27	0	1	36
	Rumphi	49	43	27	4	2	27	0	0	0	6
	Nkhata Bay	89	27	12	6	2	7	8	0	0	63
	Likoma	98	88	48	11	2	25	1	0	0	10
	Mzimba	68	62	11	7	6	39	0	0	2	4
	Kasungu	60	55	24	7	9	15	1	0	1	5
	Ntchisi	49	48	14	7	3	30	0	0	0	1
	Dowa	51	50	14	8	5	30	0	0	0	1
	Nkhotakota	85	36	13	11	5	10	13	0	0	47
	Salima	69	63	16	4	16	29	4	0	0	3
	Dedza	70	65	16	5	6	42	3	0	1	2
	Ntcheu	77	76	12	5	8	52	0	0	1	4
	Lilongwe rural	60	58	20	6	6	30	0	0	0	1
	Mchinji	61	60	35	2	2	23	0	0	0	2
	Balaka	72	66	10	7	7	53	4	1	3	2
	Mangochi	81	78	19	5	4	50	2	5	6	3
	Machinga	83	71	18	8	4	46	11	3	1	7
	Zomba rural	79	67	21	5	4	49	6	9	6	18
	Chiradzulu	82	77	25	5	5	49	1	15	9	13
	Blantyre rural	82	80	30	6	3	44	0	3	0	4
	Thyolo	87	85	31	7	13	36	0	2	1	16
	Mulanje	94	88	45	3	2	38	5	9	3	13
	Phalombe	83	70	12	6	8	53	11	11	2	2
	Mwanza	68	66	24	4	3	41	0	0	1	3
	Chikwawa	78	49	11	11	7	29	5	20	10	0
	Nsanje	82	32	13	3	4	13	11	31	17	1

Table 2.55: Percent distribution of Maize Plots by type of stand, according to background variables. 2006/2007 Agricultural Season

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	75	24	0	1	100
Sex of operator	Male	77	22	0	1	100
	Female	72	27	0	1	100
Plot size	< 0.099 ha	69	30	0	1	100
	0.100-0.199 ha	72	27	0	1	100
	0.200-0.499 ha	76	23	0	1	100
	0.500-0.999 ha	81	18	0	1	100
	1.000 ha+	82	18	0	0	100
Region	Northern	82	17	0	1	100
	Central	83	16	0	1	100
	Southern	66	32	0	1	100
ADD	Karonga	79	20	0	1	100
	Mzuzu	83	16	0	1	100
	Kasungu	93	7	0	1	100
	Salima	87	12	0	1	100
	Lilongwe	78	21	0	1	100
District	Machinga	69	29	0	1	100
	Blantyre	64	35	0	1	100
	Shire Valley	72	23	0	4	100
	Chitipa	88	12	0	0	100
	Karonga	63	35	0	2	100
	Rumphi	89	9	0	2	100
	Nkhata Bay	70	29	0	1	100
	Likoma	100	0	0	0	100
	Mzimba	83	15	0	1	100
	Kasungu	95	5	0	0	100
	Ntchisi	95	5	0	0	100
	Dowa	89	10	0	1	100
	Nkhotakota	71	27	0	3	100
	Salima	98	2	0	0	100
	Dedza	53	46	0	1	100
	Ntcheu	81	18	0	1	100
	Lilongwe rural	87	13	0	0	100
	Mchinji	91	7	0	2	100
	Balaka	85	14	0	0	100
	Mangochi	90	10	0	0	100
	Machinga	78	21	0	0	100
	Zomba rural	47	51	0	2	100
	Chiradzulu	59	40	0	1	100
	Blantyre rural	80	20	0	0	100
	Thyolo	28	71	0	0	100
	Mulanje	66	31	0	3	100
	Phalombe	71	28	0	1	100
	Mwanza	48	51	0	1	100
	Chikwawa	66	28	0	5	100
	Nsanje	89	10	0	1	100

Table 2.56: Percent distribution of Cassava Plots by type of stand, according to background variables, 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	54	19	0	27	100
Sex of operator	Male	57	18	0	25	100
	Female	49	20	0	31	100
Plot size	< 0.099 ha	58	22	0	19	100
	0.100-0.199 ha	54	18	0	27	100
	0.200-0.499 ha	51	16	0	33	100
	0.500-0.999 ha	51	18	1	30	100
	1.000 ha+	54	13	0	32	100
Region	Northern	77	19	0	3	100
	Central	79	17	0	4	100
	Southern	19	19	0	61	100
ADD	Karonga	63	30	0	7	100
	Mzuzu	86	13	0	1	100
	Kasungu	86	9	0	5	100
	Salima	77	21	0	2	100
	Lilongwe	79	10	0	11	100
	Machinga	19	10	0	70	100
	Blantyre	19	27	0	54	100
	Shire Valley	56	0	0	44	100
	Chitipa	69	8	0	23	100
	Karonga	62	35	0	3	100
District	Rumphi	94	4	0	2	100
	Nkhata Bay	85	14	0	0	100
	Likoma	100	0	0	0	100
	Mzimba	90	9	0	1	100
	Kasungu	98	2	0	0	100
	Ntchisi	100	0	0	0	100
	Dowa	71	21	0	7	100
	Nkhotakota	77	21	0	2	100
	Salima	75	24	0	1	100
	Dedza	83	9	0	8	100
	Ntcheu	64	11	0	25	100
	Lilongwe rural	91	9	0	0	100
	Mchinji	22	46	0	32	100
	Balaka	51	19	0	30	100
	Mangochi	63	23	0	14	100
	Machinga	37	15	2	47	100
	Zomba rural	12	8	0	80	100
	Chiradzulu	13	9	0	78	100
	Blantyre rural	52	16	0	32	100
	Thyolo	9	50	0	41	100
	Mulanje	13	15	0	72	100
	Phalombe	47	34	0	19	100
	Mwanza	37	60	0	3	100
	Chikwawa	91	0	0	9	100
	Nsanje	9	0	0	91	100

Table 2.57: Proportion of plots where beans and pulses were grown, according to background variables. 2006/2007 Agricultural Season.

		Beans pulses	Beans	Soya beans	Ground beans	Pigeon peas	Cow peas	Ground nuts
Sex of operator	Malawi	29	5	3	1	9	2	12
	Male	27	4	3	1	8	2	11
	Female	33	6	3	1	11	3	13
Plot size	< 0.099 ha	31	4	3	2	9	2	13
	0.100-0.199 ha	33	5	3	1	10	2	15
	0.200-0.499 ha	28	5	3	1	9	2	11
	0.500-0.999 ha	25	5	3	1	8	2	9
	1.000 ha+	22	4	2	1	7	1	9
Region	Northern	15	3	2	2	0	0	8
	Central	29	8	6	1	0	1	16
	Southern	35	3	0	1	22	4	9
ADD	Karonga	13	3	1	1	1	0	8
	Mzuzu	16	4	2	2	0	0	8
	Kasungu	30	4	8	1	1	1	18
	Salima	10	0	0	1	0	0	9
	Lilongwe	33	11	6	1	0	1	16
District	Machinga	35	1	1	2	19	4	13
	Blantyre	39	4	0	1	27	4	8
	Shire Valley	13	1	0	0	6	3	3
	Chitipa	20	4	2	1	0	1	12
	Karonga	5	0	0	1	1	0	4
	Rumphi	15	6	1	0	0	0	8
	Nkhata Bay	2	0	0	0	0	0	2
	Likoma	0	0	0	0	0	0	0
	Mzimba	20	4	4	4	0	1	10
	Kasungu	26	2	8	0	0	1	16
	Ntchisi	32	2	17	1	0	0	13
	Dowa	31	9	6	1	2	1	17
	Nkhotakota	7	0	1	1	1	0	6
	Salima	14	0	0	0	0	0	13
	Dedza	49	26	12	1	0	0	16
	Ntcheu	26	12	1	1	1	0	13
	Lilongwe rural	30	6	5	1	0	1	19
	Mchinji	33	1	8	1	0	0	25
	Balaka	17	0	0	2	5	3	8
	Mangochi	25	1	1	2	6	5	12
	Machinga	26	3	0	2	14	2	9
	Zomba rural	50	1	1	1	33	4	16
	Chiradzulu	53	11	1	1	37	4	8
	Blantyre rural	25	3	0	2	12	2	9
	Thyolo	67	6	0	1	52	9	6
	Mulanje	38	0	0	2	28	7	8
	Phalombe	39	1	0	1	30	2	12
	Mwanza	41	2	0	1	30	6	6
	Chikwawa	14	1	0	0	8	3	2
	Nsanje	12	1	0	1	3	2	5

Table 2.58: Percent distribution of ordinary beans Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
Sex of operator	Malawi	12	75	0	13	100
	Male	14	73	0	13	100
	Female	9	79	0	11	100
Plot size	< 0.099 ha	21	70	0	9	100
	0.100-0.199 ha	11	78	0	11	100
	0.200-0.499 ha	8	78	0	13	100
	0.500-0.999 ha	11	74	0	15	100
	1.000 ha+	18	67	0	14	100
Region	Northern	36	57	0	7	100
	Central	10	75	0	15	100
	Southern	6	86	1	7	100
ADD	Karonga	54	25	1	20	100
	Mzuzu	29	69	0	2	100
	Kasungu	13	68	0	19	100
	Salima	97	3	0	0	100
	Lilongwe	8	77	0	15	100
	Machinga	15	61	0	24	100
	Blantyre	3	92	1	4	100
	Shire Valley	42	58	0	0	100
District	Chitipa	54	25	1	20	100
	Karonga	51	11	0	38	100
	Rumphi	49	51	0	0	100
	Nkhata Bay	0	100	0	0	100
	Mzimba	21	76	0	3	100
	Ntchisi	53	42	0	4	100
	Dowa	6	78	0	16	100
	Nkhotakota	95	5	0	0	100
	Salima	100	0	0	0	100
	Dedza	9	84	0	7	100
	Ntcheu	4	70	0	26	100
	Lilongwe rural	9	66	0	25	100
	Balaka	65	35	0	0	100
	Mangochi	25	48	0	27	100
	Machinga	0	100	0	0	100
	Zomba rural	20	47	0	33	100
	Blantyre rural	0	95	2	3	100
	Mulanje	34	45	0	22	100
	Phalombe	64	2	34	0	100
	Mwanza	10	88	0	3	100
	Chikwawa	33	67	0	0	100
	Nsanje	80	20	0	0	100

Table 2.59: Percent distribution of Soya beans Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	53	38	0	9	100
Sex of operator	Male	53	38	0	9	100
	Female	53	39	0	8	100
Plot size	< 0.099 ha	71	24	0	5	100
	0.100-0.199 ha	52	40	0	8	100
	0.200-0.499 ha	45	45	0	10	100
	0.500-0.999 ha	41	44	1	14	100
	1.000 ha+	60	36	1	3	100
Region	Northern	71	22	0	7	100
	Central	51	41	0	7	100
	Southern	36	30	0	34	100
ADD	Karonga	70	24	0	6	100
	Mzuzu	72	21	0	7	100
	Kasungu	78	19	0	3	100
	Salima	93	7	0	0	100
	Lilongwe	29	60	0	11	100
District	Machinga	33	26	0	41	100
	Blantyre	38	36	0	26	100
	Shire Valley	43	17	0	40	100
	Chitipa	71	23	0	6	100
	Karonga	56	44	0	0	100
	Rumphi	59	26	0	15	100
	Nkhata Bay	100	0	0	0	100
	Mzimba	74	20	0	6	100
	Ntchisi	87	10	0	3	100
	Dowa	68	24	1	6	100
	Nkhotakota	100	0	0	0	100
	Salima	70	30	0	0	100
	Dedza	23	65	0	11	100
	Ntcheu	31	33	0	36	100
	Lilongwe rural	36	54	0	10	100
	Balaka	0	100	0	0	100
	Mangochi	31	12	0	56	100
	Machinga	78	22	0	0	100
	Zomba rural	30	29	0	40	100
	Blantyre rural	60	26	0	14	100
	Thyolo	28	45	0	27	100
	Phalombe	8	43	0	48	100
	Mwanza	0	24	0	76	100
	Chikwawa	53	47	0	0	100
	Nsanje	37	0	0	63	100

Table 2.60: Percent distribution of Pigeon peas Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
Sex of operator	Malawi	8	52	0	40	100
	Male	7	51	0	42	100
	Female	9	55	0	37	100
Plot size	< 0.099 ha	7	61	1	32	100
	0.100-0.199 ha	7	54	0	39	100
	0.200-0.499 ha	7	51	0	42	100
	0.500-0.999 ha	11	49	0	40	100
	1.000 ha+	15	52	0	33	100
Region	Northern	19	38	0	43	100
	Central	25	20	0	54	100
	Southern	8	54	0	39	100
ADD	Karonga	7	28	0	65	100
	Mzuzu	35	50	0	15	100
	Kasungu	12	21	0	67	100
	Salima	100	0	0	0	100
	Lilongwe	28	23	0	49	100
	Machinga	7	30	0	63	100
	Blantyre	7	64	0	29	100
	Shire Valley	22	74	0	4	100
	Chitipa	14	16	0	70	100
	Karonga	0	40	0	60	100
District	Rumphu	75	25	0	0	100
	Mzimba	27	62	0	11	100
	Kasungu	23	27	0	50	100
	Ntchisi	61	39	0	0	100
	Dowa	8	20	0	72	100
	Nkhotakota	100	0	0	0	100
	Dedza	62	38	0	0	100
	Ntcheu	39	0	0	61	100
	Lilongwe rural	7	21	0	72	100
	Mchinji	13	1	0	86	100
	Balaka	2	9	0	90	100
	Mangochi	12	23	0	65	100
	Machinga	10	42	0	48	100
	Zomba rural	6	31	0	63	100
	Chiradzulu	11	29	0	61	100
	Blantyre rural	20	32	0	47	100
	Thyolo	3	89	0	7	100
	Mulanje	4	59	0	37	100
	Phalombe	7	61	0	32	100
	Mwanza	5	91	1	4	100
	Chikwawa	19	77	0	3	100
	Nsanje	36	56	0	8	100

Table 2.61: Percent distribution of GroundNuts Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	65	24	0	11	100
Sex of operator	Male	67	22	0	10	100
	Female	60	26	0	14	100
Plot size	< 0.099 ha	76	19	0	5	100
	0.100-0.199 ha	70	20	0	10	100
	0.200-0.499 ha	61	25	0	14	100
	0.500-0.999 ha	55	27	0	18	100
	1.000 ha+	45	43	0	12	100
Region	Northern	74	18	0	8	100
	Central	85	13	0	3	100
	Southern	25	45	0	29	100
ADD	Karonga	67	24	0	9	100
	Mzuzu	78	15	0	8	100
	Kasungu	89	10	0	1	100
	Salima	94	5	0	1	100
	Lilongwe	81	15	0	3	100
	Machinga	30	33	0	36	100
	Blantyre	17	60	0	23	100
	Shire Valley	53	37	0	10	100
District	Chitipa	71	20	0	9	100
	Karonga	52	40	0	9	100
	Rumphi	85	10	0	5	100
	Nkhata Bay	44	47	0	10	100
	Mzimba	78	14	0	8	100
	Kasungu	94	6	0	0	100
	Ntchisi	96	4	0	1	100
	Dowa	81	16	0	3	100
	Nkhotakota	87	10	0	4	100
	Salima	97	3	0	0	100
	Dedza	61	35	0	4	100
	Ntcheu	54	27	0	19	100
	Lilongwe rural	93	6	0	1	100
	Mchinji	87	11	0	2	100
	Balaka	40	35	0	25	100
	Mangochi	56	28	0	16	100
	Machinga	37	36	0	27	100
	Zomba rural	17	35	0	48	100
	Chiradzulu	25	53	0	22	100
	Blantyre rural	15	65	0	19	100
	Blantyre city	0	82	0	18	100
	Thyolo	10	82	0	8	100
	Mulanje	5	48	0	47	100
	Phalombe	25	52	0	23	100
	Mwanza	54	43	0	3	100
	Chikwawa	30	70	0	0	100
	Nsanje	70	12	0	18	100

Table 2.62: Percent distribution of Sweet potato Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Proportion of plots with Sweet potato	Type of stand				Total
			Pure	Mixed stand	Relay cropping	Scattered	
Sex of operator	Malawi	5	88	7	0	5	100
	Male	5	88	7	0	4	100
Plot size	Female	3	86	7	1	6	100
	< 0.099 ha	11	88	8	0	2	100
Region	0.100-0.199 ha	5	89	6	0	5	100
	0.200-0.499 ha	2	83	8	1	7	100
	0.500-0.999 ha	1	77	7	0	16	100
	1.000 ha+	1	72	28	0	0	100
	Northern	6	89	8	0	3	100
	Central	5	93	4	0	3	100
ADD	Southern	4	82	10	1	7	100
	Karonga	4	95	3	0	2	100
District	Mzuzu	7	87	10	0	3	100
	Kasungu	5	94	4	0	1	100
	Salima	2	81	1	0	18	100
	Lilongwe	5	93	4	0	3	100
	Machinga	4	78	10	1	11	100
	Blantyre	5	85	9	1	5	100
	Shire Valley	1	41	52	1	6	100
	Chitipa	7	95	2	0	2	100
	Karonga	0	89	11	0	0	100
	Rumphi	5	92	1	0	8	100
	Nkhata Bay	5	66	27	0	7	100
	Mzimba	0	92	7	0	1	100
	Kasungu	8	98	1	0	1	100
	Ntchisi	6	91	3	0	6	100
	Dowa	2	88	10	0	2	100
	Nkhotakota	5	69	2	0	29	100
	Salima	2	100	0	0	0	100
	Dedza	2	95	5	0	0	100
	Ntcheu	5	93	5	1	1	100
	Lilongwe rural	5	92	3	0	5	100
	Mchinji	5	97	3	0	0	100
	Balaka	5	86	10	0	4	100
	Mangochi	4	78	10	0	12	100
	Machinga	4	92	3	0	5	100
	Zomba rural	2	73	10	2	15	100
	Chiradzulu	4	76	13	5	5	100
Blantyre rural	7	91	4	0	5	100	
Thyolo	7	79	17	0	4	100	
Mulanje	5	85	8	3	4	100	
Phalombe	4	79	14	0	7	100	
Mwanza	2	96	2	0	2	100	
Chikwawa	4	30	60	0	10	100	
Nsanje	1	53	44	1	1	100	

Table 2.63: Percent distribution of Irish potato Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

			Proportion of plots with Irish potato	Type of stand				Total
				Pure	Mixed stand	Relay cropping	Scattered	
Sex of operator	Malawi		0.4	84	12	0	3	100
	Male		0.5	88	9	0	3	100
	Female		0.4	75	21	0	4	100
Plot size	< 0.099 ha		0.5	99	1	0	0	100
	0.100-0.199 ha		0.5	92	3	0	5	100
	0.200-0.499 ha		0.4	73	22	0	4	100
	0.500-0.999 ha		0.2	68	28	0	5	100
Region	1.000 ha+		0.4	95	5	0	0	100
	Northern		0.1	76	24	0	0	100
	Central		0.9	84	13	0	3	100
	Southern		0.1	96	1	0	3	100
ADD	Karonga		0.0	46	54	0	0	100
	Mzuzu		0.2	79	21	0	0	100
	Kasungu		0.6	86	7	0	7	100
	Salima		0.2	100	0	0	0	100
District	Lilongwe		1.2	83	15	0	2	100
	Machinga		0.2	96	0	0	4	100
	Blantyre		0.0	94	6	0	0	100
	Shire Valley		0.1	100	0	0	0	100
	Chitipa		0.0	46	54	0	0	100
	Rumphi		0.0	100	0	0	0	100
	Nkhata Bay		0.0	100	0	0	0	100
	Mzimba		0.0	76	24	0	0	100
	Kasungu		0.0	100	0	0	0	100
	Ntchisi		0.3	97	3	0	0	100
	Dowa		0.2	80	0	0	20	100
	Nkhotakota		1.5	100	0	0	0	100
	Salima		0.3	100	0	0	0	100
	Dedza		0.3	77	21	0	2	100
	Ntcheu		0.1	88	8	0	4	100
	Lilongwe rural		2.7	97	3	0	0	100
	Mchinji		1.9	75	17	0	9	100
	Mangochi		0.4	100	0	0	0	100
	Zomba rural		1.0	94	0	0	6	100
	Mulanje		0.0	83	17	0	0	100
Phalombe		0.2	100	0	0	0	100	
Mwanza		0.0	100	0	0	0	100	
Chikwawa		0.3	100	0	0	0	100	
Nsanje		0.0	100	0	0	0	100	

Table 2.64: Proportion of plots where various cash crops were grown, according to background variables. 2006/2007 Agricultural Season.

		Wheat	Sun flower	Tobacco	Cotton	Tea	Sugar cane	Coffee
Sex of operator	Malawi	0.1	0.4	3.2	1.6	0.1	0.7	0.1
	Male	0.1	0.4	4.1	2.0	0.0	0.7	0.1
	Female	0.1	0.5	1.2	1.0	0.1	0.6	0.1
Plot size	< 0.099 ha	0.1	0.3	2.6	0.7	0.0	1.1	0.1
	0.100-0.199 ha	0.1	0.3	3.0	1.2	0.1	0.8	0.1
	0.200-0.499 ha	0.0	0.4	3.2	2.1	0.1	0.6	0.0
	0.500-0.999 ha	0.2	0.5	3.5	1.9	0.0	0.2	0.2
	1.000 ha+	0.0	1.0	4.2	2.1	0.1	0.2	0.1
Region	Northern	0.0	0.7	3.8	0.4	0.0	0.3	0.3
	Central	0.1	0.2	4.9	1.0	0.0	0.6	0.0
	Southern	0.1	0.5	0.9	2.8	0.1	0.9	0.1
ADD	Karonga	0.0	1.4	2.0	0.9	0.0	0.2	0.5
	Mzuzu	0.0	0.3	4.8	0.2	0.1	0.3	0.1
	Kasungu	0.0	0.2	8.3	0.4	0.0	0.7	0.0
	Salima	0.3	0.2	0.2	6.5	0.2	0.2	0.0
	Lilongwe	0.1	0.1	3.9	0.2	0.0	0.6	0.1
	Machinga	0.2	0.6	1.6	3.5	0.0	0.5	0.2
	Blantyre	0.1	0.6	0.7	0.3	0.1	1.2	0.0
	Shire Valley	0.1	0.2	0.2	12.1	0.1	0.8	0.0

Table 2.65: Percent distribution of Tobacco Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	90	8	0	2	100
Sex of operator	Male	91	7	0	2	100
	Female	83	15	0	2	100
Plot size	< 0.099 ha	91	7	0	2	100
	0.100-0.199 ha	86	12	0	2	100
	0.200-0.499 ha	91	6	0	3	100
	0.500-0.999 ha	93	7	0	0	100
	1.000 ha+	86	12	0	3	100
Region	Northern	97	3	0	0	100
	Central	92	6	0	2	100
	Southern	67	28	0	5	100
ADD	Karonga	99	1	0	0	100
	Mzuzu	96	4	0	0	100
	Kasungu	89	9	0	2	100
	Salima	100	0	0	0	100
	Lilongwe	96	2	0	2	100
	Machinga	63	31	0	6	100
	Blantyre	73	24	0	3	100
	Shire Valley	86	14	0	0	100
District	Chitipa	99	1	0	0	100
	Karonga	96	0	0	4	100
	Rumphi	98	1	0	1	100
	Nkhata Bay	100	0	0	0	100
	Mzimba	94	6	0	0	100
	Kasungu	99	1	0	0	100
	Ntchisi	91	2	0	7	100
	Dowa	80	18	0	2	100
	Nkhotakota	100	0	0	0	100
	Salima	100	0	0	0	100
	Dedza	82	18	0	0	100
	Ntcheu	100	0	0	0	100
	Lilongwe rural	96	1	0	3	100
	Mchinji	96	4	0	0	100
	Balaka	100	0	0	0	100
	Mangochi	93	7	0	0	100
	Machinga	100	0	0	0	100
	Zomba rural	57	35	0	7	100
	Chiradzulu	52	39	0	9	100
	Blantyre rural	100	0	0	0	100
	Mulanje	100	0	0	0	100
	Phalombe	75	23	0	2	100
	Chikwawa	100	0	0	0	100
	Nsanje	75	25	0	0	100

Table 2.66: Percent distribution of Cotton Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
Sex of operator	Malawi	76	10	14	0	100
	Male	77	13	10	0	100
Plot size	Female	72	0	28	0	100
	<0.100 ha	94	6	0	0	100
Region	0.100-0.199 ha	56	0	44	0	100
	0.200-0.499 ha	77	23	0	0	100
	0.500-0.999 ha	67	0	33	0	100
	1.000 ha+	100	0	0	0	100
ADD	Northern	72	28	0	0	100
	Central	59	0	41	0	100
	Southern	95	5	0	0	100
	Karonga	61	39	0	0	100
District	Mzuzu	100	0	0	0	100
	Kasungu	40	0	60	0	100
	Salima	100	0	0	0	100
	Lilongwe	0	0	0	0	0
	Machinga	100	0	0	0	100
	Blantyre	100	0	0	0	100
	Shire Valley	74	26	0	0	100
	Chitipa	61	39	0	0	100
	Mzimba	100	0	0	0	100
	Kasungu	32	0	68	0	100
	Nkhota kota	100	0	0	0	100
	Salima	100	0	0	0	100
	Mchinji	100	0	0	0	100
	Balaka	100	0	0	0	100
	Mangochi	100	0	0	0	100
	Zomba Rural	100	0	0	0	100
	Blantyre Rural	100	0	0	0	100
	Mulanje	100	0	0	0	100
	Phalombe	100	0	0	0	100
	Mwanza	100	0	0	0	100
	Chikwawa	74	26	0	0	100
	Nsanje	100	0	0	0	100

Table 2.67: Percent distribution of Sun flower Plots by type of stand, according to background variables. 2006/2007 Agricultural Season.

		Pure	Mixed stand	Relay cropping	Scattered	Total
	Malawi	38	28	1	33	100
Sex of operator	Male	40	35	1	24	100
	Female	35	17	1	46	100
Plot size	< 0.099 ha	59	18	0	23	100
	0.100-0.199 ha	39	26	0	36	100
	0.200-0.499 ha	34	29	1	36	100
	0.500-0.999 ha	16	36	3	45	100
	1.000 ha+	81	5	0	15	100
Region	Northern	38	19	0	43	100
	Central	54	37	0	9	100
	Southern	34	29	2	35	100
ADD	Karonga	17	24	0	59	100
	Mzuzu	91	6	0	3	100
	Kasungu	30	63	0	8	100
	Salima	100	0	0	0	100
	Lilongwe	69	18	0	13	100
District	Machinga	20	16	0	64	100
	Blantyre	40	40	4	16	100
	Shire Valley	77	5	0	18	100
	Chitipa	9	26	0	65	100
	Karonga	76	8	0	16	100
	Mzimba	92	5	0	3	100
	Kasungu	29	63	0	8	100
	Ntchisi	50	50	0	0	100
	Nkhotakota	100	0	0	0	100
	Dedza	68	22	0	10	100
	Ntcheu	69	0	0	31	100
	Lilongwe rural	100	0	0	0	100
	Mchinji	66	34	0	0	100
	Balaka	100	0	0	0	100
	Mangochi	18	8	0	73	100
	Machinga	0	0	0	100	100
	Zomba rural	20	18	0	62	100
	Chiradzulu	0	100	0	0	100
	Blantyre rural	0	100	0	0	100
	Blantyre city	100	0	0	0	100
	Thyolo	0	50	0	50	100
	Mulanje	36	31	0	34	100
	Phalombe	29	51	6	14	100
	Mwanza	61	0	0	39	100
	Chikwawa	100	0	0	0	100
	Nsanje	66	8	0	26	100

Table 2.68: Proportion of households who experienced thefts of livestock or produce during the last 5 years, according to background variables. 2006/2007 Agricultural Season.

		Livestock	Crop produce in field	Crop produce from storage
Sex of head	Malawi	17	28	5
	Male	17	28	5
	Female	17	28	5
Poverty quintile	Poorest quintile	16	26	5
	Second quintile	15	28	5
	Third quintile	19	30	5
	Fourth quintile	18	29	5
	Highest quintile	17	32	6
Holding size	<0.100 ha	12	25	3
	0.100-0.199 ha	9	26	3
	0.200-0.499 ha	13	26	5
	0.500-0.999 ha	18	28	5
	1.000-1.999ha	21	31	6
	2.000 ha+	26	34	9
Region	Northern	18	24	6
	Central	18	28	5
	Southern	15	29	5
ADD	Karonga	22	24	8
	Mzuzu	16	24	5
	Kasungu	25	32	9
	Salima	9	19	1
	Lilongwe	16	28	4
	Machinga	13	22	6
	Blantyre	15	31	4
	Shire Valley	26	45	8
	Chitipa	26	20	12
District	Karonga	20	27	5
	Rumphi	20	33	8
	Nkhata Bay	22	22	5
	Mzimba	14	22	4
	Kasungu	25	29	9
	Ntchisi	17	31	8
	Dowa	27	34	11
	Nkhota kota	9	15	1
	Salima	9	23	1
	Dedza	15	25	4
	Ntcheu	16	23	4
	Lilongwe Rural	19	30	5
	Mchinji	25	32	8
	Balaka	19	29	6
	Mangochi	8	13	3
	Machinga	13	22	6
	Zomba Rural	15	27	8
	Chiradzulu	22	35	5
	Blantyre Rural	15	22	3
	Thyolo	16	34	5
	Mulanje	15	30	3
	Phalombe	10	19	6
	Mwanza	17	36	6
	Chikwawa	27	51	10
	Nsanje	26	31	5

Table 2.69: Proportion of households who used various protection methods this season, according to background variables. 2006/2007 Agricultural Season.

		fencing the garden	Post guards	Owner guarded the field	Scare crows	Harvest early	Store harvested crop in house	Used magic	No protection method
Sex of head	Malawi	2	4	18	6	20	32	4	47
	Male	2	4	19	6	21	31	5	46
	Female	1	3	15	5	19	34	4	49
Poverty quintile	Poorest quintile	2	4	20	6	19	33	4	46
	Second quintile	2	4	18	5	21	29	5	49
	3rd quintile	3	4	18	6	21	32	5	46
	Fourth quintile	2	4	18	6	21	32	4	46
Holding size	Highest quintile	2	4	16	5	22	36	4	44
	<0.099 ha	1	4	12	5	16	34	3	49
	0.100-0.199 ha	2	3	15	4	18	36	3	48
	0.200-0.499 ha	2	4	17	5	20	35	4	46
	0.500-0.999 ha	2	4	18	6	20	32	5	47
	1.000-1.999ha	3	5	20	6	23	29	5	46
	2.000 ha+	3	5	22	8	24	27	7	47
Region	Northern	2	3	20	7	22	31	3	46
	Central	3	4	18	5	24	21	4	52
	Southern	2	4	18	6	17	42	5	43
ADD	Karonga	2	4	16	9	26	44	4	35
	Mzuzu	2	3	22	6	20	25	2	52
	Kasungu	6	8	23	8	28	22	5	43
	Salima	1	4	19	6	19	24	2	52
	Lilongwe	2	2	15	3	22	19	4	59
	Machinga	2	5	18	7	16	31	7	48
	Blantyre	0	2	12	4	19	50	4	41
	Shire Valley	4	8	40	6	16	48	6	28
District	Chitipa	2	7	14	14	29	28	7	42
	Karonga	1	1	17	4	23	58	1	28
	Rumphi	0	2	27	5	11	17	5	49
	Nkhata Bay	2	6	28	5	14	31	1	48
	Mzimba	4	2	17	5	22	22	2	56
	Kasungu	0	2	19	2	34	35	1	38
	Ntchisi	1	2	20	8	23	22	3	48
	Dowa	21	25	27	15	24	10	16	40
	Nkhota kota	0	5	17	6	22	33	0	46
	Salima	2	3	20	6	17	14	4	58
	Dedza	1	2	14	4	17	13	3	63
	Ntcheu	1	0	8	1	15	25	10	62
	Lilongwe Rural	3	1	21	5	28	17	3	54
	Mchinji	0	1	25	7	30	18	1	49
	Balaka	1	9	15	3	21	30	1	48
	Mangochi	3	3	27	9	19	18	8	55
	Machinga	0	2	15	3	24	34	3	49
	Zomba Rural	5	9	17	13	8	28	14	50
	Chiradzulu	0	2	15	2	28	61	2	33
	Blantyre Rural	0	4	19	3	13	41	5	41
	Thyolo	0	3	12	4	17	60	3	40
	Mulanje	0	0	7	3	22	57	4	34
	Phalombe	1	0	9	8	16	57	7	40
	Mwanza	1	1	13	6	14	15	2	59
	Chikwawa	5	7	42	10	9	30	12	37
	Nsanje	3	9	38	3	23	66	1	19

Chapter 3: Food security

3.1 Introduction

Apart from the obvious macroeconomic importance of small holder agricultural activities in Malawi, it is important to determine the importance of food security. The question is to what extent the small holder agricultural sector, together with the estate sector, can produce enough staple food and other foods to keep the population from hunger and malnourishment. In addition to providing data on food and livestock production at an aggregate level, one of the purposes of the NACAL was to collect information on household food security trends in 2007.

The households sampled were asked about food security and nutrition status at three different points in the agricultural season as follows;

1. In January, when food supply might start to run out.
2. In June, when food is expected to be plenty because of the recent harvest.
3. In September, when food supply is expected to be low, because this is after sale of produce.

3.2 Food supply

At all three points in time, the households were asked about food reserves either from the 2006/07 or the previous agricultural season. Due to the fact that the data were collected at different times in the year, the questions on food supplies and crop growing are not identical between the NACAL periods.

In January 2007, the households were asked whether they had any staple food left from the 2005/06 agricultural season. Table 3.1 shows that one third of the households had staple food left, but there were substantial differences between sub groups in the population. More male headed households had staple food left from the previous season than female headed households; 37 percent as compared to 27 percent. The table also shows that the poorer the household, the smaller the proportion that had any food left from the previous season, ranging from 21 percent among the poorest households to 51 percent among the least poor households. Also, the smaller the holding size, the lesser the chance of having any food supplies left from the previous season. Households in the Northern region were much better off in this regard than those in Central or Southern regions.

The results further show that 90 percent of households which had grown staple food had staple food left from the 2006/07 agricultural season by June (Table 3.1). The table further indicate that among households which had grown any staple food during the 2006/07 agricultural season, 80 percent of the households had some staple food left by September. More male headed households had some staple food left than female headed households, 82 percent as compared to 76 percent. The poorer the household, the lower the proportion who had any staple food left, and households with larger holdings more often than households with smaller holdings had some staple food left.

Among those households which had grown some staple food in the 2006/07 season, one out of five households had sold some of their produce by September (Table 3.2). There were no major differences between male headed and female headed households. However, poorest households were less likely to have sold any produce than less poor households and the larger the holding size, the more likely the households sold some produce.

3.3 Food sources

In January 2007, about 55 percent of the households either relied upon own produce for food the last 7 days prior to the survey or purchased food from the market, 66 percent, (Table 3.3). There were no major differences between female and male headed households. However, the poorer the household, the less likely they relied on own produce, while there was no differences in the proportion that purchased food from the market. Results in table 3.3 also show that households in Northern region (75 percent) often relied on own produce as source of food than households from the other regions, 57 percent in the Central region and 49 percent in the Southern region.

In June, the most common food sources for households were own produce and purchase from the market, 89 percent and 66 percent respectively (Table 3.3). Results also indicate that the proportion of households who relied on own produce was much higher than in January (55 percent). There was no change in the proportion of households buying food from the market.

Results also indicate that in September, own produce and purchased food from the market were the most important food sources, 77 percent and 76 percent respectively. However in September, own produce was less important than in June, but more important than in January.

3.4 Number of meals taken daily

In January 2007, one out of three households took three or more main meals daily, during the 7 days prior to the survey, 62 percent of the households took two main meals and five percent took only one meal (Table 3.4). Among female headed households, 29 percent took three main meals daily, as compared to 35 percent in male headed households. The poorer the household, the smaller the proportion which took three main meals daily. Households in the Northern region had three main meals daily more often than households from the other two regions, 47 percent for Northern region, 30 for Central region and 32 percent for Southern region.

The table also shows that the proportion of households taking three or more main meals daily had increased between January and June. In June, almost half the households had taken three or more main meals daily (47 percent). Furthermore, female headed households took less often three main meals than male headed households, 41 percent as compared to 50 percent, and the difference between the two households groups was bigger than in January. The less poor the households were, the larger the proportion that had taken three or more meals daily. Poverty status was, however, less important in June than in January.

In September, 43 percent of households took three or more main meals, while the majority of the households (55 percent) took two main meals daily (Table 3.4). The proportion of households which took three or more main meals daily was larger among male headed than female headed households, 46 percent as compared to 35 percent. Further, the poorer the households, the smaller the proportion which took three or more main meals daily. Households in the Northern region (56 percent) took three or more main meals daily more often than households in the Central (40 percent) and Southern region (43 percent).

3.5 Food scarcity

Not being able to keep up a normal diet is an important indicator of food insecurity. In January 2007, 29 percent of the households reported that they could not afford to eat their normal diet during 7 days preceding the survey (Table 3.5). This proportion was higher among female headed than among male headed households, 34 percent as compared to 27 percent.

In June, results indicate that 12 percent of households could not afford what they normally eat in the seven days prior to the survey. The trend is the same as in January across poverty groups, where more female headed households (13 percent) compared to male headed households (11 percent) could not afford what they normally eat in the seven days prior to the survey (Table 3.5).

In September, one out of every ten households reported that they could not eat their normal diet, little or no change from June. A somewhat larger proportion among female headed households than among male headed household reported that they could not eat their normal diet, 12 percent as compared to nine percent (Table 3.5). Further, the poorer the household, the larger the proportion that could not afford to eat their normal diet, ranging from 17 percent among the poorest households to three percent among the least poor households.

3.6 Production of various crops

Production figures were collected on all smallholder farms in rural and district urban centres, and estates were excluded. For urban dwellers with parcels outside the city; the parcels were not included in the sample if the parcel was too far from where the holder lived. Apart from cassava and potatoes where fresh weight was used, dry weight was used in all crops to calculate production (*See Annex 2 for further explanation on the methodology of production estimation*).

The results indicate that a total of 2,116,650 tons of maize was produced by the small holder sector in the 2006/07 agricultural season (table 3.6). Of this amount, 255,859 tons, 951,067 tons, and 909,724 tons were produced in Northern, Central and Southern regions respectively. When comparing production by variety at national level it is observed that 865,701 tons of maize produced in that agricultural season was local maize, 760,468 tons was hybrid maize, 203,614 tons was composite maize, 168,659 tons was recycled hybrid maize and 118,209 tons was maize produced under irrigation or winter farming.

Table 3.7 indicates that 68,053 tons of rice was produced in Malawi in the 2006/07 agricultural season. The main producers of rice at ADD level were Karonga (14,757 tons), Salima (10,754 tons), and Machinga (16,925 tons). The table further shows that 8,901 tons of rice came from Blantyre ADD.

Total of 13,256 tons of sorghum was produced in Malawi in 2006/07 season in the small holder sector (Table 3.7). Of this amount 55 tons, 268 tons and 12,934 tons were produced in Northern, Central and Southern regions respectively. Further 10,013 tons were produced in Shire Valley ADD and 2,090 tons from Blantyre ADD. The table also shows that at national level production for total millet (all stand) was 7,609 tons. At regional level, Southern region had the highest production of 5,253 tons followed by the Northern with 2,111 tons. The results show that at ADD level, Shire Valley, Karonga and Mzuzu had higher production of millet (4,317 tons, 1,105 tons and 1,006 tons respectively).

The results also indicate that in 2006/07 season about 407,167 tons of cassava (fresh weight) was produced in Malawi from the smallholder farmers. Of this amount 176,161 tons, 213,379 tons, and 17,628 tons were produced from Northern, Central and Southern regions respectively (Table 3.8).

About 12,048 tons of Irish potatoes (all stand fresh weight) were produced in the small holder sector in the 2006/07 season (Table 3.8). Of this amount, 11,362 tons, 603 tons and 82 tons, were produced from Central, Southern and Northern regions respectively. At ADD level, most of this production was in Lilongwe ADD (10,171 tons). Further, 147,774 tons of sweet potatoes (fresh weight) were produced in the 2006/07 agricultural season in the small holder sector for both mixed and pure stand crop. Of this amount, 109,539 tons, 26,009 and 12,225 tons, tons were produced from Central, Southern and Northern, regions respectively. At ADD level, more production was in Lilongwe ADD (48,345 tons), Kasungu ADD (47,622 tons) and Machinga ADD (15,832 tons).

Table 3.9 shows that 13,014 tons of ordinary beans were produced in Malawi in 2006/07 season in the small holder sector. Of this amount, 8,958 tons, 2,175 tons and 1,881 tons, were produced in the Central, Southern and Northern regions of the country respectively. Further 3,227 tons of ground beans were produced in Malawi in 2006/07 season in the small holder sector. Of this amount, 1,926 tons, 859 tons and 442 tons came from Northern, Central and Southern region of the country, respectively. Results also show that 21,550 tons of soya beans were produced in Malawi in 2006/07 season in the small holder sector. Out of this, 20,198 tons, 1,196 tons, and 155 tons were produced in the Central, Northern, and Southern region, respectively. Most of the soya beans was produced from Kasungu ADD (12,023 tons) and Lilongwe ADD (8,167 tons).

The table also shows that 2,341 tons of cow peas were produced in 2006/07 season in the small holder sector. Results indicate that the biggest quantity was produced in the Southern region (1,827 tons) compared to the other regions of the country, 34 tons and 479 tons for the Northern and Central regions respectively. The Census results further indicate that 15,673 tons of pigeon peas were produced in the season in the small holder sector, most of which came from the Southern region (15,183 tons).

The results also show that 147,774 tons of groundnuts were produced in Malawi in 2006/07 year in the small holder sector (Table 3.9). Further 109,539 tons, 26,009 tons and 12,225 tons, of groundnuts were produced in Central, Southern and Northern regions respectively. At ADD level, a lot of groundnuts were produced in Lilongwe (48,345 tons), Kasungu (47,622 tons) and Machinga (15,832 tons.)

3.7 Area under cultivation

Area under cultivation for various crops presented here is for pure stand only. This covers all major food and cash crops grown in the agricultural season. The results on area under maize show that the total area under pure stand maize was 1,168,689 ha; of which 132,777 ha was in Northern region, 595,339 ha was in the Central region, and 440,572 ha was in Southern region (Table 3.10). Results also show that 101,732 ha was under recycled maize, 106,424 ha under composite maize, 559,759 ha under local maize and 400,774 ha was under hybrid maize.

The results further indicate that of the total arable land, 41,952 ha was used to grow rice on pure stand in the same season. At regional level, 17,101 ha, 14,042 ha and 10,810 ha of land was utilized in growing pure stand rice in the Southern, Central and Northern regions, respectively (Table 3.11).

About 22,746 ha of arable land was used to grow sorghum on pure stand by small holder farmers in 2006/07 agricultural season. Most of this was in Southern region (21,527 ha); especially in Shire Valley ADD about 16,299 ha (Table 3.11). The results also show that about 16,215 ha of arable land was used to grow millet on pure stand. Most of this land was in the Southern region (11,751 ha).

The results further indicate that 61,787 ha of arable land from small holder sector was used to grow cassava on pure stand. At regional level, 34,571 ha, 24,057 ha and 3,159 ha of land was exclusively used for cassava in Northern, Central and Southern region, respectively (Table 3.12).

In the same season 7,026 ha of land was used to grow pure stand Irish potatoes. Most of this land was in Central region (5,875 ha). Further, 46,122 ha of arable land was used to grow pure stand sweet potatoes for the small holder farmers. At regional level, 28,073 ha, 11,165 ha and 6,884 ha of land from Central, Southern and Northern, regions respectively was used exclusively for sweet potatoes.

The results show that about 11,559 ha of land was used to grow ordinary beans on pure stand in the 2006/07 season in the small holder sector. At regional level, 2,709 ha, 7,956 ha and 894 ha was grown by pure stand beans in the Northern, Central and Southern regions, respectively (Table 3.13).

The results also show that about 9,367 ha of land was used to grow ground beans on pure stand. Further, 33,720 ha of land from the small holder sector was used to grow pure stand soya beans in the season. Most of this land was in the Central region (28,555 ha).

Of the total amount of arable land, 6,138 ha was used to grow cow peas on pure stand. The findings also show that about 13,795 ha of arable land was used to grow pigeon peas (on pure stand) in the 2006/07 season. Most of this land was in the Southern region (12,405 ha). The results also indicate that about 143,081 ha of arable land was used to grow groundnuts on pure stand. Most of this land was in the Central region (119,654 ha).

The results show that 64,895 ha of the arable land from small holder sector was used to grow tobacco on pure stand. At regional level 10,949 ha, 49,399 ha and 4,547 ha was grown by pure stand tobacco in the Central, Northern and Southern region, respectively (Table 3.14).

The results show that 45,162 ha of arable land were used to grow pure stand cotton in the 2006/07 season (Table 3.14). At regional level, 901 ha, 13,802 ha and 30,459 ha of land was grown by pure stand cotton in Northern, Central and Southern regions respectively. The results further indicate that 4,681 ha of arable land was used for sunflower on pure stand. Most of this land was in the Southern region (2,904 ha) and Northern region (1,109 ha).

3.8 Yield of various crops

Calculation of yield per crop was done at plot level (production in metric tones divided by area of the plot). Further, the total yield per plot was calculated for pure stand crops only, specifically for the smallholder sector.

The results show that the average yield for all maize pure stand in Malawi was 1,709 kg/ha. For male operators, the average yield for maize was 1,747 kg/ha, while for female operators the yield was 1,644 kg/ha (Table 3.15). At regional level, results show that Southern region had the highest average yield of maize under pure stand (1,761 kg/ha), followed by Central (1,698 kg/ha) and Northern region, (1,625kg/ha)..

Furthermore, the results show that at regional level, Southern region had higher average yield for composite and hybrid maize varieties, (1,842kg/ha) and (1,982kg/ha) respectively, while Central region had higher yield for local maize, (,419kg/ha and. Furthermore, male operators had more yields in all maize varieties compared to female operators.

The national maize yield was 1,384 kg/ha for male operators and 1,353 kg/ha for female operators (Table 3.15). On hybrid maize the yield was 1,915kg/ha for male operators and 1,887kg/ha for female operators. The table also show that composite maize had an average yield of 1,600 kg/ha for female operators and 1,809 kg/ha for male operators. Further, hybrid recycled maize had an average yield of 1,751kg/ha for male operators and 1,482kg/ha for female operators. The table also shows that maize yield for plots with fertilizer was higher than yield for unfertilized maize plots. The results show that yields were higher for plots where fertilizer was applied twice.

At national level, average local maize yield was 1,198 kg/ha for unfertilized maize plots and 1,379 kg/ha for plots where fertilizer was applied once, 1,622kg/ha for plots where fertilizer was applied twice (Table 3.15). Average yield for hybrid maize was 1,740 kg/ha for plots where fertilizer was applied once and 2,342kg/ha for plots where fertilizer was applied twice. Average yield for composite maize was 1,601kg/ha for unfertilized plots, 1,806 kg/ha for plots where fertilizer was applied once, and 2,047 kg/ha for plots where fertilizer was applied twice. Furthermore, for all maize varieties, plots weeded twice yielded higher than plots which were weeded once.

Table 3.16 shows that at national level, average yield for smallholder rice growers was 2,412 kg/ha for pure stand rice. Northern region had an average yield of 2,571 kg/ha, Central region, 2,537 kg/ha and Southern region 2,196 kg/ha. The average yield for male operators was 2,450 kg/ha and 2,347 kg/ha for female operators. The average yield for unfertilized plots was 2,246 kg/ha and 3,205 kg/ha for plots in which fertilizer was applied.

The table further show that at national level, the average yield for sorghum was 1,284 kg/ha for pure stand sorghum. The average yield for female operators was 1,267 kg/ha while for the male operators it was 1,295 kg/ha.

The average yield for millet at national level was 1,201 kg/ha for pure stand millet (Table 3.16). Female operators had higher yield (1,365 kg/ha) than male operators (1,099 kg/ha). Across regions, Northern region had an average yield of 1,330 kg/ha, Central region, 1,198 kg/ha and Southern region, 1,146 kgs per ha.

The results show that the average yield for cassava based on fresh weight was 5,128 kg/ha for pure stand cassava (Table 3.17). Central region had an average yield of 5,476 kg/ha, Northern region had 5,043 kg/ha and Southern region had 3,882 kg/ha.

In this report, calculation of yield for potatoes is based on fresh weight and for pure stand. At national level, the average yield for irish potatoes was 3,454 kg/ha in the year. The average yield for male operators was 3,258 kg/ha and 4,197 kg/ha for female operators. The average yield for unfertilized irish potato plots was 2,493 kg/ha and 3,511 kg/ha for plots in which fertilizer was applied.

The results further show that average yield for fresh weight pure stand sweet potatoes for small holder sector was 2,642 kg/ha (Table 3.17). The average yield at regional level was 2,364 kg/ha, 2,912 kg/ha and 2,349 kg/ha for Northern, Central and Southern regions respectively. The average yield for male operators was higher, 2,694 kg/ha than female operators, 2,460 kg/ha. The average yield for unfertilized plots was 2,626 kg/ha and 2,921 kg/ha for plots in which fertilizer was applied.

The average yield for pure stand beans at national level was 1,154 kg/ha, male operators had higher yield than female operators (1,212 kg/ha and 1,021 kg/ha) respectively (Table 3.18). At regional level, Southern region had an average yield of 1,414 kg/ha, Central region, 1,310 kg/ha and Northern region, 752 kg/ha. Average yield for pure stand ground beans at national level was 472 kg/ha, male operators had higher yield than female operators, 440kg/ha and 509kg/ha,respectively. At regional level, Central region had average yield of 565 kg/ha, Northern region , 399 kg/ha and Southern region 366 kg/ha.

The results show that average yield for pure stand soya beans at national level was 840 kg/ha, male operators had higher yield than female operators, 866 kg/ha and 778 kg/, respectively (Table 3.18). At regional level, Central region had an average yield of 865 kg/ha, Northern, region 725 kg/ha and Southern region, 523 kg/ha. The table also shows that average yield for pure stand cow peas at national level was 689 kg/ha, male operators had higher average yield than female operators, 693 kg/ha and 683 kg/ha, respectively.

The table further shows that the average yield for pure stand pigeon peas at national level was 1,414 kg/ha, male operators had higher average yield than female operators 1,708 kg/ha and 1,066 kg/ha,respectively. Northern region had an average yield of 1,545 kg/ha, Southern region, 1,435 kg/ha and Central region, 515 kg/ha.

At national level, the average yield for pure stand groundnuts was 1,287kg/ha. Southern region had an average of 1,436 kg/ha, Northern region, 1,280 kg/ha and Central region, 1,259 kg/ha . The results show that for male operators the average yield was 1,289 kg/ha and for female operators, 1,284 kg/ha (Table 3.18).

3.9 Fruits cultivation

The results show that there were about 10.7 million mangoes in the small holder agriculture sector of which 4.9 million was in the Southern region, 4.6 million in the Central region, and 1.2 million in the Northern region (Table 3.19). Results also indicate that in the small holder sector, there were about 2 million pawpaw trees, 2 million guava trees, 1 million avocado pear trees, 0.7 million orange trees, and 0.4 million tangerine trees.

The results show that 78 percent of small holder farming households had at least one kind of a fruit tree (Table 3.20). At national level, 66 percent of households owned at least a mango tree, 27 percent owned at least a pawpaw tree, 12 percent owned at least an orange tree . The proportion of those owning at least a fruit tree increased with increase in land holding size of the households, except for avocado pear (Table 3.20).

Table 3.1 Proportion of households who still had staple food left from previous season by month , according to background variables, 2006/2007 Agricultural Season.

		January	June	September
	Malawi	34	90	80
Sex of head of Household	Male	37	90	82
	Female	27	89	76
Poverty quintile	Poorest quintile	21	86	69
	Second quintile	28	90	79
	3rd quintile	36	91	82
	Fourth quintile	40	92	84
	Highest quintile	51	91	87
Holding size	Less than 0.1 ha	29	84	71
	0,100-0,199 ha	21	86	68
	0,200-0,499 ha	25	89	77
	0,500-0,999 ha	34	90	84
	1,000 ha+	46	92	88
	2,000 ha+	54	91	87
Region	Northern	57	88	85
	Central	35	90	82
	Southern	28	90	78
District	Chitipa	69	89	91
	Karonga	61	86	82
	Rumphi	61	95	94
	Nkhata Bay	66	89	81
	Likoma	2	23	0
	Mzimba	49	93	87
	Kasungu	27	95	82
	Ntchisi	43	92	89
	Dowa	38	88	84
	Nkhota kota	68	92	80
	Salima	37	98	81
	Dedza	32	74	80
	Ntcheu	48	92	91
	Lilongwe Rural	26	90	77
	Mchinji	21	88	83
	Balaka	31	88	80
	Mangochi	24	91	83
	Machinga	29	93	81
	Zomba Rural	29	92	87
	Chiradzulu	33	97	82
	Blantyre Rural	28	96	82
	Thyolo	34	95	79
	Mulanje	15	87	69
	Phalombe	33	87	84
	Mwanza	33	96	85
	Chikwawa	19	67	45
	Nsanje	16	86	54

Table 3.2: Proportion of households who grew staple food in the 2006/07 agricultural season and had sold some of the main staple food, according to background variables, 2006/2007 Agricultural Season.

		Yes	No	Total
Sex of head	Malawi	22	78	100
	Male	22	78	100
	Female	20	80	100
Poverty quintile	Poorest quintile	16	84	100
	Second quintile	22	78	100
	Third quintile	25	75	100
	Fourth quintile	23	77	100
	Highest quintile	23	77	100
Holding size	Less than 0.1 ha	13	87	100
	0.100-0.199 ha	14	86	100
	0.200-0.499 ha	18	82	100
	0.500-0.999 ha	23	77	100
	1.000-1.999 ha	29	71	100
	2.000ha+	30	70	100
Region	Northern	22	78	100
	Central	26	74	100
	Southern	18	82	100
District	Chitipa	25	75	100
	Karonga	31	69	100
	Rumphi	27	73	100
	Nkhata Bay	15	85	100
	Likoma	0	100	100
	Mzimba	22	78	100
	Kasungu	32	68	100
	Ntchisi	39	61	100
	Dowa	41	59	100
	Nkhotakota	17	83	100
	Salima	34	66	100
	Dedza	25	75	100
	Ntcheu	21	79	100
	Lilongwe rural	26	74	100
	Mchinji	22	78	100
	Balaka	23	77	100
	Mangochi	19	81	100
	Machinga	14	86	100
	Zomba rural	23	77	100
	Chiradzulu	24	76	100
	Blantyre rural	20	80	100
	Thyolo	20	80	100
	Mulanje	11	89	100
	Phalombe	43	57	100
	Mwanza	12	88	100
	Chikwawa	10	90	100
	Nsanje	10	90	100

Table 3.3: Proportion of households who used various food sources in the last 7 days by month, according to background variables, 2006/2007 Agricultural Season.

		January				June				September			
		Own produce	Purchase from market	Casual labour paid in food	Food for work	Own produce	Purchase from market	Casual labour paid in food	Food for work	Own produce	Purchase from market	Casual labour paid in food	Food for work
Sex of head of Household Poverty quintile	Malawi	55	66	12	6	89	66	2	1	77	76	2	1
	Male	56	67	11	6	89	67	2	1	78	76	2	1
	Female	52	64	13	6	88	63	2	1	75	74	2	1
	Poorest quintile	49	67	14	8	86	62	3	1	73	71	3	2
	Second quintile	54	63	15	7	90	64	4	1	79	72	2	2
	3rd quintile	56	68	11	6	90	65	1	1	82	74	2	1
	Fourth quintile	59	66	12	5	90	65	2	1	81	77	2	1
	Highest quintile	62	68	7	4	88	74	2	1	72	84	1	1
	Holding size												
	Less than 0.1 ha	49	75	7	5	76	77	2	1	70	83	2	1
Region	0,100-0,199 ha	43	70	13	5	82	68	3	2	68	80	2	2
	0,200-0,499 ha	49	71	12	6	87	65	3	1	77	77	2	1
	0,500-0,999 ha	56	65	13	6	90	65	2	1	82	74	2	1
	1,000 ha+	64	61	10	7	92	65	2	1	86	71	2	1
	Northern	75	58	5	3	92	64	1	0	82	70	1	1
	Central	57	57	19	10	92	60	4	2	79	73	3	2
	Southern	49	76	7	4	85	71	2	1	75	78	2	1
	District												
	Chitipa	85	47	3	1	99	74	0	0	94	71	0	0
	Karonga	73	66	2	1	86	60	1	0	82	66	0	0
District	Rumphi	75	77	9	2	94	75	0	0	93	74	0	0
	Nkhata Bay	86	65	3	1	91	67	2	1	81	68	1	0
	Likoma	28	93	2	0	28	100	4	2	6	100	0	0
	Mzimba	70	48	7	5	94	56	1	0	88	67	2	1
	Kasungu	70	71	14	31	96	84	1	1	86	80	1	1
	Ntchisi	65	37	23	6	99	59	1	2	90	69	6	4
	Dowa	61	48	21	7	90	55	4	0	79	57	7	3
	Nkhota kota	81	62	2	3	87	69	1	1	81	81	1	1
	Salima	33	81	7	6	91	74	1	0	80	67	2	3
	Dedza	58	58	21	7	95	69	7	2	82	76	6	1
District	Ntcheu	74	64	9	11	91	66	3	6	84	72	1	2
	Lilongwe Rural	47	55	28	9	91	49	4	2	80	76	4	4
	Mchinji	53	42	24	4	93	69	8	2	84	72	3	1
	Balaka	48	73	13	6	91	68	2	0	77	82	4	1
	Mangochi	46	71	5	2	82	71	0	1	76	82	2	1
	Machinga	67	66	10	4	86	59	2	0	79	71	2	1
	Zomba Rural	61	81	6	1	89	62	2	1	87	68	2	2
	Chiradzulu	71	78	8	6	89	86	1	0	87	89	0	0
	Blantyre Rural	30	67	7	7	79	65	1	0	86	70	2	0
	Thyolo	60	79	7	1	95	80	1	1	83	77	1	1
District	Mulanje	37	79	4	1	81	70	0	2	69	74	2	1
	Phalombe	63	73	11	3	94	69	0	0	87	73	1	1
	Mwanza	68	57	22	2	86	63	10	0	84	63	5	0
	Chikwawa	45	79	12	12	73	84	5	1	50	85	1	2
	Nsanje	24	83	4	8	85	51	0	1	57	78	1	1

Table 3.4 Percentage distribution of households by number of meals taken daily last 7 days, according to background variables, 2006/2007 Agricultural Season.

		January				June				September			
		One meal	Two meals	Three meals or more	Total	One meal	Two meals	Three meals or more	Total	One meal	Two meals	Three meals or more	Total
Sex of head of Household	Malawi	5	62	33	100	2	51	47	100	2	55	43	100
	Male	4	61	35	100	1	49	50	100	2	52	46	100
	Female	6	65	29	100	2	57	41	100	3	62	35	100
Poverty quintile	Poorest quintile	7	73	20	100	2	64	34	100	3	78	19	100
	Second quintile	5	70	25	100	2	57	41	100	2	67	31	100
	3rd quintile	4	65	31	100	2	50	48	100	2	59	39	100
Holding size	Fourth quintile	3	57	40	100	1	45	54	100	2	46	52	100
	Highest quintile	3	43	54	100	1	38	61	100	1	25	74	100
	Less than 0.1 ha	4	55	41	100	2	45	53	100	1	40	59	100
Region	0,100-0,199 ha	4	59	37	100	4	54	42	100	3	57	40	100
	0,200-0,499 ha	5	64	31	100	2	53	46	100	2	57	40	100
	0,500-0,999 ha	5	63	32	100	2	54	44	100	2	58	40	100
District	1,000-1,999 ha	4	62	34	100	1	48	51	100	2	56	42	100
	2,000 ha+	2	63	35	100	1	45	54	100	1	57	41	100
	Northern	2	50	47	100	1	36	64	100	1	43	56	100
District	Central	6	64	30	100	2	53	45	100	2	58	40	100
	Southern	4	64	32	100	2	54	45	100	2	55	43	100
	Chitipa	1	47	52	100	0	37	63	100	1	36	64	100
District	Karonga	1	48	52	100	0	26	74	100	1	35	64	100
	Rumphi	2	38	61	100	0	26	73	100	1	23	77	100
	Nkhata Bay	2	54	43	100	2	54	45	100	1	53	47	100
District	Likoma	0	50	50	100	6	31	63	100	2	18	80	100
	Mzimba	4	57	39	100	1	39	61	100	2	56	42	100
	Kasungu	2	64	35	100	0	41	59	100	0	57	43	100
District	Ntchisi	9	76	16	100	1	62	37	100	1	60	39	100
	Dowa	13	61	26	100	6	58	36	100	6	65	29	100
	Nkhota kota	2	68	29	100	1	52	47	100	1	37	61	100
District	Salima	4	59	37	100	1	53	46	100	1	50	49	100
	Dedza	9	70	21	100	2	67	31	100	3	72	26	100
	Ntcheu	4	59	37	100	1	55	44	100	1	70	29	100
District	Lilongwe Rural	5	70	24	100	2	57	42	100	4	73	23	100
	Mchinji	9	71	21	100	2	51	47	100	4	64	33	100
	Balaka	6	68	25	100	1	65	34	100	2	68	30	100
District	Mangochi	2	63	34	100	2	46	52	100	2	51	47	100
	Machinga	7	59	34	100	1	56	43	100	2	66	33	100
	Zomba Rural	4	60	37	100	1	48	50	100	2	57	41	100
District	Chiradzulu	7	76	18	100	3	63	34	100	2	74	24	100
	Blantyre Rural	2	61	37	100	1	50	49	100	1	55	44	100
	Thyolo	5	71	24	100	4	43	52	100	1	57	43	100
District	Mulanje	4	75	21	100	3	52	45	100	3	70	27	100
	Phalombe	7	74	19	100	4	73	23	100	4	77	19	100
	Mwanza	4	57	39	100	1	49	49	100	3	54	44	100
District	Chikwawa	4	70	27	100	1	57	42	100	2	61	37	100
	Nsanje	6	62	32	100	2	55	44	100	4	57	39	100

Table 3.5: Proportion of households who could not eat what they normally eat last 7 days by month, according to background variables, 2006/2007 Agricultural Season.

		January	June	September
	Malawi	29	12	10
Sex of head of Household	Male	27	11	9
	Female	34	14	12
Poverty quintile	Poorest quintile	39	16	17
	Second quintile	34	13	11
	3rd quintile	29	12	9
	Fourth quintile	22	11	7
	Highest quintile	19	6	3
Holding size	Less than 0.1 ha	30	13	8
	0,100-0,199 ha	32	20	11
	0,200-0,499 ha	31	13	11
	0,500-0,999 ha	30	11	8
	1,000-1,999 ha	25	10	8
	2,000 ha+	21	9	7
Region	Northern	26	12	7
	Central	28	10	9
	Southern	31	13	10
District	Chitipa	12	4	3
	Karonga	22	12	7
	Rumphi	31	7	2
	Nkhata Bay	33	20	12
	Likoma	54	65	34
	Mzimba	27	13	7
	Kasungu	30	9	6
	Ntchisi	36	9	11
	Dowa	27	7	11
	Nkhota kota	35	23	15
	Salima	20	3	8
	Dedza	30	9	13
	Ntcheu	25	10	8
	Lilongwe Rural	31	12	10
	Mchinji	25	14	11
	Balaka	24	12	8
	Mangochi	21	6	10
	Machinga	32	12	11
	Zomba Rural	27	12	10
	Chiradzulu	35	16	13
	Blantyre Rural	35	19	7
	Thyolo	26	13	9
	Mulanje	36	11	14
	Phalombe	24	13	11
	Mwanza	21	10	4
	Chikwawa	51	27	21
	Nsanje	56	17	16

Table 3.6: Production of maize in tons by variety by background characteristics, 2006/2007 Agricultural Season.

		Local	Composite	Recycled	Hybrid	Winter production	Total
Region	Malawi	865,701	203,614	168,659	760,468	118,209	2,116,650
	Northern	136,117	21,344	21,190	63,678	13,530	255,859
	Central	362,784	104,853	102,367	328,859	52,204	951,067
ADD	Southern	366,800	77,416	45,102	367,930	52,475	909,724
	Karonga	20,276	4,340	5,876	17,303	5,460	53,255
	Mzuzu	115,841	17,004	15,313	46,376	8,070	202,604
District	Kasungu	136,680	37,893	35,926	159,881	10,125	380,506
	Salima	31,615	17,546	22,831	35,741	9,613	117,348
	Lilongwe	194,489	49,414	43,609	133,237	32,466	453,214
	Machinga	200,020	36,398	18,478	90,745	19,545	365,186
	Blantyre	148,216	31,126	20,565	265,096	12,707	477,709
	Shire Valley	18,564	9,892	6,059	12,089	20,224	66,828
	Chitipa	12,195	3,297	3,395	12,500	1,451	32,837
	Karonga	8,081	1,043	2,481	4,803	4,010	20,418
	Rumphi	14,987	2,198	1,408	16,224	1,342	36,160
	Nkhata Bay	3,669	2,462	709	7,227	1,241	15,308
	Likoma	138	65	2	49	9	264
	Mzimba	96,046	12,111	13,057	20,871	5,240	147,325
	Mzuzu City	1,001	168	138	2,004	237	3,547
	Kasungu	30,018	17,725	17,882	58,651	5,636	129,912
	Ntchisi	27,362	5,462	1,922	15,842	626	51,215
	Dowa	52,660	13,067	12,052	38,013	1,522	117,314
	Nkhota kota	5,819	7,966	6,396	16,150	2,390	38,721
	Salima	25,797	9,580	16,435	19,591	7,223	78,626
	Dedza	52,387	7,736	9,482	25,373	4,997	99,974
	Ntcheu	59,191	5,367	7,202	12,993	3,681	88,434
	Lilongwe Rural	69,958	28,177	15,412	62,838	14,581	190,966
	Lilongwe City	12,951	8,136	11,514	32,034	10,204	73,840
	Mchinji	26,641	1,638	4,070	47,375	2,340	82,065
	Balaka	47,303	14,016	3,757	6,682	1,907	73,666
	Mangochi	67,241	11,410	7,762	36,090	6,873	129,376
	Machinga	27,016	3,354	1,331	9,669	4,657	46,027
	Zomba Rural	54,704	7,458	5,235	34,538	5,798	107,734
	Zomba City	4,258	222	419	4,388	10	9,518
	Chiradzulu	24,667	3,850	2,494	14,753	2,643	48,408
	Blantyre Rural	24,278	5,322	1,985	19,971	916	52,471
	Blantyre City	5,037	3,550	2,197	39,748	80	51,383
	Thyolo	25,465	8,517	8,244	27,084	1,750	71,060
	Mulanje	20,269	1,518	1,001	146,151	4,571	173,510
	Phalombe	32,100	6,886	3,648	8,151	1,137	51,924
	Mwanza	15,898	1,421	970	8,617	913	27,819
	Chikwawa	13,790	9,156	5,043	6,274	12,176	46,440
	Nsanje	4,774	736	1,016	5,814	8,048	20,388

Table 3.7: Production of Other staple food crops in *metric tons* by background characteristics, 2006/2007 Agricultural Season.

		Millet	Sorghum	Rice
Region	Malawi	7,609	13,256	68,053
	Northern	2,111	55	18,977
	Central	245	268	17,582
	Southern	5,253	12,934	31,494
ADD	Karonga	1,105	10	14,757
	Mzuzu	1,006	45	4,220
	Kasungu	95	61	1,134
	Salima	.	18	10,754
	Lilongwe	149	189	5,694
	Machinga	661	832	16,925
	Blantyre	276	2,090	8,901
	Shire Valley	4,317	10,013	5,668
	Chitipa	349	1	305
District	Karonga	756	9	14,452
	Rumphi	41	.	45
	Nkhata Bay	41	11	3,559
	Mzimba	925	34	607
	Mzuzu city	.	.	9
	Kasungu	95	60	409
	Ntchisi	.	.	.
	Dowa	.	1	673
	Nkhotakota	.	.	8,330
	Salima	.	18	2,424
	Dedza	103	24	5,005
	Ntcheu	40	1	67
	Lilongwe rural	6	164	620
	Lilongwe City	1	0	54
	Mchinji	.	.	51
	Balaka	296	66	1,831
	Mangochi	.	342	1,346
	Machinga	3	186	6,819
	Zomba rural	362	238	6,927
	Zomba City	.	.	1
	Chiradzulu	123	146	113
	Blantyre rural	.	9	109
	Blantyre City	.	.	5
	Thyolo	39	160	175
	Mulanje	59	481	1,817
	Phalombe	5	1,237	6,612
	Mwanza	49	58	72
	Chikwawa	1,785	5,137	3,320
	Nsanje	2,532	4,876	2,347

Table 3.8: Production of root crops in metric tons by type and background characteristics 2006/2007 Agricultural Season

		Cassava	Sweet potato	Irish Potato
Region	Malawi	407,167	147,774	12,048
	Northern	176,161	12,225	82
	Central	213,379	109,539	11,362
	Southern	17,628	26,009	603
ADD	Karonga	70,399	1,826	36
	Mzuzu	105,761	10,400	46
	Kasungu	17,372	47,622	1,186
	Salima	181,802	13,573	5
District	Lilongwe	14,204	48,345	10,171
	Machinga	8,300	15,832	359
	Blantyre	9,123	8,608	222
	Shire Valley	204	1,570	22
	Chitipa	4,368	1,218	36
	Karonga	66,031	607	.
	Rumphi	3,416	1,611	13
	Nkhata Bay	90,437	274	.
	Likoma	50	.	.
	Mzimba	11,830	8,495	31
	Mzuzu city	28	19	2
	Kasungu	15,598	14,258	164
	Ntchisi	465	2,851	443
	Dowa	772	11,861	239
	Nkhotakota	180,078	1,639	.
	Salima	1,724	11,934	5
	Dedza	4,642	13,911	5,741
	Ntcheu	4,828	4,431	4,025
	Lilongwe rural	4,656	27,674	405
	Lilongwe city	78	2,329	.
	Mchinji	538	18,652	341
	Balaka	580	2,052	1
	Mangochi	4,096	6,922	261
	Machinga	809	1,307	6
	Zomba rural	2,689	5,447	92
	Zomba City	126	104	.
	Chiradzulu	551	1,329	.
	Blantyre rural	615	1,387	17
	Blantyre city	.	55	39
	Thyolo	3,963	1,125	43
	Mulanje	2,525	971	64
	Phalombe	1,023	3,009	41
	Mwanza	446	732	18
	Chikwawa	176	402	16
	Nsanje	28	1,168	6

**Table 3.9: Production in metric tons of various pulses/nuts by background characteristics
2006/2007 Agricultural Season**

		Groundnuts	Ordinary Beans	Ground Beans	Soya Beans	Pigeon Peas	Cow peas
Region	Malawi	147,774	13,014	3,227	21,550	15,673	2,341
	Northern	12,225	1,881	1,926	1,196	146	34
	Central	109,539	8,958	859	20,198	343	479
	Southern	26,009	2,175	442	155	15,183	1,827
ADD	Karonga	1,826	339	80	87	16	21
	Mzuzu	10,400	1,541	1,846	1,108	131	13
	Kasungu	47,622	2,188	381	12,023	90	194
	Salima	13,573	21	28	9	.	34
	Lilongwe	48,345	6,750	450	8,167	253	251
	Machinga	15,832	399	289	98	3,398	517
	Blantyre	8,608	1,607	118	57	11,570	1,224
	Shire Valley	1,570	169	34	1	215	86
	Chitipa	1,218	339	68	85	7	15
	Karonga	607	.	12	3	9	6
District	Rumphi	1,611	729	2	27	28	1
	Nkhata Bay	274	17	37	5	.	.
	Likoma	.	.	.	.	.	.
	Mzimba	8,495	774	1,807	1,075	102	11
	Kasungu	14,258	303	3	3,079	27	4
	Ntchisi	2,851	338	59	4,193	1	.
	Dowa	11,861	1,472	318	2,451	62	190
	Nkhotakota	1,639	2	21	4	.	10
	Salima	11,934	19	7	5	.	24
	Dedza	13,911	4,653	250	5,437	83	85
	Ntcheu	4,431	1,150	41	60	.	2
	Lilongwe rural	27,674	905	158	2,627	103	133
	Mchinji	18,652	74	1	2,299	.	.
	Balaka	2,052	26	92	1	237	73
	Mangochi	6,922	99	43	60	51	7
	Machinga	1,307	127	68	6	450	129
	Zomba rural	5,447	146	84	27	2,655	269
	Chiradzulu	1,329	712	21	13	1,279	39
	Blantyre rural	1,387	60	31	.	170	10
	Thyolo	1,125	273	13	16	2,338	268
	Mulanje	971	80	2	2	2,790	781
	Phalombe	3,009	215	1	25	3,993	8
	Mwanza	732	60	9	1	415	117
	Chikwawa	402	125	34	1	129	12
	Nsanje	1,168	44	.	.	85	74

Table 3.10: Area in ha under crop (pure stand) for maize varieties by background characteristics 2006/2007 Agricultural Season

		Local	Composite	Recycled	Hybrid	Total
Region	Malawi	559,759	106,424	101,732	400,774	1,168,689
	Northern	77,498	11,546	13,191	30,542	132,777
	Central	258,046	64,629	64,941	207,724	595,339
	Southern	224,215	30,249	23,600	162,508	440,572
ADD	Karonga	15,814	3,699	3,383	7,300	30,196
	Mzuzu	61,684	7,847	9,808	23,242	102,582
	Kasungu	92,409	26,535	26,650	100,479	246,073
	Salima	26,078	14,491	10,719	22,878	74,166
District	Lilongwe	139,559	23,602	27,572	84,367	275,099
	Machinga	109,269	15,864	10,187	38,199	173,519
	Blantyre	101,419	12,198	9,890	117,078	240,585
	Shire Valley	13,527	2,187	3,523	7,231	26,468
	Chitipa	11,745	3,338	2,617	5,975	23,675
	Karonga	4,069	361	765	1,325	6,521
	Rumphi	4,720	721	556	6,796	12,793
	Nkhata Bay	984	985	384	1,627	3,980
	Likoma	20	10	4	42	77
	Mzimba	55,424	6,125	8,816	13,695	84,060
	Kasungu	23,560	13,139	14,603	40,670	91,972
	Ntchisi	15,264	3,993	1,761	8,004	29,022
	Dowa	32,434	7,263	8,546	19,120	67,362
	Nkhota kota	3,991	5,091	1,622	9,335	20,040
	Salima	22,087	9,400	9,097	13,543	54,127
	Dedza	22,794	3,190	3,341	11,440	40,763
	Ntcheu	32,331	2,951	3,773	5,767	44,822
	Lilongwe Rural	79,053	15,537	13,521	48,100	156,212
	Mchinji	21,151	2,140	1,740	32,686	57,718
	Balaka	21,288	4,683	2,641	3,457	32,070
	Mangochi	51,677	5,446	5,236	19,931	82,290
	Machinga	15,308	2,690	925	6,028	24,952
	Zomba Rural	20,867	3,019	1,348	8,629	33,863
	Chiradzulu	9,369	1,473	592	5,082	16,516
	Blantyre Rural	19,394	2,870	544	8,632	31,440
	Thyolo	5,320	1,576	1,794	4,104	12,794
	Mulanje	14,190	1,923	1,581	65,367	83,061
	Phalombe	44,666	2,728	4,166	12,652	64,211
	Mwanza	4,217	509	426	3,636	8,788
	Chikwawa	10,656	1,651	3,015	4,307	19,630
	Nsanje	2,871	536	507	2,924	6,838

Table 3.11: Distribution of area under crop [in hectares] for pure stand by crop and area of residence, 2006/2007 Agricultural Season.

		Rice	Millet	Sorghum
Region	Malawi	41,952	16,215	22,746
	Northern	10,810	3,359	24
	Central	14,042	1,105	1,196
	Southern	17,101	11,751	21,527
ADD	Karonga	9,608	1,314	.
	Mzuzu	1,202	2,046	24
	Kasungu	1,102	670	99
	Salima	7,687	.	306
District	Lilongwe	5,253	435	790
	Machinga	6,876	3,510	3,139
	Blantyre	6,729	872	2,088
	Shire Valley	3,495	7,369	16,299
	Chitipa	652	766	.
	Karonga	8,955	547	.
	Rumphi	19	8	.
	Nkhata Bay	1,005	93	4
	Likoma	.	.	.
	Mzimba	167	1,945	12
	Kasungu	914	669	63
	Ntchisi	.	.	0
	Dowa	107	.	.
	Nkhotakota	6,010	.	306
	Salima	1,677	.	.
	Dedza	4,907	174	201
	Ntcheu	208	196	223
	Lilongwe rural	139	55	366
	Mchinji	81	1	36
	Balaka	936	558	151
	Mangochi	1,137	2,409	2,365
	Machinga	3,308	91	308
	Zomba rural	1,496	453	315
	Chiradzulu	75	366	551
	Blantyre rural	144	29	7
	Thyolo	1	42	336
	Mulanje	1,900	345	371
	Phalombe	4,543	70	823
	Mwanza	65	21	.
	Chikwawa	1,840	2,751	6,688
	Nsanje	1,656	4,618	9,612

Table 3.12: Distribution of area under crop [in hectares] for pure stand by crop and area of residence, 2006/2007 Agricultural Season.

		Sweet potatoes	Irish Potatoes	Cassava
Region	Malawi	46,122	7,026	61,787
	Northern	6,884	381	34,571
	Central	28,073	5,875	24,057
	Southern	11,165	769	3,159
ADD	Karonga	1,355	13	11,795
	Mzuzu	5,530	368	22,776
	Kasungu	6,068	1,048	5,408
	Salima	592	83	15,261
District	Lilongwe	21,413	4,743	3,387
	Machinga	6,204	668	1,797
	Blantyre	4,521	26	1,324
	Shire Valley	440	75	39
	Chitipa	1,142	13	1,501
	Karonga	213	.	10,294
	Rumphi	253	.	1,003
	Nkhata Bay	255	.	18,564
	Likoma	.	.	14
	Mzimba	4,936	368	3,194
	Kasungu	3,109	134	4,189
	Ntchisi	317	171	110
	Dowa	1,342	536	641
	Nkhotakota	165	47	14,245
	Salima	427	37	1,016
	Dedza	5,564	2,180	1,621
	Ntcheu	1,116	1,705	500
	Lilongwe rural	14,687	858	1,266
	Mchinji	1,300	207	468
	Balaka	1,131	.	135
	Mangochi	2,592	126	1,030
	Machinga	801	.	227
	Zomba rural	1,680	542	405
	Chiradzulu	1,007	.	74
	Blantyre rural	826	.	137
	Thyolo	832	.	141
	Mulanje	1,372	1	298
	Phalombe	231	22	577
	Mwanza	254	4	97
	Chikwawa	28	.	39
	Nsanje	412	75	.

**Table 3.13: Distribution of area under crop [in hectares] for pure stand by crop and area of residence
2006/2007 Agricultural Season**

		Groundnuts	Ground beans	Soya-beans	Pigeon peas	Cow peas	Ordinary Beans
Region	Malawi	143,081	9,367	33,720	13,795	6,138	11,559
	Northern	9,507	1,536	4,621	124	420	2,709
	Central	119,654	5,158	28,555	1,265	2,035	7,956
	Southern	13,920	2,673	543	12,405	3,684	894
ADD	Karonga	2,198	84	140	.	34	436
	Mzuzu	7,308	1,452	4,481	124	386	2,273
	Kasungu	49,570	1,278	16,796	254	355	1,779
	Salima	11,855	306	1,442	159	467	1,964
District	Lilongwe	58,228	3,574	10,318	853	1,212	4,214
	Machinga	8,300	1,839	335	2,816	2,692	304
	Blantyre	3,786	437	131	7,953	856	342
	Shire Valley	1,834	397	77	1,637	135	247
	Chitipa	1,795	45	136	.	20	389
	Karonga	404	39	4	.	15	47
	Rumphi	786	.	66	23	.	948
	Nkhata Bay	91	17	7	.	.	.
	Likoma	.	.	.	.	.	.
	Mzimba	6,411	1,435	4,406	98	386	1,298
	Kasungu	18,289	505	5,682	140	132	790
	Ntchisi	3,684	160	5,795	0	.	499
	Dowa	9,602	219	1,845	85	155	450
	Nkhotakota	4,506	227	1,442	159	375	1,930
	Salima	7,350	79	.	.	92	34
	Dedza	6,888	661	4,364	262	313	3,097
	Ntcheu	2,200	146	99	462	25	532
	Lilongwe rural	48,270	2,767	5,855	129	93	578
	Mchinji	17,995	394	3,474	28	68	40
	Balaka	940	178	.	46	54	11
	Mangochi	4,599	1,142	142	651	1,872	89
	Machinga	912	353	51	600	457	.
	Zomba rural	1,849	166	142	1,490	309	204
	Chiradzulu	576	92	6	1,866	187	25
	Blantyre rural	229	71	59	1,429	40	0
	Thyolo	123	70	.	2,042	20	53
	Mulanje	245	83	28	681	158	65
	Phalombe	2,225	53	38	1,381	200	53
	Mwanza	388	61	.	551	251	139
	Chikwawa	512	11	3	1,283	58	121
	Nsanje	1,322	386	74	354	78	126

Table 3.14: Distribution of area under crop [in hectares] for pure stand by crop and area of residence 2006/2007 Agricultural Season

		Cotton	Tobacco	Sunflower
Region	Malawi	45,162	64,895	4,681
	Northern	901	10,949	1,109
	Central	13,802	49,399	667
	Southern	30,459	4,547	2,904
ADD	Karonga	716	797	166
	Mzuzu	185	10,153	943
	Kasungu	1,670	34,376	190
	Salima	11,442	742	47
	Lilongwe	691	14,280	430
	Machinga	17,030	2,028	176
	Blantyre	1,110	2,489	2,610
	Shire Valley	12,319	31	118
	Chitipa	95	723	88
	Karonga	621	73	78
District	Rumphi	72	3,309	.
	Nkhata Bay	.	39	.
	Likoma	.	.	.
	Mzimba	114	6,801	943
	Kasungu	772	14,217	169
	Ntchisi	519	6,533	2
	Dowa	166	10,848	.
	Nkhotakota	692	.	47
	Salima	10,749	742	.
	Dedza	349	639	371
	Ntcheu	228	1,093	51
	Lilongwe rural	114	11,405	8
	Mchinji	212	2,778	19
	Balaka	9,016	48	.
	Mangochi	5,807	395	60
	Machinga	372	252	.
	Zomba rural	1,835	1,333	117
	Chiradzulu	.	274	.
	Blantyre rural	271	10	.
	Thyolo	.	.	.
	Mulanje	19	362	106
	Phalombe	275	1,844	420
	Mwanza	545	.	5
	Chikwawa	10,872	24	15
	Nsanje	1,446	7	104

**Table 3.15: Maize yield [kg/ha] by variety and background characteristics 2006/2007
Agricultural Season**

		All Maize	Local	Composite	Recycled	Hybrid
Sex of operator	Malawi	1,709	1,371	1,741	1,674	1,904
	Male	1,747	1,384	1,809	1,751	1,915
	Female	1,644	1,353	1,600	1,482	1,887
Inorganic fertilizer application	Not applied	1,541	1,198	1,601	1,322	..
	Applied once	1,658	1,379	1,806	1,571	1,740
	Applied twice	2,104	1,622	2,047	1,988	2,342
Weeding	Weeded once	1,647	1,307	1,670	1,527	1,874
	Weeded twice	1,766	1,431	1,757	1,846	1,913
Region	Northern	1,625	1,225	1,809	1,747	1,924
	Central	1,698	1,419	1,650	1,624	1,842
	Southern	1,761	1,385	1,842	1,744	1,982
ADD	Karonga	1,483	1,121	1,285	1,519	1,842
	Mzuzu	1,688	1,269	2,137	1,888	1,957
	Kasungu	1,652	1,398	1,625	1,643	1,813
	Salima	2,156	1,673	2,270	1,975	2,604
	Lilongwe	1,640	1,391	1,498	1,468	1,732
	Machinga	1,732	1,366	1,886	1,623	2,045
	Blantyre	1,818	1,453	1,859	1,957	1,969
	Shire Valley	1,532	1,066	1,561	1,548	1,783

Table 3.16: Distribution of yield [kg/ha] of various selected crops by crop and background characteristics 2006/2007 Agricultural Season

		Rice	Millet	Sorghum
Sex of operator	Malawi	2,412	1,201	1,284
	Male	2,450	1,099	1,295
	Female	2,347	1,365	1,267
Fertilizer use	Not fertilized	2,246	.	.
	Fertilized	3,205	.	.
Region	Northern	2,571	1,330	.
	Central	2,537	1,198	1,130
	Southern	2,196	1,146	1,277
ADD	Karonga	2,192	1,079	.
	Mzuzu	..	1,508	.
	Kasungu	.	1,171	.
	Salima	2,893	.	.
	Lilongwe	2,014	1,257	.
	Machinga	2,292	996	.
	Blantyre	2,048	1,299	.
	Shire Valley	2,301	1,187	.

Table 3.17: Distribution of yield[kg/ha] of various selected crops by crop and background characteristics [Wet Weight] 2006/2007 Agricultural Season

		Cassava	Sweet potatoes	Irish Potatoes
Sex of operator	Malawi	5,128	2,642	3,454
	Male	5,100	2,694	3,258
	Female	5,205	2,460	4,197
Fertilizer use	Not fertilized	.	2,626	2,493
	Fertilized	.	2,921	3,511
Region	Northern	5,043	2,364	.
	Central	5,476	2,912	3,501
	Southern	3,882	2,349	2,454
ADD	Karonga	4,631	2,869	.
	Mzuzu	5,240	2,181	.
	Kasungu	4,282	2,864	3,486
	Salima	5,906	3,673	.
	Lilongwe	5,366	2,863	3,503
	Machinga	4,120	2,355	2,357
	Blantyre	3,619	2,338	3,030
	Shire Valley	2,762	2,876	.

Table 3.18: Distribution of yield [kg/ha] of various selected crops bycrop and background characteristics 2006/2007 Agricultural Season

		Ground nuts	Soya Beans	Ground beans	Pigieon peas	Cow peas	Beans
Sex of operator	Malawi	1,287	840	472	1,414	689	1,154
	Male	1,289	866	440	1,708	693	1,212
	Female	1,284	778	509	1,066	683	1,021
Region	Northern	1,280	725	399	1,545	.	752
	Central	1,259	865	565	515	1,025	1,310
	Southern	1,436	523	366	1,435	613	1,414
ADD	Karonga	770	624	632	.	.	489
	Mzuzu	1,423	736	329	1,545	.	936
	Kasungu	1,224	823	601	515	.	1,299
	Salima	1,377	.	290		1,026	1,111
	Lilongwe	1,275	1,019	658		1,024	1,329
	Machinga	1,378	514	354	1,718	891	1,211
	Blantyre	1,680	587	388	1,584	371	1,651
	Shire Valley	1,170	.	127	456	.	1,337

Table 3.19: Number of fruit trees[in 000'S] by type and area of residence 2006/2007 Agricultural Season

		Mangoes	Oranges	Paw paw	Avocado pear	Guava	Lemons	Tange- rines	Peaches	Custade apple	Mexican Apple	Masau
Region	Malawi	10,688	721	2,085	1,014	2,018	393	406	436	433	943	434
	Northern	1,191	153	218	93	193	33	27	10	18	34	7
ADD	Central	4,631	279	637	153	804	120	104	187	107	243	110
	Southern	4,866	289	1,230	768	1,020	240	276	239	308	666	317
	Karonga	273	35	69	24	28	6	9	3	7	8	2
	Mzuzu	917	118	149	69	165	27	18	7	11	26	5
	Kasungu	2,137	131	221	43	299	33	14	27	26	85	13
	Salima	323	37	104	11	52	11	12	1	11	6	10
	Lilongwe	2,161	110	310	98	452	76	77	159	69	152	88
	Machinga	1,909	101	378	168	232	55	32	50	110	156	150
	Blantyre	2,672	168	727	564	756	175	203	183	164	498	66
	Shire											
District	Valley	278	20	123	35	32	10	39	5	34	11	101
	Chitipa	161	18	22	15	18	3	2	1	1	7	1
	Karonga	112	17	48	9	10	3	6	2	6	1	1
	Rumphi	145	17	31	2	20	5	3	2	4	4	0
	Nkhata											
	Bay	168	37	41	46	30	18	13	2	4	6	1
	Likoma	2	0	1	0	0	0	0	0	1	0	1
	Mzimba	595	62	73	14	106	3	2	1	1	15	3
	Mzuzu											
	City	9	2	2	6	8	1	0	2	0	1	0
	Kasungu	691	64	83	9	107	10	5	4	11	43	8
	Ntchisi	159	7	14	5	28	1	0	8	5	6	1
	Dowa	482	49	76	19	105	17	8	14	8	8	4
	Nkhota											
	kota	196	34	33	10	47	7	12	1	9	5	3
	Salima	128	4	72	2	6	4	0		2	0	7
	Dedza	546	23	64	19	106	15	8	62	13	36	12
	Ntcheu	471	16	76	18	124	9	5	45	16	15	23
	Lilongwe											
	Rural	993	48	107	37	184	31	36	24	23	54	28
	Lilongwe											
	City	151	23	64	25	38	22	28	28	18	48	25
	Mchinji	812	12	48	10	58	5	0	1	2	28	
	Balaka	234	7	33	4	22	3	1	1	20	6	36
	Mangochi	509	15	85	22	44	9	0	2	20	35	59
	Machinga	370	39	54	50	38	26	18	32	32	25	38
	Zomba											
	Rural	768	37	195	87	123	16	13	15	37	86	16
	Zomba											
	City	29	2	10	6	5	1	0	1	1	4	0
	Chiradzulu	433	16	98	67	101	26	2	20	17	92	2
	Blantyre											
	Rural	393	20	99	36	96	18	5	4	51	37	26
	Blantyre											
	City	372	7	105	112	289	15	5	94	32	130	18
	Thyolo	790	59	248	229	193	56	60	38	27	149	5
	Mulanje	326	39	104	76	26	38	16	20	14	52	8
	Phalombe	170	9	40	9	11	6	2	2	6	10	2
	Mwanza	194	18	35	35	40	17	114	5	17	29	5
	Chikwawa	212	17	89	22	26	9	39	5	33	10	75
	Nsanje	67	3	35	13	5	1	1	0	1	1	26

**Table 3.20: Proportion of households who owned various types of fruit trees, according to backgroud variables 2006/2007
Agricultural Season**

	Any type	Mango	Orange	Paw paw	avocado	tangerine	banana	guava	peaches	Custade apple	Mexican apple	masau
Malawi	78	66	12	27	14	5	34	22	7	7	15	8
Sex of household head												
Male	78	67	12	28	14	5	35	22	8	7	15	8
Female	78	65	11	25	15	4	33	21	7	7	16	8
Holding size												
< 0,050 ha	65	53	10	24	18	3	22	18	7	5	14	9
0,050-0,999 ha	67	55	11	24	19	5	22	20	8	6	17	5
0.100-0.199 ha	69	58	6	26	18	5	23	17	8	6	16	7
0.200-0.499 ha	74	61	10	25	16	5	29	19	8	8	16	9
0.500-0.999 ha	77	66	12	26	13	5	31	21	7	7	14	8
1.000- 1.999ha	83	72	14	29	13	4	42	25	6	8	14	7
2,000ha +	87	78	19	31	13	6	53	31	8	9	15	8
Region of residence												
Northern	80	66	19	25	11	4	45	19	2	3	6	1
Central	78	66	12	22	8	5	35	23	8	5	12	6
Southern	77	67	11	32	22	5	31	22	8	11	21	12
ADD												
Karonga	75	62	18	27	13	4	50	10	1	3	3	1
Mzuzu	81	67	20	24	10	3	42	23	2	2	7	1
Kasungu	83	74	13	18	5	2	43	23	4	3	12	2
Salima	62	50	11	21	3	3	14	15	0	4	2	4
Lilongwe	76	62	10	24	10	7	33	24	13	7	14	9
Machinga	75	64	9	28	13	2	24	17	3	10	13	15
Blantyre	85	77	13	40	35	7	39	29	15	12	32	6
Shire Valley	52	35	5	19	6	5	21	8	1	6	3	22
District												
Chitipa	81	69	23	18	17	3	59	13	2	1	5	1
Karonga	71	58	15	34	10	6	45	8	1	5	1	1
Rumphi	76	66	19	28	4	3	29	21	4	4	6	1
Nkhata Bay	87	76	40	45	41	13	45	31	3	7	9	2
Likoma	73	67	22	45	23	18	32	28	16	51	23	37
Mzimba	82	66	15	17	3	1	45	21	0	0	7	1
Kasungu	83	76	19	20	5	2	43	24	2	4	15	4
Ntchisi	78	63	4	13	2	0	48	24	6	4	5	1
Dowa	77	65	13	21	7	4	34	22	7	4	5	3
Nkhota kota	69	64	21	20	6	5	16	30	1	7	5	3
Salima	56	38	3	23	1	1	12	3	0	1	0	5
Dedza	76	60	7	19	6	3	40	25	16	4	14	5
Ntcheu	81	64	5	25	9	3	30	30	12	8	8	9
Lilongwe												
Rural	75	62	11	20	7	6	30	17	5	4	11	5
Mchinji	95	90	7	15	6	0	55	23	1	1	20	0
Balaka	74	60	5	19	3	1	18	11	1	15	5	24
Mangochi	68	52	5	20	6	0	17	12	1	8	8	18
Machinga	74	65	15	24	16	5	22	15	5	9	11	16
Zomba Rural	88	80	11	47	23	3	42	31	3	13	27	5
Chiradzulu	93	83	12	47	38	1	35	39	12	10	44	1
Blantyre												
Rural	79	72	10	34	19	4	22	31	4	20	20	12
Thyolo	92	83	14	46	45	9	56	21	13	9	33	2
Mulanje	89	84	26	36	35	6	38	14	16	8	33	3
Phalombe	67	58	7	21	6	2	19	7	2	6	9	3
Mwanza	71	64	15	30	31	34	40	35	9	14	25	6
Chikwawa	56	36	6	20	6	7	24	10	1	9	4	25
Nsanje	45	33	4	16	5	1	16	3	0	1	1	16

Chapter 4 : Impact of HIV/AIDS on Agriculture Sector

4.1 Introduction

Malawi, like any other country in the Sub Saharan region has not been spared by the negative effects of HIV/AIDS. This has caused enormous human suffering and lowered productivity due to sickness and death. The impact of HIV/AIDS on the agricultural sector is therefore crucial considering that Agriculture is Malawi's economic mainstay.

The effect of HIV/AIDS on agriculture include loss of persons in their most economically productive years due to death and an added burden on affected households through:

- Need for money to care for the sick
- Increased work load for household members to care for the sick
- Less time devoted to income generating activities due to caring for the sick
- Taking care of orphans
- Loss of work days in order to attend funerals
- Helping households in need of extra help

4.2 Prevalence of chronic disease

Chronic disease was defined as a disease that lasted for at least three months during the 2006/07 agricultural season. Information on chronic illness was collected both for household members and persons related to any household member.

Table 4.1 shows that one out of every five Malawian households had at least one chronically ill household member during the 2006/07 agricultural season, 13 percent had at least a chronically ill relative, two out of three households had neither a sick household member or a sick relative. The poorest households had higher prevalence of chronically ill members in the household than least poor households.

Table 4.2 shows that among households with chronically ill members, 78 percent had one chronically ill household member, 17 percent had two chronically ill members and 5 percent had three or more chronically ill members.

The results show that 53 percent of the households in the smallholder sector had at least a member suffering from malaria, 30 percent HIV/AIDS, 26 percent asthma, 9 percent TB and 12 percent diabetes (Table 4.3).

4.3 Care for chronically ill persons

Table 4.4 shows that in a majority of households, care for chronically ill persons took place both at home and in a clinic (54 percent). In one third of the households, care was solely provided by the household at home and 14 percent of the households provided care at a clinic only. No differences between male headed and female headed households were observed as to where care for the chronically ill took place.

Furthermore, more female household members carried the burden of caring for sick persons than male household members. In 80 percent of the households who gave care to sick persons care was given by female household members and, in one third of the households care was given by male household members (Table 4.4).

In one out of ten households, children were care givers. Servants were rarely mentioned as care givers (1 percent). In female headed households, care was more often given by female household members, and less often by male household members.

4.4 Consequences of chronic illness

Caring for sick persons can be a burden not only in terms of extra work load involved, but also in terms of how the household welfare may be affected. The Census results show that one third of households with chronically ill persons sold produce because of the illness, one in four households had to engage in ganyu, and 13 percent had to obtain a loan or get credit, while eight percent of households sold assets to take care of the illness (Table 4.5). Furthermore, 27 percent of the households reported that the chronic illness did not affect their welfare. Table 4.6 shows that 40 percent of households reported that their farming activities were not affected by chronic illness, one in five could not prepare land in time and one third had no time for weeding.

4.5 Death Occurrences

Table 4.7 shows that 7 percent of the households experienced at least one death during the 2006/07 agricultural season, while 79 percent experienced at least one death in their community. Furthermore, 29 percent of households experienced six or more deaths in the community.

4.6 Death Consequences

Table 4.8 shows that of households which experienced one or more deaths in the community, 79 percent postponed farming activities. Table 4.9 shows that 30 percent of the households spent 10 days or more attending funerals or mourning periods instead of doing farm activities.

4.7 Keeping of orphans

The results show that 28 percent of the households kept orphans (Table 4.10). The table also shows that the proportion of households with orphans was larger in female headed than in male headed households, 36 percent as compared to 24 percent. The table further shows that poorer the households, the larger the proportion who had orphans, varying from 33 percent to 21 percent.

4.8 Consequences of keeping orphans

The results indicate that one in three households reported that orphans provided farm labour and half of households said that orphans helped with household chores (Table 4.11). The table also shows that one third of the households had to look for food instead of farming, one in five households had to look for school fees instead of farming and two out of five households spent time caring for sick orphans.

Table 4.1: Percentage distribution of households with chronically ill persons during the 2006/07 agricultural season according to background variables , 2006/2007 Agricultural Season.

		Household member	Related to household member	None sick	Total
Sex of head	Malawi	20	13	67	100
	Male	20	13	67	100
	Female	21	13	67	100
Poverty quintile	Poorest quintile	25	11	63	100
	Second quintile	20	11	69	100
	3rd quintile	20	14	65	100
	Fourth quintile	19	14	66	100
	Highest quintile	14	13	73	100
Holding size	Less than 0.1 ha	20	11	69	100
	0,100-0,199 ha	22	14	65	100
	0,200-0,499 ha	17	14	69	100
	0,500-0,999 ha	22	13	65	100
	1,000 ha+	20	13	67	100
Region	Northern	18	14	68	100
	Central	20	13	67	100
	Southern	21	12	68	100
District	Chitipa	13	13	74	100
	Karonga	23	8	70	100
	Rumphi	17	18	65	100
	Nkhata Bay	33	14	53	100
	Likoma	18	22	60	100
	Mzimba	12	17	71	100
	Kasungu	19	11	70	100
	Ntchisi	19	10	72	100
	Dowa	16	8	76	100
	Nkhota kota	25	13	62	100
	Salima	23	10	68	100
	Dedza	20	11	69	100
	Ntcheu	18	15	67	100
	Lilongwe Rural	23	19	58	100
	Mchinji	23	12	65	100
	Balaka	32	12	56	100
	Mangochi	17	12	70	100
	Machinga	23	13	64	100
	Zomba Rural	19	13	68	100
	Chiradzulu	14	11	75	100
	Blantyre Rural	22	6	72	100
	Thyolo	18	15	67	100
	Mulanje	28	14	59	100
	Phalombe	18	14	69	100
	Mwanza	22	10	68	100
	Chikwawa	15	7	78	100
	Nsanje	31	6	63	100

Table 4.2: Percentage distribution of households with chronically ill persons during the 2006/07 agricultural season by number of household members and relatives sick, according to background variables , 2006/2007 Agricultural Season

		Number of household members sick				Number of relatives sick			
		1	2	3+	Total	1	2	3+	Total
Sex of head	Malawi	78	17	5	100	80	15	6	100
	Male	76	19	5	100	81	13	6	100
	Female	84	13	3	100	77	20	4	100
Poverty quintile	Poorest quintile	78	17	4	100	81	16	3	100
	Second quintile	76	18	6	100	82	13	5	100
	3rd quintile	83	12	4	100	73	23	4	100
	Fourth quintile	77	19	4	100	79	9	12	100
	Highest quintile	87	10	4	100	86	12	2	100
Holding size	Less than 0.1 ha	78	19	3	100	90	8	2	100
	0,100-0,199 ha	63	31	6	100	86	12	1	100
	0,200-0,499 ha	84	12	3	100	76	14	10	100
	0,500-0,999 ha	78	19	3	100	80	16	4	100
	1,000 ha+	79	14	6	100	80	16	4	100
Region	Northern	81	14	4	100	78	17	5	100
	Central	79	15	5	100	77	15	8	100
	Southern	78	18	4	100	80	17	3	100
District	Chitipa	83	12	5	100	83	12	5	100
	Karonga	83	14	3	100	77	12	11	100
	Rumphi	88	11	1	100	81	15	4	100
	Nkhata Bay	73	19	8	100	68	23	9	100
	Likoma	89	11	0	100	63	37	0	100
	Mzimba	85	11	4	100	81	17	2	100
	Kasungu	76	17	7	100	79	12	9	100
	Ntchisi	80	15	5	100	69	22	9	100
	Dowa	83	15	2	100	79	18	3	100
	Nkhota kota	76	15	8	100	84	8	8	100
	Salima	86	13	1	100	85	12	2	100
	Dedza	84	13	3	100	80	16	3	100
	Ntcheu	80	15	5	100	79	18	3	100
	Lilongwe Rural	74	20	6	100	73	16	11	100
	Mchinji	76	15	9	100	88	8	4	100
	Balaka	71	22	7	100	73	21	5	100
	Mangochi	83	17	1	100	89	11	0	100
	Machinga	84	15	1	100	81	12	7	100
	Zomba Rural	88	8	4	100	86	13	1	100
	Chiradzulu	82	11	7	100	83	16	1	100
	Blantyre Rural	72	20	8	100	83	17	0	100
	Thyolo	88	11	1	100	75	17	8	100
	Mulanje	74	26	0	100	63	35	2	100
	Phalombe	81	15	4	100	79	17	4	100
	Mwanza	61	29	10	100	75	21	4	100
	Chikwawa	90	8	1	100	84	7	9	100
	Nsanje	65	27	8	100	81	17	2	100

Table 4.3: Proportion of households with chronically ill persons during the 2006/07 agricultural season by type of illness the sick person(s) suffered from according to background variables , 2006/2007 Agricultural Season Cont

		Malaria	TB	HIV	Diabetes	Asthma	Bilharzia	Arthritis
Sex of head	Malawi	53	9	30	12	26	3	5
	Male	53	9	30	12	26	3	5
	Female	54	9	32	12	28	3	7
Poverty quintile	Poorest quintile	50	7	32	11	26	3	4
	Second quintile	53	8	28	13	28	2	4
	3rd quintile	58	8	31	10	29	2	7
	Fourth quintile	53	8	31	13	26	2	7
Holding size	Highest quintile	52	14	33	11	22	3	3
	Less than 0.1 ha	51	9	25	10	21	2	1
	0,100-0,199 ha	62	4	36	9	26	3	2
	0,200-0,499 ha	58	10	27	12	21	2	6
	0,500-0,999 ha	52	10	33	13	28	5	6
Region	1,000 ha+	51	7	30	13	26	3	6
	Northern	43	9	29	16	32	3	5
	Central	55	10	31	12	27	2	8
	Southern	57	7	29	12	24	4	3
ADD	Karonga	46	6	27	16	36	3	4
	Mzuzu	42	10	29	15	31	3	6
	Kasungu	47	10	30	14	30	3	6
	Salima	62	10	25	17	29	1	3
	Lilongwe	56	10	33	10	25	2	10
	Machinga	58	8	33	16	27	3	4
	Blantyre	54	7	27	9	23	4	2
	Shire Valley	62	7	24	11	20	4	2

Table 4.3: Proportion of households with chronically ill persons during the 2006/07 agricultural season by type of illness the sick person(s) suffered from according to background variables. 2006/2007 Agricultural Season

		Nerves	Stomach	Sores	Cancer	Pneumonia	Other
Sex of head	Malawi	8.0	5.0	1.5	0.6	2.1	2.1
	Male	8.4	5.0	0.7	0.7	2.3	2.2
	Female	7.1	5.0	3.2	0.6	1.5	2.0
Poverty quintile	Poorest quintile	9.8	7.2	0.8	1.3	1.4	2.3
	Second quintile	9.6	7.9	0.8	0.5	1.7	3.2
	3rd quintile	5.8	3.4	4.2	0.4	1.5	2.4
	Fourth quintile	8.2	3.5	1.1	0.3	4.5	1.7
Holding size	Highest quintile	6.5	2.9	0.4	0.9	1.0	1.0
	Less than 0.1 ha	7.9	5.7	0.7	0.5	0.7	0.8
	0,100-0,199 ha	17.0	2.8	0.2	1.0	1.7	2.3
	0,200-0,499 ha	7.5	3.5	0.8	0.3	4.7	1.2
	0,500-0,999 ha	7.8	6.1	3.6	0.5	1.0	1.8
Region	1,000 ha+	6.6	5.0	0.8	0.8	1.2	2.4
	Northern	6.1	6.3	0.5	0.6	0.6	3.6
	Central	8.4	4.6	2.6	0.6	3.2	2.6
	Southern	8.9	4.8	0.7	1.7	1.3	1.3
ADD	Karonga	5.6	5.5	0.9	1.2	0.8	4.6
	Mzuzu	6.4	6.6	0.3	0.3	0.6	3.2
	Kasungu	7.6	4.6	0.7	1.2	2.8	4.0
	Salima	8.1	5.5	1.1	0.3	2.4	2.4
	Lilongwe	8.7	4.4	3.6	0.4	3.6	2.1
	Machinga	8.1	4.2	0.7	0.8	1.6	1.4
	Blantyre	10.4	5.6	0.7	2.6	1.1	1.2
	Shire Valley	4.0	3.5	0.2	1.0	1.1	1.1

Table 4.4: Percentage distribution of households with chronically ill persons during the 2006/07 agricultural season, by where the sick were cared for and who cared for them , according to background variables , 2006/2007 Agricultural Season

		Where the sick were cared for				Proportion that cared for the sick			
		At home only	At the clinic only	Both at home and at the clinic	Total	Female household members	Male household members	Child	Servant
Sex of head	Malawi	32	14	54	100	80	33	11	1
	Male	32	14	54	100	78	39	10	1
	Female	32	15	53	100	84	20	13	2
Poverty quintile	Poorest quintile	39	15	46	100	81	33	14	1
	Second quintile	38	15	47	100	81	30	9	0
	3rd quintile	34	13	53	100	81	37	10	1
Holding size	Fourth quintile	23	14	63	100	82	32	11	1
	Highest quintile	24	14	62	100	76	40	8	1
	Less than 0.1 ha	30	12	58	100	76	28	9	1
	0,100-0,199 ha	29	11	60	100	84	25	11	0
	0,200-0,499 ha	33	17	50	100	82	26	12	1
	0,500-0,999 ha	29	13	58	100	82	34	9	1
	1,000 ha+	36	13	51	100	78	39	11	1
Region	Northern	23	14	63	100	76	43	10	0
	Central	34	14	52	100	81	36	11	1
	Southern	32	14	54	100	80	30	11	1
District	Chitipa	46	9	45	100	85	29	9	0
	Karonga	22	22	57	100	75	43	14	1
	Rumphi	11	15	74	100	71	47	8	1
	Nkhata Bay	30	7	63	100	90	40	9	0
	Likoma	16	43	41	100	73	17	25	0
	Mzimba	17	13	70	100	67	49	9	0
	Kasungu	33	20	47	100	78	38	15	1
	Ntchisi	38	16	45	100	66	53	12	0
	Dowa	30	8	61	100	78	31	5	0
	Nkhota kota	46	19	36	100	72	45	9	0
	Salima	29	27	44	100	86	27	6	0
	Dedza	38	17	45	100	83	31	7	1
	Ntcheu	40	9	51	100	81	32	10	1
	Lilongwe Rural	33	9	58	100	86	39	12	1
	Mchinji	31	9	60	100	74	31	13	0
	Balaka	38	20	42	100	84	25	9	5
	Mangochi	39	16	45	100	76	38	7	2
	Machinga	24	20	56	100	72	43	14	0
	Zomba Rural	35	14	51	100	74	33	18	0
	Chiradzulu	43	14	43	100	82	26	8	1
	Blantyre Rural	32	13	55	100	77	23	6	1
	Thyolo	34	13	53	100	88	21	14	0
	Mulanje	30	6	64	100	93	37	14	1
	Phalombe	40	6	54	100	71	23	15	3
	Mwanza	34	13	53	100	74	30	22	0
	Chikwawa	21	23	56	100	74	37	10	3
	Nsanje	40	22	38	100	70	37	10	0

Table 4.5: Proportion of households with chronically ill persons during the 2006/07 agricultural season, whose welfare was affected in the following ways because of caring for the sick according to background variables , 2006/2007 Agricultural Season

		The household had to sell produce	The household had to sell assets	The household had to obtain loans or credit	Household members had to do Ganyu	Other	The welfare was not affected
Sex of head	Malawi	33	8	13	26	15	27
	Male	33	8	13	25	15	27
	Female	32	7	14	26	13	27
Poverty quintile	Poorest quintile	28	9	12	33	14	25
	Second quintile	34	7	9	26	17	26
	3rd quintile	37	7	16	25	13	29
	Fourth quintile	30	9	14	26	13	28
	Highest quintile	35	9	15	14	19	26
Holding size	Less than 0.1 ha	21	9	14	27	16	29
	0,100-0,199 ha	20	7	19	35	12	23
	0,200-0,499 ha	30	6	12	28	13	30
	0,500-0,999 ha	33	6	15	28	15	25
	1,000 ha+	39	11	13	18	13	25
Region	Northern	38	11	10	17	21	28
	Central	38	7	11	30	12	27
	Southern	26	9	17	24	15	26
District	Chitipa	40	13	3	11	10	34
	Karonga	37	9	9	18	29	31
	Rumphi	40	12	14	21	10	22
	Nkhata Bay	39	11	13	16	34	18
	Likoma	26	4	20	14	11	38
	Mzimba	40	12	8	17	16	30
	Kasungu	27	5	8	23	11	42
	Ntchisi	43	10	15	19	15	30
	Dowa	51	12	12	21	16	26
	Nkhota kota	33	4	7	18	7	41
	Salima	20	5	15	35	14	31
	Dedza	42	8	7	34	11	22
	Ntcheu	32	7	13	31	10	28
	Lilongwe Rural	44	6	13	32	11	24
	Mchinji	37	14	19	33	15	14
	Balaka	31	10	12	23	12	26
	Mangochi	19	8	12	37	20	29
	Machinga	40	6	5	23	14	27
	Zomba Rural	45	9	10	17	14	28
	Chiradzulu	20	8	8	18	13	46
	Blantyre Rural	23	5	11	27	13	29
	Thyolo	23	10	21	24	4	35
	Mulanje	12	22	40	21	16	17
	Phalombe	39	7	9	25	13	25
	Mwanza	42	9	12	38	11	18
	Chikwawa	34	14	21	34	15	25
	Nsanje	20	10	8	20	21	27

Table 4.6: Proportion of households with chronically ill persons during the 2006/07 agricultural season, whose farming activities were affected in the following way because of caring for the sick according to background variables , 2006/2007 Agricultural Season

		Did not have time for land preparation	Did not have time for weeding	Did not have time to apply fertilizer or pesticides	Livestock was left unattended	Did not harvest in time	Other	Farming activities were not affected
	Malawi	21	33	11	3	16	8	40
Sex of head	Male	20	32	11	4	16	8	42
	Female	25	36	11	2	17	9	36
Poverty quintile	Poorest quintile	23	38	11	5	15	11	34
	Second quintile	21	32	8	3	17	7	43
	3rd quintile	18	28	12	3	16	11	41
	Fourth quintile	22	36	14	3	14	5	40
	Highest quintile	18	31	11	2	20	6	45
Holding size	Less than 0.1 ha	21	42	16	3	12	7	38
	0,100-0,199 ha	21	25	10	3	15	10	48
	0,200-0,499 ha	20	36	9	2	17	9	37
	0,500-0,999 ha	20	29	9	2	15	7	45
	1,000 ha+	22	31	11	5	18	7	40
Region	Northern	30	43	16	5	18	11	31
	Central	20	33	9	3	15	6	42
	Southern	22	32	11	3	18	11	40
District	Chitipa	21	30	16	6	18	8	38
	Karonga	23	39	10	5	16	15	38
	Rumphi	20	54	9	2	10	4	30
	Nkhata Bay	32	50	8	4	25	24	19
	Likoma	43	33	5	16	4	5	35
	Mzimba	40	41	28	6	21	4	30
	Kasungu	19	42	11	3	19	1	35
	Ntchisi	21	41	6	3	14	8	28
	Dowa	25	31	10	2	22	11	33
	Nkhota kota	24	34	3	1	11	3	42
	Salima	30	39	9	2	16	3	38
	Dedza	23	34	12	4	18	7	33
	Ntcheu	23	38	13	4	15	1	43
	Lilongwe City	51	65	48	0	1	6	17
	Mchinji	27	39	9	1	23	18	19
	Balaka	15	33	7	2	26	9	43
	Mangochi	19	33	11	0	14	13	45
	Machinga	18	40	9	2	31	12	25
	Zomba Rural	32	36	14	3	21	5	40
	Chiradzulu	15	21	11	3	9	7	55
	Blantyre Rural	18	26	4	0	14	18	37
	Thyolo	28	23	8	2	11	4	55
	Mulanje	15	18	20	10	9	14	51
	Phalombe	14	26	11	1	25	8	41
	Mwanza	27	33	12	3	20	10	35
	Chikwawa	32	48	6	7	31	19	20
	Nsanje	16	30	3	2	22	10	29

Table 4.7: Proportion of households with death in the household and community and percentage distribution of households who experienced deaths in the community by number of deaths experienced according to background variables , 2006/2007 Agricultural Season

				Number of deaths in the community					
		Proportion with death in the household	Proportion with deaths in the community	1	2-3	4-5	6-9	10+	Total
Sex of head	Malawi	7	79	14	32	25	18	11	100
	Male	6	80	14	32	26	18	11	100
	Female	10	78	14	31	22	19	13	100
Poverty quintile	Poorest quintile	9	79	14	30	23	21	12	100
	Second quintile	5	80	14	29	25	20	12	100
	3rd quintile	8	80	15	32	24	17	11	100
Holding size	Fourth quintile	8	79	14	35	24	17	10	100
	Highest quintile	4	79	12	32	25	20	11	100
	Less than 0.1 ha	7	77	14	37	19	16	14	100
	0,100-0,199 ha	8	79	14	32	23	21	11	100
	0,200-0,499 ha	8	79	13	31	25	18	13	100
	0,500-0,999 ha	8	82	14	32	25	18	11	100
	1,000 ha+	6	80	15	31	26	19	9	100
Region	Northern	7	84	17	32	22	21	8	100
	Central	7	75	16	36	26	16	6	100
	Southern	7	82	12	29	24	20	16	100
District	Chitipa	5	93	10	30	33	20	6	100
	Karonga	8	86	12	25	25	31	7	100
	Rumphi	3	87	15	27	24	29	5	100
	Nkhata Bay	11	84	12	34	19	19	16	100
	Likoma	11	91	12	35	19	26	9	100
	Mzimba	8	78	24	38	16	14	8	100
	Kasungu	4	83	15	29	32	21	4	100
	Ntchisi	5	64	26	56	14	3	1	100
	Dowa	7	69	26	44	15	12	3	100
	Nkhota kota	7	71	29	31	16	18	6	100
	Salima	5	72	19	36	28	12	5	100
	Dedza	6	77	17	38	25	16	5	100
	Ntcheu	7	82	14	20	28	23	16	100
	Lilongwe Rural	12	71	13	40	27	15	5	100
	Mchinji	6	87	11	29	36	19	5	100
	Balaka	7	68	13	36	26	15	10	100
	Mangochi	10	88	7	22	28	19	24	100
	Machinga	9	68	22	35	13	13	18	100
	Zomba Rural	8	82	16	28	19	21	16	100
	Chiradzulu	5	81	17	32	22	22	7	100
	Blantyre Rural	11	83	12	32	25	21	9	100
Thyolo	5	81	12	23	27	25	14	100	
Mulanje	4	85	7	34	28	19	12	100	
Phalombe	4	81	17	34	28	13	8	100	
Mwanza	5	88	6	30	20	20	24	100	
Chikwawa	5	87	9	24	22	21	24	100	
Nsanje	5	71	12	30	23	28	6	100	

Table 4.8: Proportion of households who experienced deaths in the community by how those deaths affected the household, according to background variables , 2006/2007 Agricultural Season

		Farming activities had to be postponed or not carried out	Had to help out through sale of produce or asset	Other
Sex of head	Malawi	79	9	7
	Male	79	9	8
	Female	78	8	5
Poverty quintile	Poorest quintile	79	8	5
	Second quintile	82	9	6
	3rd quintile	81	10	7
	Fourth quintile	78	8	9
	Highest quintile	74	7	9
Holding size	Less than 0.1 ha	67	5	7
	0,100-0,199 ha	72	6	6
	0,200-0,499 ha	77	7	7
	0,500-0,999 ha	79	9	7
	1,000 ha+	84	11	7
Region	Northern	89	11	10
	Central	78	11	9
	Southern	77	6	5
District	Chitipa	86	8	2
	Karonga	91	14	12
	Rumphi	92	9	4
	Nkhata Bay	93	15	14
	Likoma	73	6	0
	Mzimba	87	9	12
	Kasungu	90	11	7
	Ntchisi	84	17	11
	Dowa	77	20	16
	Nkhota kota	82	7	1
	Salima	73	3	2
	Dedza	85	9	3
	Ntcheu	82	8	3
	Lilongwe Rural	68	13	13
	Mchinji	93	18	13
	Balaka	74	10	12
	Mangochi	76	2	8
	Machinga	89	11	8
	Zomba Rural	89	9	4
	Chiradzulu	83	4	5
	Blantyre Rural	67	4	0
	Thyolo	85	5	2
	Mulanje	77	10	5
	Phalombe	70	9	4
	Mwanza	76	10	3
	Chikwawa	68	8	3
	Nsanje	73	2	6

Table 4.9: Percentage distribution of households who experienced deaths in the community by number of days the household spent attending funerals/ mourning periods according to background variables , 2006/2007 Agricultural Season

		1-4	5-9	10-14	15-19	20+	Total
Sex of head	Malawi	40	30	15	7	8	100
	Male	40	30	16	7	8	100
	Female	40	30	15	7	7	100
Poverty quintile	Poorest quintile	41	31	15	7	7	100
	Second quintile	37	29	15	8	11	100
	3rd quintile	39	33	15	6	7	100
	Fourth quintile	38	30	17	8	8	100
	Highest quintile	42	26	17	6	9	100
Holding size	Less than 0.1 ha	49	28	11	6	6	100
	0,100-0,199 ha	38	30	18	7	7	100
	0,200-0,499 ha	40	29	16	6	9	100
	0,500-0,999 ha	39	31	16	7	7	100
	1,000 ha+	40	29	15	8	9	100
Region	Northern	37	28	15	8	12	100
	Central	38	29	17	8	8	100
	Southern	42	31	14	6	7	100
District	Chitipa	25	36	20	11	8	100
	Karonga	44	25	14	7	9	100
	Rumphi	26	31	19	12	12	100
	Nkhata Bay	30	25	19	10	15	100
	Likoma	69	14	7	4	5	100
	Mzimba	42	28	11	5	14	100
	Kasungu	39	36	16	4	4	100
	Ntchisi	51	36	5	2	5	100
	Dowa	53	31	9	4	4	100
	Nkhota kota	43	40	12	1	4	100
	Salima	50	33	8	6	4	100
	Dedza	32	29	23	8	8	100
	Ntcheu	25	24	23	10	18	100
	Lilongwe Rural	31	28	21	10	9	100
	Mchinji	47	22	10	16	5	100
	Balaka	37	42	13	4	4	100
	Mangochi	42	36	12	6	5	100
	Machinga	42	27	16	8	7	100
	Zomba Rural	42	29	11	7	12	100
	Chiradzulu	42	35	14	4	6	100
	Blantyre Rural	53	25	13	5	4	100
	Thyolo	37	27	20	7	8	100
	Mulanje	45	42	9	1	4	100
	Phalombe	53	28	12	3	3	100
	Mwanza	44	22	21	6	7	100
	Chikwawa	29	35	14	11	12	100
	Nsanje	57	30	8	3	2	100

Table 4.10: Percentage distribution of households with orphans according to background variables , 2006/2007 Agricultural Season

		Orphans	No orphans	Total
Sex of head	Malawi	28	72	100
	Male	24	76	100
	Female	36	64	100
Poverty quintile	Poorest quintile	33	67	100
	Second quintile	27	73	100
	3rd quintile	29	71	100
	Fourth quintile	26	74	100
	Highest quintile	21	79	100
Holding size	Less than 0.1 ha	21	79	100
	0,100-0,199 ha	26	74	100
	0,200-0,499 ha	24	76	100
	0,500-0,999 ha	29	71	100
	1,000 ha+	32	68	100
Region	Northern	32	68	100
	Central	25	75	100
	Southern	29	71	100
District	Chitipa	23	77	100
	Karonga	31	69	100
	Rumphi	37	63	100
	Nkhata Bay	50	50	100
	Likoma	47	53	100
	Mzimba	29	71	100
	Kasungu	26	74	100
	Ntchisi	26	74	100
	Dowa	51	49	100
	Nkhota kota	27	73	100
	Salima	20	80	100
	Dedza	19	81	100
	Ntcheu	29	71	100
	Lilongwe Rural	17	83	100
	Mchinji	27	73	100
	Balaka	23	77	100
	Mangochi	34	66	100
	Machinga	26	74	100
	Zomba Rural	41	59	100
	Chiradzulu	23	77	100
	Blantyre Rural	27	73	100
	Thyolo	20	80	100
	Mulanje	14	86	100
	Phalombe	28	72	100
	Mwanza	20	80	100
	Chikwawa	47	53	100
	Nsanje	33	67	100

Table 4.11: Proportion of households with orphans by the effects of having orphans according to background variables , 2006/2007 Agricultural Season

		They provide farm labour	They help in household chores	Have to spend time to look for food for orphans instead of farming	Have to spend time to look for fees for orphans instead of farming	Have to spend time to care the orphans when sick instead of farming	Other
	Malawi	36	50	33	22	42	12
Sex of head	Male	35	49	33	24	43	13
	Female	38	51	32	20	40	10
Poverty quintile	Poorest quintile	37	48	35	17	47	12
	Second quintile	39	54	34	19	41	12
	3rd quintile	36	49	30	25	36	11
	Fourth quintile	35	48	33	29	43	12
	Highest quintile	31	49	33	29	42	13
Holding size	Less than 0.1 ha	33	52	38	20	32	8
	0,100-0,199 ha	28	46	41	28	31	11
	0,200-0,499 ha	36	51	33	21	41	12
	0,500-0,999 ha	35	52	31	23	39	9
	1,000 ha+	36	47	30	18	43	15
Region	Northern	45	54	37	26	56	17
	Central	33	49	33	22	42	10
	Southern	36	49	33	22	37	12
District	Chitipa	60	64	39	32	45	21
	Karonga	45	52	39	35	56	18
	Rumphi	54	58	29	33	40	14
	Nkhata Bay	32	50	38	21	58	23
	Likoma	45	94	18	25	29	0
	Mzimba	45	49	41	19	67	12
	Kasungu	39	62	28	10	34	6
	Ntchisi	30	50	42	13	35	12
	Dowa	44	59	33	16	40	14
	Nkhota kota	41	60	19	10	32	9
	Salima	49	40	31	25	27	10
	Dedza	33	54	31	23	34	8
	Ntcheu	45	62	45	15	60	6
	Lilongwe Rural	27	43	27	28	38	11
	Mchinji	29	46	48	25	42	12
	Balaka	34	53	23	8	61	9
	Mangochi	40	54	17	10	40	10
	Machinga	34	63	37	28	43	14
	Zomba Rural	43	57	30	18	37	11
	Chiradzulu	56	53	54	42	52	29
	Blantyre Rural	18	47	22	18	29	10
	Thyolo	45	62	23	13	43	8
	Mulanje	58	56	10	7	30	5
	Phalombe	36	46	38	11	34	10
	Mwanza	35	41	53	17	58	4
	Chikwawa	50	55	27	17	32	15
	Nsanje	24	18	40	19	47	10

Chapter 5: Livestock and Poultry

5.1 Introduction

Ownership of livestock and poultry at household level is important for food security as a source of food and as an asset to be sold if need arises. This chapter presents figures on the ownership, number, and types of livestock and poultry in Malawi.

5.2 Ownership of livestock and poultry

Table 5.1 shows that 57 percent of the households in Malawi owned or kept livestock or poultry. The proportion who owned or kept livestock was larger among male headed households as compared to female headed households, 61 percent and 48 percent, respectively. Households in the Northern region were more likely to have kept livestock than households in the other regions, 77 percent compared to 51 and 57 percent for the Southern and Central regions, respectively.

The table further shows that 49 percent of households in Malawi owned at least one chicken, 24 percent owned at least one goat, 9 percent owned at least one pig, 6 percent owned at least one head of cattle and two percent owned at least one sheep. Except for sheep, male headed households were more likely to own the major types of livestock and poultry as compared to female headed households. Across the regions, households in the Northern region were more likely to own cattle, pigs and chickens as compared to households in the Central and Southern regions.

5.3 Number of major types of livestock and poultry

Table 5.2 shows that there were 884,132 heads of cattle in Malawi, 2,623,017 goats, 76,613 sheep, 792,364 pigs and 7,557,746 chickens. The table further shows that 434,743 heads of cattle were in the Northern region, 262,745 in the Central region, 186,644 in the Southern region. Central region had 1,118,254 goats, Southern region, 1,083,799 and Northern region, 420,964 goats.

The results further indicate that there were 452,937 pigs in Central region, 187,275 in Northern region, 152,151 in Southern region. The Central region had 3,282,044 chickens, while the Southern and Northern regions had, 2,755,513, and 1,520,189, respectively.

5.4 Number of other types of livestock and poultry

Data on other types of livestock and poultry, such as donkeys, rabbits, guinea pigs, ducks, guinea fowls, doves and turkeys.

Table 5.3 shows that there were 14,191 donkeys, 167,501 rabbits, 34,011 Guinea pigs, 429,171 ducks, 281,514 guinea fowls, 610,575 doves and 61,081 turkeys in the small holder sector as at the time of the Census.

Table 5.1: Proportion of households who owned major classes of livestock, according to background variables , 2006/2007 Agricultural Season

			Proportion by livestock type				
		Proportion of Households owned or kept livestock or poultry	Cattle	Goats	Sheep	Pigs	Chicken
Sex of household head	Malawi	57	6	24	2	9	49
	Male	61	7	25	2	10	52
	Female	48	5	20	2	5	41
Poverty quintiles	Poorest quintile	53	5	23	2	7	44
	Second quintile	58	6	24	2	10	50
	Third quintile	58	8	26	2	11	48
	Fourth quintile	60	7	25	2	8	55
Region	Highest quintile	51	5	19	2	7	46
	Northern	77	25	22	3	21	70
	Central	57	4	23	1	9	45
ADD	Southern	51	3	21	2	5	40
	Karonga	81	36	19	2	32	72
	Mzuzu	75	20	24	4	16	69
District	Kasungu	65	8	25	2	13	53
	Salima	49	1	17	2	4	37
	Lilongwe	55	3	23	0	8	43
	Machinga	49	2	19	2	2	38
	Blantyre	51	2	21	2	6	41
	Shire Valley	60	9	31	4	7	45
	Chitipa	83	35	27	2	22	78
	Karonga	81	37	14	1	39	68
	Rumphi	82	12	21	5	15	72
	Nkhata Bay	71	5	18	1	4	73
	Likoma	88	2	41	3	0	73
	Mzimba	81	29	29	5	21	75
	Mzuzu city	28	1	1	0	2	24
	Kasungu	71	6	23	4	15	58
	Ntchisi	70	10	31	0	21	56
	Dowa	61	6	30	2	11	49
	Nkhotakota	49	1	9	3	3	42
	Salima	49	2	23	1	4	33
	Dedza	56	3	29	1	10	48
	Ntcheu	56	4	25	0	10	44
	Lilongwe rural	56	2	26	0	7	42
	Lilongwe city	50	2	11	0	5	37
	Mchinji	61	11	21	0	10	53
	Balaka	52	2	22	3	4	43
	Mangochi	44	2	19	1	1	33
	Machinga	46	2	17	4	1	34
	Zomba rural	58	2	21	2	2	46
	Zomba City	27	4	2	0	3	19
	Chiradzulu	59	7	41	8	11	50
	Blantyre rural	55	3	20	1	6	45
Blantyre city	26	0	6	0	0	22	
Thyolo	65	3	20	2	10	54	
Mulanje	47	1	27	2	1	37	
Phalombe	52	3	25	1	12	37	
Mwanza	70	5	28	4	13	64	
Chikwawa	58	11	31	4	7	43	
Nsanje	63	7	32	4	6	50	

Table 5.2: Total number of livestock and poultry owned, according to background variables , 2006/2007 Agricultural Season

		Cattle	goats	sheep	pigs	Chicken
Region	Malawi	884,132	2,623,017	76,613	792,364	7,557,746
	Northern	434,743	420,964	25,622	187,275	1,520,189
	Central	262,745	1,118,254	25,189	452,937	3,282,044
	Southern	186,644	1,083,799	25,801	152,151	2,755,513
ADD	Karonga	147,256	45,273	2,017	79,070	395,226
	Mzuzu	287,487	375,691	23,605	108,205	1,124,963
	Kasungu	155,264	393,838	11,922	197,991	1,149,008
	Salima	8,054	105,065	9,534	32,714	292,338
	Lilongwe	99,427	619,351	3,733	222,231	1,840,697
	Machinga	45,808	382,624	18,945	21,749	1,031,434
	Blantyre	39,246	486,143	4,689	101,012	1,345,551
	Shire Valley	101,590	215,031	2,167	29,390	378,529
	Chitipa	59,382	28,736	1,686	19,686	183,186
	Karonga	87,874	16,537	331	59,384	212,041
District	Rumphi	13,564	32,813	3,742	22,558	170,685
	Nkhata Bay	3,110	21,329	741	3,829	167,738
	Likoma	76	2,645	..	..	8,988
	Mzimba	269,754	318,375	18,959	80,625	740,687
	Mzuzu city	982	529	163	1,193	36,865
	Kasungu	46,191	123,195	4,011	75,957	440,587
	Ntchisi	19,408	57,168	755	40,051	159,164
	Dowa	36,396	157,165	7,016	45,206	289,072
	Nkhotakota	2,714	26,528	7,728	9,538	153,800
	Salima	5,340	78,537	1,806	23,177	138,538
	Dedza	42,629	141,972	1,949	59,955	383,481
	Ntcheu	21,991	102,846	206	41,311	245,094
	Lilongwe rural	25,170	257,579	1,577	83,354	560,804
	Lilongwe city	9,636	116,955	..	37,612	651,318
	Mchinji	53,270	56,310	141	36,777	260,185
	Balaka	7,648	53,822	5,042	7,980	155,304
	Mangochi	15,771	139,957	6,953	2,875	270,704
	Machinga	8,921	82,241	3,296	1,912	208,464
	Zomba rural	11,394	105,336	3,552	8,076	358,128
	Zomba City	2,075	1,268	101	906	38,834
	Chiradzulu	4,064	77,381	1,645	12,424	149,277
	Blantyre rural	7,600	49,560	899	9,172	149,691
	Blantyre city	354	53,989	..	773	277,979
	Thyolo	3,290	80,479	3	37,927	338,347
	Mulanje	2,174	115,052	1,397	3,842	162,658
	Phalombe	10,300	60,882	351	17,710	103,603
	Mwanza	11,464	48,800	393	19,164	163,995
	Chikwawa	74,065	138,359	1,919	18,544	240,633
	Nsanje	27,525	76,672	248	10,846	137,895

Table 5.3: Population of minor classes of livestock and poultry, according to background characteristics , 2006/2007 Agricultural Season

		Donkeys	Rabbits	Guinea pigs	Ducks	Guinea fowls	Pegions/Doves	Turkeys
Region	Malawi	14,191	167,501	34,011	429,171	281,514	610,575	61,081
	Northern	3,144	18,839	3,693	66,120	63,586	215,288	25,193
	Central	2,779	86,199	19,185	156,261	124,485	173,937	10,464
	Southern	8,268	62,463	11,133	206,790	93,442	221,350	25,423
ADD	Karonga		1,834	52	16,194	9,992	54,802	796
	Mzuzu	3,144	17,005	3,640	49,926	53,594	160,485	24,397
	Kasungu	516	42,773	1,357	41,259	46,352	106,151	1,374
	Salima		5,894	441	20,972	22,315	13,016	623
District	Lilongwe	2,264	37,532	17,387	94,029	55,818	54,770	8,468
	Machinga	2,465	17,808	4,538	105,856	39,652	121,183	8,430
	Blantyre	5,351	42,196	5,477	52,839	21,390	80,213	13,177
	Shire Valley	452	2,459	1,118	48,095	32,400	19,954	3,816
	Chitipa		1,832		4,812	3,472	21,891	796
	Karonga		2	52	11,382	6,521	32,911	
	Rumphi		5,366	2	12,109	3,873	15,305	153
	Nkhata Bay		3,224		19,609	9,903	14,668	9,410
	Likoma				271	52	102	102
	Mzimba	3,144	6,043	3,638	14,313	38,449	127,682	13,391
	Mzuzu city		2,371		3,624	1,317	2,728	1,342
	Kasungu	421	12,047	425	4,210	20,743	50,455	6
	Ntchisi	31	9,353	88	8,984	13,707	5,917	185
	Dowa	63	19,364	585	18,568	5,538	35,444	6
	Nkhotakota		3,702	441	4,633	5,515	4,670	201
	Salima		2,192		16,339	16,800	8,345	422
	Dedza		18,055	737	34,123	11,836	8,994	6,027
	Ntcheu		4,414	4,291	5,940	6,301	21,665	565
	Lilongwe rural	1,653	9,234	12,359	15,492	25,104	20,377	1,331
	Lilongwe city	610	5,828		38,474	12,578	3,733	545
	Mchinji		2,009	260	9,497	6,364	14,335	1,177
	Balaka	27	4,867	1,181	10,542	7,764	16,184	1,440
	Mangochi	1,149	818	1,823	42,059	8,837	52,585	480
	Machinga	510	3,445	508	18,154	14,644	28,209	551
	Zomba rural	387	7,080	506	32,818	8,016	23,638	5,908
	Zomba City	392	1,599	521	2,282	391	567	51
	Chiradzulu	242	5,923	177	10,333	3,738	18,792	6,974
	Blantyre rural		1,468	2,639	8,505	3,438	11,912	2,574
	Blantyre city		226		2,559		1,083	483
	Thyolo	510	13,176	1,393	7,488	4,152	22,737	181
	Mulanje	4,575	14,246	660	10,340	2,519	6,260	544
	Phalombe	1	3,924		10,436	3,972	10,531	2,309
	Mwanza	23	3,233	608	3,179	3,571	8,898	112
	Chikwawa	115		1	21,264	13,710	14,223	2,570
	Nsanje	336	2,459	1,117	26,831	18,691	5,731	1,246

Chapter 6: Village information

6.1 Introduction

The NACAL also collected information on geographical and social context in which agricultural activities took place. The village is the lowest level of the decentralized administrative system in Malawi, and many aspects important to agricultural activities, such as access to, and use of land, are regulated at this level.

Villages were sampled based on the sampling frame of the 1998 Population and Housing Census. All villages found within the sampled enumeration areas were included in the sample, whether the whole village or only part of the village was located inside the Enumeration area; provided that the village had been identified during the 1998 Population and Housing Census, giving an average of 3 villages per enumeration area.

6.2 Physical infrastructure

Table 6.1 shows that 62 percent of the villages had a foot path, 60 percent had a track, 30 percent gravel road and 8 percent tarmac roads passing through the village. Table 6.2 shows that 56 percent of villages without tarmac or gravel road passing through the village were located 4 km or more from the nearest all season road. Table 6.3 shows that 75 percent of villages without tarmac or gravel roads accessed nearest all season road by foot, 22 percent by bicycle and 2 percent by public transport.

6.3 Access to financial institutions

The Census collected information on availability of financial institutions such as banks and other credit giving institutions. Table 6.4 indicates that one out of every four villages were located within a 10 km distance from a financial institution and 17 percent of the villages were located 50km or more from such an institution.

6.4 Access to marketing agents in agriculture

Access and proximity to marketing agents is important both for provision of inputs and selling of produce. Table 6.5 indicate that 72 percent of villages were located less than 5 kilometers to local markets or mobile markets and 58 percent were located less than 5km to ADMARC depot.

6.5 Transportation of produce to markets

Table 6.6 shows that 53 percent of villages transported farm produce to the market by head, 35 percent by bicycle, 6 percent by ox or donkey cart and 5 percent by public transport or matola.

6.6 Migration to and from villages

The Census results indicate that in one out of three villages, households moved away during the past 12 months (Table 6.7). Among villages in which households moved away, 61 percent moved outside the TA, 39 percent moved to another village within the TA. Table 6.8 indicate that 33 percent of the households moved away to look for land for cultivation, 20 percent to look for paid work and 10 percent run away from conflict among households.

6.7 Types of marriage and payment of lobola

Results show that 40 percent of the villages were matrilineal and matrilineal, 28 percent patrilineal and patrilineal systems, 24 percent matrilineal and patrilineal, and 4 percent Matrilineal and Neo local marriages. (Table 6.9).

6.8 Conflict over land

Table 6.10 indicate that 47 percent of villages had conflicts over land, 29 percent between family groups and households, 20 percent between villages and 5 percent between villages and estates.

Table 6.1: Proportion of villages by type of road that passes through the village, according to area of residence , 2006/2007 Agricultural Season.

		Tarmac	Gravel road	Track	Foot path	Other
Region	Malawi	8	30	60	62	4
	Northern	10	38	51	60	5
	Central	9	31	58	59	4
	Southern	7	24	67	66	4
ADD	Karonga	13	37	58	63	3
	Mzuzu	9	39	48	59	5
	Kasungu	7	36	56	54	5
	Salima	18	32	62	63	4
District	Lilongwe	7	24	60	64	2
	Machinga	8	21	64	69	6
	Blantyre	8	28	70	65	4
	Shire Valley	2	22	65	58	1
	Chitipa	1	47	46	55	3
	Karonga	28	24	71	71	3
	Rumphi	11	37	47	65	0
	Nkhata Bay	19	46	41	46	21
	Likoma	0	100	54	77	8
	Mzimba	3	34	52	62	2
	Kasungu	10	33	55	39	1
	Ntchisi	4	31	57	62	10
	Dowa	7	45	52	59	11
	Nkhota kota	27	29	59	59	1
	Salima	12	35	64	66	6
	Dedza	11	25	57	63	3
	Ntcheu	11	45	55	63	4
	Lilongwe					
	Rural	5	19	61	64	1
	Mchinji	5	37	60	61	1
	Balaka	13	26	65	61	8
	Mangochi	15	18	67	63	2
	Machinga	3	28	56	67	2
	Zomba Rural	7	15	67	76	10
	Chirazulu	8	42	71	83	6
	Blantyre					
	Rural	15	20	62	56	0
	Thyolo	2	29	81	73	2
	Mulanje	3	13	62	51	12
	Phalombe	0	15	83	60	0
	Mwanza	11	44	71	55	1
	Chikwawa	5	17	56	57	1
	Nsanje	0	26	72	58	1

Table 6.2: Percentage distribution of villages without tarmac and gravel roads by distance to nearest all season road, according to area of residence , 2006/2007 Agricultural Season.

		0-1 km	2 km	3 km	4 km+	Total
Region	Malawi	26	10	9	56	100
	Northern	35	10	10	45	100
	Central	24	10	10	56	100
	Southern	23	9	6	62	100
ADD	Karonga	28	10	12	50	100
	Mzuzu	38	10	9	43	100
	Kasungu	24	11	9	56	100
	Salima	20	11	11	59	100
	Lilongwe	26	9	10	54	100
	Machinga	16	7	5	72	100
	Blantyre	27	9	9	55	100
	Shire Valley	37	14	4	46	100
	Chitipa	15	9	14	62	100
	Karonga	42	11	9	38	100
District	Rumphi	44	8	7	41	100
	Nkhata Bay	36	12	11	41	100
	Likoma	100	0	0	0	100
	Mzimba	33	11	10	46	100
	Kasungu	21	11	9	59	100
	Ntchisi	17	10	8	65	100
	Dowa	31	5	5	59	100
	Nkhotakota	33	18	11	39	100
	Salima	13	7	11	70	100
	Dedza	21	9	9	61	100
	Ntcheu	39	7	11	43	100
	Lilongwe rural	25	10	11	54	100
	Mchinji	27	17	16	41	100
	Balaka	12	10	4	73	100
	Mangochi	16	10	4	70	100
	Machinga	17	6	6	70	100
	Zomba rural	16	6	5	74	100
	Chiradzulu	41	7	7	44	100
	Blantyre rural	19	8	8	65	100
	Thyolo	23	9	9	59	100
	Mulanje	19	13	12	56	100
	Phalombe	42	8	13	37	100
	Mwanza	20	7	7	67	100
	Chikwawa	21	10	2	68	100
	Nsanje	51	18	5	27	100

Table 6.3: Percentage distribution of villages without tarmac and gravel roads by how villagers access nearest all season road, according to area of residence , 2006/2007 Agricultural Season.

		On foot	Bicycle	Motor vehicle	Public transport	Other	Total
Region	Malawi	75	22	1	2	0	100
	Northern	93	5	1	0	0	100
	Central	70	26	2	2	0	100
	Southern	72	25	1	2	0	100
ADD	Karonga	89	10	0	0	1	100
	Mzuzu	95	3	1	1	0	100
	Kasungu	70	24	3	3	0	100
	Salima	60	40	0	0	0	100
	Lilongwe	73	23	1	2	0	100
	Machinga	64	35	0	1	0	100
	Blantyre	81	15	1	3	0	100
	Shire Valley	75	20	2	3	0	100
District	Chitipa	91	8	0	0	1	100
	Karonga	88	13	0	0	0	100
	Rumphi	96	3	1	0	0	100
	Nkhata Bay	95	5	0	0	0	100
	Likoma	100	0	0	0	0	100
	Mzimba	94	3	2	1	0	100
	Kasungu	60	25	9	6	0	100
	Ntchisi	80	20	0	1	0	100
	Dowa	69	28	1	2	1	100
	Nkhotakota	59	40	0	0	1	100
	Salima	60	40	0	0	0	100
	Dedza	70	28	1	2	0	100
	Ntcheu	88	10	0	1	1	100
	Lilongwe rural	71	24	2	2	0	100
	Mchinji	77	23	0	0	1	100
	Balaka	68	32	0	0	0	100
	Mangochi	53	47	0	0	0	100
	Machinga	65	33	0	1	1	100
	Zomba rural	67	32	0	1	1	100
	Chiradzulu	83	8	0	10	0	100
	Blantyre rural	98	2	0	0	0	100
	Thyolo	84	11	4	0	1	100
	Mulanje	65	35	0	0	0	100
	Phalombe	71	29	0	0	0	100
	Mwanza	79	14	1	6	0	100
	Chikwawa	55	34	5	6	1	100
	Nsanje	93	7	0	0	0	100

Table 6.4: Percentage distribution of villages by access to nearest financial institution, according to area of residence. 2006/2007 Agricultural Season.

		Less than 5 km	5-9 km	10-19 km	20-49 km	50 km+	Total
Region	Malawi	14	11	22	36	17	100
	Northern	15	10	19	34	22	100
	Central	10	9	20	40	21	100
	Southern	19	13	27	32	9	100
ADD	Karonga	16	9	24	34	16	100
	Mzuzu	15	10	16	34	25	100
	Kasungu	11	8	23	30	28	100
	Salima	9	4	21	51	15	100
District	Lilongwe	9	12	17	46	16	100
	Machinga	13	12	22	40	13	100
	Blantyre	23	14	31	27	5	100
	Shire Valley	26	10	30	22	11	100
	Chitipa	11	5	17	49	17	100
	Karonga	22	14	32	17	16	100
	Rumphi	9	2	20	32	37	100
	Nkhata Bay	18	23	14	33	11	100
	Likoma	100	0	0	0	0	100
	Mzimba	17	11	14	36	21	100
	Kasungu	10	5	15	32	38	100
	Ntchisi	17	6	34	24	20	100
	Dowa	13	9	32	29	17	100
	Nkhotakota	15	6	13	45	21	100
	Salima	5	3	27	56	9	100
	Dedza	12	13	15	44	15	100
	Ntcheu	13	6	20	30	31	100
	Lilongwe rural	7	12	17	51	13	100
	Mchinji	7	15	19	31	27	100
	Balaka	15	11	33	23	18	100
	Mangochi	10	7	18	38	27	100
	Machinga	4	15	24	45	12	100
	Zomba rural	18	13	19	44	6	100
	Chiradzulu	23	13	33	30	1	100
	Blantyre rural	21	18	48	12	1	100
	Thyolo	14	21	20	35	10	100
	Mulanje	31	16	25	25	3	100
	Phalombe	33	4	22	33	7	100
	Mwanza	14	11	26	33	17	100
	Chikwawa	21	13	18	25	24	100
	Nsanje	31	8	41	20	0	100

Table 6.5: Proportion of villages with short distance (Less than 5 kilometer) to marketing organizations, according to area of residence , 2006/2007 Agricultural Season.
Cont'

		Agora	ADMARC	Kulima Gold	Farmers world	Private traders
Region	Malawi	16	58	17	19	60
	Northern	10	59	15	26	57
	Central	13	54	19	24	62
	Southern	22	63	16	11	60
ADD	Karonga	7	61	5	17	50
	Mzuzu	11	58	21	30	60
	Kasungu	14	47	25	28	64
	Salima	9	46	13	13	54
District	Lilongwe	13	64	16	23	64
	Machinga	28	57	19	14	53
	Blantyre	19	64	17	12	65
	Shire Valley	14	83	5	2	65
	Chitipa	5	59	6	14	46
	Karonga	9	63	5	20	54
	Rumphi	4	50	10	27	54
	Nkhata Bay	10	50	18	17	72
	Likoma	0	86	0	0	71
	Mzimba	17	66	31	40	58
	Kasungu	17	40	25	27	60
	Ntchisi	16	56	23	23	73
	Dowa	14	48	27	35	63
	Nkhotakota	12	52	23	23	55
	Salima	6	40	4	4	53
	Dedza	19	49	23	31	70
	Ntcheu	28	66	20	15	65
	Lilongwe rural	7	69	12	22	61
	Mchinji	8	48	24	25	61
	Balaka	24	43	17	17	51
	Mangochi	13	45	9	8	38
	Machinga	18	47	6	4	50
	Zomba rural	41	72	32	22	63
	Chiradzulu	10	70	9	9	75
	Blantyre rural	29	70	26	15	56
	Thyolo	16	60	16	13	55
	Mulanje	26	49	26	20	62
	Phalombe	19	79	13	3	69
	Mwanza	16	50	16	11	66
	Chikwawa	14	72	9	3	63
	Nsanje	15	92	2	1	67

Table 6.5: Proportion of villages with short distance (Less than 5 kilometer) to marketing organizations, according to area of residence , 2006/2007 Agricultural Season.

		Local market	Mobile market	Finca	Mardef	SFFRM	Transglobe
	Malawi	72	72	14	14	13	7
Region	Northern	72	69	14	14	18	5
	Central	71	74	12	12	11	6
	Southern	74	71	17	15	12	9
ADD	Karonga	76	67	8	16	15	2
	Mzuzu	70	70	17	13	20	7
	Kasungu	73	75	16	15	16	9
	Salima	71	78	10	15	14	5
	Lilongwe	70	72	8	8	5	4
	Machinga	73	71	13	15	12	9
	Blantyre	73	77	18	16	15	10
	Shire Valley	78	56	26	14	4	3
District	Chitipa	64	53	6	16	17	5
	Karonga	85	78	9	16	13	0
	Rumphi	68	71	1	5	18	1
	Nkhata Bay	80	75	22	14	2	2
	Likoma	43	0	0	0	0	0
	Mzimba	68	71	29	19	29	14
	Kasungu	68	68	15	13	14	7
	Ntchisi	87	75	22	25	20	15
	Dowa	72	77	18	13	16	8
	Nkhotakota	70	80	13	11	21	7
	Salima	71	75	7	18	7	3
	Dedza	77	71	18	12	6	4
	Ntcheu	62	70	18	16	8	7
	Lilongwe rural	69	73	2	5	4	3
	Mchinji	63	83	10	6	14	4
	Balaka	75	76	23	29	11	11
	Mangochi	59	75	8	10	10	8
	Machinga	68	89	5	6	10	3
	Zomba rural	81	56	17	18	15	13
	Chiradzulu	86	88	8	8	10	7
	Blantyre rural	63	66	22	17	12	18
	Thyolo	70	84	12	19	12	10
	Mulanje	66	79	28	20	30	16
	Phalombe	76	70	24	26	16	1
	Mwanza	64	64	20	14	11	9
	Chikwawa	71	45	19	7	5	3
	Nsanje	84	66	31	20	3	2

Table 6.6: Percentage distribution of villages by how produce was transported to selling point, according to area of residence , 2006/2007 Agricultural Season.

		On head	Bicycle	Motor bike	Own Motor vehicle	Matola	Public transport	Ox or donkey cart	Other	Total
Region	Malawi	53,3	35,1	0,1	0,1	2,8	1,7	6,3	0,5	100,0
	Northern	73,6	13,6	0,1	0,1	2,3	1,4	8,8	0,1	100,0
	Central	43,5	41,2	0,2	0,1	3,6	2,1	8,8	0,7	100,0
	Southern	55,2	38,7	0,2	0,1	2,1	1,3	2,1	0,5	100,0
ADD	Karonga	65,6	23,0	0,0	0,0	0,6	0,0	10,7	0,0	100,0
	Mzuzu	77,4	9,1	0,1	0,1	3,1	2,1	7,9	0,1	100,0
	Kasungu	37,7	43,8	0,3	0,1	4,5	1,3	12,2	0,2	100,0
	Salima	40,4	53,8	0,0	0,0	1,9	0,0	3,8	0,0	100,0
District	Lilongwe	51,3	33,2	0,1	0,2	3,2	3,8	6,7	1,5	100,0
	Machinga	46,2	47,1	0,2	0,1	3,3	0,9	1,8	0,3	100,0
	Blantyre	62,9	31,7	0,0	0,0	1,4	2,1	1,0	0,9	100,0
	Shire Valley	61,7	32,0	0,4	0,0	0,0	0,0	5,9	0,0	100,0
	Chitipa	78,5	16,4	0,0	0,0	0,6	0,0	4,5	0,0	100,0
	Karonga	50,3	30,9	0,0	0,0	0,7	0,0	18,1	0,0	100,0
	Rumphi	76,0	13,0	0,0	0,0	5,0	0,0	5,5	0,5	100,0
	Nkhata Bay	91,8	6,1	0,0	0,0	2,0	0,0	0,0	0,0	100,0
	Likoma	100,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	100,0
	Mzimba	70,7	8,3	0,3	0,3	2,5	4,5	13,4	0,0	100,0
	Kasungu	27,3	45,1	0,8	0,3	8,4	2,8	14,8	0,6	100,0
	Ntchisi	49,4	42,3	0,0	0,0	1,7	0,4	6,2	0,0	100,0
	Dowa	41,7	32,3	0,0	0,0	5,3	1,1	19,5	0,0	100,0
	Nkhotakota	53,3	44,1	0,0	0,0	2,6	0,0	0,0	0,0	100,0
	Salima	31,3	60,7	0,0	0,0	1,4	0,0	6,5	0,0	100,0
	Dedza	65,9	30,5	0,5	0,0	1,4	0,0	1,8	0,0	100,0
	Ntcheu	66,4	15,7	0,0	0,0	7,9	4,3	5,7	0,0	100,0
	Lilongwe rural	42,4	38,4	0,0	0,3	2,8	5,0	8,7	2,3	100,0
	Mchinji	37,1	55,9	0,0	0,0	0,8	0,0	6,1	0,0	100,0
	Balaka	40,9	52,8	0,0	0,0	1,6	0,0	4,7	0,0	100,0
	Mangochi	27,0	66,9	0,6	0,0	4,9	0,0	0,6	0,0	100,0
	Machinga	33,0	54,6	0,0	0,5	6,4	0,9	4,1	0,5	100,0
	Zomba rural	64,4	31,8	0,3	0,0	1,4	1,6	0,0	0,5	100,0
	Chiradzulu	66,5	32,1	0,0	0,0	0,5	1,0	0,0	0,0	100,0
	Blantyre rural	76,1	12,8	0,0	0,0	1,1	7,2	0,0	2,8	100,0
	Thyolo	78,0	18,0	0,0	0,0	3,0	0,0	0,0	1,0	100,0
	Mulanje	43,4	56,6	0,0	0,0	0,0	0,0	0,0	0,0	100,0
	Phalombe	45,1	54,9	0,0	0,0	0,0	0,0	0,0	0,0	100,0
	Mwanza	54,8	29,8	0,0	0,0	4,8	1,9	7,7	1,0	100,0
	Chikwawa	53,2	34,7	0,8	0,0	0,0	0,0	11,3	0,0	100,0
	Nsanje	69,0	29,7	0,0	0,0	0,0	0,0	1,4	0,0	100,0

Table 6.7: Proportion of villages where members moved into or away from village and percentage distribution of villages where any households had moved from the village to settle elsewhere during the past 12 months by where they went, according to area of residence , 2006/2007 Agricultural Season.

		Proportion of villages with households moved away	Proportion of villages with households moved into the village	Place where households settled after moving from village					
				Other villages within the TA	Other villages outside the TA	Other villages within same district	Other villages outside the district	Another country	Total
Region	Malawi	34	42	39	61	0	0	0	100
	Northern	30	43	38	61	1	0	0	100
	Central	35	39	36	64	0	0	0	100
	Southern	36	45	42	56	1	1	0	100
ADD	Karonga	36	49	43	55	2	0	0	100
	Mzuzu	27	41	35	64	0	1	0	100
	Kasungu	34	37	32	68	0	0	0	100
	Salima	42	51	37	63	0	0	0	100
District	Lilongwe	35	37	39	60	0	1	0	100
	Machinga	34	41	49	50	1	0	0	100
	Blantyre	35	41	30	69	0	0	0	100
	Shire Valley	42	64	54	41	2	3	1	100
	Chitipa	34	45	50	50	0	0	0	100
	Karonga	39	52	36	61	3	0	0	100
	Rumphi	26	40	33	67	0	0	0	100
	Nkhata Bay	17	41	33	67	0	0	0	100
	Likoma	100	85	31	69	0	0	0	100
	Mzimba	29	40	37	62	0	1	0	100
	Kasungu	31	31	30	70	0	0	0	100
	Ntchisi	32	32	37	63	0	0	0	100
	Dowa	34	36	25	75	0	0	0	100
	Nkhotakota	43	57	45	55	0	0	0	100
	Salima	42	46	31	69	0	0	0	100
	Dedza	37	30	42	58	0	0	0	100
	Ntcheu	20	29	34	66	0	0	0	100
	Lilongwe rural	38	41	38	60	0	1	0	100
	Mchinji	40	51	37	63	0	0	0	100
	Balaka	40	45	38	62	0	0	0	100
Mangochi	39	47	54	44	2	0	0	100	
Machinga	37	41	54	45	1	0	0	100	
Zomba rural	29	38	47	53	0	0	0	100	
Chiradzulu	21	25	25	75	0	0	0	100	
Blantyre rural	37	54	30	70	0	0	0	100	
Thyolo	35	32	17	83	0	0	0	100	
Mulanje	49	39	26	72	0	2	0	100	
Phalombe	46	51	34	66	0	0	0	100	
Mwanza	38	58	54	46	0	0	0	100	
Chikwawa	44	61	60	33	4	4	0	100	
Nsanje	40	67	48	48	0	2	2	100	

Table 6.8: Percentage distribution of villages where any households had moved from the village to settle elsewhere during the past 12 months by main reason why the household moved away, according to area of residence . 2006/2007 Agricultural Season.

		Conflict among households	Due to natural disasters	Looking for more land to cultivate	Difficulties in marketing produce	Went to Town	Went home	Looking for paid work	Other reasons	Total
Region	Malawi	10	1	33	4	9	11	20	11	100
	Northern	10	1	27	5	10	14	15	18	100
	Central	9	1	30	5	9	10	28	8	100
	Southern	12	2	38	4	8	11	14	10	100
ADD	Karonga	8	2	26	4	12	13	9	26	100
	Mzuzu	12	1	28	6	9	14	18	12	100
	Kasungu	6	1	34	3	9	10	30	7	100
	Salima	17	2	18	4	10	7	33	9	100
	Lilongwe	8	1	32	7	9	13	22	10	100
	Machinga	12	2	43	5	8	11	12	7	100
	Blantyre	10	0	37	3	10	7	18	13	100
	Shire Valley	15	9	28	4	4	19	8	13	100
District	Chitipa	2	0	27	7	8	7	12	37	100
	Karonga	14	3	24	2	16	19	7	16	100
	Rumphi	16	0	36	6	6	22	12	2	100
	Nkhata Bay	4	0	26	0	11	11	22	26	100
	Likoma	15	0	15	0	8	31	23	8	100
	Mzimba	11	1	26	8	11	9	20	14	100
	Kasungu	5	0	36	3	13	5	37	3	100
	Ntchisi	13	1	37	5	7	13	21	3	100
	Dowa	5	1	26	1	10	11	28	17	100
	Nkhotakota	12	0	18	6	12	9	37	7	100
	Salima	21	4	18	3	9	5	30	10	100
	Dedza	11	0	42	9	5	7	17	9	100
	Ntcheu	10	0	38	7	10	0	31	3	100
	Lilongwe rural	6	1	27	6	10	16	23	11	100
	Mchinji	4	0	35	3	5	13	32	7	100
	Balaka	12	10	24	4	22	10	12	6	100
	Mangochi	19	0	42	5	6	13	11	5	100
	Machinga	11	0	63	0	2	7	10	6	100
	Zomba rural	10	0	37	9	8	13	13	11	100
	Chiradzulu	14	0	34	2	9	5	14	23	100
	Blantyre rural	6	0	26	1	14	9	23	21	100
	Thyolo	3	0	77	0	3	11	6	0	100
	Mulanje	3	0	32	2	20	0	36	7	100
	Phalombe	16	3	45	3	5	13	5	11	100
	Mwanza	27	0	27	14	0	11	14	8	100
	Chikwawa	9	13	39	2	7	16	2	13	100
	Nsanje	21	5	17	7	0	22	14	14	100

Table 6.9: Percentage distribution of villages by main type of marriage, according to area of residence , 2006/2007 Agricultural Season.

		Matrilineal and neolocal	Matrilineal and matrilocal	Matrilineal and patrilocal	Patrilineal and neolocal	Patrilineal and patrilocal	Do not know or other	Total
Region	Malawi	4	41	24	2	28	1	100
	Northern	0	0	3	2	94	1	100
	Central	3	32	47	2	16	1	100
	Southern	7	74	6	2	10	2	100
ADD	Karonga	0	0	0	0	98	1	100
	Mzuzu	0	0	4	2	91	1	100
	Kasungu	1	11	59	2	26	1	100
	Salima	7	34	39	3	18	0	100
	Lilongwe	3	56	35	2	3	1	100
	Machinga	7	83	7	1	1	1	100
	Blantyre	8	83	6	0	0	2	100
	Shire Valley	1	11	2	13	71	2	100
District	Chitipa	0	0	1	1	98	1	100
	Karonga	0	0	0	0	99	1	100
	Rumphi	0	0	1	1	98	1	100
	Nkhata Bay	0	1	0	1	96	2	100
	Likoma	0	0	0	31	69	0	100
	Mzimba	0	0	9	3	86	2	100
	Kasungu	0	11	55	2	32	0	100
	Ntchisi	1	10	63	0	24	1	100
	Dowa	0	9	61	1	27	1	100
	Nkhotakota	12	4	43	2	38	1	100
	Salima	3	54	36	3	4	0	100
	Dedza	2	91	7	0	0	0	100
	Ntcheu	9	75	16	0	0	0	100
	Lilongwe rural	3	38	51	2	4	2	100
	Mchinji	5	15	59	4	16	1	100
	Balaka	17	66	16	0	1	0	100
	Mangochi	5	78	16	1	0	0	100
	Machinga	0	97	3	0	0	0	100
	Zomba rural	9	82	3	1	1	3	100
	Chiradzulu	7	92	0	0	0	0	100
	Blantyre rural	4	71	15	2	1	6	100
	Thyolo	3	93	2	0	0	2	100
	Mulanje	7	93	0	0	0	0	100
	Phalombe	4	78	18	0	0	0	100
	Mwanza	30	68	2	0	0	0	100
	Chikwawa	2	20	3	22	50	4	100
	Nsanje	1	3	1	7	88	0	100

Table 6.10: Proportion of villages with conflicts over land and with whom the conflict was, according to area of residence. 2006/2007 Agricultural Season.

		Proportion with conflict	Type of conflicts			
			Between villages	Between village and estate	Between family groups	Between households
Region	Malawi	47	20	5	29	28
	Northern	45	19	5	28	26
	Central	46	20	6	28	27
	Southern	49	19	4	32	30
ADD	Karonga	45	19	1	29	31
	Mzuzu	45	19	6	27	24
	Kasungu	44	18	5	26	26
	Salima	49	24	5	28	28
District	Lilongwe	48	22	7	30	27
	Machinga	50	21	3	32	30
	Blantyre	51	16	4	34	33
	Shire Valley	42	17	5	25	22
	Chitipa	39	16	1	24	26
	Karonga	53	24	0	36	37
	Rumphi	49	19	6	27	26
	Nkhata Bay	40	12	3	29	27
	Likoma	92	38	0	92	69
	Mzimba	44	21	8	24	19
	Kasungu	47	13	8	27	29
	Ntchisi	46	18	4	27	26
	Dowa	33	13	2	16	21
	Nkhotakota	50	22	3	28	29
	Salima	48	26	7	28	27
	Dedza	43	19	8	21	27
	Ntcheu	61	29	3	37	40
	Lilongwe rural	46	22	7	32	24
	Mchinji	50	31	4	34	27
	Balaka	65	26	2	48	45
	Mangochi	46	22	6	23	24
	Machinga	52	18	3	31	35
	Zomba rural	45	22	2	30	24
	Chiradzulu	38	13	3	26	22
	Blantyre rural	48	13	1	28	28
	Thyolo	66	19	10	54	53
	Mulanje	50	16	2	39	36
	Phalombe	63	20	5	43	51
	Mwanza	57	25	5	33	28
	Chikwawa	44	19	10	24	23
	Nsanje	40	15	1	25	21

Annex 1: Sampling methodology and weight calculation in the NACAL

A1.1. Introduction

The government of Malawi has previously conducted three rounds of the National Sample Survey of Agriculture (NSSA), the last one in 1991/92. These large scale surveys are often denoted sample censuses or simply censuses. During preparatory activities the sampling of enumeration areas for the NACAL was done. The actual sampling of household was done during the fieldwork based upon complete lists of households from the sampled enumeration areas.

A1.2. Sampling design

Stage 1 - sampling of Enumeration Areas(EA)

Based on recommendations from consultants and decisions from the Second NACAL Stakeholder meeting in Lilongwe on 28th September, and some decisions were agreed upon:

- *Coverage.* The NACAL was conducted in all rural and peri-urban areas, In addition another extra sample was drawn from the four cities. This extra sample was to accommodate two last modules: Welfare Monitoring Survey 2007 and Livestock survey.
- *Overall sample size.* It was agreed that at least 25 000 holdings would be selected.
- *Cluster size.* From each EA a cluster of 15 households + estate households would be selected.
- *Stratification within the cluster.* Within each of the selected EA, all households would be listed, identifying four strata, estate households, large scale smallholders, small scale smallholders and landless households. All estates were included in the sample, the large scale farmers would have a five-fold probability and a sub-sample of each of the three latter groups be selected. Large scale farmers were identified by asking each household with a holding to estimate the cultivated area measured in acres.

Balancing national and district estimates. Sample allocation among districts was done according to a formula given by Kish (Kish 1988:26). Hence districts with a small population were somewhat oversampled and those with a large population somewhat undersampled as compared to proportional sampling.

Stratification within districts. EAs were stratified according to agro-ecological zones by ADD. It was assumed that the coding had been done uniformly within ADD.

Urban areas. The four urban areas ó Mzuzu City, Lilongwe City, Blantyre City and Zomba city were treated as separate districts. The sample size in the urban areas was fixed to provide sufficient data for estimates of urban agriculture and hence undersampled as compared to the percentage of the total population. *For urban dwellers with parcels outside the city; the parcels were not included in the sample.*

Stage 2 - Sampling of households

Based upon the listing of households, four strata were identified: estate households, large scale smallholders, small scale smallholders and landless households. All estates were included in the census, while landless households were not in the target population. Actual sampling was done among small scale and large scale smallholders. It was decided to select 5 large scale and 10 small scale households from each EA. Where less than 5 large scale households were found, the number of small scale households sampled was increased correspondingly to have a total of 15 from each EA.

A1.3. Calculation of weights

Non-proportional sample

The applied sample design was a two-stage probability design with stratification at both stages and clustering at stage two. At both stages the sampling was done with unequal probabilities and the combined inclusion probabilities for the census units ó the agricultural holdings ó were unequal. Hence the sample is not self-weighting and to get unbiased estimates the data must be weighted accordingly.

Factors influencing the weights

a. Unequal sampling probabilities

At the first stage EAs (clusters) were selected within each district with probabilities proportionate to size. As size measure was taken the number of households from the 1998 Population Census. At second stage the households were selected with equal probabilities from each stratum separately. Hence the inclusion probability for household k in stratum j in cluster i in district h can be written

$$P_{ij}^h = w_i^h (C_j/n_j)$$

where w_i^h is the proportion of households in cluster i in district h

n_j is the number of households belonging to stratum j (indices h and i omitted)

C is 10 in small scale strata and 5 in large scale strata, or, where total number of large scale household was 4 or less, adjusted accordingly to have a total of 15 households from the cluster. In a few cases less than 15 households were actually sampled for some reason. Wherever this occurred, the reported number actually sampled has been applied in the calculations. The weights must be proportional with the inverse values of the inclusion probabilities, or with $(P_{ij}^h)^{-1}$.

b. Non-response

Unit non-response is in general a very small problem in NACAL. In the few cases where an eligible household has failed to participate, the cluster weights are adjusted accordingly. The factor applied is $n_{\text{selected}}/n_{\text{responding}}$. Item non-response is assumed to occur more frequently. The general weights have not been designed to compensate or correct for such non-response. The appropriate method must be chosen dependent upon the variable(s) concerned.

A1.4. Balancing of districts

As the districts in Malawi differ significantly in population size, a proportional design would not be efficient. There would have been too few households from the small districts to have sufficiently accurate estimates, while from the large districts the samples would have been unnecessary large. The number of households range from 23 549 in Rumphi to 207 694 in Lilongwe Rural (1998 Population Census).

Hence it was recommended to allocate the sample more evenly, thus to ensure good estimates for the small districts, but still to remain with larger sample from the populous districts as their contribution to national or regional estimates is important. It was chosen to apply a formula given by Kish (Kish 1988:26):

$$n_h = N \times [w_h^2 + H^{-2}]^{1/2}$$

where N is the fixed gross sample size. n_h is the sample in district h . w_h is the proportion of households in district h . H is the number of districts. The formula was applied only for rural districts, hence $H=27$. N was fixed to 23 250. Applying the formula gives 587 units from Likoma and 616 from Rumphi (the smallest districts) up to 1755 units from Lilongwe Rural. The final sample sizes were adjusted to multiples of 45 in order to obtain a smooth work plan. To ensure that the districts are properly balanced, the following term has been included in the weight formula:

$$W_h \times (\hat{U}_i \hat{U}_j p_k^{-1} / \hat{U}_j p_k^{-1})$$

where w_h is the proportion of households in district h according to 1998 Census

the sum in the numerator is the total sum of inverse probabilities (all surveyed households) the sum in the denominator is the sum of inverse probabilities in district h .

A1.4. Blowing-up factors

The census results were weighted to provide estimates of national, regional and district totals. The weights, or blowing-up factors, thus need to be properly scaled. For this purpose it would not have been sufficient to rely solely upon the population figures from the 1998 Census, as the population has grown significantly over the elapsed ten years and the growth cannot be assumed to have been equal throughout the country.

The blowing-up factors for estimation of totals were obtained by including a last term, composed of

- a) scaling according to 1998 Census
- b) adjusting by population ratio in cluster

c) adjusting by the fraction of household type according to figures from the listing
Formula:

$$K \times (\text{Total}_{2007} / \text{Total}_{1998}) \times (n_s / \text{Total}_{2007})$$

Where $K = 2238995 / (\hat{U}_i \hat{U}_j p_k^{-1})$

n_s is the number of either small scale or large scale farmers in a cluster, the totals refer to the same cluster.

Annex 2: Calculation of production and yield figures in NACAL

A2.1. Introduction

The NACAL used the post harvest farmers' interview to get the plot production figures. The issue of how to best evaluate the yield of the main cereal crop production in Sub-Saharan African agriculture has been debated for many years. This annex will discuss this issue in relation to the 2006-07 agricultural (sample) census in Malawi, the National Census of Agriculture and Livestock (NACAL).

An important reference is the 1988 Verma, Marchant and Scott methodological evaluation of crop-cut methods and farmer reports for estimating crop production in five African countries (The countries were: Benin, Central African Republic, Niger, Zimbabwe and Kenya). Their conclusion is that *estimates of production obtained by interviewing farmers soon after the harvest can be at least as accurate as any estimates obtainable through physical measurement involving crop-cuts on sample subplots*. The conclusion applies both to predicting the average value (point estimate), and to the estimate's variance. However, this conclusion is qualified in four ways: First, it refers to the farmers' *ability* to state their production, and not necessarily their *willingness* to do so. Second, the sample sizes from which the conclusion is drawn are relatively small, as well as a confined span of conditions of cultivation. Third, results apply to the *main* cereal crop. Less important crops often have more complex conditions of cultivation, which affects all types of crop measurement methods. Finally, this method is critically dependent on reliable *conversion* factors, which translate farmers' traditional volumetric units into standard weight units. Although farmers' *pre-harvest production estimates* are not as good as their post-harvest estimates, they are still fairly good, if obtained a *short* time before the harvest. However, the variance for this measure is significantly higher. *Earlier* pre-harvest estimates are less accurate. However, these measures are most likely also to include *real* changes, such as loss of crop, or premature harvesting.

Estimates based on *crop cutting on sample subplots* are on the average found to *over-estimate* production by around 30%, (ranging from 15% to 40% in the five countries). Weighing of harvested crop at various stages, such as *fresh*, *dry*, and *shelled* is recommended. The estimation of total plot production for this production measurement method also critically depends on a correct measure for the total area of the cultivated plot. However, for area measurement, the conclusion is rather the opposite of that for *production*: Farmers themselves seriously over-estimate their cultivated area. For measurement of *production*, area estimation is not a problem for pre-, and post harvest interviews. However, area estimates evidently re-enter as a critical factor in making estimates of yields from pre-, and post harvest interviews.

Another useful reference is the 1991 Rozelle working paper on *Rural Household Data Collection in Developing Countries*: First, the method of post-harvest interview about *output* is briefly described. If a high visiting frequency is possible, a *consumption study* approach may be applied, asking for the *uses* of the harvested crop for purposes such as home consumption, sales, gifts etc. Also here, the importance of using local measures, and collecting data for one plot at the time are stressed. The latter method reduces the risk of the farmer reporting his historical average figures, rather than this year's actual production volumes. It is recommended to evaluate both the farmers' *ability* to report *yields* correctly, and not least also their willingness to do so. Both chronic under-, and over-reporting have been observed, dependent on the farmers' incentive structure. Yields are generally reported to be less accurate the less scarce land is in that region. This has the important implication that *interviewing the farmer about production and not least yields are considered less suitable for the African context*, where land is less scarce and less irrigated than for example in Asia. Two studies from Malawi are specifically mentioned as a case where farmers had great difficulties providing *yield* estimates from most crops.

A2.2. The Survey Design

Information about maize production, as for other types of agricultural production, was collected in Module 3 of the questionnaire. One questionnaire was supposed to be filled in for each plot. A *plot* was defined by the enumerator manual as: *a part of a garden that contains a different crop or crop mixture or is kept by a different operator in the same household. It must be a continuous piece of land and should not be split by a path of more than one meter in width.* Hence, the plot definition partially referred to a *physical feature* of the piece of land (having a uniform crop (mixture), and partially to how the production was *organized* (having a separate operator).

After implementing this plot definition, there were approximately 52 000 recorded plots belonging to the 23 000 sampled households, i.e. on the average a little more than 2 plots per household. The questionnaire was administered to the respondents by resident enumerators who paid several visits to the respondents during the whole agricultural season, among other things asking about the farmers' pre- and post-harvest production estimates. For some selected crop types, including all main varieties of maize, a 7 x 7 meter sub-plot was selected for harvesting (Yield Sub-Plot, (YSP)), and for one household in each survey cluster, a maize plot was selected for *full* harvest.

The questions directly involved in the estimation of yield in maize production were P5 (plot area), P7 (type of stand), P8 (first, second and third main crop on the plot), P9 (farmer's own pre-harvest estimate of production), P21 (farmer's own post-harvest estimate of production), P25a (YSP *Fresh* and *Dry*), and P26a and P26b (full harvest; number of bags harvested and weight of these).

A2.3. Comparing Yields

A key element in comparing methods for measuring production of maize is to ensure that data are really comparable. In order to achieve this, three filters were used simultaneously to select plots for comparison: First, comparison had to be made for maize in *pure stand* only, i.e. the variety of maize in question should be the only crop on the plot, (variable P7 to take value *1*). It was also clear that a necessary, but not sufficient, condition for this was that the maize type was the first main crop on variable P8. Finally, since some plots, contrary to the definition of *plot*, had recorded more than one crop having a *pure* stand on the plot, it was ensured that only plots with *one*, pure stand registered crop was included.

The variables for type of stand, first, second and third main crop on the plot, and the farmer's own pre-harvest estimate of production were recorded at the same time during the pre-harvest interview. The two first variables also formed the basis for all other, subsequent production measures (post-harvest interview and yield size plot estimates, although the data capture of these production measures took place much later).

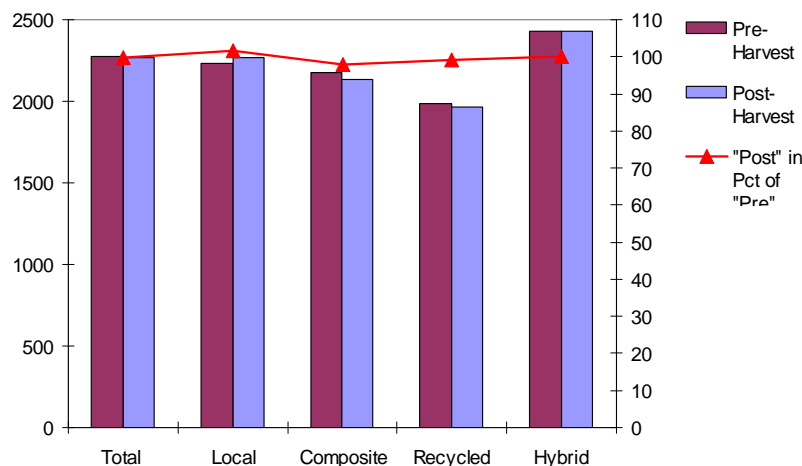
A2.4 Comparing pre-, and post-harvest estimates

Although being recorded at different times, the pre- and post-harvest production figures have two important common features. First, data are in both cases captured by the enumerator asking the farmer in person about his or her estimate. Second, these production estimates refer to the plot as a whole.

The *aggregated average yields* for all of Malawi for these two production measurement methods were surprisingly similar for all maize varieties, given the 4-5 months time span that actually separated the two measures (Figure 1, *left axis*: national average yield as *kg/hectare*, *right axis*: post-harvest as *percent* of pre-harvest yield). Although it is not possible to derive exactly from the questionnaire at what time the pre-harvest production estimates were captured, they were recorded fairly *late*, mostly in January-February 2007. Hence, the farmers had planted their maize and observed the initial parts of its growth season, and both the area allocated to the various maize varieties, the type of stand, and the initial use of input factors as fertilizer and labor were known. Moreover, at the end of the growth season, in May-June, the total season's rainfall turned out to be very similar to the proceeding year. What remained as separating factors were local climatic conditions, and idiosyncratic shocks at the household level. Both the pre- and the post-harvest interview show the same variation across maize varieties as could be

expected; highest yield for hybrid maize (given the good rainfall), lowest for recycled maize, with yields for local and composite maize in between these two.

Figure 1 Yield from post-harvest maize production figures by type of imputation and maize variety (kg/ hectare)



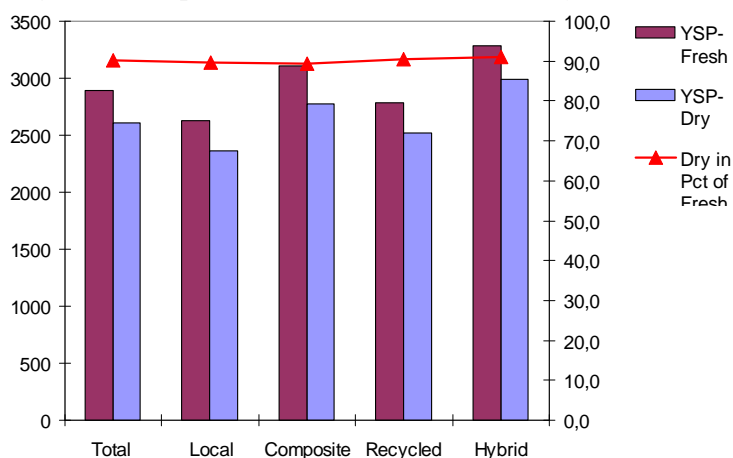
The next step performed was to cross-check whether the *aggregated yield average* for all of Malawi applied also to the plot level, and whether the similarity in the *aggregated average production* for all of Malawi were present in all the country's districts. First, for the most important variety, local maize, the national correlation coefficient between pre- and post harvest *yield* estimates was as high as 0.88. For none of the eight ADDs, this coefficient was below 0.85. Hence, the close connection between pre- and post-harvest estimates was

confirmed also at the plot level.

A2.5 Comparing YSP Fresh and YSP dry estimates

The YSP Fresh and YSP Dry production estimates were to be taken 1-2 weeks apart, using the same basic approach in both data capture and imputation. (We will come back to the selection of the YSP areas in the next section). According to the manual, enumerators had only a one-week "window" to measure the "Fresh" production volume. This is probably the reason that a somewhat higher number of missing information than for "Dry" maize, relative to those plots recorded with a positive pre-harvest estimate.

Figure 2 Comparison of YSP "Fresh" and "Dry" national average yields by variety of maize



The *left* axis in Figure 2 shows the pair wise national average yields in *kg/ hectare* by the variety of maize (Fresh in left bars, Dry in right bars). The pattern is as expected. Adding the *right* axis where the dry yield is calculated in *percentage* of the fresh yield confirms the very stable relation between fresh and dry yields over maize varieties, ranging from 89,4 to 91,0 percent. Both the YSP-Fresh and YSP-Dry yield measures show the same variation across maize varieties. However, this are *only partially* as could be expected:

Although still highest yields for hybrid maize (given the good rainfall), and lower for recycled maize, both yields for local maize are lower than both the yield pairs for recycled and composite maize. We do not have any good explanation for this finding.

A2.6. Comparing post-harvest estimates with YSP dried maize measures

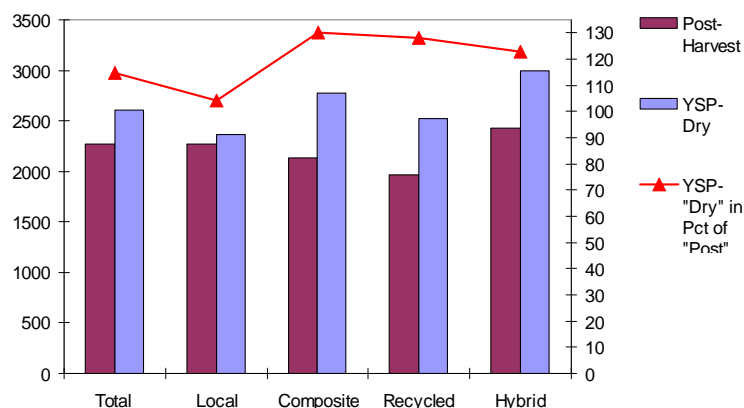
The most important issue in this paper is to compare the post-harvest interview production estimates with the YSP dried maize measures. The pre-harvest production estimate interview serves an important role in explaining farmers' behaviour, but being an *expectation* about a harvest rather than a estimate of the *actual* harvest, for our purpose it serves mainly as a control for the post-harvest production estimate. Similarly, the YSP *fresh* maize estimate primarily serves as a check of the YSP *dried* maize estimate. However, the latter argument may be qualified by the fact that some maize are eaten, sold, stolen, or lost in other ways before it is ever dried. It is difficult to estimate these "losses" without using a "usage type" questionnaire design. However, the implication is that *both* the drying process, and real "losses" cause the dry maize estimates to be lower than the fresh maize estimates.

A2.7. Comparing farmers' post-harvest yield estimates with yield estimates based on YSP dry maize production

First we compare the non-response matrix, i.e. whether for one particular plot, *all* production measurement methods had non-response, or whether only some measurement methods had non-response for a single plot. For the most important maize variety, local maize being first main crop in pure stand, 0.3% of the plots strangely had a positive post-harvest production estimate, but no recorded pre-harvest production estimate for maize. Conversely, ten times as many plots, 2.2%, had a positive pre-harvest estimate, but no observed post-harvest figure. This combination is, however, fully plausible, given the possibility of crop failure for various reasons.

For the two YSP measures (fresh and dry), the first figure was even lower, at 0.1% for both YSP measures (i.e. positive YSP quantities recorded, but no positive pre-harvest production estimate). However, the share of plots where there a positive quantity of pure stand local maize was recorded in the pre-harvest interview, but with no YSP quantities was at 14% and 23%, for dry and fresh maize respectively. The main reasons for these relatively high figures may be that the status of the plot changed from pure to mixed stand during the maize growth season, and that in particular for fresh maize, the time span where a reliable measure of the YSP production quantity could be obtained was only one week after the harvest. It is likely that this short time window of opportunity to measure the harvested YSP plots when the maize was still fresh was missed by some enumerators. Then, we turn to the comparison of yields across measurement methods among those farmers who actually responded. At first glance, the pattern of differences between yields derived from the farmers' post-harvest estimates and the yields for dried maize harvested from the YSP plots seem to be as expected (Figure 2).

Figure 2 Comparison of national average yield from YSP "Dry" production data and post-harvest interview by variety of maize



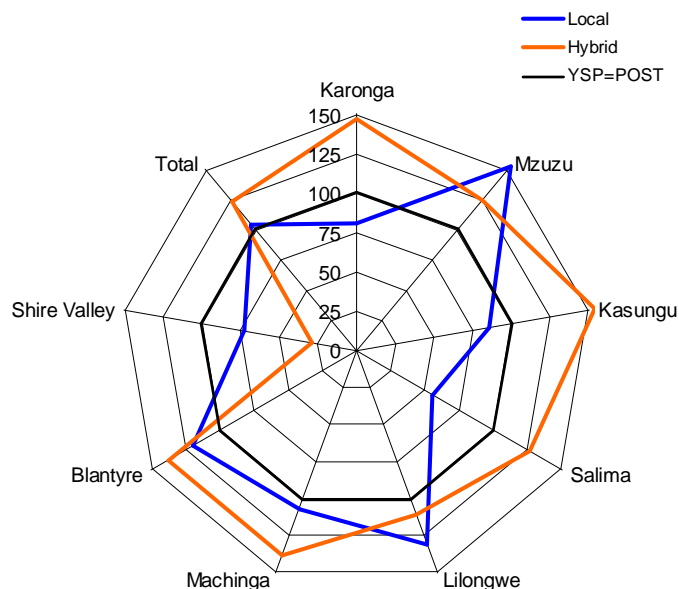
First, the average national YSP-Dry yield is 115% of the average national post-harvest interview yield. This is fully compatible with the findings of Rozelle that the YSP method is upwards biased. We assumed this was at least to some extent due to an overrepresentation of more productive core areas of the plot. Finally, the bias is much higher for the particularly fertilizer-sensitive maize varieties than for local maize, which is

in line with the edge-core area assumption.

However, when calculating bivariate correlation coefficients to verify that the pattern is present at the plot level, the picture becomes much more blurred. Although the correlation coefficients between the two measurement methods are positive for all maize varieties (local: 0,03), (composite: 0,08), (recycled: 0,06), (hybrid: 0,05), they are much smaller than could be expected. Moreover, for the total of all maize varieties, as many as 22% of the plots satisfying the criteria for comparison had a *higher* yield based on the post-harvest production estimates than on the YSP production estimates, contrary to Rozelles assumption.

Next, we checked the two measures for the two most important maize varieties, local and hybrid maize, by the 8 Agricultural Development Divisions (ADD), (Figure 3).

Figure 3 Comparison of Agricultural Development Division (ADD) average yield from YSP “Dry” production data and post-harvest interview for local and hybrid maize



For both crops, the figure presents the *YSP based dry maize yield as percentage of the post-harvest based yield*. The pattern gives good reasons to question the consistency of (at least) one of the two measurement methods. While the *national* total for all maize varieties was a reasonable 115%, these figures vary from 30 to 150%. *Moreover, the pattern of variation is neither consistent over maize variety, nor ADD.* Most probably, there are severe unknown field work problems with one of these measures. We assume that most likely the more complicated YSP measure is the *öscapegoatö*. However, we recommend that further work should be done to investigate the issue, checking out that similar practices have been followed in the various regions.

A2.8. Conclusion

The discussion above shows that there is no *öfixed pointö* in comparing yield measurement methods for the NACAL. Since the area of the plots was measured, imputed and supervised in the same way for all measurement methods, the comparison of yields effectively boils down to a comparison of plot production volumes. Given the literature, *we tend to rely primarily on the post-harvest interview*. Weaknesses of the YSP crop-cutting have been extensively described above, and there is no reason to believe that NACAL was different in this respect. However, the post-harvest interview has potential weaknesses. First, output was measured in Kg, rather than local measures as sacks, buckets etc. Second, it may not have been perfectly clear to all farmers whether the produce was fresh or dried, or shelled. Third, some produce may have been eaten, sold, stolen, used as harvest in-kind wage payments, loan repayments, gift dispersals or lost in other ways without entering the post-harvest interview estimate. Not least important, different enumerator practices may have developed in different districts and enumeration areas.

The NACAL production estimates are therefore based on the *post-harvest interview*. *This is the case apart from the root crops cassava and potatoes where pre-harvest estimates were used.*